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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE TRADEMARK TRIAL AND APPEAL BOARD

Proceeding	91200832
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE
THE TRADEMARK TRIAL AND APPEAL BOARD

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BRIGGS & STRATTON CORPORATION and
KOHLER COMPANY,

Opposers,

vs.

HONDA GIKEN KOGYO KABUSHIKI
KAISHA,

Applicant.

Opposition No. 91200832 (parent)

Opposition No. 91200146

Application Serial No. 78924545

- -

DEPOSITION OF: MR. JOHN REISEL

TAKEN AT: WHYTE HIRSCHBOECK DUDEK, S.C.

LOCATED AT: 555 East Wells Street, Suite 1900
Milwaukee, Wisconsin

July 16, 2015

9:00 a.m. to 2:40 p.m.

REPORTED BY: VICKY L. ST. GEORGE, RMR.

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A P P E A R A N C E S

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ALSO PRESENT: MR. AARON MITCHELL, Senior IP Attorney, Kohler Company.

I N D E X

E X H I B I T S

(Original exhibits attached to original transcript.)

(Original transcript was delivered to Attorney Nowakowski.)

P R O C E E D I N G S

MR. JOHN REISEL called as a witness herein, after having been first duly sworn on oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. NOWAKOWSKI:

Q. Good morning, Professor Reisel. Could you please provide your full name and address to the reporter?

A. John Reisel, R E I S E L, and 7415 North Lombardy, L O M B A R D Y, Road in Fox Point, Wisconsin.

Q. Professor Reisel, have you been retained by Opposers Briggs and Stratton and Kohler to render expert testimony in this trademark opposition matter?

A. Yes.

Q. Specifically have you been asked to render expert testimony regarding the Honda trademark applied for and previously identified as Applicant Exhibit 6?

A. Yes.

Q. Professor Reisel, what is your fee in this matter?

A. I am paid $200 an hour.

Q. Do you have any financial interest in the outcome of this opposition proceeding?

A. No.

Q. I'd like to have you give your educational background after high school. So if you can just provide that

generally to the reporter, and then we'll ask some specific questions as necessary. So can you explain that for us, please?

A. Okay. I received my bachelor of mechanical engineering degree from Villanova University in 1989. I received my masters of science in mechanical engineering from Purdue University in 1991 and my Ph.D. in mechanical engineering from Purdue University in 1994.

Q. What was the subject of your doctoral thesis?

A. The subject -- the broad subject of my doctoral dissertation was the -- was the measurement and modeling of nitric oxide which is a pollutant from laminar flames.

Q. And how long was your graduate program?

A. In total five years.

Q. Does that include the masters and the Ph.D. program?

A. Yes.

Q. Together with your undergraduate program then you've essentially had nine years of post high school study in engineering?

A. As a student, yes.

Q. Do you have any licensing or certifications?

A. I am a registered professional engineer in the State of Wisconsin.

Q. Are there any continuing education requirements as a result of that professional engineering certification?
A. Yes. The State of Wisconsin instituted continuing education requirements for that beginning in the last renewal cycle, so that has been going on for three or four years now.
Q. And I take it you are current on your necessary continuing education to maintain your professional engineering certification?
A. Yes.
Q. You're a mechanical engineer; is that correct?
A. Yes.
Q. Can you describe, please, the field of mechanical engineering?
A. In a simple, general definition of mechanical engineering, it would be the design, analysis and manufacturing of devices that involve moving parts.
Q. As part of your education in mechanical engineering, did you learn any general principles in mechanical engineering that apply to the design, analysis and manufacturing of devices with moving parts?
A. Yes.
Q. Can you describe some of those principles for us?
A. Well, some of the broad topical areas that I learned

included heat transfer, thermodynamics, fluid mechanics, design of mechanical systems, vibrations, engineering economics.

Q. Do those general principles of mechanical engineering apply to small general purpose internal combustion engines?

MS. FERRERA: Objection.

THE WITNESS: Yes.

BY MR. NOWAKOWSKI:

Q. We talked a little bit about your education as a student. Let's talk a little bit about your job history. Can you describe for us your job history after graduation?

A. After graduation I spent a few months as a post doc in the laboratory I was working at at Purdue University. That was to carry over over the summer between when I graduated in May and when my job started in August, my permanent job. And that was at the University of Wisconsin at Milwaukee as an assistant professor. That was in 1994 that I started, August of 1994.

Since then I've been promoted to associate professor and full professor and have been there for almost 21 full years now.

Q. And can you generally describe for us the activities

that you engage in as a professor, first as an associate professor and then later as a full professor at UWM?

A. Our job consists primarily of teaching as well as performing research. And teaching, we will usually be teaching two courses a semester. And research, we are supposed to be bringing in external funding and advising students on research projects that we can develop new knowledge as well as new researchers for the field. We also have a service component of our jobs as well.

Q. And is the -- are the activities that you described and that you've experienced in your job at UWM all in the area of mechanical engineering?

A. Yes, in addition to conducting some engineering education research.

(Exhibit 23 marked.)

BY MR. NOWAKOWSKI:

Q. Professor Reisel, I show you what has been marked as Opposer Exhibit 23. Have you seen that before?

A. Yes.

Q. Can you identify that, please?

A. This is my curriculum vitae.

Q. Is that curriculum vitae current as of the date of this deposition?

A. It is current as of the spring of this year, and there has not been any particularly significant changes or additions to it since then.
Q. Professor Reisel, do you understand that the engine which is the subject of this opposition is an overhead valve horizontal shaft general purpose engine?
A. Yes.
Q. Do you also understand that from time to time people describe a general purpose engine as a utility engine?
A. Yes.
Q. Do you also understand that the trademark application is for the Honda GX engine?
A. Yes.
Q. Do you know what a general purpose utility engine is?
A. Yes.
Q. How would you define a general purpose utility engine?
A. I would define -- I do define a general purpose utility engine as a small generally one or two cylinder engine that is designed to operate in a variety of products and having a light weight and small shape that can be -- that generally will have a horsepower or power rating of less than 25

horsepower.

Q. And what is an overhead valve horizontal shaft engine?

A. A horizontal shaft engine is one in which the crank shaft will exit out in a horizontal plane. Utility engines can be both a horizontal shaft or a vertical shaft engine. This would be specifically one where the crank shaft is exiting in a horizontal plane.

An overhead valve engine is one that has the intake and exhaust valves located in the cylinder head above the point where the piston would stop moving up in the cylinder reaching its -- giving a minimum volume in the cylinder, the valves of those engines are located above that -- in the cylinder head above that location.

Q. Professor Reisel, based on your education, training and experience, have you gained specialized knowledge about engine design?

A. Yes.

Q. Can you explain, please, your education, training and experience which has led to your specialized knowledge of engine design?

A. Well, in my career I have been assigned by our department to teach our Mechanical Engineering 432 course which is internal combustion engines.

Therefore, through textbooks and journals I had to learn the material to teach that adequately to the students in that course. And in addition to that, I also have conducted, overseen and conducted research projects involving utility engines.

Q. Typically -- well, first of all, what level course at UWM is this 432 course?

A. Mechanical Engineering 432 is what we would call a senior level technical elective course. It also is available for graduate credit, so it is taken by some graduate students.

Q. And the students that you teach, for example, in the Mechanical Engineering 432 class as well as some of your other classes I take it, get jobs or at least hopefully get jobs in the market?

MS. FERRERA: Objection.

THE WITNESS: Yes, many of the students at least have the desire to get jobs in the internal combustion engine field, and many of them do succeed in that. And many of them have already been working in the field.

BY MR. NOWAKOWSKI:

Q. So is it fair to say that the mechanical engineering, through the Mechanical Engineering 432 class, you are teaching future designers of engines including

utility engines?

MS. FERRERA: Objection.

THE WITNESS: I am considering that I am preparing the next generation of engineers to be working in the internal combustion engine field, both at the utility engine level and at a higher level, larger size engines as well.

BY MR. NOWAKOWSKI:

Q. How often have you taught Mechanical Engineering 432 class regarding internal combustion engines?

A. I believe I have taught it 14 times.

Q. In addition to the course on Mechanical Engineering 432, you mentioned that you advise undergraduate and graduate students on special projects. Can you explain that, please?

A. Yes. Over the years I have conducted research projects on -- that have involved engines, they generally have been lawnmower engines which would be vertical shaft utility engines. And over the years I have had 11 undergraduate students working on these projects and three graduate students working and writing their masters theses on these projects.

Q. And typically what do these projects entail for the students?

A. These projects entail studying -- well, the aspects

that we have looked at for the most part for these engines have been looking at the performance of the engines from a pollution standpoint. And so the students will have to be operating the engines, performing pollution measurements of the engines and also modifying components of the engines to assist in our analysis and study of the pollution generating mechanisms.

Q. Do your students in ME432 -- withdraw that question.

Are your students in ME432 required to do any special projects as part of the class work that they do?

A. As part of the ME432 course I have set up a semester long design project in the course. And the students have to propose what they wish to design. Most of the students will design a modification to an engine of some sort. And as part of their conducting of those projects, I will be providing advice and input to their designs as they -- and answer their questions as to what they may wish to do to develop their design.

proceed

Q. Does the course ME432 include any sort of analysis of the market and cost factors that go into the design of engines and engine components?

A. Many of the students will include a cost analysis of

their individual design that they have produced. So if they are proposing that we have a new engine part added on, they will often times include what that cost -- what that part would cost. But it is not a formal requirement of the project.

Q. I note from your curriculum vitae that you have been the associate director for the Center For Alternative Fuels. Can you tell me what that is?

A. The Center For Alternative Fuels is, but mostly was, it's a long story as to what its current status is, but it was facility that was designed and whose purpose was to increase the use of alternatives fuels in the marketplace and to study the impact of the use of alternative fuels in various markets.

Its primary focus was on automotive, automobile and truck uses. So we were looking at developing the use of alternative fuels by fleets in particular. So a company that would have a fleet of vans, for instance, may have chosen to convert their vehicles over to alternative fuels, and we would do studies as to whether or not that was -- how that was affecting the performance of the vehicles, how it was affecting their pollution emissions and the cost associated with that.

We also did some work with small engines

and studying the effects of alternative fuels on small, in particular lawnmower engines but in the utility engine class. And as the associate director for the Center of Alternative Fuels, my focus was primarily working with the small engines.

Q. And how long did you do this?

A. That, again, is a tricky question here. I would say formally working on projects with this was about 12 or 13 years. And at that point we were entering -- we were finishing up an era in which people were interested in supporting alternative fuel research, so the center itself started to run out of funding. And so we are still in existence but aren't really doing anything for the last six or seven years.

Q. There is a reference to something called the Wisconsin Small Engine Consortium. Was that part of the associate -- or part of the Center For Alternative Fuels?

A. The Wisconsin Small Engine Consortium was the primary funding mechanism for our small engine work in the Center For Alternative Fuels. The Wisconsin Small Engine Consortium was set up by the State of Wisconsin to organize many of the small engine manufacturers in the state to help those manufacturers stay competitive in the marketplace by

studying all sorts of aspects of the technology. We generally focused on their pollution, but over at UW Madison they were studying other aspects of engines for them as well.

The center was -- the consortium at least while I was involved with it was funded 50 percent by the State of Wisconsin and then 50 percent through contributions that generally were on the 10 to $20,000 a year level from different small engine companies, and those small engine companies were Briggs and Stratton, Harley-Davidson, Kohler, Mercury Marine, there was another company that I never remember their name as I keep saying it instead of actually looking up their name, but another name that was a catalytic converter company out in Stoughton. And then for awhile OMC was a member of that consortium as well. OMC was then bought out -- they moved their businesses out of the state, so they were no longer eligible to be in it.

And then since I have left working with the consortium, I believe Polaris has joined them as well. And there may be another company.

Q. During the course of your work with the Center For Alternative Fuels and the Wisconsin Small Engine Consortium, did you interact on a regular basis with

companies that designed and sold small engines?
A. Yes. We would have, depending on the time, timeframe, either monthly or bimonthly or quarterly meetings with the companies. And then the students that were working on these projects also would interact more frequently with engineers at those companies.
Q. And from time to time were there discussions about design aspects of small engines, for example, the market for small engines and similar matters that were relevant to your -- to the work of the Center For Alternative Fuels and the Wisconsin Small Engine Consortium?
MS. FERRERA: Objection.
THE WITNESS: Yes. There would be discussions as to what the companies were attempting to achieve in the marketplace.
BY MR. NOWAKOWSKI:
Q. And in your work as the associate director for the Center For Alternative Fuels and working with the Wisconsin Small Engine Consortium, did you use these general principles of mechanical engineering that you testified to, heat transfer, thermal dynamics, fluid mechanics, machine and component design, material science and engineering, economics?

MS. FERRERA: Objection.

THE WITNESS: Yes.

BY MR. NOWAKOWSKI:

Q. And during the course, in your view, did you refine the skills with regard to those general mechanical engineering principles during the course of your associate directorship with the Center For Alternative Fuels and your work with the Wisconsin Small Engine Consortium?

A. Yes. The skills as taught are generally to be applied to -- or are possibly applied to a wide variety of products. And so they have to be refined and certain details have to be learned to address particular products, yes.

Q. Are these general mechanical engineering principles that you discussed that you apply to vertical shaft engines in the context of your work as the associate director for the Center For Alternative Fuels equally applicable to horizontal shaft utility engines?

MS. FERRERA: Objection.

THE WITNESS: Yes.

BY MR. NOWAKOWSKI:

Q. Did you make any presentations over the years in connection with your work at the Alternative Fuels program?

A. Yes, we would have to make presentations at each of the Small Engine Consortium meetings, whether that be monthly or bimonthly or quarterly. And in addition I had several conference presentations, professional conference presentations on our work.

Q. Can you describe in general terms, I know it was a long time ago, but can you describe in general terms what these types of presentations would involve?

A. Yes. They were generally -- the presentations for the consortium were generally presenting updates as to what we had accomplished in the last month or two months on our results and what progress we were making on any modifications that we were making with the engines. The professional conference presentations were more of a complete reporting on the whole research project as to what had taken place for a year or two years as part of the study.

Q. And there were students involved in this program over the years?

A. Yes, that's -- all the students, all the 11 undergraduate and three graduate students were all involved with this project.

Q. And was it your responsibility again to supervise and make recommendations to those students who were working on those projects?

A. Yes.
Q. And did that supervision and the recommendations involve, again, these general principles of mechanical engine -- mechanical engineering that you've testified to today?
MS. FERRERA: Objection.
THE WITNESS: Yes, as well as their specific application to the utility engines.
BY MR. NOWAKOWSKI:
Q. I'm going to shift topics a little bit, come back to this particular matter. Professor Reisel, can you estimate the time you've spent with regard to your engagement in this matter, that is the opinions that you have to render regarding the opposition?
A. At this point it is right around 80 hours.
Q. And that was over the several years of work?
A. That was starting in 2012, yes.
Q. And in general terms can you describe what you did, Professor Reisel?
A. As my work on this matter, I reviewed materials, both provided to me and that are readily publicly available, I met with engineers at Briggs and Stratton and Kohler, and I conducted my own analysis of the different aspects of the proposed trademark and to develop my opinion as to their potential

functionality.

(Opposers' Exhibit 24 marked.)

BY MR. NOWAKOWSKI:

Q. Professor Reisel, I've handed you what has been marked as Opposer Exhibit 24. Do you have that in front of you?

A. Yes.

Q. Can you please identify that for me?

A. This appears to be a listing of the various documents that I have reviewed as part of my expert witness work on this project.

Q. Professor Reisel, you prepared several reports in connection with your work on this opposition; is that right?

A. Yes.

Q. And during the course of the preparation of those reports, you included the materials that you reviewed, correct?

A. Yes.

Q. And is this a listing of those materials and information that you obtained and reviewed in connection with your work on this matter?

A. Yes.

Q. You said that you interviewed people at Briggs and Stratton and Kohler in connection with your work.

Can you tell me who it was at those companies that you talked to?

A. At those companies I met with engineers, and in general there would be one or two legal representatives present at those meetings as well.

Q. All right. Why did you speak with the engineers at Kohler and Briggs and Stratton?

A. I met with the engineers to gain a couple of pieces of information. One, I wanted to understand what the requirements in the marketplace of these engines were, and I also wanted to learn and understand their reasoning for making their design choices as to how they were trying to meet the marketplace requirements.

Q. Did you believe it was important to speak with engineers from Briggs and Stratton and Kohler in connection with the opinions that you would render in this matter?

A. Yes.

Q. Why is that?

A. By meeting with the engineers, I was A, able to get a better understanding of the marketplace that they were trying to meet, and also I thought it was important to understand their thought process as to why they would have made particular choices in their

designs.
Q. As a professor in mechanical engineering, I take it you are presented with different applications for the general mechanical engineering principles from time to time?
A. Yes.
Q. And is it your regular practice as someone who works in the mechanical engineering field to examine the particular application, that is the particular equipment or engine as it may be, in connection with drawing any inferences or opinions regarding that when applying the general engineering principles you testified to in this?
A. Yes, you would like to be able to see the object and observe the object and investigate the object as closely as possible.
Q. Is the information you received from your interviews with Briggs and Stratton and Kohler engineers and the information you obtained for your review of the documents at Exhibit 24 the type of information you would typically seek out and rely upon in rendering opinions or drawing inferences regarding engines and in particular utility engines?
A. Yes.
Q. Based on your education, experience and expertise,

the materials you reviewed and the interviews you conducted, have you formed any opinions regarding the trademarks shown in Exhibit 6?

A. Yes.

Q. What are those opinions?

A. Well, it is my opinion that there are at least seven elements of the claimed trademark description that directly impact the functionality and cost competitiveness of the competing engine, of the competing engines.

Those elements would be, first, the overall cubic design; second, the slanted fan cover; third, the position of the fuel tank on the right side of the engine above the fan cover; fourth, the position of the air cleaner on the left side of the engine; fifth, the receded area on the carburetor cover for the control levers; six, rectangular shape of the fuel tank and the presence of a rib on that fuel tank; and 7th, the cubic shape of the air cleaner cover.

Q. We'll go into detail on each of those opinions, Professor Reisel. But before I do that, you used the term functionality. Can you tell me the definition of that term as you used it in your opinion?

A. The way that I am using functionality is that I am

considering it to be the ability of a product to successfully meet the intended use and purpose of the engine in a manner that is competitive from a performance and quality standpoint as well as a cost competitive standpoint.

Q. Let's talk about each of your opinions regarding the trademark features shown on applicant Exhibit 6. Starting first with overall cubic design, what is your understanding of how Honda uses the term overall cubic design?

A. My understanding of Honda's use of the term of the overall cubic design is that it is a -- that there are a few elements to this. First, if you look at a two dimensional frontal projection, so if you were looking face-on at the engine itself, it would give a square-ish appearance. It wouldn't have to be a perfect square, but an appearance that is basically if somebody were to look at it, they would say that looks like a square to me.

In addition, it has a box-like design for its individual accessory components such as the fuel tank and for the air cleaner, that if someone were to look at that, they would say that looks like a rectangular box as they would see it. In order to meet these, this is also going to result in a design

that has a lot of straight lines involved with it. So that is my understanding of Honda's interpretation or use of the term of an overall cubic design.

Q. Did you come to this understanding through review of some of the materials on Exhibit No. 24, Opposer Exhibit No. 24?

A. Yes. I came to that understanding primarily through the deposition of Mr. Fujita who was presented by Honda who is an employee of Honda who was presented as one of their people most knowledgeable in their design of this product.

Q. And is your understanding of Honda's use of the term overall cubic design consistent with what you understand overall or cubic design to be?

A. Yes. I would have -- and in fact initially I would have looked at it as the entire three dimensional shape of the engine being roughly a cube design, again, something that may not be a perfect geometrical cube but something that if someone were to be asked what does that overall shape most closely resemble, they would think a cube.

So an object that has roughly straight edges -- straight sides, straight top, flat top, flat bottom and with those sides and tops and bottoms meeting at 90 degree angles. That fits in well with

the way that Honda is considering an overall cubic design because if you were to take that three dimensional object that I was referring to and look at that straight on, it's going to be a square or square-ish in nature. And in order to efficiently fit in the various components into that square-ish design, they're going to take on a box-like nature to fit in most -- to best use that entire space.

Q. Is your understanding of Honda's use of the term overall cubic design the understanding upon which you based your opinions in this opposition?

A. Yes.

Q. And what is your opinion with respect to the overall cubic design component of the Honda trademark shown at Applicant Exhibit No. 6?

A. It is my opinion that the overall cubic design is necessary from a functional and cost competitive standpoint for this engine.

Q. Can you explain that, please?

A. As revealed by several -- many sources including a deposition from Mr. Connor from Honda, from Honda's own website on their development of the GX engine as well as discussions with engineers at Briggs and Stratton and Kohler, the marketplace for this type of engine demands that the engine be compact in

design -- in size. So it should be -- and something that will easily fit into and mate with other -- from the original device that's being manufactured by the OEM. So the OEMs want this to be small, and they want it to be -- able to be easily fit into their systems.

In order to achieve -- the best way to achieve those elements is to have a overall cubic design. The overall cubic design is going to result in flat surfaces that are easily mated to another device, and the overall cubic design is most efficiently going to be utilizing as small of a space as possible to meet, put all the necessary components into that system.

And so as a result the overall cubic design is really what is being required for the compact designs required by the OEMs.

Q. In your opinion is the overall cubic design as shown in Applicant Exhibit No. 6, that is the Honda trademark, relevant at all to the versatility of the engine?

MS. FERRERA: Objection.

THE WITNESS: The overall cubic design is going to be something that will be able to be used in many different applications. And so it becomes a

more versatile engine for the manufacturer and a more cost effective engine for the manufacturer to make.

The way I would look at this is that you can always fit a smaller object into a larger envelope than that object happens to be, but you can't fit a larger object into a smaller envelope. And so by developing an engine that is compact and in which this overall cubic design is, it is able to be mated into a variety of sizes that do not have to be specifically that particular size. So it gives the engine manufacturer the ability to design one engine that can more readily fit into multiple applications. And that can cut down on their manufacturing and development costs.

BY MR. NOWAKOWSKI:

Q. Does the -- in your opinion does the overall cubic design shown in the Honda trademark Applicant Exhibit No. 6 affect the overall cost of the engine, either in its manufacture or marketing?

A. Yes. The overall cubic design in its manufacturing process will enable the system to use less materials in the first place. And by having fewer materials in use, you're able to cut down on the material cost that would go into the construction of the product.

In addition, the overall compact design is going to be an engine that is going to be easier to ship, it's going to be smaller to -- you'll be able to fit more engines into a smaller shipping area or into the same size shipping area, you can fit more engines that are smaller in nature and that are more box-like because they're easier to assemble into -- onto a pallet for shipping.

In addition to -- so that's going to cut down on the amount of money you need to spend on shipping an engine to a supplier on a -- in terms of filling an order. And it's going to -- I just lost my train of thought there on that. The lighter weight is also going to cost less to ship.

Q. In your opinion does the overall cubic design shown in the Honda trademark application at Applicant Exhibit No. 6 have any competitive effect on maintenance of the engine?

A. The overall cubic design will -- well, the overall cubic design will enable certain maintenance operations to be more easily performed depending on the application in which it's being used. In some cases if you try to make things too compact, it can make elements more difficult to maintain.

But in terms of being able to fuel, refuel

the engine easily, in terms of changing the air filter more easily, in terms of changing the controls for the operation of the engine through the carburetor more easily, the overall cubic design is generally preferable for that.

Q. Now, you reviewed a lot of materials as shown on Exhibit No. 24 in preparation for your opinion. Are there any particular references on Exhibit No. 24 that come to mind as supporting your opinion regarding the overall cubic design of the Honda trademark?

A. Yes. As I mentioned, the deposition of Steven Connor was -- would support the need for a cubic design. The 2007 deposition of Mr. Fujita discussed the functional benefits of a cubic and compact design as well. US patent 7086389 also in that stated that a general purpose engine usually needs to be compact so that a work machine that includes the general purpose engine does not become large.

Q. In connection with your opinion regarding the overall cubic design of the Honda trademark as shown on Applicant Exhibit No. 6, did you look at any Japanese utility model or utility patents?

A. Yes.

Q. Which ones?

A. Those are listed on Exhibit 24. The one most relevant to this was S63-32344.
Q. And why is that?
A. That application -- that utility model application also included a brief discussion on the need to have a general compact design.
Q. Did that utility model have any figures attached as you reviewed it?
A. As I recall, yes, it did. And the figures that were presented in there were very similar to the figure being presented in the Honda trademark application.
Q. Now, Professor Reisel, you're not an expert in patents, are you?
A. No.
Q. And you've never been hired to talk about any sort of claim construction regarding patents, correct?
A. No.
Q. Why is it that these particular patents in your review were important to your opinion?
A. In my opinion -- well, they were important to my opinion because of the text that was used in the description itself where they would make statements such as that the general purpose engine needs to be compact. And so by using those -- I was looking less at what the particular item that was being patented

or claimed to be patented was referring to and looking more at how they were generally describing the overall design needing to be compact.

Q. In connection with your opinions regarding the overall cubic design of the Honda trademark shown as Applicant Exhibit No. 6, did you review any engines of competitors of Honda in the marketplace?

A. Yes.

(Opposers' Exhibit 25 marked.)

BY MR. NOWAKOWSKI:

Q. Professor Reisel, I show you what's been marked as Exhibit 25. Please take a look at that and then tell me whether you can identify Exhibit 25.

A. Yes. These are pictures of engines that I reviewed.

Q. In addition to the review of the pictures, did you do anything else with respect to the engines shown on Exhibit 25?

A. In what way? I mean I would find -- these were pictures that were available on websites indicating that this -- these engines were available for purchase in the United States at the time of my opinions.

Q. So you actually went out and looked at websites to find the engines that are pictured on Exhibit 25?

A. Yes.

Q. Did you draw any inferences from your review of the engines shown on Exhibit No. 25 that are relevant to your opinion regarding the overall cubic design of the Honda trademark application shown as Applicant Exhibit 6?

A. Yes. After studying and viewing these engines, what I concluded -- well, my opinion of this was that they each contained approximately the same general configuration and that the relative components of the engines were the same and that they took on an overall cubic nature. They were generally box-like in appearance.

Q. Professor Reisel, was this consistent with your opinion regarding the market requirements for small general purpose utility engines?

A. Yes, it was appearing that the engines were all being designed to -- in the same general fashion to meet the market demands.

Q. Are there any other aspects of your opinion with regard to -- you can put -- I withdraw that question. You can put Exhibit 25 to the side.

Are there any other aspects of your opinion regarding the overall cubic design that we haven't covered this morning?

A. I believe we've covered them.

Q. Okay. So let's then move on to your next opinion regarding the Honda trademark, and that had to do with the slanted fan cover. Can you tell me what your opinion is with respect to the slanted fan cover that's shown on the Honda trademark Applicant Exhibit No. 6?

A. Yes, it is my opinion that the slanted fan cover is a functional element -- as referred to in the Honda trademark is a functional element of the design affecting its performance, the engine's performance.

Q. And why is that?

A. The purpose of the fan cover is to assist in the direction of the air towards -- of the cooling air towards the hottest parts of the engine. So what's going to happen with the fan cover is that the air is going to be brought in, it's going to be accelerated around in the spiral -- spiral fashion and then directed towards where the engine most needs cooling.

An engine is going to get hot as it operates. You've got combustion taking place, usually hundreds of -- potentially thousands of times per minute depending on how fast the engine is operating, so you constantly have heat being added to the engine. The materials that make up an engine cannot withstand those temperatures that would

eventually be generated by the combustion process and would eventually fail. So all engines need some sort of cooling.

The fan cover is designed in such a way as to direct the cooling air, the external air that was brought in for cooling the engine, towards the hottest part of the engine which would be the cylinder head.

Q. And when you refer to the fan cover, are you referring to the fan cover with the -- that's shown on Applicant Exhibit No. 6 and is the part of the Honda trademark?

A. Yes. The fan cover shown in the Honda trademark is -- has a slanted design that is designed to direct the air towards the hottest part of the engine that needs cooling. And if it does not receive that cooling, the engine will likely fail, perhaps not instantly, but it will fail much more rapidly and need replacement than consumers would tolerate.

Q. And taking a look at the diagram on the last page of Applicant Exhibit No. 6, can you tell me which or what aspect of the fan cover in your opinion is directing the air to the cylinder head which is the hottest part of the engine?

A. Right. The part that is directing the air towards

the cylinder head is going to be the lower left slanted line of the fan cover, the slant that's going from the bottom right to top left. The air is brought in and is swirling around headed towards -- at the bottom of the picture it's going to be headed from right to left along the bottom, and then that slant is going to be directing it up along the cylinder to the cylinder head.

Q. And is it -- so is it the slant or angle that essentially directs the air cleaner cover up toward the bottom edge of the carburetor?

MS. FERRERA: Objection.

THE WITNESS: It's going to be directing the cooling air towards the bottom of the carburetor, yes. That is the slanted line that I'm referring to.

BY MR. NOWAKOWSKI:

Q. Is there any other aspect of your opinion with regard to the functionality of the slanted fan cover shown on the Honda trademark Applicant Exhibit No. 6?

A. That is its primary functional purpose. So that would be the primary reason behind it. The fan cover itself needs to be present so that debris does not get into the cooling air flow and potentially interrupt it. But that is the element of the fan

cover that is -- the functional aspect.

Q. Your next opinion with regard to the Honda trademark application was the position of the fuel tank on the right side of the engine above the fan cover. Can you, first, state your opinion with regard to that element of the Honda trademark?

A. Yes. The position of the fuel tank above the fan cover on the right side of the engine is necessary for the functionality of the engine as well as its competitiveness in the marketplace.

Q. Can you explain the basis for your opinion?

A. Well, there are a number of aspects that have to be considered here with the placement of the fuel tank. First of all, the fuel needs to be fed into the carburetor in some fashion. By putting the fuel tank above the fan cover and above the engine cylinder and above the carburetor for that matter, you're able to use a gravity feed of the fuel in towards the carburetor. If you were to put the fuel tank below the carburetor, you would need to pump the fuel into the carburetor, and that would require the use of a fuel pump which would increase the weight and the cost of the engine significantly.

So in order to have gravity feeding the fuel into the carburetor, you need that fuel tank

above the rest of the engine. Placing it above the rest of the -- above the fan cover, that is, placing it there also allows for easy refueling of the engine because someone here can access the fuel tank directly from the top of the engine as opposed to having to reach under the engine or find some side valve, side method to get the fuel into the engine. So putting it up top is going to make it most competitive from an operator standpoint in terms of refueling.

Q. Let me interrupt for just a second there, Professor Reisel. Based on your -- the work that you've done over the years both as a professor and in your experience working in -- as an associate director of the Alternative Fuels, are you aware that some applications for these types of utility engines have an open top to access the engine as opposed to a side access, for example?

A. Yes, yes. Most of the applications are going to have the top be open with the access for the fuel through the top.

Q. Okay. Go ahead. Continue, please.

A. So we've now got two reasons for having the fuel tank above the carburetor and, therefore, also above the fan cover in the way this is set up. The question

now is why would it be there as opposed to somewhere else on the top of the engine. There are two reasons for that.

The first reason is by putting the fuel tank above the fan cover on the right side of the engine, you are putting the fuel tank above a cooler section of the engine. If you were to put it over on the left side of the engine, it would then be positioned over the cylinder head which we already said was the hottest part of the engine. And that leads to potential problems if you have spillage of fuel while you're refueling the engine, you would run the risk of that fuel dripping down onto the hottest part of the engine and potentially igniting. So there is a safety reason for putting it on the right side of the engine as opposed to the left side of the engine.

In addition, you also are trying to mate all of the various accessories in a compact fashion. And the various accessories that have to be put together would be the fuel tank, the air cleaner cover and the muffler. And those are all going to be positioned on top of the engine.

There are functional reasons as to why you would put the air cleaner cover and the muffler on

the left side of the engine. So if that space is taken up in addition for safety reasons but also from a functionality standpoint by other elements, that leaves the right side of the top of the engine for the location of the fuel tank. In addition, there is nothing else there interfering with the fuel tank, so you can have a larger fuel tank positioned in there because it's not sharing that space with any other element.

Q. And, Professor Reisel, just so there is no confusion on the record, you've used the term on the right side, on the left side. Is that from the perspective of facing the trademark, for example, the picture of the trademark application on the figure on the last page of the trademark application?

A. Yes, yes. I'm referring to the right side as the part that's above the fan cover and the left side that is containing the carburetor and the air cleaner cover in that picture.

Q. Professor Reisel, is there any other aspect of your opinion regarding the position of the fuel tank and the right side of the engine above the fan cover on the Honda trademark?

A. Nope, that covers my opinion.

Q. I believe the next aspect of your opinion regarding

the functionality of aspects of the Honda trademark was the position of the air cleaner on the left side of the engine. Can you please provide your opinion in that regard?

A. Yes. It is my opinion that the position of the air cleaner to the left side of the fuel tank is necessary for engine performance and, therefore, engine functionality.

Q. Why is that?

A. Well, to understand why that is the case, we need to think about how an engine in general is going to develop its power. An engine develops its power by the -- from the amount of fuel that is placed into the engine and that goes into the engine. The amount of fuel that goes into the engine is going to be determined by how much air can be brought into the engine.

So we are often times looking at, in terms of a metric for assessing that, a parameter for assessing that, we would call that the volumetric efficiency. And that's going to compare the mass of the air, so the amount of air that goes into the cylinder in comparison to how much air would fill up that cylinder if it was just exposed to the atmosphere. So if we just had air -- if we just had

the volume of air or the volume of the cylinder opened to the atmosphere, how much air would go into there.

So what we're trying to do here is we're trying to bring in the air through several elements into the engine to give it and still maintain a high volumetric efficiency. By maintaining a high volumetric efficiency, we're able to generate more power out of the engine.

The volumetric efficiency -- you might be wondering well, why doesn't the air just automatically flow into there as it would if it were just open to the atmosphere while the engine is operating. For this we have to look at the pressure of the air as we experience it.

As the air surrounds us and as the air surrounds the engine, it would be usually at atmospheric pressure. It might be slightly above or slightly below, but it's basically at one atmosphere of pressure. As air or any fluid flows through different devices, it's going to experience friction with the walls of that device or it will experience friction passing through the filter, for example.

As the air passes over walls or past walls, it experiences that friction and its pressure

drops. And result is by the time it gets to -- in the case of an engine, by the time it gets to the intake valve where it's going to be ingested into the engine as the vacuum that's created by the piston moving down the cylinder is formed, it's going to be at a pressure less than atmospheric pressure and so less air is going to enter the cylinder than would have happened if it had just been exposed to a blob of air at atmospheric pressure at the intake valve.

So what you want to do with this type of a design is you want to minimize the passageways that the air is flowing through and experiencing a pressure reduction as it goes through. And so in order to accomplish that, you want to put your air induction and your air intake -- your air cleaner as close as possible to the carburetor and then subsequently the intake valve as possible.

Because the cylinder head of this engine which is where the intake valve is located is present on the left side of the engine as we look at it face-on. You want to put the air cleaner cover as close as possible or on that left side of the engine. You want to put the whole air cleaner element on that left side of the engine to reduce the passageways and, therefore, the pressure drop that the air would

experience. And that will give you a higher power and so you can generate a desired amount of power from potentially a smaller engine than you could if you had much longer passageways for the air to flow through.

Q. So if you were, for example, Professor, to move the air cleaner from the left side of the engine, for example, to the right side of the engine, it's your opinion that that would be -- that would affect the performance of the engine because there would be a likely reduction in the air that was getting into the engine and, therefore, a -- result in a lower performing engine?

MS. FERRERA: Objection.

THE WITNESS: Yes, it is my opinion that if you position the air intake and subsequent air cleaner on the right side of the engine, you would have to have the air pass through longer passageways which would reduce its pressure and would reduce the performance of the engine.

In addition to that whole aspect, it's desirable to have the air filter on top of the engine when that's acceptable or desired by the OEMs because you're drawing in less -- you have the engine filter further from the ground. And on the

ground there is more likely to be debris or dust that would be picked up and sucked into the engine and clog up the air filter more quickly. So from a maintenance standpoint, you also would prefer to have that air cleaner element on top of the engine.

BY MR. NOWAKOWSKI:

Q. So in some why wouldn't it be efficient to move the air cleaner from the left side to the right side of the engine?

A. So it would not be efficient to move it, the air cleaner, to the right side of the engine because that would decrease the power and performance of the engine.

Q. Are there any other aspects to your opinion regarding the positioning of the air cleaner on the left side of the engine on the Honda trademark application?

A. Well, if we look at the Honda trademark application, they have the air cleaner on the front of the engine as well. It's clearly not being blocked by some other object. What the other third part of the engine that you have on top of the engine would be the muffler. And so one might ask why wouldn't you put the muffler in front and the intake -- the air cleaner behind that.

The muffler is going to be also, like the

cylinder head, very hot. It has a constant stream of hot gases, hot exhaust gases passing through it. And so the muffler will get to be very hot over time. You would like to keep that as far away as possible from the operators of the engine. And so by putting the muffler behind the air cleaner, you're able to essentially hide that muffler from the operator. You've got a protective barrier with this air cleaner cover that is preventing anybody from walking up and accidentally brushing into the hot muffler which could burn them. So from a safety aspect, you would like this air cleaner cover to be in front and the muffler to be in back.

Q. So now have we covered the essence of your opinions regarding the position of the air cleaner cover on the left side of the engine on the Honda trademark?

A. Yes.

Q. I believe the next aspect of your opinion related to the carburetor cover and the receded area and control levers. Could you please provide your specific opinion with regard to that on the Honda trademark shown on Applicant No. 6?

MS. FERRERA: We've been going for about an hour-and-a-half. Would it be good to take a break before you move into this next area?

MR. NOWAKOWSKI: Sure.

(Recess taken.)

BY MR. NOWAKOWSKI:

Q. Professor Reisel, we're back on the record. We were about to have you talk about your opinions regarding the carburetor cover and controls. Before I do that, I did realize during the break that I forgot to ask you a question regarding the position of the air cleaner, and my question is simply this.

In your opinion is there any impact on the cost of the engine shown in the Honda trademark based upon the position of the air cleaner on the left side of the engine?

A. Yes. By placing the air cleaner on the left side of the engine, you are, again, able to reduce the amount of piping that you need to deliver the air to the intake valve. So by positioning -- if it were to be positioned on the right, you would have to have additional passageways, additional piping, put in, and that's going to carry an additional cost along with it.

Q. Great. Okay, Professor Reisel, let's move to your opinions regarding the carburetor cover and controls with regard to the Honda trademark. First, can you express your opinion for us, please?

A. It is my opinion that the carburetor cover requires a receded area for the positioning of the control levers in order to provide adequate durability and performance and functionality of the engine.

Q. Is there, in your opinion, any reason to have the controls near the carburetor as opposed to someplace else on the engine?

A. Yes. First of all, we want to have the carburetor, again, over by the intake valve. And because the further that you place the carburetor away from the intake valve, there is a greater likelihood that fuel will fall out of the fuel air stream.

So the carburetor is placing fuel droplets into the air as the air passes through there. And those droplets are heavier than the air stream. Those droplets can start to accumulate over a longer passageway and potentially fall out and not reach the engine cylinder in a desired fashion. So you want to have the carburetor close to the intake valve to minimize that possibility.

Q. Professor, before you go further, where is the intake valve as shown on the trademark Exhibit No. 6?

A. It's hidden in there, but what it's going to be is it's going to be located on the left side of the engine in the cylinder head as we've already

described as being on the left side.

Q. Fair enough. Continue, please.

A. So we want the carburetor to be over close to the intake valve, and we want the control levers to be close to the carburetor to increase their durability and -- or potential durability and also to decrease their initial cost. To position the control levers further from the carburetor would require a more complex mechanism to transmit any change in the position of the control lever to the appropriate control object in the carburetor that you're trying to control. So the longer that mechanism becomes, the more expensive it becomes to implement and build into the system.

In addition, that longer control mechanism would make it potentially more easy to -- it would give it the ability to break in more locations. So to maintain that simplicity and cut down on the material costs that are necessary in the first place and hopefully increase its durability, you want those control levers close to the carburetor.

Q. And that's as shown on trademark Applicant Exhibit No. 6?

A. Correct, as shown on the trademark from Honda, and they're shown on the left side by the carburetor.

Q. And do you have an opinion with respect to the recessed area that's part of the trademark, the Honda trademark, shown on Applicant Exhibit No. 6?

A. Yes. Having the control levers in a recessed area as shown on the trademark should increase their durability or at least it gives them the potential to increase their durability and, therefore, make the engine more desirable to the customer.

By being recessed, these levers are not protruding out from the engine as much as they otherwise would have to be if they were mounted onto a flat surface in front of there. That is going to reduce the potential of something brushing up against it, breaking off the lever, changing the position of the lever in an undesirable fashion.

And as you can see now, while the rewind handle for the starter is -- does not have to be in the position as shown in the trademark application, that is a common configuration. And as you can see, if that is to be pulled and then be flying back into the starter, if you have exposed protruding control levers, they're going to be potentially knocked off by that -- as the control lever rewinds. And they can also interfere with the pull start in the first place for that.

That is a convenient position to be starting engines. It allows for an upward pull but not a direct upward pull, so you're pulling upwards at an angle, and it's convenient for someone pulling with their right hand as well for that. So that's a convenient orientation of the pull handle. And by recessing the levers, you are making a more durable design that is going to be more functional in meeting its purpose.

Q. In your opinion is there any cost -- I'll withdraw that.

Does the position of the controls as shown on the Honda exhibit have any effect on the cost of the engine shown on Exhibit No. 6?

A. By placing the controls as close as possible to the carburetor, you are reducing the materials needed to transmit any input that you're making through the control lever to the carburetor. And so by reducing the materials that are necessary for the control mechanism, you're reducing the cost.

Q. In your opinion does the position of the control levers on the carburetor cover as shown on the Honda trademark on Applicant Exhibit No. 6 have any effect on the safety of the engine?

A. It is not my opinion that they are directly impacting

the safety of the operator of the engine.
Q. Thank you. Have we heard all of your opinions regarding the control levers for the carburetor and the receded area as shown on exhibit -- Applicant's Exhibit No. 6?
A. Yes.
Q. I believe the next area of your expert testimony related to the rectangular shape of the fuel tank and the fuel tank rib shown on the Honda trademark on Applicant Exhibit No. 6; is that correct?
A. Yes.
Q. And what is your opinion in that regard?
A. It is my opinion that the rectangular, roughly rectangular, shape of the fuel tank as well as a rib for that fuel tank as shown on the trademark application is a necessary feature for a competitively functional engine and also comes about as a consequence of the manufacturing process.
Q. And can you explain that opinion, please?
A. Well, from a competitive standpoint, you want a engine that can hold as much fuel as possible inside the envelope that you're trying to fit the engine into. To accomplish that from a volumetric standpoint, you want to have a rectangular or a box-like fuel tank meeting with roughly flat edges

and flat sides as that will most efficiently use the volume that's available on top of the engine that can then give you the maximum amount of fuel. The more fuel that you can put into the engine, the less frequently that the fuel -- that the engine needs to be stopped and refueled while it's in operation. So from an operator's standpoint, having a large -- as large of a fuel tank as possible is a desirable feature for that engine.

The manufacturing process, the way these fuel tanks are going to be manufactured is they're going to be manufactured in two parts, a top part and a bottom part. And these two parts will be mated together. Now, if it's a metal fuel tank that will come about from pressing out into a die, the metal into the shape that's desired, if it's a plastic fuel tank, that plastic will be molded into that shape. And by making it into two parts, you're able to have two parts that are easily able to be removed from either their mold or their die, and then those two parts have to be mated together.

Mating together those parts will result in a rib so that there is no leakage from that tank. So from a manufacturing standpoint and, therefore, from a cost of the product standpoint, it is most

efficient and least expensive to make them in this two-part configuration and then mate those two parts together.

Q. Do you have any other opinions with respect to the shape of the fuel tank and its rib on the -- with regard to the Honda trademark?

A. One other thing that I would like to mention with that is that the shape itself is generally going to result in straight lines. It's going to be generally easiest and least expensive to make a die that would be -- or a mold that would have straight lines as opposed to lots of curves.

You will have bevelling on the edges to make the part a little bit easier to remove from the die and also a little bit easier to actually press into its shape in the first place. But it's generally going to result in a design that has got straight lines which fits in with the overall cubic design expectation of this being a box-like structure.

Q. I believe the next area of your testimony related to the I think what Honda refers to in its trademark as the cubic shape of the air cleaner cover; is that right?

A. Yes.

Q. Do you have any opinion with respect to the cubic shape of the air cleaner cover as shown in the Honda trademark Applicant Exhibit No. 6?

A. Yes. It is my opinion that the cubic shape of the air cleaner cover is a necessary -- as illustrated in the Honda trademark, is a necessary functional element for a competitive engine in this market.

Q. And why is that?

A. This market -- many applications in this market demand or expect or require, depending on the individual, a high mount air cleaner. And so that is an air cleaner that is going to be positioned above the cylinder head as we have illustrated in the trademark application.

In order to get a surface area for that air cleaner that is at a maximum size in a minimum volume, it's best to make that in a circular or oval shape for the air cleaner so that the air is going to be passing through a cylindrical shape which may either be an immediate circle or an oval for that. The circle is going to be the least expensive to manufacture and build for that, but it's going to pull in air from all directions through that air cleaner and then pull it in as opposed to spreading it out flat which is going to then require a larger

footprint for the air cleaner itself to have the same surface area.

So in order to bring in a sufficient amount of air, you're generally going to want to make this into a cylindrical shaped air cleaner. That air cleaner needs to be covered by something in order to A, help direct the air into this and also to keep large debris from getting into the air cleaner or covering up the air cleaner and destroying its utility much more quickly.

Q. By the way, before you go any further, what's generally the purpose of an air cleaner on a utility engine like this?

A. The purpose of an air cleaner is to basically clean out any small dust that would be otherwise flowing in with the air. And we know the air surrounding us always has dust in it. If you're in a work environment such as a construction site where many of these engines will be used on certain pieces of equipment or if you've got a pressure washer, you've got a situation where you're going to be outside, often times in a dusty environment so there is even more dust that's potentially in the air.

If that dust gets into the engine itself, it can start to damage engine components such as

cylinder walls or piston faces, and it -- it can lead to additional deposits on the engine cylinder which can cause hot spots that would perform -- result in the engine malfunctioning over time. So it's to keep the air coming into the cylinder free of dust and obviously large debris, but that is covered more by the air cover cleaner as opposed to the -- the air cleaner cover as opposed to the air cleaner element itself.

Q. Okay. Now, you can -- please continue with your explanation of your opinion.

A. So we have a cylindrical cleaner that -- element that needs to be covered in some way. The two most cost effective means of doing that would be either in a box-like structure, a rectangular box-like structure or a cylindrical structure that would surround that. The box-like structure is, depending on the size of the cylinder that is, is generally going to give the ability to draw more air into the air cleaner element in the first place.

If you were to have an oval shaped or cylindrical shaped air cleaner, to draw in enough air, you would want to spread that out so that it would be roughly the same size as shown in the trademark application for the width of the air

cleaner.

Fundamentally then you've got an air cleaner cover that is going to be that width and either is going to be of a rectangular shape or is a rounded cylindrical shape. However, when you look at both of the box-like structure or a cylinder structure from a frontal view and a two dimensional view of that, it's going to appear as a rectangle as shown in the trademark application.

So if you're -- you're basically with the type of cleaner cover that is going to be the most cost effective and performance effective to have for this type of an air cleaner, it's going to take on the appearance of a rectangular box when viewed in a two dimensional form.

Q. In connection with your opinions, did you see some engines, utility engines, that had a more -- from a three dimensional standpoint have a more cylindrical looking air cleaner cover than a cubic air cleaner cover?

A. Some of the engines do have a -- would use what I would say if you were looking at a three dimensional perspective a cylindrical as opposed to a box cubic cover.

Q. What is the appearance from the front of a

cylindrical air cleaner cover?
A. From the front it's going to appear as a rectangle. You won't have any depth to be able to see that it's rounded off.
Q. Are there any other opinions that you have to express relating to the cubic shape of the air cleaner cover on the Honda trademark?
A. No, I do not.
Q. Do you have any other -- I'll withdraw that question.
Have we now covered the opinions that you have with respect to the functionality of the trademark elements shown on the Honda trademark and expressed on Applicant's Exhibit No. 6?
A. Yes, I believe we have covered my concerns with the trademark application and my opinions that the trademark application infringes upon the functionality and cost competitiveness of the engine.
Q. Are all the opinions that you have rendered here this morning based on your education, experience and expertise and the materials you reviewed and the interviews you conducted with regard to your retention in this matter?
A. Yes.
Q. I have one final question for clarification. Exhibit No. 24 which you've identified as a list of the

information you received and reviewed in connection with your opinions, correct?

A. Yes.

Q. That Exhibit No. 24 lists a number of deposition transcripts; is that right?

A. Yes.

Q. And I take it the deposition transcripts that you reviewed in connection with this matter also included the exhibits to those transcripts?

A. Yes.

MR. NOWAKOWSKI: Professor Reisel, I have no further questions. I turn over the mic to counsel for Honda.

CROSS-EXAMINATION

BY MS. FERRERA:

Q. I think it's still good morning. Good morning, just barely, Professor Reisel. You testified earlier about your education and professional experience. And I'm correct, am I not, that you did not study engines in any context during either your undergraduate or graduate education, correct?

A. I did not have a specific course in internal combustion engines.

Q. You didn't study engines -- you didn't specifically study engines at all in either your undergraduate or

graduate education, correct?
A. I did not also do research on reciprocating internal combustion engines.
Q. So the answer to my question is you did not study engines at all in either your graduate or undergraduate education?
A. That's what I've said.
Q. And you did not study engine design at any time during your undergraduate or graduate education either, correct?
A. I did not study a specific course on engine design. The elements covered in a machine design class often have applicability to engines.
Q. You didn't specifically study engine design in any of your undergraduate or graduate courses, right?
A. Correct.
Q. And during your undergraduate and graduate education, I believe you took one course regarding manufacturing processes; is that right?
A. Yes.
Q. And other than in the context of that course, you did not study how to develop cost analyses for manufacturing products at any time during your graduate or undergraduate education, right?
A. We would have covered cost analyses as well in our

senior design course and how to conduct those, so there would have been an additional course that covered that.

Q. Well, let's look back at what you testified in your deposition. Do you recall having given a deposition in this case?

A. Yes.

Q. And that was on May 21st, 2015?

A. Yes.

Q. And you were under oath at the time that you gave that deposition correct?

A. Yes.

Q. And you answered the questions truthfully to the best of your ability, correct?

A. Yes.

Q. And you had a chance to review your deposition transcript after it was completed?

A. Yes.

Q. And to make any changes to the transcript, to your answers?

A. Yes.

Q. And you did not make changes to the substance of your answers, correct?

A. Correct.

Q. Now, if you turn to page 15 in the deposition

transcript to line 23, do you see you were asked the question:

"Other than in the context of that course, did you study or perform any kind of cost analysis of different manufacturing options for mechanical products as part of your education?"

Do you see that?

A. Yes.

Q. And your answer was:

"I would say no."

Do you see that?

A. Yes.

Q. That's the question you were asked and the answer you gave back on May 21st, 2015, right?

A. Yes.

Q. Now, after completing your Ph.D. you started a post-doctoral program; is that right?

A. Yes.

Q. And you didn't do any research regarding engines as part of that program, correct?

A. I did combustion research which is involved with engines, but I did not do any research particularly on a internal combustion engine, no.

Q. So you didn't do any research on engines as part of your post-doctoral program, correct?

A. I did research on combustion which is part of an engine, which is part of the engine operation, but I did not perform any research on a particular engine.
Q. You did not do any research regarding engines as part of your post-doctoral program, right?
A. No. Combustion regards engines.
Q. Well, let's look at your deposition, again, Professor Reisel. If you turn to page 19. Look at line 14. You were asked the question:

"Question: During your post-doc program did you do any research regarding engines?"

Do you see that?
A. Yes.
Q. And your answer was:

"No."

Correct?
A. Yes.
Q. And that was the question you were asked and the answer you gave back on May 21st of this year, right?
A. Yes, yes.
Q. And you didn't teach -- sorry, you didn't design any engines during your post-doctoral program, correct?
A. Correct.
Q. And you didn't teach any courses on engine design as part of that program?

A. Correct.
Q. Now, since completing your post-doc, you've been teaching at the University of Wisconsin here in Milwaukee?
A. Yes.
Q. And none of the courses that you teach address the external appearance of engines, correct?
A. None of them discuss it explicit although as part of the internal combustion engines course, when you're discussing how engine components will be put together, there will be -- it does refer to its appearance, but it is not discussing how you would set up the appearance necessarily.
Q. Right. And none of your courses have discussed designing the external appearance of an engine, right?
A. They -- the courses are designing the individual components, and those individual components will have an external appearance, but it would not necessarily be the entire engine put together as an external appearance.
Q. And in the context of your ME432 class which I think is your internal combustion class, there has been no discussion of the external appearance of the engine, correct?

A. I cannot say that over 14 times of teaching it that there has never been any discussion of the appearance of an engine, but it is certainly not a focal point of the course.

Q. Sitting here today, you don't remember having discussed the external appearance of an engine as part of that course, right?

MR. HERRING: Objection.

THE WITNESS: Certainly in a broad sense I would say we have not discussed it. Is there an individual possibility for a situation where this is how this is going to look, we may have said that. But we didn't discuss it in any great depth.

BY MS. FERRERA:

Q. And you don't remember having discussed it today?

A. I cannot recall, correct.

Q. You've never lectured about horizontal shaft engines, have you?

A. We have not had a specific discussion of horizontal shaft engines.

Q. And you've never lectured about the manufacturing costs of engines, correct?

A. We have not lectured on the details of the manufacturing cost of engines. We've probably -- we have discussed relative costs.

Q. Now, you talked earlier about your role as the associate director of the Center For Alternative Fuels at the University of Wisconsin, right?
A. Yes.
Q. And you said that in that role you've had an opportunity to conduct some research on small utility engines?
A. Yes.
Q. And I think you said that that's been focused primarily on lawnmower engines, right?
A. Yes.
Q. And primarily on vertical shaft utility engines, correct?
A. Yes.
Q. You've not done any research in that capacity on horizontal shaft engines, right?
A. Correct.
Q. And as part of your work at the Center For Alternative Fuels, you've never studied the external appearance of any engines, correct?
A. We have never focused our attention on what the external appearance is looking like for that, yes.
Q. And as part of your work at the Center For Alternative Fuels, you haven't designed any engines?
A. We have not designed any entire engines. We have

designed and built engine components but not entire engines.

Q. You have a number of academic publications or presentations relating to engines; is that right?

A. Yes.

Q. And all of those publications arose out of the work that you conducted at the Center For Alternative Fuels, right?

A. For the publications involving engines, it's my recollection that they all came out of that work, yes.

Q. And they all related to the emissions from the vertical shaft lawnmower engines that you were studying as part of that project?

A. Yes, although there were some that weren't focusing necessarily directly on the emissions and more on the impact of the type of fuel being used on the engine -- on the engines for their -- yes.

Q. But none of them talked about the external appearance of any engines, correct?

A. Correct.

Q. So Professor Reisel, it's fair to say that outside the context of this case you have not analyzed the external appearance of any engine in connection with any of your research from your undergraduate

education through today, correct?

MR. NOWAKOWSKI: Objection to form. You can answer.

THE WITNESS: Correct.

BY MS. FERRERA:

Q. You've never held a professional position outside of academia, have you, Professor Reisel?

A. No.

Q. And you've never worked for a company that designed or manufactured engines?

A. No.

Q. And you're -- you've done some consulting for companies from time to time, correct?

A. Yes.

Q. But outside of the work that you did at the Center For Alternative Fuels, the only consulting that you've done relating to engines was one to two hours back in the 1990s, correct?

A. To my recollection, yes.

Q. You've never actually designed an engine, correct?

A. Correct.

Q. You've never designed a component for any engine, correct?

A. I have not personally solely designed a component to an engine, but I have provided input and

recommendations and assistance to students as they have done so.

Q. You've never personally designed a component for use on an engine, right?

A. Solely as the sole individual, correct.

Q. And you've never provided any input to an engine manufacturer regarding the external appearance of any engine, correct?

A. Correct.

Q. And you've never designed any applications that use the utility engine, correct?

A. Correct.

Q. I think you talked a little bit earlier about the Wisconsin Small Energy Consortium?

A. Small Engine Consortium.

Q. Small Engine Consortium. And am I correct that the work that you did at the Center For Alternative Fuels on vertical shaft lawnmower engines, all of that research was funded by the Wisconsin Small Engine Consortium in conjunction with the State of Wisconsin, right?

A. The Wisconsin Small Engine Consortium gets half of its funding from the State of Wisconsin. So I would say that -- you could almost say that it was funded by the State of Wisconsin as supported by the

Wisconsin Small Engine Consortium if you were going to split it up like that. But yes, that's where the funding came from.

Q. So actually your funding came from the Wisconsin Small Engine Consortium?

A. Correct.

Q. And since 1998 you've received five grants from that organization?

A. Something like that, yes.

Q. And those grants have totaled about $270,000, right?

A. That sounds about right.

Q. And that accounts for about 12 percent of your research funding over the last 20 years; is that correct?

A. As we got into this discussion with the deposition before, no.

Q. Well, in terms of your research funding, Wisconsin Small Engine Consortium grants account for about 12 percent over the past 20 years, correct?

A. What are you listing as my research funding?

Q. Well, let's see. Let's look at your CV. If you look at Opposers' Exhibit 23 which I believe was your CV starting on page 30 and continuing to not quite the bottom of page 31, there is a section research grants funding, do you see that?

A. Yes.
Q. That's what I'm referring to.
A. Right. You are ignoring, as we brought up previously, you're ignoring the education funding components, education projects that have a research component associated with it. For example, I have received almost $2 million dollars as the PI from the National Science Foundation for a STEP grant from which -- which was primarily designed to develop and study interventions to improve the retention of students.

That has resulted in two journal publications currently and is in the process -- research journal publications, and is currently in the process of producing at least one additional one and perhaps two. That should also have a portion of that considered to be research funding.

Q. Well, you list that under your -- in your CV as education grants, right, not research funding?
A. There -- let me check the form of the CV. It is listed under that category. I want to check one form here for this. You will notice that there is an asterisk at the end of that with the note saying the education grants designated with an asterisk also contain a significant amount of engineering education

research activities.

Q. In any event, Professor Reisel, under the category of research grants funding as you've listed it in your CV, the grants that you've received from the Wisconsin Small Engine Consortium account for about 12 percent over the past 20 years, correct?

MR. NOWAKOWSKI: Objection to form.

THE WITNESS: In the -- that category as listed, that is approximately 12 percent. But it is not approximately 12 percent of my overall funding.

BY MS. FERRERA:

Q. And I think you testified earlier that Briggs and Stratton is a member of the Wisconsin Small Engine Consortium?

A. Yes.

Q. Kohler is also a member of the Wisconsin Small Engine Consortium?

A. Yes.

Q. But to your knowledge Honda has never been a member of that organization, correct?

A. Honda was never a member of that consortium while I was participating with them. I don't know if they subsequently have become one.

Q. Okay. Now, if you could pull out Applicant's Exhibit 6 from the documents that your counsel provided to

you, and you understand that's the application that Honda filed in this case for trademark?

A. Yes.

Q. And if you turn to the last page of that document, there is a drawing there, and you understand that that's the mark that Honda is seeking to register?

A. Yes.

Q. And you understand that the engine depicted in that drawing is a Honda GX engine?

A. Yes.

Q. Now, prior to this case you had never heard of a Honda GX engine?

A. I may have heard of it but didn't particularly pay any attention to it.

Q. As far as you know, you had not heard of a Honda GX engine prior to this case?

A. I cannot recall hearing of one.

Q. And prior to this case you hadn't seen a Honda GX engine in person, right?

A. I would not have known I was seeing a Honda GX in person, engine in person, but I may have seen it and not known that that's what it was.

Q. You don't have any specific recollection of having seen one?

A. Correct.

Q. In fact, sitting here today, the only time that you recall having seen a Honda GX engine in person was on one occasion, correct?
A. I can recall one occasion, yes.
Q. And that was at a meeting with Briggs and Stratton shortly after you were retained on this case, correct?
A. Correct.
Q. That was back in late 2011, early 2012?
A. Yes.
Q. We're going to put a number of different photographs in for here --

MS. FERRERA: Maybe for convenience, let's mark these all at once. This one has already been marked as Applicant's Trial Exhibit 17. If we could mark this one as Applicant's Trial Exhibit 19, please.

(Applicant's Exhibits 19-32 marked.)

BY MS. FERRERA:
Q. So Professor Reisel, you have now in front of you Applicant's Exhibit 17 and then 19 through 32, do you see that?
A. Yes.
Q. And if you'd look at Applicant's Exhibit 17, do you recognize that as a photograph of a Kohler Command

Pro 7 engine?
A. Yes.
Q. That's a horizontal shaft engine, correct?
A. Yes.
Q. And am I correct that you don't remember having seen this engine any time prior to being retained as an expert in this case?
A. I would say that's correct.
Q. You're not aware of any performance differences between the Honda GX engine and the engine depicted in Exhibit 17?
MR. NOWAKOWSKI: Objection to form.
THE WITNESS: I do not know any specific differences for at least a comparable GX engine of that size.
BY MS. FERRERA:
Q. Fair enough. And you have no reason to believe that the engine shown in Exhibit 17 is at a competitive disadvantage to the GX engine as a result of its external appearance, correct?
MR. NOWAKOWSKI: Objection to form.
THE WITNESS: I do not know.
BY MS. FERRERA:
Q. You do not have any --
A. I do not have any specific knowledge of that.

Q. Okay. And if you could pull out Exhibit 19, you don't remember having seen the engine in Exhibit 19 prior to this location, correct?
A. Correct.
Q. You're not aware of any difference in performance as between the engine in Exhibit 19 and the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. And just for the record, you understand that Exhibit 19 is a photograph of a Kohler Command Pro 6 engine?
A. Yes.
Q. You're not aware of any differences in the manufacturing cost for the engine depicted in Exhibit 18 and the comparable Power GX engine, right?
A. I do not know the specific manufacturing costs of either engine.
Q. So you're not aware of any differences in the manufacturing costs between those two engines?
A. Correct.
Q. And you're not aware of any reason why the engine shown in Exhibit 18 would be at a competitive disadvantage to the comparable Power GX engine, correct?

MR. NOWAKOWSKI: Objection.

THE WITNESS: First, I believe you meant Exhibit 19, and correct.

BY MS. FERRERA:

Q. All right. Let me ask it again so the record is clear. You're not aware of any reason why the engine shown in Exhibit 19 would be at a competitive disadvantage to the comparable Power GX engine, correct?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Correct, I do not know specific instances of that.

BY MS. FERRERA:

Q. Could you turn to Applicant's Exhibit 20. Do you recognize that as a photograph of a Kawasaki FE250 engine?

A. Presuming that the first part of the what would appear to be Kawasaki is Kawasaki, then yes.

Q. You don't remember having seen this engine prior to this case, correct?

A. Correct.

Q. You would agree that the overall appearance of the engine in Exhibit 20 is different from the appearance of the engine shown in Applicant's Exhibit 6, the trademark application?

MR. NOWAKOWSKI: Objection.

THE WITNESS: There are some specific differences to the application between this picture and the trademark application although it still retains an overall cubic design.

BY MS. FERRERA:

Q. But would you agree that the overall appearance of the engine in Applicant's Exhibit 20 is different from the appearance of the GX engine as shown in the trademark application?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Yes.

BY MS. FERRERA:

Q. Even though the major components on the engine in Exhibit 20 are in the same location as on the engine in Honda's trademark application?

A. No, I would not agree with that. Exhibit 20 appears to have a panel air filter in the -- as opposed to a high mount air filter.

Q. You would agree that the fuel tank is on the upper right of the engine in Exhibit 20?

A. It is on the top part of the engine although it easily spreads onto the left side of the engine.

Q. You're not aware of any performance differences between the engine shown in Exhibit 20 and the

comparable Power GX engine?

MR. NOWAKOWSKI: Objection.

THE WITNESS: No, I'm not aware of any specific performance differences.

BY MS. FERRERA:

Q. And you're not aware of any differences in the relative costs to manufacture the engine shown in Exhibit 20 and the comparable Power GX engine?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Again, I'm not aware of the exact cost to manufacture the engine, so I'm not aware of any specific differences.

BY MS. FERRERA:

Q. And to be clear, you're not aware of any differences in the relative cost to manufacture the engine in Exhibit 20 and the comparable Power GX engine, correct?

MR. NOWAKOWSKI: Objection.

THE WITNESS: I do not have any personal knowledge on the individual companies' cost, so I cannot judge their relative costs.

BY MS. FERRERA:

Q. Then would you turn to Applicant's Exhibit 21. And do you understand that that's a photograph of a Briggs and Stratton Intek 900 engine?

A. Yes.
Q. And you don't remember having seen that engine prior to this case either, correct?
A. Correct.
Q. You're not aware of any difference in the performance of the engine shown in Exhibit 21 and the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: I do not know any specific differences.
BY MS. FERRERA:
Q. And you're not aware of any differences in the relative costs to manufacture the engine in Exhibit 21 and the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. Would you turn to Applicant's Exhibit 22. And do you understand that that's a photograph of a Subaru EX 35 engine?
A. Yes.
Q. And you don't remember having seen that engine prior to this case either?
A. Correct.
Q. You're not aware of any evidence that the engine

shown in Exhibit 22 differs in terms of its performance from the comparable Power GX engine?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Correct.

BY MS. FERRERA:

Q. And you're not aware of any evidence that the engine depicted in Exhibit 22 differs in terms of its manufacturing cost from the comparable Power GX engine?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Correct.

BY MS. FERRERA:

Q. And you don't have any evidence that the engine in Applicant's Exhibit 22 is at a competitive disadvantage to the comparable Power GX engine?

MR. NOWAKOWSKI: Objection.

THE WITNESS: It would be at a competitive disadvantage for markets that were requiring a high mount air filter. But if it was competing against one that was requiring a panel mount air filter, it would not -- I do not know of any of the disadvantages.

BY MS. FERRERA:

Q. So with the exception of the fact that this engine has -- the engine in Exhibit 22 has a panel air cleaner cover, you don't have any reason to believe

that that engine is at a competitive disadvantage to the comparable power GX engine, correct?

MR. NOWAKOWSKI: Objection.

THE WITNESS: I don't have any direct knowledge of it being at a competitive disadvantage.

BY MS. FERRERA:

Q. Would you turn to Applicant's Exhibit 23. Do you recognize that as a photograph of a Subaru EX 17 engine?

A. Yes.

Q. You don't recall having seen that engine prior to this case?

A. Correct.

Q. And you're not aware of any performance differences between the engine in Exhibit 23 and the comparable Power GX engine?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Correct.

BY MS. FERRERA:

Q. You're not aware of any differences in the cost to manufacture the engine in Exhibit 22 versus the comparable Power GX engine?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Correct.

BY MS. FERRERA:

Q. If you turn to Exhibit 24. That's a photograph of a Vanguard 9 horsepower engine, do you see that?
A. Yes.
Q. And you don't remember having seen that engine prior to this case?
A. Correct.
Q. You're not specifically aware of any differences in performance between the engine in Exhibit 24 and the comparable Power GX engine, correct?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. And you haven't seen any data showing any differences in manufacturing costs between the engine in Exhibit 24 and the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct, I have not seen any data on the manufacturing costs.
BY MS. FERRERA:
Q. So you don't know if there is any difference in manufacturing costs between the engine in Exhibit 24 and the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:

Q. Now, would you turn to Applicant's Exhibit 25. And that's just looking at the top picture on that page, that's a photograph of a Kawasaki FE170 engine, do you see that?
A. Yes.
Q. And you don't remember having seen that engine prior to this case?
A. Correct.
Q. And you're not aware of any differences in performance between the engine shown at the top of Exhibit 25 and the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. And you're not aware of any differences in manufacturing costs between the engine shown at the top on Exhibit 25 and the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct, I have not seen the manufacturing cost data on that.
BY MS. FERRERA:
Q. You're not aware of any reasons why the engine in Exhibit 25 would be at a competitive disadvantage to the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.

THE WITNESS: Correct.
BY MS. FERRERA:
Q. Now, if you turn to Exhibit 26, you understand that's a picture of a Subaru SP170 engine?
A. Yes.
Q. And that's not an engine that you've seen prior to this case, correct?
A. Correct.
Q. And you're not aware of any differences in performance between the engine in Exhibit 26 and the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. And you're not aware of any differences in the costs to manufacture the engine in Exhibit 26 versus the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. You're not aware of any reasons why the engine in Exhibit 26 would be at a competitive disadvantage to the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.

BY MS. FERRERA:
Q. And then would you turn to Exhibit 27. That's a picture of a Briggs 750 engine, do you see that?
A. Yes.
Q. You haven't seen this engine prior to this case?
A. Correct.
Q. And you're not aware of any differences in performance between the engine in Exhibit 27 and the comparable Power GX engine, correct?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. You don't know whether the engine in Exhibit 27 is more or less expensive to manufacture than the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. And you're not aware of any evidence that the engine in Exhibit 27 is at a competitive disadvantage to the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. If you turn to Exhibit 28, do you understand that

that's a Predator 346 cc engine?
A. Yes.
Q. And as far as you know, you hadn't seen that engine prior to this case, correct?
A. Correct.
Q. You're not aware of any difference in performance between the engine in Exhibit 28 and the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. And you're not aware of any differences in manufacturing costs between the engine in Exhibit 28 and the comparable Power GX engine, correct?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. You're not aware of any reason why the engine in Exhibit 28 would be at a competitive disadvantage to the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. Then if you turn to Exhibit 29, that's a Champion 338 cc engine, do you see that?

A. Yes.
Q. And as far as you know, you hadn't seen that engine prior to this case, correct?
A. Correct.
Q. You're not aware of any differences in performance between the engine in Exhibit 29 and the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. You're not aware of any differences in manufacturing costs between the engine in Exhibit 29 and the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. And you're not aware of any evidence that the engine in Exhibit 29 is at a competitive disadvantage to the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. And then if you turn to Exhibit 30, do you see that's a Lifan -- picture of a Lifan 190F engine?
A. Yes.

Q. You hadn't seen that engine prior to this case?
A. Correct.
Q. You're not aware of any differences in performance between the engine in Exhibit 30 and the comparable Power GX engine, right?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. You're not aware of any differences in manufacturing costs between the engine in Exhibit 30 and the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. And you're not aware of any evidence that the engine shown in Exhibit 30 is at a competitive disadvantage to the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. And then if you look at Exhibit 31, that's a picture of a Kawasaki FJ180 engine, correct?
A. I think the label on that is FJ180. It's a little blurry, but I think so, yes.
Q. You haven't seen that engine prior to this case?

A. Correct.
Q. You'd agree that the overall appearance of the engine in Exhibit 31 differs from the overall appearance of the engine in -- on Honda's trademark application?
MR. NOWAKOWSKI: Objection.
THE WITNESS: I can't tell because this is a -- not a direct frontal view of the engine. It has the same general configuration and relative position of the components to the trademark application, but I can't tell because you're looking at a two dimensional view versus a three dimensional view here.
BY MS. FERRERA:
Q. You're not aware of any differences in performance between the engine in Exhibit 31 and the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. And you're not aware of any manufacturing cost differences between the engine in Exhibit 31 and the comparable Power GX engine?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:

Q. You're not aware of any evidence that the engine in Exhibit 31 is at a competitive disadvantage to the comparable Power GX engine?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Correct.

BY MS. FERRERA:

Q. And then if you turn lastly to Exhibit 32, that's a photograph of an All-Power 208 cc engine, do you see that?

A. Yes.

Q. You hadn't seen that engine prior to this case, correct?

A. Correct.

Q. You're not aware of any performance differences between the engine in Exhibit 32 and the comparable Power GX engine?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Correct.

BY MS. FERRERA:

Q. You're not aware of any manufacturing cost differences between the engine in Exhibit 32 and the comparable Power GX engine?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Correct.

BY MS. FERRERA:

Q. And you're not aware of any evidence that the engine in Exhibit 32 is at a competitive disadvantage to the comparable Power GX engine?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Correct.

BY MS. FERRERA:

Q. Now, Professor Reisel, the engines that we've just been looking at in Exhibits 17 and then 19 to 32 are all horizontal shaft utility engines, correct?

A. They would appear to be, yes.

Q. And you would agree that all of the engines shown in Applicant's Exhibit 17 and 19 to 32 would be suitable counterparts for similar power Honda GX engine?

MR. NOWAKOWSKI: Objection.

THE WITNESS: With the clear exception of whether or not the OEM who is going to use this engine wants a high mount versus a side panel air cleaner. But other than that exception, they generally could be used for similar applications.

BY MS. FERRERA:

Q. And you'd agree that all of the engines shown in Exhibit 17 and 19 to 32 are compact?

A. Yes.

Q. Professor Reisel, I'm going to ask this to be marked as Applicant's Exhibit 33.

(Applicant's Exhibit 33 marked.)

BY MS. FERRERA:

Q. And I'll represent that Exhibit 33 is a version of the picture from the trademark application that we've labeled with A, B, C and D for ease of reference. And you understand the component D in Exhibit 33 is the fan cover?

A. Yes.

Q. You've never designed a fan cover for any engine, have you?

A. No.

Q. And you've never provided any input into the design of a fan cover for an engine, correct?

A. I do not recall doing so although it's possible that one of the student projects or more than one of the student projects over the years at ME432 involved that, but I don't recall that specifically.

Q. And prior to this litigation you never analyzed the relative cost between different fan covers, right?

A. Correct.

Q. Now, it's your opinion that the slant on the lower left side of the fan cover in Applicant's Exhibit 33 is functional, correct?

A. Correct.

Q. You agree that the angle of the slant on component D

does not need to be the same as the one that's used on the Honda GX engine, right?

A. The exact specific angle does not need to necessarily be the same, and it may be also a small function of the shape and size, especially the size of the engine as to what that exact angle will be. But it is going to -- it should be in that direction, and the shape that is taken by the trademark application is functional or the angle taken by that is functional.

Q. Well, you'd agree that -- am I correct that it's your position that it's necessary to have an angle or a slant on that portion of the fan cover, correct?

A. It is my opinion that it is necessary to have an angle that is going to be at least very close to the angle shown in the trademark application.

Q. But you'd agree it doesn't need to be the same, exact same angle as is shown in the trademark application, correct?

A. It does not need to be the exact angle, but it does need to be -- it should be close to it from a performance competitive standpoint.

Q. You haven't seen any data comparing -- Strike that.

You haven't seen any data showing what the optimal angle of the slant on a fan cover for a horizontal shaft utility engine is, correct?

A. That is correct because that also would vary a bit on the exact size and configuration of the engine.
Q. And you haven't seen any data showing that the slant of the fan cover on the GX engine is optimal for that size engine, correct?
A. Correct.
Q. You haven't seen any data comparing the performance of the fan cover on the GX engine to the performance of any other fan covers on horizontal shaft utility engines?
A. Correct.
Q. Now, looking at either Applicant's Exhibit 6 or Exhibit 33, you'd agree that the top and left sides of the fan cover in that drawing are straight?
A. Yes, other than the very corners which are rounded.
Q. Right. And it's not competitively necessary for the top and left sides of the fan cover to be straight, correct?
A. It is my opinion that that is not necessary.
Q. And you're not aware of any functional purpose served by having the top and left sides of the fan cover be straight, correct?
A. Correct. Yeah, correct.
Q. And you mentioned actually the corners. You'd agree that the corner -- the top left corner is

approximately a 90 degree angle, correct?
A. Yes, it's a rounded out 90 degree angle.
Q. And you haven't offered any opinion that that corner, the shape of that corner, is functional, correct?
A. Correct.
Q. Now, if you look at the bottom of the fan cover in either Exhibit 33 or Applicant's Exhibit 6, you'd agree that that's flattened, flattened off?
A. Yes.
Q. In your opinion the ideal shape for the bottom of the fan cover is actually rounded, correct?
A. Correct. An ideal shape for the acceleration of the air would be rounded. An ideal shape for actually placing it and mounting it on another object would be flat. So it depends on which aspect of ideal you're considering there. As engineers, you have to make balances between features at times and don't always get the absolute ideal that covers everything.
Q. From an air flow perspective, the ideal shape is rounded, not flat, correct?
A. Correct.
Q. And when the engine is mounted, what's actually mounted is a plate that's on the bottom of the engine, correct, on the cylinder block?
A. Correct.

Q. The bottom of the fan cover may not actually even be touching the ground or the mounting surface, correct?
A. Depending on the engine and the application, it may not be touching the bottom, the bottom of that plate at least.
Q. Would you turn in the pictures to Applicant's Exhibit 21. And that's the Briggs Intek 900 engine, do you see that?
A. Yes.
Q. You would agree that the fan cover on this engine has a different appearance than the fan cover in Applicant's Exhibit 6?
A. Yes.
Q. And if you turn to Exhibit 22, that's the Subaru EX 35?
A. Yes.
Q. And you agree that the fan cover in that engine differs in appearance from the fan cover in Applicant's Exhibit 6?
A. As best as I can tell from this angled view, it -- there are certainly differences between it, yes.
Q. And then if you look at Applicant's Exhibit 23, you agree that the fan cover in that engine differs in appearance from the fan cover in Applicant's Exhibit 6?

A. In particular in regards to it not having a straight top and straight left side, yes.
Q. And then if you look at Applicant's Exhibit 25, you agree that the fan cover on that engine differs in appearance from the fan cover in Applicant's Exhibit 6?
A. With the -- it would appear to be different although with the side mounted air cleaner covering up some of the left side of the engine there, it's a little bit difficult to tell, but it would appear to be different.
Q. And if you look at Applicant's Exhibit 26, you'd agree that the fan cover on that engine differs in appearance from the fan cover in Applicant's Exhibit 6?
A. With the angle that this picture is taken at, I'm not comfortable making that statement, no.
Q. Let's look at your deposition. If you turn to page 181. If you look at line 15, you see you were asked the question:

"Would you agree that the fan cover in Exhibit 205 differs in appearance from the fan cover in Exhibit 3?"

A. Um-hum.
Q. Do you see that that corresponds to the deposition

exhibit sticker number on Exhibit 26?
A. Yes.
Q. And your answer at your deposition was:
"Yes."
Do you see that, line 18?
A. Yes.
Q. So at least as of your deposition, you believed that the fan cover in Applicant's Exhibit 26 differed in appearance from the fan cover in Exhibit 6?
A. Yes. My initial reaction would be that they differed. But sitting here looking at it today, I'm not as comfortable making that statement.
Q. Your initial reaction was that they differed in appearance, correct?
A. Yes.
Q. Would you turn to Applicant's Exhibit 29. And you agree that the fan cover in -- on that engine differs in appearance from the fan cover in Exhibit 6?
A. Yes.
Q. If you turn to Exhibit 31, you agree that the fan cover on that engine differs in appearance from the fan cover in Exhibit 6?
A. Yes.
Q. So it's fair to say, is it not, Professor Reisel, that there are a variety of styling options for the

fan cover on a horizontal shaft utility engine?

MR. NOWAKOWSKI: Objection.

THE WITNESS: There are differences that can be made with this fan cover, and many of these fan covers appear to be generally more rounded on the top and the side as opposed to being the straight edges as presented in the trademark. But they also all are leading towards an angled direction of the air flow.

BY MS. FERRERA:

Q. You can have a slanted cover but with differences in other aspects of the appearance of the fan cover, correct?

A. Correct.

Q. Now, if you look at Exhibit 33 again which is the labeled drawing from the trademark application. And looking at the top right side of the engine, the component labeled B, do you see that?

A. Yes.

Q. That's the fuel tank, correct?

A. Yes.

Q. And you've never designed a fuel tank for any engine, have you?

A. No.

Q. You don't specifically recall having provided any

input into the appearance of a fuel tank for an engine, correct?

A. Not into the appearance. Again, I seem to recall having provided some functional input for people designing that as part of their ME432 class, but not the external appearance.

Q. And prior to this litigation you never analyzed the relative cost between different fuel tanks, right?

A. Correct.

Q. Now, it's your opinion that the fuel tank on a horizontal shaft engine needs to be above the fan cover and on the right side of the engine?

A. Yes.

Q. If you look at Exhibit 20 in your pile there, it's the -- that's the Kawasaki FE250?

A. Yes.

Q. I think you pointed this out earlier actually, that on this engine the fuel tank runs across the entire front of the engine?

A. Yes.

Q. It's not limited to the right side of the engine, correct?

A. Correct.

Q. And then if you look at Exhibit 24, that's the Vanguard 9 horsepower engine?

A. Yes.
Q. And you'd agree that on this engine also the fuel tank runs across the entire front of the engine?
A. Yes.
Q. So would you agree that there are horizontal shaft utility engines on which the fuel tank is not located on the right side of the engine, correct?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Well, actually, I'd also like to get back to my previous answer where you said the entire top of the engine. These both do appear to be cut off before reaching the left edge of the engine. So it isn't the entire engine, it is the right and the center and part of the left side of the engine.
Getting back to this -- to your question here that they do not have to be only over the right side of the engine, although you will notice that they are over the right side of the engine and not exclusively over some other portion of the engine. And both of these configurations can allow for a larger fuel volume which, if that is the demand of the OEM, would be a design choice that you would have to make to extend out that fuel tank further to the left. Although as I pointed out, it isn't over

the entire engine.

BY MS. FERRERA:

Q. But you agree that the fuel tank doesn't have to be only over the right side of the engine?

MR. HERRING: Object to form.

THE WITNESS: It can be over parts of the other engine -- the right half of the engine, so yes.

BY MS. FERRERA:

Q. And you said that the fuel tanks in Exhibits 20 and 24, for example, would allow for a larger volume of fuel?

A. For Exhibit 24 I would say yes because we had a three dimensional view there, and so we can see how far it projects backwards. For Exhibit 20 we can't see how far that projects backwards, so I don't know if that would contain more fuel.

Q. So, for Exhibit 24 to the extent it allows for a larger volume of fuel, that could be a performance benefit, correct?

MR. HERRING: Object to form.

THE WITNESS: That would depend on the application. So if you were looking at having an electrical generator that you would be most concerned about having it be able to run for a very

long period of time potentially, then that would be a potential benefit.

BY MS. FERRERA:

Q. So certain applications having a larger fuel tank that is not limited to the right side of the engine could be a performance benefit, correct?

MR. HERRING: Object to form.

THE WITNESS: Yes.

BY MS. FERRERA:

Q. Now, during your direct testimony you talked about the necessity for having a seam on a fuel tank, do you recall that?

A. Yes.

Q. And if you look at Applicant's Exhibit 6, do you see that the seam is horizontal and slightly below center of the fuel tank?

A. Yes.

Q. You didn't offer any opinions as to -- Strike that.

You didn't offer any opinion that the location of the seam on the GX engine fuel tank is functional, correct?

A. Correct.

Q. Now, you'd agree -- Strike that.

Your opinion is that it's necessary to have a rectangular fuel tank, correct?

MR. NOWAKOWSKI: Objection.

THE WITNESS: It is my opinion that it is necessary -- that it serves a strong functional benefit to having a rectangular fuel tank.

BY MS. FERRERA:

Q. You would agree that rectangular fuel tanks can have different proportions, correct?

A. Correct.

Q. It could be short and wide and still be rectangular?

A. Correct.

Q. Could be long and tall and still be rectangular, correct?

A. Correct.

Q. You'd agree that it's possible to have a fuel tank that is rectangular in shape and yet differs in appearance from the fuel tank on Applicant's Exhibit 6?

A. With regards to the proportion of the length versus the width, yes.

Q. And --

A. Or the height, whichever dimension you want to look at that as.

Q. Right. And if you looked at Applicant's Exhibit 17, that's the Kohler Command Pro 7 engine, do you see that?

A. Yes.
Q. And you'd agree that the fuel tank on that engine differs in appearance from the fuel tank in Applicant's Exhibit 6?
A. Yes.
Q. But it's still rectangular in shape in your view, correct?
A. It's overall shape is predominantly rectangular.
Q. And then if you turn to Applicant's Exhibit 20, that's the Kawasaki FE250 engine.
A. Yes.
Q. And you agree that the fuel tank on that engine differs in appearance from the fuel tank on Applicant's Exhibit 6?
MR. NOWAKOWSKI: Objection.
THE WITNESS: If we remove the fuel tank from the rest of the engine, I would say there are trivial differences in their appearance between the two.
BY MS. FERRERA:
Q. Well, in the context of the rest of the engine, you agree that it's different in appearance from the fuel tank in Applicant's Exhibit 6, correct?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Yes.

BY MS. FERRERA:
Q. And you agree that the fuel tank in Exhibit 20 is rectangular in appearance, correct?
A. Yes.
Q. And then if you look at Applicant's Exhibit 21, it's the Briggs and Stratton Intek 900 engine.
A. Yes.
Q. Do you agree that the fuel tank on that engine differs in appearance from the fuel tank in Applicant's Exhibit 6?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Yes.
BY MS. FERRERA:
Q. And you consider the fuel tank in Exhibit 21 to be rectangular also, right?
A. Yes.
Q. And then if you look at Exhibit 22, that's the Subaru EX 35. You agree that the fuel tank on that engine differs in appearance from the fuel tank in Applicant's Exhibit 6?
MR. NOWAKOWSKI: Same objection.
THE WITNESS: As best as I can tell from this angle, there would be more of a recessed top to this although it's not perfectly clear. But other than -- and there may be an extension on the bottom

right. But other than that, it's very similar in appearance.

BY MS. FERRERA:

Q. You indicated that there is an indentation on the top of the fuel tank and a portion that extends down in the lower right corner, right?

A. Those I pointed out -- I'm not sure about that indentation with the quality and the angle of this picture. It appears that there is from this angle, but I would be more confident about that extension on the right side.

Q. And actually if you look at the bottom edge of the fuel tank in Exhibit 22, it actually appears to be stepped, correct, starting from the left corner?

A. I guess so, yes.

Q. And that's different from the fuel tank in Applicant's Exhibit 6, right?

A. Yes.

Q. And you'd consider the fuel tank in Exhibit 22 to be roughly rectangular, correct?

A. Yes.

Q. Now, if you turn to Exhibit 23, that's the Subaru EX 17 engine, you'd agree that that engine differs in appearance from the fuel tank in Applicant's Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: I would agree with that inasmuch as it has that slight extension on the right-hand side, the bottom of the right-hand side.

BY MS. FERRERA:

Q. And you consider the fuel tank in Exhibit 23 to be roughly rectangular, correct?

A. Yes.

Q. And then if you look at Applicant's Exhibit 24, you'd consider that to be different in appearance from the fuel tank in Applicant's Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Yes.

BY MS. FERRERA:

Q. And you consider the fuel tank in Exhibit 24 to be roughly rectangular?

THE WITNESS: I would consider that to be roughly rectangular.

BY MS. FERRERA:

Q. And maybe we can speed this up a little bit. If you look at the Applicant's Exhibits 26, 27, 29, and 30 and 31, do you have all of those?

A. Okay.

Q. You would agree that the fuel tanks in all of those engines differ in appearance from the fuel tank on

Applicant's Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: I would say that their specific or exact form does appear to be different in appearance.

BY MS. FERRERA:

Q. And in your view the fuel tanks on all of those exhibits, again, 26, 27, 29, 30 and 31 are all rectangular in shape, correct?

A. Yes.

Q. So Professor Reisel, it's fair to say that there are a variety of styling options available for a rectangular fuel tank, correct?

MR. NOWAKOWSKI: Objection.

THE WITNESS: I would say that it appears to be that there are different styling options although they're retaining basically having a seam in all of them, manufactured in two parts and taking a roughly rectangular shape.

BY MS. FERRERA:

Q. So you'd agree that it's -- there are a variety of styling options available for a roughly rectangular fuel tank with a seam, correct?

MR. NOWAKOWSKI: Objection, asked and answered.

THE WITNESS: Correct.

BY MS. FERRERA:

Q. If you turn --

MS. FERRERA: Maybe we can just take a short break.

(Lunch recess taken.)

BY MS. FERRERA:

Q. Good afternoon, Professor Reisel. Before the lunch break we were talking about the fuel tank in Applicant's Exhibit 6.

A. Yes.

Q. And during your direct testimony you had talked about the fact that having bevelling on the fuel tank makes it easier to manufacture; is that correct?

A. Yes.

Q. But you didn't offer any opinion as to the particular angle or shape of the bevelling on the fuel tank in Applicant's Exhibit 6, correct?

A. Correct.

Q. And you agree that the particular angle or shape of the bevelling is not functional?

A. Correct.

Q. Looking at Exhibit 33, the component that's labeled A, that's the air cleaner cover?

A. Yes.

Q. And you have not designed any air cleaner covers for an engine, correct?
A. Correct.
Q. And you've never provided input into the design of an air cleaner cover for an engine?
A. I would agree that that's correct, I don't recall any students doing a project where they were redesigning an air cover cleaner.
Q. And you haven't analyzed the relative cost of different air cleaner covers, correct?
A. Correct.
Q. Now, I believe you testified earlier that in your view the air cleaner and the air cleaner cover on -- Strike that.

I believe you testified earlier that in your view the location of the air cleaner cover on Applicant's Exhibit 6 is functional; is that correct?
A. Correct.
Q. And you're referring to its placement on the top left side of the engine; is that correct?
A. Correct.
Q. Now, you are aware that there are horizontal shaft utility engines that have the air cleaner and air cleaner cover lower down immediately to the left of the fan cover?

A. Correct.
Q. And those are what are called panel air cleaners?
A. Correct.
Q. It's your opinion that those panel air cleaners are less desirable than the top mounted air cleaners, at least for some applications, correct?
A. Yes, for some applications that would require or request a top mount air cleaner. Those are less desirable.
Q. You haven't seen any sales data regarding the sales of engines with top mounted air cleaner covers versus panel air cleaners, correct?
A. Correct.
Q. And so you don't know in fact which type of air cleaner or air cleaner cover OEMs prefer?
A. I do not know which one any particular OEM prefers, correct.
Q. And in general you don't know which type OEMs prefer?
MR. HERRING: Object to form.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. I believe you testified earlier that the advantage of a top mounted air cleaner cover is that it reduces the potential for debris to enter the air cleaner?
A. It will lower the amount of dust that is going to be

able to -- that is going to reach the air cleaner before being pulled out just by the natural gravity that surrounds the engine.

Q. And in terms of performance differences, that's the only difference that you identified during your testimony on direct; is that true?

A. With regards to the high mount versus side mount --

Q. Right.

A. -- air cleaner, I believe that's correct.

Q. You haven't seen any data showing that debris is a bigger problem with panel air cleaners versus high mounted air cleaners?

A. Correct.

Q. And you haven't seen any data comparing the performance of panel air cleaners with high mounted air cleaners?

A. Correct.

Q. You've never spoken with any engine designers who told you that panel air cleaners are less desirable than high mounted air cleaners?

A. I have spoken with engineers who have indicated that OEMs in many cases desire to have a high mount air cleaner as opposed to a side mount air cleaner.

Q. Those are your conversations with the Briggs and Kohler engineers earlier in this case?

A. Correct.
Q. That's the only time you've had that discussion with an engine designer, correct?
A. Correct.
Q. And you haven't spoken with any OEMs about whether panel air cleaners or top mounted air cleaners are preferable, correct?
A. Correct.
Q. And you would agree that there are some applications where a panel air cleaner cover is preferable to a high mounted air cleaner?
A. Correct.
Q. And there are some applications whether either a panel air cleaner or a high mounted air cleaner would be appropriate, correct?
A. I do not know.
Q. You just don't know one way or the other?
A. Correct.
Q. Now, you testified earlier that in your opinion the cubic shape of the air cleaner cover in Applicant's Exhibit 6 is functional, correct?
A. Correct.
Q. You didn't give any opinion as to the left and right sides of the air cleaner cover in Applicant's Exhibit 6, correct?

A. I did not at this time, correct.
Q. And you didn't give any opinion about the shape or the angle of the bevelling on the air cleaner cover in Applicant's Exhibit 6?
A. Correct.
Q. And you agree that there is a belt-like area on the lower portion of the air cleaner cover in Exhibit 6?
A. Yes.
Q. And you didn't talk about that during your direct testimony either, correct?
A. Correct.
Q. But you'd agree that that feature is not functional?
A. Correct.
Q. Now, in terms of the cubic shape of the air cleaner cover, it's your opinion that that shape is necessary to accommodate the filter and permit adequate room for air flow; is that correct?
A. It's my opinion that that coupled with potentially a rounded, larger base rounded air cover cleaner would be necessary, yes.
Q. And to be clear, when you say that a cubic shape is necessary, you mean a rectangular shape, correct?
A. I'm referring -- by a cubic shape, I'm referring to a rectangular shape, a rectangular front and box-like structure as opposed to a rounded box-like structure.

Q. But you don't mean square, you just mean rectangular?
A. Correct.
Q. If you turn to Applicant's Exhibit 17, do you see the air cleaner cover in that exhibit?
A. Yes.
Q. You would agree that it differs in appearance than the air cleaner cover in Applicant's Exhibit 6?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Yes.
BY MS. FERRERA:
Q. But you would still consider it rectangular in shape; is that correct?
A. For the air cleaner cover itself by looking at it, I would say that that would take a rectangular shape, yes.
Q. And if you look at Applicant's Exhibit 20, you agree that the air cleaner cover on the engine in Exhibit 20 differs in appearance than the air cleaner cover in Applicant's Exhibit 6?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Yes, as it's a side mount air cleaner or panel air cover cleaner.
BY MS. FERRERA:
Q. You consider that to be also rectangular, correct?
A. Roughly rectangular in shape, yes.

Q. And if you look at Exhibit 21. Do you agree that the air cleaner cover on the engine in Exhibit 21 has a different appearance from the air cleaner cover in Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Yes, because it's a different type of air cover cleaner and a different type of air filter. It has a different appearance, yes.

BY MS. FERRERA:

Q. You consider that to be rectangular also, correct?

A. Yes.

Q. And if you look at Exhibit 22, you agree the air cleaner cover on that engine differs in appearance from the air cleaner cover in Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Yes, inasmuch as it's a side mount panel air cleaner, it differs in appearance.

BY MS. FERRERA:

Q. And that's also rectangular in your view, correct?

A. Yes.

Q. And if you look at Exhibit 23, you agree the air cleaner cover on the engine in Exhibit 23 differs in appearance from the air cleaner cover in Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: In exhibit -- yes, Exhibit 23 it has a more rounded top especially towards the left side of that, yes.

BY MS. FERRERA:

Q. So it differs in appearance?

A. So it differs in appearance, yes.

Q. And you consider that to be rectangular in shape also, correct?

A. I consider that essentially rectangular in shape.

Q. And then if you look at Exhibit 24, you agree that the air cleaner cover on the engine in Exhibit 24 differs in appearance from the air cleaner cover in Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: With the larger fuel tank in there, it's a little bit harder to point out exactly the air cover cleaner. But yes, it does have a different appearance.

BY MS. FERRERA:

Q. And you consider that to be rectangular also, correct?

A. Essentially, yes.

Q. And then if you look at Exhibit 25, do you agree that the air cleaner cover in Exhibit 25 differs in appearance from the air cleaner cover in Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Yes, again, it's a side mounted panel air cleaner, so it differs in appearance.

BY MS. FERRERA:

Q. And you consider that to be rectangular also?

A. Essentially, yes.

Q. And then if you look at Exhibit 26, you agree that the air cleaner cover shown in that exhibit differs in appearance from the air cleaner cover in Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Yes.

BY MS. FERRERA:

Q. And you consider that to be rectangular also, correct?

A. Again, it's got a little bit more rounding on the left side of it, but it's essentially rectangular in shape.

Q. And then if you look at Exhibit 28, do you agree that the air cleaner cover on the engine in Exhibit 28 differs in appearance from the air cleaner cover in Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Yes.

BY MS. FERRERA:
Q. And do you consider that one to be rectangular?
A. Yes.
Q. And then if you look at Exhibit 29, that's the Champion engine, correct?
A. Yes.
Q. Do you agree that the air cleaner cover in Exhibit 29 differs in appearance from the air cleaner cover in Exhibit 6?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Well, other than having a little bit of a different attachment mechanism and a little bit less bevelling, it's extremely similar to the Exhibit 30 -- Exhibit 6 air cover cleaner.
BY MS. FERRERA:
Q. Do you agree that the bevelling on the air cleaner cover in Exhibit 29 differs in appearance from the bevelling in Exhibit 6?
A. Yes.
Q. And you consider the air cleaner cover in Exhibit 29 to be boxy or rectangular in appearance, correct?
A. Yes.
Q. And then if you look at Exhibit 30, you consider the air cleaner cover on the engine in Exhibit 30 to differ in appearance from the air cleaner cover in

Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Yes.

BY MS. FERRERA:

Q. But you would consider the air cleaner cover in Exhibit 30 to be rectangular also, correct?

A. It's primary shape is rectangular, yes.

Q. And then if you look at Exhibit 32, do you agree the air cleaner cover on that engine differs in appearance from the air cleaner cover in Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Yes.

BY MS. FERRERA:

Q. And you consider that one to be rectangular also, correct?

A. Yes.

Q. So you would agree, would you not, Professor Reisel, that there are a variety of styling options available for a rectangular air cleaner cover?

MR. NOWAKOWSKI: Objection.

THE WITNESS: I would agree that for high mount air cover cleaners there are a variety of options on some of the superficial details of it, but the functionality is still dictating that it be a rectangular shape.

BY MS. FERRERA:
Q. And my question was you would agree that there are a variety of styling options available for a rectangular high mounted air cleaner cover, correct?
MR. NOWAKOWSKI: Objection, asked and answered.
THE WITNESS: Yes.
BY MS. FERRERA:
Q. Now, if you turn back to Exhibit 33. And do you see the component labeled C?
A. Yes.
Q. That's the carburetor cover, correct?
A. I'm assuming that it's pointing to that and not just the particular nut and bolt at the corner there, so yes.
Q. And outside the context of this case, you've never designed a carburetor cover; is that correct?
A. Yes.
Q. You've never given any input into the design of a carburetor cover?
A. Correct.
Q. And you've never analyzed the relative cost differences between alternative carburetor covers?
A. Correct.
Q. Now, am I correct that it's your opinion that the

recessed portion of the carburetor cover on the -- as shown on Applicant's Exhibit 6 is functional?

A. Yes, it serves a functional purpose.

Q. If you look at Applicant's Exhibit 17, do you see where the controls are located in Exhibit 17?

A. Not particularly clearly.

Q. We'll come back to that one. If you can turn to Exhibit 19. Do you agree that the area of the carburetor cover where the controls are located in Exhibit 19 differs in appearance from what's shown in Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Yes.

BY MS. FERRERA:

Q. And if you look at Exhibit 24, you'll agree that the area of the carburetor cover where the controls are located on this engine differs in appearance from Exhibit 6?

A. Yes.

Q. And if you look at Exhibit 26, you'd agree that the area of the carburetor cover where the controls are located in Exhibit 26 differs in appearance from Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: It's a little bit more

difficult to tell with the angled view on Exhibit 26, but it probably is not the same.

BY MS. FERRERA:

Q. And if you look at Exhibit 27, you agree that the area where the controls are located on the carburetor cover in Exhibit 27 differs from Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: There do appear to be a number of similarities there, but there are some differences as well. So yes, it does differ in appearance.

BY MS. FERRERA:

Q. And then if you look at Exhibit 28, you would agree that the area where the controls are located on the carburetor cover differs from Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: There may be some slight differences there, a little bit of a change at the bottom, but they are, again, very similar.

BY MS. FERRERA:

Q. If you look at Exhibit 29, do you agree that the area of the carburetor cover where the controls are located in Exhibit 29 differs in appearance from Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: The area where the control levers are located is not particularly clear in my picture here. So I don't want to render an opinion on that.

BY MS. FERRERA:

Q. And then if you look at Exhibit 31, the area where the controls are located in Exhibit 31 differs in appearance from Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: There appear to be some differences, although with the pixilation on the image, it isn't perfectly clear what that looks like in Exhibit 31.

BY MS. FERRERA:

Q. Then if you look at Exhibit 32, do you agree that the area where the controls are located on that engine differs from Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: There do appear to be some differences of a fairly small nature, again, yes.

BY MS. FERRERA:

Q. Now, you'd agree, Professor Reisel, then, that there are a variety of styling options available for the portion of the carburetor cover on a horizontal shaft engine where the controls are located?

MR. NOWAKOWSKI: Objection.

THE WITNESS: I would agree that there is some leeway in the size of the recessed areas as to where those levers would be located, so there could be some styling differences, yes.

BY MS. FERRERA:

Q. And there could be differences in the shape of the recessed area?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Without being able to see the image or the engines in person, the shape I'm a little less certain of here.

BY MS. FERRERA:

Q. And in fact in some of the engines, the area where the controls are located is not a recessed area, it's just a cut-out in the carburetor cover, correct?

A. I can't tell that from the pictures.

Q. Well, if you look at Exhibit 32, do you agree that that's just a cut-out?

MR. HERRING: Object to the form.

THE WITNESS: I, again, cannot tell whether that's a cut-out or whether there is a recessed area. At the top of that it looks to be a recessed area. Towards the bottom it may be a cut-out, it may be a recessed area.

BY MS. FERRERA:
Q. This is Opposers' Exhibit 10. That's the same engine that's in Applicant's Exhibit 32, correct?
A. Correct.
Q. And based on that, you would agree that the area where the controls are located is a cut-out?
A. I cannot tell if it's a cut-out or whether it's been a piece of material that has been put over the recessed area behind there. So I cannot tell what's behind that frontal piece towards the bottom of the carburetor cover.
Q. In some cases, Professor Reisel -- Strike that.
Would you agree that in cases where an engine uses a panel air cleaner cover rather than a high mounted air cleaner cover, it may not even be necessary to have a separate carburetor cover?
A. Correct.
Q. And in those cases the air cleaner cover may also function as the carburetor cover, correct?
A. Or at least the front part of the carburetor, yes.
Q. Now, in looking at Applicant's Exhibit 33 or Exhibit 6, either one, you'd agree that the carburetor cover in that engine has four horizontal ribs on it?
A. Yes.
Q. And you're not aware of any evidence that those

horizontal ribs serve a functional purpose, correct?
A. I am not definitively aware that they serve a functional purpose. I have in past -- the past deposition expressed that that may aid in cooling the carburetor cover which could help performance, but it would be a very small impact. So I would say that that generally would be a nonfunctional aspect.
Q. And you haven't seen any evidence in this case that the ribs on the GX engine as shown in Applicant's Exhibit 6 serve a functional purpose, right?
A. I have not seen evidence of that, correct.
Q. And you didn't offer any testimony that the vertical left side of the carburetor cover on Applicant's Exhibit 6 is functional, correct?
MR. HERRING: Object to form.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. You didn't offer any testimony with respect to the flat bottom portion of the carburetor cover on Applicant's Exhibit 6?
A. Correct.
Q. You didn't offer any testimony with respect to the lower left corner of the carburetor cover that's at a 90 degree angle, correct?
A. Correct.

MR. NOWAKOWSKI: I'm going to register an objection to that question.

BY MS. FERRERA:

Q. You would agree that is a 90 degree angle, the lower left corner of the carburetor cover?

A. As viewed it's essentially a 90 degree angle, yes.

Q. And you have no opinions with respect to the functionality of that angle, correct?

A. Correct.

Q. I think you testified earlier that if the controls on the -- on the GX engine are not recessed, they would interfere with the movement of the -- could interfere with the movement of the rewind during starting of the engine; is that correct?

A. I did say that they could, yes.

Q. But you understand that the recoil cover shown in Applicant's Exhibit 6 has the potential to be rotated?

A. Yes, as I said in my testimony, yes.

Q. And you're not aware of any evidence that consumers in fact prefer the location of the -- Strike that.

You also gave the opinion on direct that having the controls on the left side of the engine was functional, correct?

A. Correct.

Q. And if you would look at the Applicant's Exhibit 20, you'd agree that the controls on that engine are in a different location than in Applicant's Exhibit 6?
A. Yes.
MR. HERRING: Object to form.
BY MS. FERRERA:
Q. And if you look at Applicant's Exhibit 21, you agree that the controls on that engine are in a different location than on Applicant's Exhibit 6?
A. Yes.
Q. And if we look at Applicant's Exhibit 24, the controls on that engine are in a different location than on Applicant's Exhibit 6, correct?
A. At least some of them are, yes.
Q. And then if you look at Applicant's Exhibit 25, you would agree that the controls on that engine are in a different location than on Applicant's Exhibit 6?
A. Seeing I'm not sure where the controls are on this one, yes.
Q. So you would agree that there are a variety of styling options available for the location of the controls on a horizontal shaft engine, correct?
MR. HERRING: Object to form.
THE WITNESS: I would agree with that, especially because on these exhibits that were asked

about you have a side panel or a panel air cleaner mounted on the side which would be where the carburetor control levers are in Exhibit 33, and, therefore, they can't be in that location.

BY MS. FERRERA:

Q. Well, in Exhibit 24 you don't know that that's a side mounted air cleaner cover, correct?

A. I guess, correct, because the different shape of the fuel tank and knowing exactly where some of the components are fitting in there, we do not know exactly which one that is, that's correct.

Q. I just want to go back for a moment, you testified I believe that one reason why you believe the controls need to be recessed is because that reduces the potential for them breaking; is that correct?

A. Correct.

Q. You're not aware of any evidence that on engines on which the controls are not recessed that they're more prone to breaking, are you?

MR. NOWAKOWSKI: Objection.

THE WITNESS: I am not aware. I'm instead using engineering analysis principles to come to that conclusion.

BY MS. FERRERA:

Q. You haven't seen any data though comparing the extent

to which controls that are recessed versus not recessed are subject to breakage, right?

A. Correct.

Q. Professor Reisel, you understand that another aspect of the trademark that Honda has applied for is the complimentary angles and bevelling of certain components?

MR. HERRING: Object to form.

THE WITNESS: Correct.

BY MS. FERRERA:

Q. And you understand that according to Mr. Fujita, the Honda styling designers designed the air cleaner cover and the fuel tank to have similar bevelling, correct?

MR. NOWAKOWSKI: Objection.

THE WITNESS: I understand that that was his testimony at his deposition, yes.

BY MS. FERRERA:

Q. And you've got no basis to disagree with that, right?

A. Correct.

Q. You understand that he also testified that the Honda styling designers wanted the air cleaner cover and the fuel tank to have sharper angles on the outside edges than on the inside?

MR. HERRING: Object to form.

THE WITNESS: Correct.
BY MS. FERRERA:
Q. And he also testified that the Honda styling designers wanted similar vertical lines on the portions of the air cleaner cover and the fuel tank that are closest to one another?
MR. HERRING: Objection.
THE WITNESS: I believe that's what he said, yes.
BY MS. FERRERA:
Q. And you agree that the similar bevelling on the air cleaner cover and the fuel tank serves no functional purpose?
MR. HERRING: Objection.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. There is no functional reason to have similar vertical lines on the right side of the air cleaner cover and the left side of the fuel tank?
A. The right side of the air cleaner and the left side of the fuel tank, correct. Yeah, I mean you're, again, trying to minimize the -- you're trying to maximize the size of the volume of the fuel tank so you are going to have lines that are going to be close to vertical in there as best you can to try to

maximize the volume. But that would be a fairly small impact, but it's functionality.

Q. So you would agree that there is no functional reason to have similar vertical lines for the right vertical line of the air cleaner cover and the left vertical line of the fuel tank, correct?

MR. HERRING: Objection.

MR. NOWAKOWSKI: Objection.

THE WITNESS: I guess I'm confused by "similar vertical." Something is vertical or it's not. And as I look at Exhibit 33, the angles of those lines -- the fuel tank line on the left side clearly is angled whereas the air cleaner cover is much closer to being a vertical line. So I guess I'm a little confused about referring to that as similar.

BY MS. FERRERA:

Q. You do not see a functional reason to have the inside edges of the fuel tank and the air cleaner cover lining up and being on the same plane, correct?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Would you be referring to parallel planes there?

BY MS. FERRERA:

Q. Yes.

A. Okay. Again, you would like to get those to be close so that you can maximize out your fuel tank volume by minimizing the distance between those two components which would have a functional component, but that shouldn't be making a dramatic change in the size of the fuel tank.

Q. Let's look at your deposition. If you turn to page 121 line 3, you were asked the question:

"And you're not aware of any functional reason to have similar vertical lines for the right vertical line of the air cleaner cover and the left vertical line of the fuel tank, correct?"

And your answer was:

"To have them lining up and being on the same plane, I do not see a functional reason for that. Having a line in general, yes, but they do not have to be lining up."

Is that --

MR. HERRING: For the record, there was an objection to that question.

BY MS. FERRERA:

Q. You answered the question that you were asked on May 21st, 2015, correct?

A. Correct.

Q. And that was the answer that you gave?

A. That was the answer that I gave. And I am essentially giving the same answer. I'm saying is that there may be a small, rather minor, functional reason for having that fuel tank line more vertical. But I'm not saying it is a major functional reason.

Q. Well, you previously said you do not see a functional reason, correct?

MR. HERRING: He said having a line in general, yes, but they do not have to be lining up.

BY MS. FERRERA:

Q. Well, it has to have an edge, right? It doesn't have to be the shape that it is on Applicant's Exhibit 6.

A. Correct.

Q. Now, you understand from Mr. Fujita's testimony that the Honda styling designers also intended for the top right side of the fuel tank and the lower left side of the fan cover to have similar angles, correct?

MR. HERRING: Objection.

THE WITNESS: The top right side of the fuel tank and which side --

BY MS. FERRERA:

Q. The lower left side of the fan cover.

A. Lower left, okay, fan cover, okay. Correct.

Q. And there is no functional reason why the top right side of the fuel tank and the lower left side of the

fan cover would need to have similar angles, correct?
A. Correct.
Q. You also understand from Mr. Fujita's testimony that the Honda styling designers intended for the angle of the lower left side of the fan cover to continue unobstructed to the left edge of the carburetor cover, correct?
A. Correct.
MR. HERRING: Objection to that last question.
BY MS. FERRERA:
Q. And there is no functional reason why the angle on the lower left side of the fan cover has to line up with the carburetor cover, right?
A. As I've discussed, there is a functional reason for the lower left side of the fan cover to be pointed up in that direction. It does not need to functionally line up precisely with the carburetor cover. That would be more of a function of the design of the carburetor cover than the specific angle of the fan cover, lower left of the fan cover.
Q. So the angle or slant of the lower -- on the lower left side of the fan cover does not need to line up with the angle of the carburetor cover?
MR. NOWAKOWSKI: Objection.

THE WITNESS: Correct.

BY MS. FERRERA:

Q. Professor Reisel, you testified earlier about the overall cubic design of Honda's claimed trademark, do you recall that?

A. Yes.

Q. Am I correct that your understanding of the geometric definition of a cube is an object that has six flat surfaces of equal size meeting at 90 degree angles?

A. Correct.

Q. In the context of this case, your interpretation of cubic design is that the overall engine should have approximately flat surfaces meeting at roughly 90 degrees, correct?

A. That the engine itself would be fitting most closely in that type of a geometric shape, yes.

Q. And then you also believe that it means that the individual components should have approximately flat surfaces meeting roughly 90 degrees, right?

A. Correct.

Q. Based on your interpretation of cubic design in this case, the engine does not have to have sides of equal size, correct?

MR. NOWAKOWSKI: Objection, mischaracterizes his direct testimony.

THE WITNESS: I look at this and the size of the top and -- or the bottom and the left and right do not necessarily need to be the same, but I would expect the top and the bottom to be the same and the left and the right to be the same.

BY MS. FERRERA:

Q. But you agree it doesn't -- based on your interpretation of cubic design in this case, the engine does not have to be square when viewed from the front, it merely needs to be rectangular, correct?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Correct. It is going to be a rectangle that is reasonably approaching a square-ish shape. When you're talking with the engineering design, you're looking here at not necessarily a specific exact square, but -- it may be rectangular, but it's going to be roughly the same height and width.

BY MS. FERRERA:

Q. Your interpretation of cubic design in this case, it doesn't have to have the left and right side be of an equal size as the top and bottom, correct?

MR. NOWAKOWSKI: Objection. He's now answered this question three times.

THE WITNESS: Correct.
BY MS. FERRERA:
Q. So an engine could meet your definition of cubic in the context of this case and be slightly more tall than it is wide?
MR. NOWAKOWSKI: Objection.
THE WITNESS: Correct.
MR. NOWAKOWSKI: Mischaracterizes his direct testimony.
BY MS. FERRERA:
Q. And it could meet your definition of cubic design in this case and be more wide than it is tall, right?
MR. NOWAKOWSKI: Same objection.
THE WITNESS: Correct, as long as they are reasonably close in same dimensions, yes.
BY MS. FERRERA:
Q. Now, it's also your opinion that the outside surfaces of the engine should be approximately flat; is that correct?
A. Yes.
Q. And that's because in your view it facilitates fitting the engine into OEM applications?
A. Yes.
Q. Let's look at Exhibit 21. You'd agree on this engine the top surface of the engine is not approximately

flat?
A. The top surface consists of a few flat sections, but it is not one straight flat section across there, and it is also a panel air filter mounted on the side.
Q. And so on this engine the fuel tank and the muffler and the air cleaner cover are all a different height, right?
A. Correct.
Q. And then if you look at Exhibit 31, you'd agree that on this engine the fuel tank and the air cleaner cover -- Strike that.

You'd agree that on this engine the top surfaces of the fuel tank and the air cleaner cover are on different planes?

MR. NOWAKOWSKI: Objection.

THE WITNESS: I would agree that they are a slightly different plane, but I would also say that that top surface is essentially flat.

BY MS. FERRERA:
Q. You would agree that the fuel tank and the air cleaner cover on this engine are not on the same plane?

MR. NOWAKOWSKI: Objection.

THE WITNESS: They are on a minimally different plane, yes.

BY MS. FERRERA:
Q. And if you look at Exhibit 32, you'd agree that the top surfaces of the fuel tank and the air cleaner cover on this engine also are on different planes?
MR. NOWAKOWSKI: Objection.
THE WITNESS: No.
BY MS. FERRERA:
Q. They're not?
A. I would not agree with that.
Q. In your view -- you believe these are on the same plane?
A. I would say that from this picture I cannot tell if they are on the same plane or not.
Q. You just can't tell one way or the other?
A. Correct. This picture appears to be taken from a slightly top view as opposed to straight on.
MS. FERRERA: I'm asking the reporter to mark Applicant's Trial Exhibit 34.
(Applicant's Exhibits 34-35 marked.)
BY MS. FERRERA:
Q. Professor Reisel, if you take a look at Applicant's Exhibit 34, do you recognize that piece of equipment to be a tiller?
A. Yes.
Q. And it's got a Honda GX engine mounted on it?

MR. HERRING: Object to form.

THE WITNESS: It has a Honda or an engine with a Honda marked fuel tank and fan cover on that, yes.

BY MS. FERRERA:

Q. If you look at Exhibit 35, do you recognize that to be a pressure washer?

A. Yes.

Q. And it also has a Honda engine mounted on it?

MR. HERRING: Object to the word "also."

MS. FERRERA: He just admitted that the other one had a Honda engine.

THE WITNESS: I cannot tell what type of engine is mounted on this.

BY MS. FERRERA:

Q. You agree it's a Honda engine, correct?

A. No. I cannot make out any labeling on the engine to indicate that.

Q. Okay. In either -- regardless of that, you agree that the engines mounted on Exhibits 34 and 35 are horizontal shaft utility engines, correct?

A. Yes.

Q. If you look at Exhibit 34, you'd agree there is no surface on top of the application in that picture that would restrict the height of either the fuel

tank or the air cleaner cover?
A. There is no top surface that would restrict that, yes.
Q. And there is no top surface that would require the fuel tank and the air cleaner cover to have the same height, right?
A. For this application, no.
Q. And if you look at Exhibit 35, you understand that to be a pressure washer?
A. Yes.
Q. And you'd agree that the application in Exhibit 35 also doesn't have any top surface that restricts the height of the fuel tank or the air cleaner cover?
A. Within some margin. There is no solid surface, but the way the pressure washer is designed, it would appear that the controls that are attached to the handle are not elevated that far above the engine, so you would not want to make that a dramatically taller engine that would restrict that. But it certainly could be up a little bit.
Q. And you would agree that the air cleaner cover on the fuel tank in exhibit -- on the engine in Exhibit 35 could be at somewhat different heights?
MR. HERRING: Object to form.
THE WITNESS: Yes.

BY MS. FERRERA:
Q. You're not aware of any specific application where having the air cleaner cover and fuel tank at different heights would prevent the engine from fitting into the envelope, correct?
A. Correct.
Q. Now, if you look at Exhibits 34 and 35 again, you'd agree that on the right side of the equipment there is also room for the fuel tank to protrude out from the cylinder block?
MR. NOWAKOWSKI: Objection.
MR. HERRING: What do you mean by right side?
MS. FERRERA: Looking at -- let me just ask the question again.
BY MS. FERRERA:
Q. Professor Reisel, looking at Exhibit 34 and looking at the equipment from the front, do you agree that on the right side there is room for the fuel tank to protrude out from the cylinder block?
MR. NOWAKOWSKI: Objection.
THE WITNESS: By the front, I assume you mean where the starter handle is.
BY MS. FERRERA:
Q. Correct.

A. I cannot tell how close the metal enclosure structure there is to the fuel tank, so there may not be any room for that fuel tank to protrude outwards. There may be, there may not be. I can't tell from this picture.
Q. You just can't say one way or the other?
A. Correct.
Q. If you look at Exhibit 35, you'd agree that on that piece of equipment, the pressure washer, there is room for the fuel tank to protrude out on the right side?
A. I would agree provided that it does not interfere with the storage of the pressure washer nozzle on that device. So there should be room for it to protrude, a little bit. Again, wouldn't have it protrude a long distance out from there.
Q. And you're not aware of any specific applications where having the fuel tank protrude out to some extent from the cylinder block would prevent the engine from fitting into the application, correct?
A. Correct.
Q. And looking at Exhibits 34 and 35 again, you'd agree that there is nothing on the left side of either of the applications that would prevent the air cleaner cover from protruding out beyond the cylinder block?

MR. HERRING: Objection, photos speak for themselves.

THE WITNESS: And on Exhibit 34 I don't -- because we can't see behind the mount engine in this picture, so that would be to the left side of the engine, I don't know how close that handle is coming to the engine, so I can't make a judgment as to whether or not that's restricting the protrusion of the air cover cleaner. 35 there would seem to be nothing that would prevent it from protruding out slightly.

BY MS. FERRERA:

Q. And you agree that you're not aware of any specific application where having the air cleaner cover protrude out from the left side would cause problems in terms of it fitting into the application?

A. It's possible that the application here in Exhibit 34 it may not allow that to happen, but other than that, no.

Q. And you just don't know one way or the other with respect to Exhibit 34, correct?

A. Correct.

Q. If you turn to Exhibit 23, you'd agree that on the left side the air cleaner cover protrudes out slightly beyond the carburetor cover on this engine?

A. It would appear that it protrudes a minimal amount from the carburetor cover.
Q. And if you look at Exhibit 25 I believe it is, 24, you'd agree that the air cleaner cover on this engine protrudes out somewhat from the carburetor cover?
A. I would agree that that is not a completely flat surface from top to bottom, yes.
Q. And if you look at Exhibit 30, do you agree that the air cleaner cover on that engine protrudes out on the left side beyond the carburetor cover?
A. Yes.
Q. And then if you look at Exhibit 20, looking at the right side now, you'd agree that the fuel tank on the engine in Exhibit 20 protrudes out beyond the cylinder block?
MR. HERRING: Objection, picture doesn't appear to be head-on.
THE WITNESS: Yes, it would appear to be protruding out by maybe a half an inch.
BY MS. FERRERA:
Q. So Professor Reisel, you would agree that it's possible to have a horizontal shaft utility engine that's cubic in design and still have options available in terms of styling, correct?
MR. NOWAKOWSKI: Objection.

THE WITNESS: They would have options on whether or not there is an exactly flat surface there, yes.

BY MS. FERRERA:

Q. And you'd agree that it's possible to have a horizontal shaft utility engine that's cubic in design and have it look different than the engine in Applicant's Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Yes.

BY MS. FERRERA:

Q. And you'd agree that it's possible to have a horizontal shaft utility engine with rectangular components and still have options in terms of styling of each of those components?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Yes.

BY MS. FERRERA:

Q. And it's -- you'd agree it's possible to have a horizontal shaft utility engine with rectangular components and have those components look different from the components in Applicant's Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: Yes.

BY MS. FERRERA:

Q. Now, during your direct testimony you testified about a US utility patent, do you recall that?
A. Yes.
Q. And that was the 389 patent, correct?
A. I believe so, yes.
Q. Now, you're not named as an inventor on any patents, Professor Reisel?
A. No.
Q. And I think you testified earlier that you've had no experience prior to this case in reading or interpreting patents, right?
A. Correct.
Q. And you've not been involved in helping to prepare or prosecute any patents?
A. Correct.
Q. And before you wrote your -- or when you wrote your expert reports in this case, you didn't have any specific understanding of the role of claims in a utility patent, correct?
A. Correct.
Q. And you still don't have that understanding today, correct?
A. Correct.
Q. When you wrote your report in this case, you didn't have an understanding of the role of figures in a

utility patent?
A. Correct.
Q. And you still don't have that understanding, correct?
A. Correct.
Q. So let's look at the 389 patent. It was previously marked I believe as Deposition Exhibit 215. I'm not entering it into evidence, so I'm not going to remark it here. This deposition Exhibit 215 is the 389 patent that you testified about earlier.
A. Yes.
Q. And in your view this patent supports your opinion that the overall cubic design of the engine in Honda's trademark application is functional, correct?
A. Yes.
Q. Now, if you turn to column 1 in the patent and you see the subheading field of invention under background of the invention.
A. Yes.
Q. And you see under that it says the present invention relates to a general purpose engine having a cannister to absorb fuel vapor that has evaporated within a fuel tank wherein fuel vapor desorbs from the cannister is guided to an intake system in communication with an engine main body.

Do you see that?

A. Yes.
Q. And you understand that language to be describing generally the subject matter of the invention claimed in this patent, correct?
MR. NOWAKOWSKI: Objection, calls for a legal conclusion and lack of foundation.
THE WITNESS: Yes.
BY MS. FERRERA:
Q. Well, Professor Reisel, you read this patent during your work on this case, right?
A. Correct.
Q. And you relied on this patent in forming your opinions on this case, correct?
A. Correct.
Q. And you understood, you thought you understood what the patent described when you formed your opinions in this case, right?
A. Correct.
Q. And you'd agree that the system that's described in the paragraph that we just read relates to the internal components of the engine?
MR. HERRING: Object to form, mischaracterizes the document.
THE WITNESS: It would be referring to the internal components in the fuel tank.

BY MS. FERRERA:
Q. The components that are being described in that paragraph are not visible from the -- when you're looking at the engine from the outside, correct?
A. Correct. And that wasn't what I was pulling from this document either.
Q. Fair enough. Well, let's look at column 1 of the patent starting around line 15, and you see it says there: General purpose engine usually needs to be compact so that a work machine that includes the general purpose engine does not become large.
Do you see that?
A. Yes.
Q. And that's the language that you were referring to in this patent, correct?
A. Yes.
Q. You don't understand that statement to require that the engine look like a Honda GX engine, correct?
MR. NOWAKOWSKI: Objection, lack of foundation, calls for a legal conclusion. You can answer subject to that.
THE WITNESS: My understanding of that from my use of that was then that the engine has to be compact. And as I explained earlier, the most efficient form to get a compact engine was going to

be this overall cubic design.
BY MS. FERRERA:
Q. You do not understand the statement in column 1 starting on line 15 to require that the engine look like the engine shown in Applicant's Exhibit 6, correct?
MR. NOWAKOWSKI: Same objection. Go ahead.
THE WITNESS: Correct.
BY MS. FERRERA:
Q. And there is no reference in the 389 patent to a quote, cubic design, right?
A. Correct, which I never claimed there was.
Q. And you agree there is no such reference, right?
A. Correct.
Q. And none of the claims in the 389 patent relate to the appearance of the engine from the front, correct?
MR. HERRING: Objection, calls for a legal conclusion, lacks foundation.
THE WITNESS: My understanding would be correct.
BY MS. FERRERA:
Q. You also testified in your direct testimony about a Japanese patent document, do you recall that?
A. Yes.

Q. And that document was a utility model publication; is that correct?
A. Correct.
Q. Prior to this case you had never seen any Japanese patent documents, right?
A. Correct.
Q. You had no experience reading or interpreting Japanese patent documents?
A. Correct.
Q. Even if they were translated?
A. Correct.
Q. And you have no familiarity with the process for obtaining a Japanese utility model publication?
A. Correct.
Q. You don't know what the requirements are for obtaining a Japanese utility model publication?
A. Correct.
Q. And you don't know how those requirements compare to the requirements for a US utility patent, correct?
A. Correct.
Q. Now, I'm going to show you what was marked as Deposition Exhibit 218. I'm not entering it in evidence. That's the Japanese utility model publication S6322344 that you talked about during your direct testimony, correct?

A. Correct.
Q. You don't know whether this Japanese utility model publication has been reviewed by any patent office, right?
A. Correct.
Q. And you don't know if it's been approved or issued, right?
A. Correct.
MR. NOWAKOWSKI: I'm going to object, enter a late objection to that based on the face of the document. But he's answered.
BY MS. FERRERA:
Q. And I think it was your testimony earlier that this document S6322344 supports your opinion that the overall cubic design is functional?
A. Yes.
Q. And again, this Japanese patent document doesn't say anything about a cubic design, right?
A. Not in those words.
MR. HERRING: Are you talking about the translation?
MS. FERRERA: Correct.
BY MS. FERRERA:
Q. The word cubic doesn't appear anywhere in the translation of this Japanese patent, utility patent

publication, right?

A. I believe not.

Q. And you'd agree that this Japanese patent document does not describe the appearance of the engine from the front?

MR. HERRING: Objection.

MR. NOWAKOWSKI: I'm also going to object.

THE WITNESS: I would say it does not have a picture of the engine from the front. Some of the claims in there are describing it, what it's essentially going to be looking like.

BY MS. FERRARA:

Q. Other than the location of the components, you would agree that this document, S6322344, does not describe the appearance of the engine from the front, correct?

MR. NOWAKOWSKI: Objection.

MR. HERRING: Mischaracterizes the document.

THE WITNESS: Correct.

BY MS. FERRERA:

Q. And so other than the location of the components, you'd agree that there is nothing in this Japanese patent document that requires an engine to look like what's shown in Applicant's Exhibit 6, right?

MR. NOWAKOWSKI: Objection, I'm going to

object on foundation grounds and calls for a legal conclusion and to the form. But you can answer.

THE WITNESS: Well, the drawing showing the back of the engine for the fuel tank does show that it has a rib associated with it, and so it would be a logical conclusion that that rib would have to be around in the front as well. So that at least would be shown in this document.

BY MS. FERRERA:

Q. Other than the position of the components, you'd agree that there is nothing in this Japanese patent document S6322344 that requires an engine to look like the engine shown in Applicant's Exhibit 6, correct?

MR. NOWAKOWSKI: Same objections as to the prior question.

THE WITNESS: And I would again say that other than the positions and the presence of that rib, that would be correct.

BY MS. FERRERA:

Q. Let's look at your deposition testimony. If you look at page 247, line 15, you were asked:

"And so other than the position of the components, would you agree that there is nothing in Exhibit 218 that requires an engine to look like the

engine shown in Exhibit 3?"

Do you see that?

A. Yes.

Q. And Exhibit 218 is the same Japanese patent document that we're looking at, correct?

A. Yes.

Q. And the answer that you gave was:

"I would agree with that with the stipulation that the location of the components really influences the frontal view of it."

Do you see that?

A. Yes.

MR. HERRING: And there were objections to the form of that question as well.

BY MS. FERRERA:

Q. And you understood the question when you answered it, Professor Reisel?

A. Yes. And as I was looking at it in more detail, I see that that rib is also shown. So I am supplementing that upon further investigation of this.

Q. That was the question you were asked, and that was the answer you gave at your deposition in May, 2015, right?

A. Correct.

Q. You'd agree this Japanese patent document does not require the individual components of the engine to look the same as those in Applicant's Exhibit 6, correct?

MR. NOWAKOWSKI: Objection, calls for a legal conclusion, lack of foundation and to the form of the question. You may answer subject to that.

THE WITNESS: As far as my understanding, yes.

(Applicant's Exhibit 36 marked.)

BY MS. FERRERA:

Q. So Professor Reisel, you should have now in front of you Exhibit 36 which is a slightly better photograph of the Kohler Command Pro 7 engine that is also marked as Applicant's Exhibit 17. Do you see that?

A. Yes.

Q. And looking at the area where the controls are located in Applicant's Exhibit 36, do you agree that that area of the carburetor cover differs in appearance from what's shown in Applicant's Exhibit 6?

MR. NOWAKOWSKI: Objection.

THE WITNESS: There are -- I mean there is a few labeling differences, the shape of the lever, levers may be a little bit different. But -- and

there is a lot of similarity between the cover in Exhibit 36 and in Exhibit 6.

BY MS. FERRERA:

Q. The recessed area where the controls are located differs in appearance from the recessed area in Applicant's Exhibit 6, right?

MR. NOWAKOWSKI: Objection.

THE WITNESS: I guess there is a little bit of a difference, yes.

BY MS. FERRERA:

Q. Okay. You talked on your direct testimony about a utility patent. I'd like to talk to you about design patents instead. You're aware that an individual or a company may seek to protect the design of a product through a design patent, correct?

A. Yes.

Q. And you understand that if a company is awarded a design patent, that they can prevent others from using the patent design, correct?

MR. NOWAKOWSKI: Objection, foundation. Actually, that calls for a legal conclusion, too, so I'll object on that basis.

THE WITNESS: Yes.

BY MS. FERRERA:

Q. You're aware, are you not, that various companies

have sought and obtained design patents relating to horizontal shaft utility engines?

A. Yes.

Q. But in preparing -- in forming your opinions in this case, you did not look at any design patents relating to horizontal shaft utility engines, right?

A. I would say correct. As a nonlegal person, I may not have differentiated between design and utility patents as much as lawyers would, so I will presumingly say that I did not do design patents.

Q. Well, let's look at your Exhibit 24 -- Opposers' Exhibit 24. And that's the list of documents that you reviewed in forming your opinions in this case, correct?

A. Correct.

Q. And you don't see any design patents listed on there, correct, as far as you know?

A. As far as I know, correct. Again, not being a legal person who has dealt with design versus utility patents, and it wouldn't necessarily be what jumps out at me.

Q. And the attorneys for Briggs and Kohler didn't provide you, to the best of your knowledge, any design patents to consider in forming your opinions in this case?

A. Correct.
Q. Let's look at what I'm going to ask to be marked as Applicant's Exhibit 37.
(Applicant's Exhibit 37 marked.)
BY MS. FERRERA:
Q. Professor Reisel, looking at Applicant's Trial Exhibit 37, do you see that this is a United States patent having the number Des. 309,458?
A. Yes.
Q. And do you understand that the designation Des. indicates that it's a design patent?
A. That's what I was about to guess, but I was not technically aware of that until now.
Q. Okay. And do you see that the title of the patent is internal combustion engine?
A. Yes.
Q. And the assignee of the patent is Briggs and Stratton Corporation?
A. Yes.
Q. One of the companies that retained you to provide expert testimony in this case, right?
A. Yes.
Q. And do you see that under where it says filed it indicates that this was filed on April 18th, 1988?
A. Yes.

Q. And then at the top right side it says date of patent, July 24th, 1990, do you see that?
A. Yes.
Q. You've never seen this document before, correct?
A. Not to my recollection.
Q. And do you agree that the drawing on the front page of Applicant's Exhibit 37 depicts a general purpose utility engine?
A. It would appear to. It doesn't have the -- any reference on the size there, so it could have been some larger engine, then I would have considered that. I presume, considering what Briggs and Stratton typically makes, I'll say yes.
Q. And you'd agree that the engine depicted in Applicant's Exhibit 37 is a horizontal shaft utility engine?
A. Yes.
Q. And do you see in the right column on the front page there is a heading "claim?"
A. Yes.
Q. And under that it says: The ornamental design for an internal combustion engine as shown.

Do you see that?

A. Yes.
Q. And if you turn to -- Strike that.

And beneath that there is a heading description, and then there is six figures that are listed, do you see that?

A. Yes.

Q. And if you turn to figure 1, that's the front view of the horizontal shaft utility engine that's depicted on the cover, correct?

A. Yes.

Q. So do you understand that Briggs and Stratton was claiming the front view of the engine as shown in figure 1 as the ornamental design?

MR. NOWAKOWSKI: Objection.

MR. HERRING: Objection, the document speaks for itself, lack of foundation, calls for a legal conclusion, outside the scope of direct examination.

BY MS. FERRERA:

Q. You can answer.

A. I guess so. I'm not a legal expert and haven't dealt with design patents, so I guess that's what it's doing.

Q. And none of the attorneys in this case explained to you the significance of a design patent with respect to a trademark, correct?

MR. HERRING: Objection.

THE WITNESS: Not that I recall.
BY MS. FERRERA:
Q. Let's look at --
(Applicant's Exhibit 38 marked.)
BY MS. FERRERA:
Q. Professor Reisel, you have now Applicant's Exhibit 38 which says United States Design Patent, patent number US D595,737S, do you see that?
A. Yes.
Q. You understand this is another United States design patent?
A. I'm going to guess that they changed the numbering from the Des. to a D, so yes.
Q. And it says United States Design Patent?
A. Well, that would help, too, yeah.
Q. And if you look at the title of the patent, it's engine.
A. Yes.
Q. And assignee is Briggs and Stratton Corporation, right?
A. Yes.
Q. And this patent was filed on April 4th, 2008, do you see that?
A. Yes.
Q. And it issued on July 7th, 2009, do you see that?

A. Yes.
Q. And you didn't see this document before today either, correct?
A. Not that I recall.
Q. And if you look at the claim in the right column, it says: We claim the ornamental design for an engine as shown and described.
Do you see that?
A. Yes.
Q. And then there is a description and there is seven figures listed?
A. Yes.
Q. And figure 2 that's listed is the front view of the engine, do you see that?
A. Yes.
Q. And that, again, is a horizontal shaft utility engine, right?
A. Again, it's a horizontal shaft engine. Presumably it's a utility sized engine.
Q. And you didn't consider this document in forming your opinions in this case, right?
A. No.
(Applicant's Exhibit 39 marked.)
BY MR. NOWAKOWSKI:
Q. Professor Reisel, I've handed you Applicant's Exhibit

39.

A. Yes.

Q. And you see that this is United States Design Patent No. D605,611S?

A. Yes.

Q. And the title of this patent is also engine?

A. Yes.

Q. And the assignee is Kohler Company, correct?

A. Yes.

Q. And Kohler is the other party that retained you to provide expert testimony in this case, correct?

A. Yes.

Q. And if you look down to the filing date, it was filed on October 21st, 2008?

A. Yes.

Q. And at the top right it says that it was issued on December 8th, 2009?

A. Yes.

Q. You've never seen this document before either, correct?

A. Correct.

Q. And if you look at the claim, it says: The ornamental design for an engine that's shown as described?

A. Yes.

Q. And then under description there is six figures shown?
A. Yes.
Q. And if you turn to figure 2, that's the front view of a horizontal shaft utility engine, correct?
A. Again, it's a horizontal shaft engine, front view of that presumably utility sized, yes.
Q. And you didn't consider that document in forming your opinions in this case?
A. No.

(Applicant's Exhibit 40 marked.)

BY MS. FERRERA:

Q. Professor Reisel, you have now in front of you United States Patent, and then it says patent number Des. 282,071, do you see that?
A. Yes.
Q. Do you understand this is another United States design patent?
A. Yes.
Q. And the title of this one is internal combustion engine?
A. Yes.
Q. The assignee is Honda Giken Kogyo Kabushiki Kaisha, do you understand that?
A. Yes.

Q. Do you understand that's Honda Motor Company?
A. Yes.
Q. And this patent was filed on March 25th, 1983?
A. Yes.
Q. And it was issued on January 7th, 1986, do you see that?
A. Yes.
Q. And do you recall from Mr. Fujita's testimony that the GX engine was designed -- was first designed around 1983?
A. Yes, I recall it being in the early 1980s.
Q. You haven't seen this document before, right?
A. Not that I can recall.
Q. And if you look under claim, do you see it says: The ornamental design for an internal combustion engine as shown?
A. Yes.
Q. And then under the description there are seven figures listed?
A. Yes.
Q. And if you turn to figure -- actually, just looking at the picture of the engine on the cover, do you agree that that's -- do you understand that that's a picture of the Honda GX engine?
MR. NOWAKOWSKI: Objection to form and

foundation, calls for a legal conclusion.

THE WITNESS: It appears to resemble, closely resemble, the GX engine.

BY MS. FERRERA:

Q. And if you look at figure 2, that's a front view of the engine, correct?

MR. NOWAKOWSKI: Same objections.

THE WITNESS: Yes.

BY MS. FERRERA:

Q. And it's almost identical to the drawing in Applicant's Exhibit 6, correct?

MR. NOWAKOWSKI: I'm going to -- I object to that, mischaracterizes the -- both the drawing and the patent.

MR. HERRING: Documents speak for themselves.

THE WITNESS: There are similarities between the drawings. Exhibit 40 has an additional feature in the middle on the right-hand side. There is some changes as well to the fan shape cover it would appear. So I mean -- and the rib of the fuel tank does not match up to the belt on the air cleaner cover either. So there are similarities, but there are also differences between the two.

BY MS. FERRERA:

Q. And you never considered Applicant's Exhibit 40 in forming your opinion that Honda's applied for mark is functional, correct?

A. Correct.

MS. FERRERA: Why don't we take a break.

(Recess taken.)

MS. FERRERA: Professor Reisel, I have no other questions at this time. Thank you.

REDIRECT EXAMINATION

BY MR. NOWAKOWSKI:

Q. I have a couple of questions. Do you have exhibits -- Applicant Exhibits 34 and 35 in front of you?

A. Yes.

Q. Do you recall some questions that Honda's counsel asked you regarding Exhibit 34 and 35 regarding whether there was any impediment from moving the gas tank out to the right or the air cleaner cover out to the left?

A. Yes.

Q. If -- with regard to the engine shown in Exhibits 34 and 35, if you were to move the gas tank out to the right, in your opinion would that -- could that require additional cantilever support?

A. Yes. If that were to be moved substantially so more

than perhaps a half inch or an inch further to the right, you would want to be providing additional support to help stabilize that component.

Q. Why is that?

A. Because that's going to move the center of gravity over. And as it -- the further and further it moves out, the more torque it's going to put onto the engine. And that torque is going to have to be counterbalanced by a cantilevered support.

Q. When you talk about torque, would that essentially cause the engine to vibrate?

A. There would likely be additional vibrations. It's doubtful that it would be enough weight in that fuel tank to cause the engine itself to tip over. But potentially if it was pushed out far enough, that would have to be considered as well.

Q. And that cantilevered support would require additional cost or expense in your opinion?

A. Yes.

Q. And would that be true with moving the air cleaner cover out to the left as well?

A. It would be true. It would be -- you would have a little bit more leeway with that as the air cover cleaner is lighter, so it wouldn't need to be as supported as quickly. But it would also be a factor

there.

MR. NOWAKOWSKI: That's all I've got. Thanks.

RECROSS-EXAMINATION

BY MS. FERRERA:

Q. Professor Reisel, I have a couple of quick follow-up questions. You agree that it would be possible to move the fuel tank out slightly to the right in Exhibits 34 and 35, correct?

A. Yes.

Q. And in fact you agree that you could move the fuel tank to the right by as much as an inch or two inches without requiring any additional support, correct?

A. Two inches I would be a little bit concerned with. But an inch I would be comfortable with, yes. And that also would depend on the actual model and the size of the engine in the first place as to how soon that would have to be considered. For a smaller engine you would have less leeway to move it out before it would start being an issue.

Q. So you would agree that you could move it out at least a half inch to an inch, correct?

A. Correct.

Q. And then if it's a bigger engine, you might be able to move it out even more than that, correct?

A. If it was at the top-end size of the utility engines, that might be possible to move out an additional half inch or inch.

Q. And so similarly, you could move the air cleaner cover out at least a half inch to an inch without requiring additional support, correct?

A. Correct.

Q. And maybe even more than that since it's lighter?

A. Correct. Although, again, with a smaller engine I would be a little bit more concerned if you had a larger air cover cleaner on there. But yes.

MS. FERRERA: No further questions.

MR. NOWAKOWSKI: That's it.

(At 2:40 p.m., the deposition concluded.)

* * *

C E R T I F I C A T E

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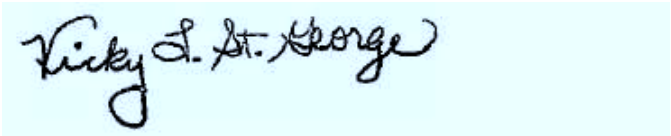
I, VICKY L. ST. GEORGE, Registered Merit Reporter and Notary Public in and for the State of Wisconsin, do hereby certify that the preceding deposition was recorded by me and reduced to writing under my personal direction.

I further certify that said deposition was taken at the offices of WHYTE HIRSCHBOECK DUDEK, S.C., 555 East Wells Street, Suite 1900, Milwaukee, Wisconsin on July 16, 2015, commencing at 9:00 a.m. and concluding at 2:40 p .m.

I further certify that I am not a relative or employee or attorney or counsel of any of the parties, or a relative or employee of such attorney or counsel, or financially interested directly or indirectly in this action.

In witness whereof, I have hereunto set my hand and affixed my seal of office at Milwaukee, Wisconsin, this 23rd day of July, 2015.



VICKY L. ST. GEORGE
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ERRATA SHEET

I, John Reisel, Ph.D., do hereby certify that I have read the foregoing transcript of my testimony, and further certify that it is a true and accurate record of my testimony (with the exception of the corrections listed below).

Page	Line	Correction
15	19	Add "proceed" following "they"
33	1	Add a comma after "easily"
85	21	Add "not" after "would"
160	24	CHANGE "563 22344" to "563-32344"
161	14	CHANGE "563 22344" to "563-32344"
162	14	CHANGE "563 22344" to "563-32344"
163	12	CHANGE "563 22344" to "563-32344"

Signature: John Reisel

Date: John Reisel, Ph.D. July 28, 2015

I declare under penalty of perjury under the laws that the foregoing is true and correct.

Executed on September 29, 2015, at _____.

John Reisel

John Reisel, Ph.D.

n

Briggs & Stratton Corp. and
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Applicant's Trial Exhibit No. 23

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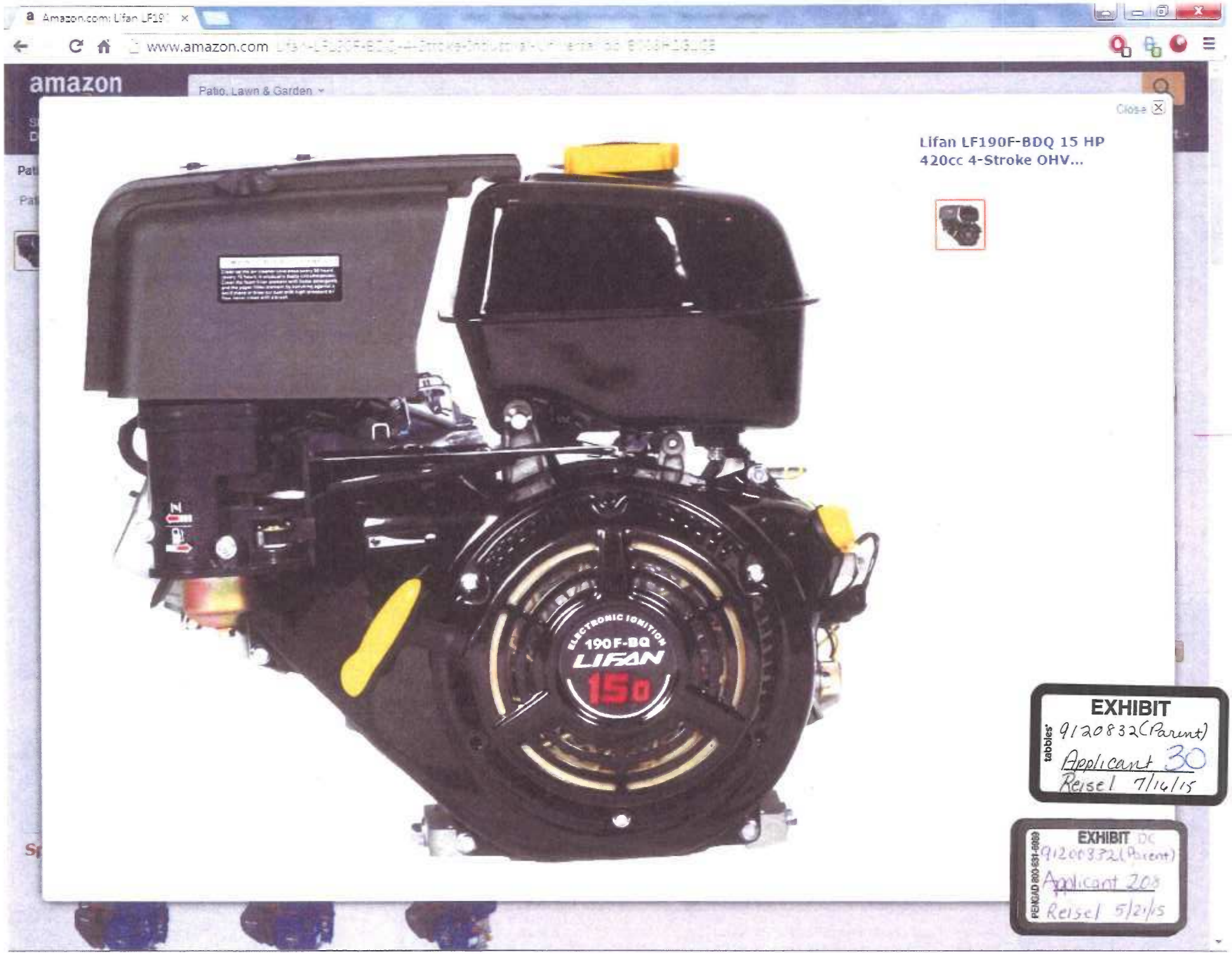
OVERVIEW

The Champion 61151 gasoline powered, electric start, horizontal replacement engine provides reliable power for your small engine applications. The unit features an electric start 338cc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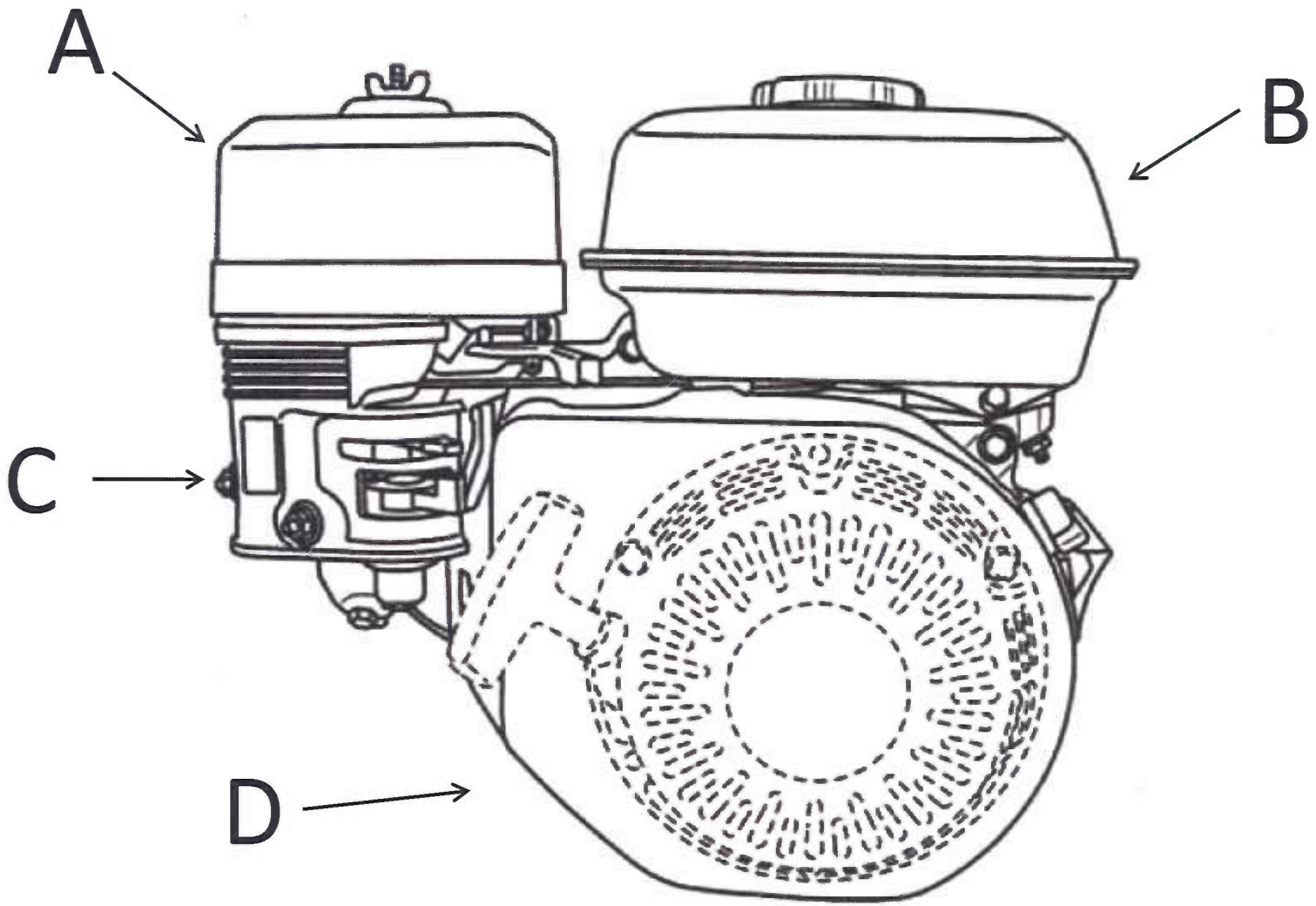

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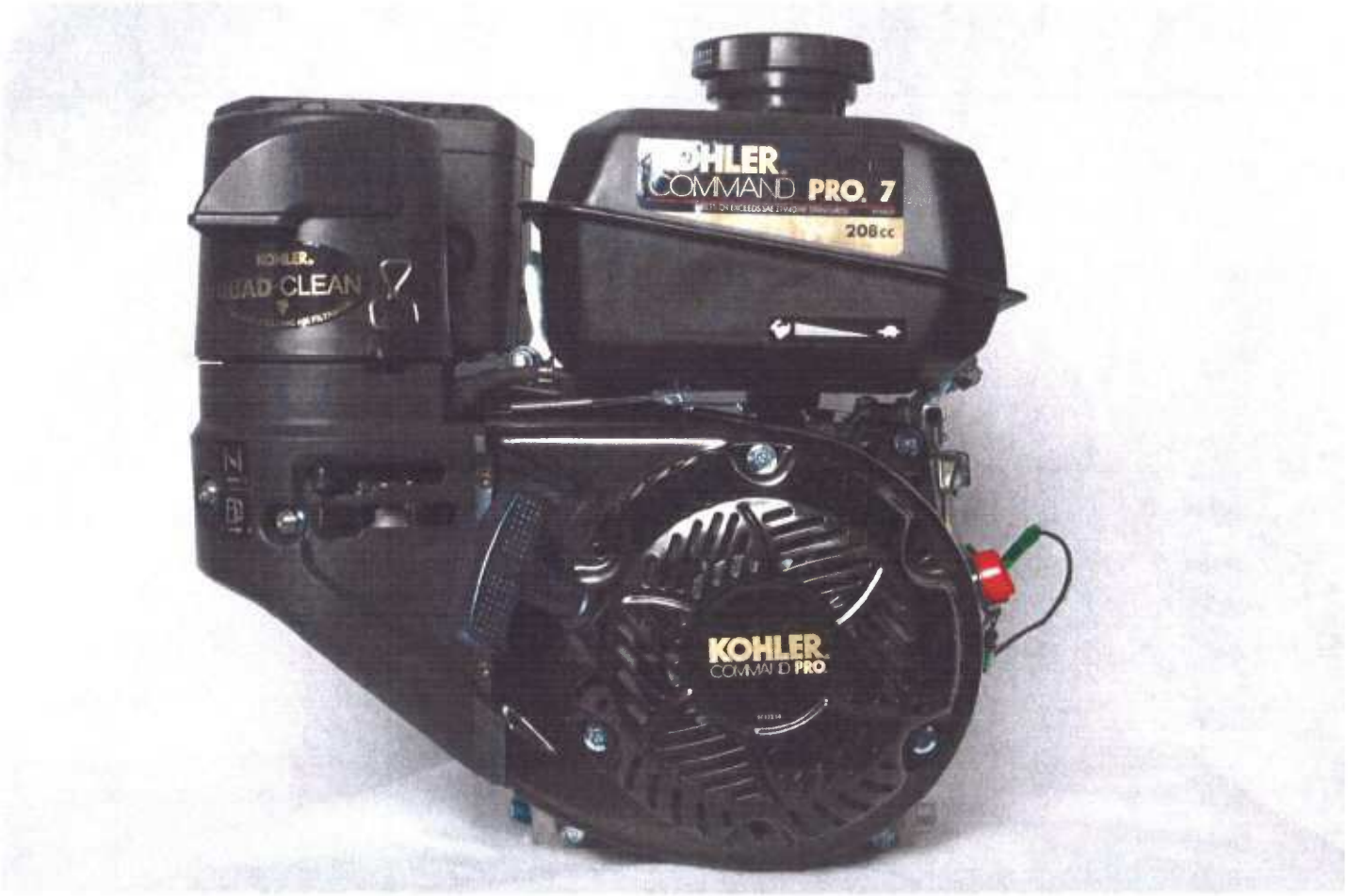

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Briggs & Stratton Corp. and
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United States Patent [19]

Johnson et al.

[11] **Patent Number: Des. 309,458**

[45] **Date of Patent: ** Jul. 24, 1990**

[54] **INTERNAL COMBUSTION ENGINE**

[75] Inventors: **Gary S. Johnson**, Racine; **Thomas J. Green**, West Bend, both of Wis.

[73] Assignee: **Briggs & Stratton Corporation**, Wauwatosa, Wis.

[**] Term: **14 Years**

[21] Appl. No.: **182,743**

[22] Filed: **Apr. 18, 1988**

[52] **U.S. Cl.** **D15/1**

[58] **Field of Search** ..... D15/1, 3; 123/22, 50 R, 123/50 A, 50 B, 51 R, 51 A, 51 B, 52 R, 56 R, 56 A, 56 B, 65 R, 311

[56] **References Cited**

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D. 284,862	7/1986	Iida	D15/1
D. 294,832	3/1988	Itou et al.	D15/1
4,429,668	2/1984	Nakagawa et al.	123/56 R X

OTHER PUBLICATIONS

Implement & Tractor, 2/21/79, p. 37, Kawasaki Engine Advertisement.

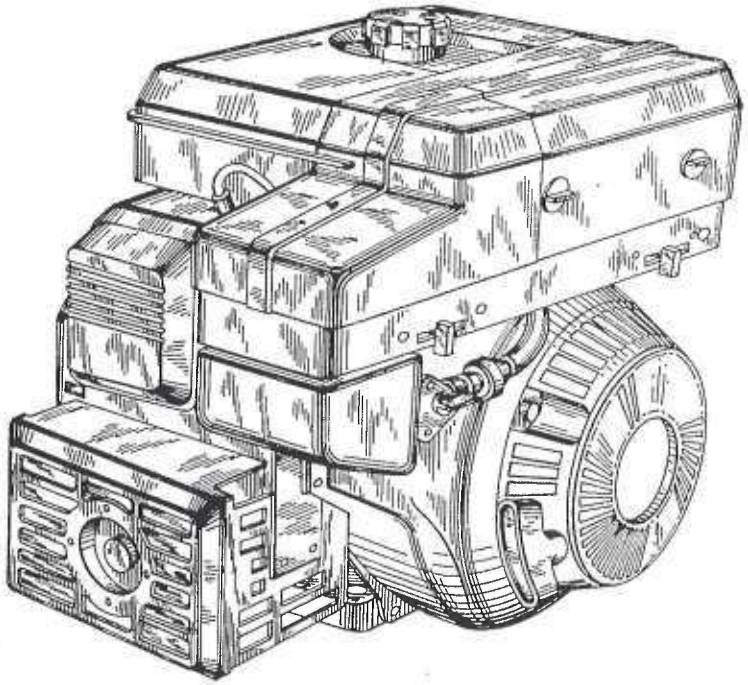
Primary Examiner—Wallace R. Burke
Assistant Examiner—Brian N. Vinson
Attorney, Agent, or Firm—Andrus, Sceales, Starke & Sawall

[57] **CLAIM**

The ornamental design for an internal combustion engine, as shown.

DESCRIPTION

FIG. **1** is a front elevational view of an internal combustion engine showing our new design;
FIG. **2** is a rear elevational view thereof;
FIG. **3** is a top plan view thereof;
FIG. **4** is a left side elevational view thereof;
FIG. **5** is a right side elevational view thereof; and
FIG. **6** is a perspective view thereof.



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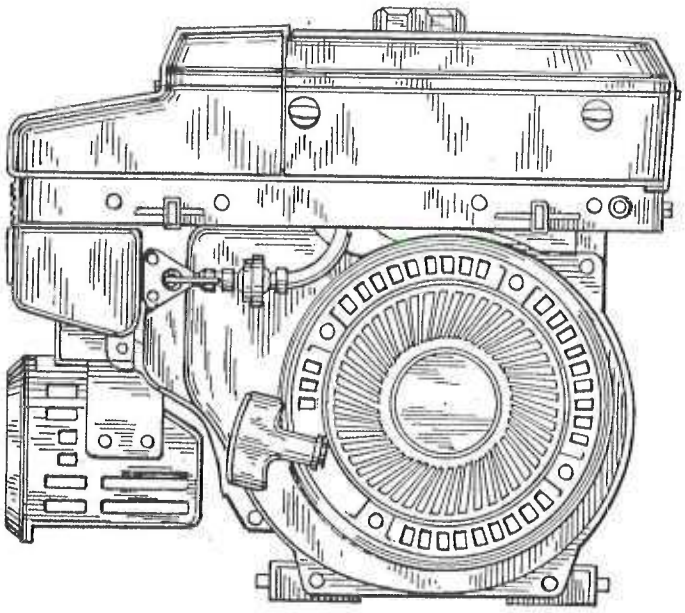


FIG. 1.

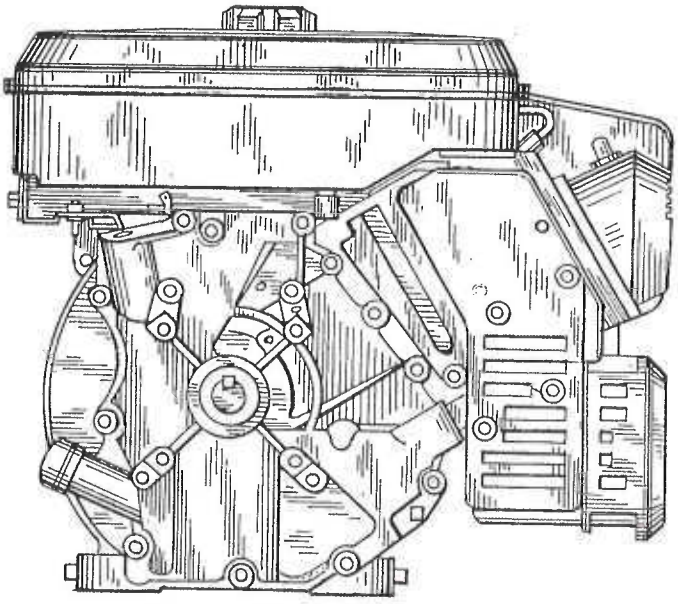
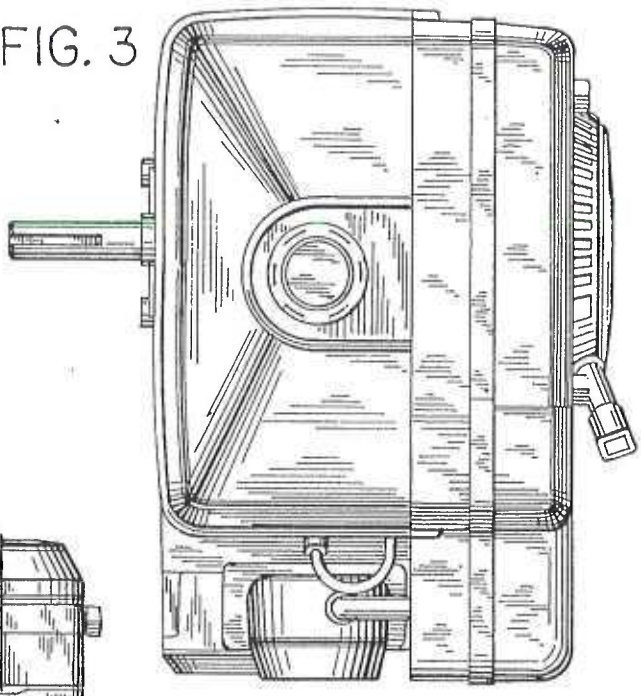


FIG. 2

FIG. 3



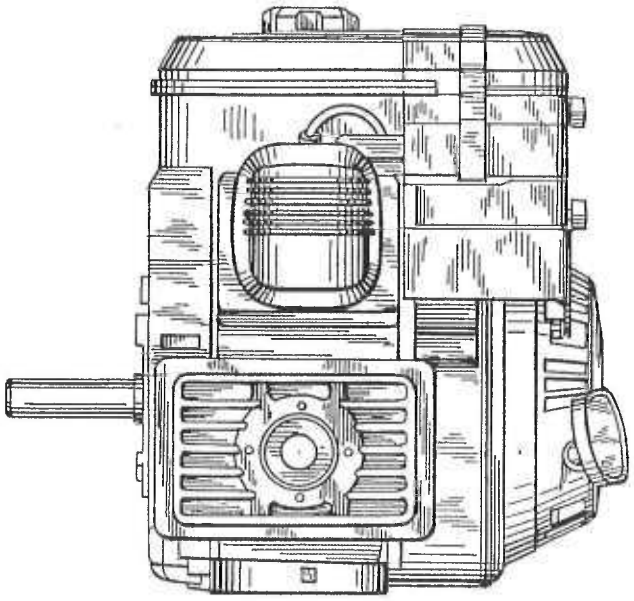


FIG. 4

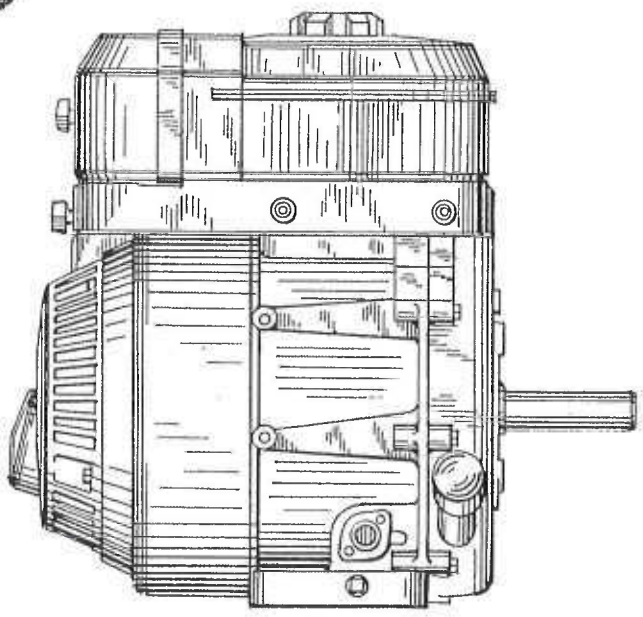


FIG. 5

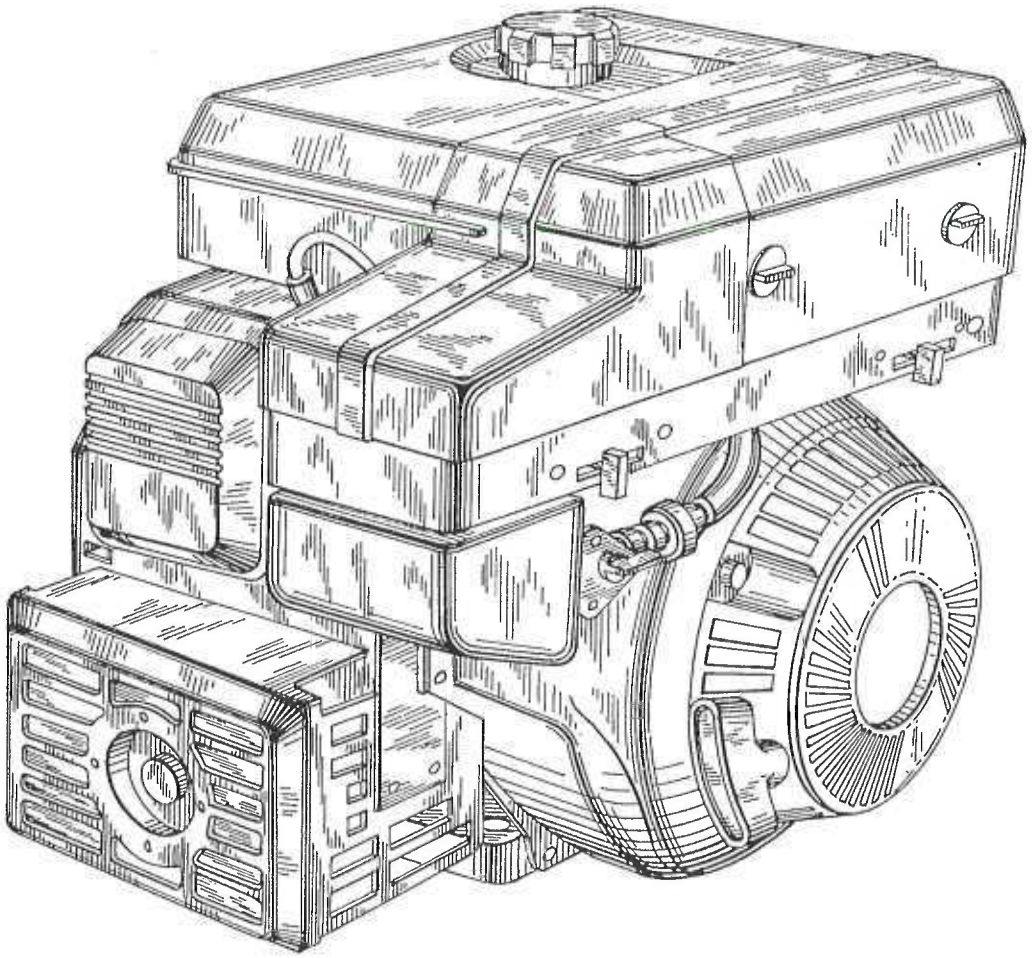


FIG. 6

US00D595737S

(12) United States Design Patent

Neeley et al.

(10) Patent No.: US D595,737 S
(45) Date of Patent: ** Jul. 7, 2009

(54) **ENGINE**

(75) Inventors: **Brian D. Neeley**, West Bend, WI (US); **Bart Mayer**, Fond du Lac, WI (US)

(73) Assignee: **Briggs & Stratton Corporation**, Wauwatosa, WI (US)

(**) Term: **14 Years**

(21) Appl. No.: **29/306,238**

(22) Filed: **Apr. 4, 2008**

(51) **LOC (9) Cl.** **15-01**
(52) **U.S. Cl.** **D15/1**
(58) **Field of Classification Search** ..... D15/1, D15/3, 5, 17; 123/50 A, 50 B, 50 R, 198 E, 123/306, 308, 667, 41.7, 70 R
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D324,221 S * 2/1992 Kiyooka et al. D15/1
D398,010 S * 9/1998 Yoshida et al. D15/1
D515,589 S * 2/2006 Lin et al. D15/1
D521,528 S * 5/2006 Kamijo et al. D15/1

* cited by examiner

Primary Examiner—Lisa P Lichtenstein
(74) *Attorney, Agent, or Firm*—Michael Best & Friedrich LLP

(57) **CLAIM**

We claim the ornamental design for an engine, as shown and described.

DESCRIPTION

FIG. **1** is a perspective view of an engine embodying the invention;

FIG. **2** is a front view of the engine of FIG. **1**;

FIG. **3** is a first side view of the engine of FIG. **1**;

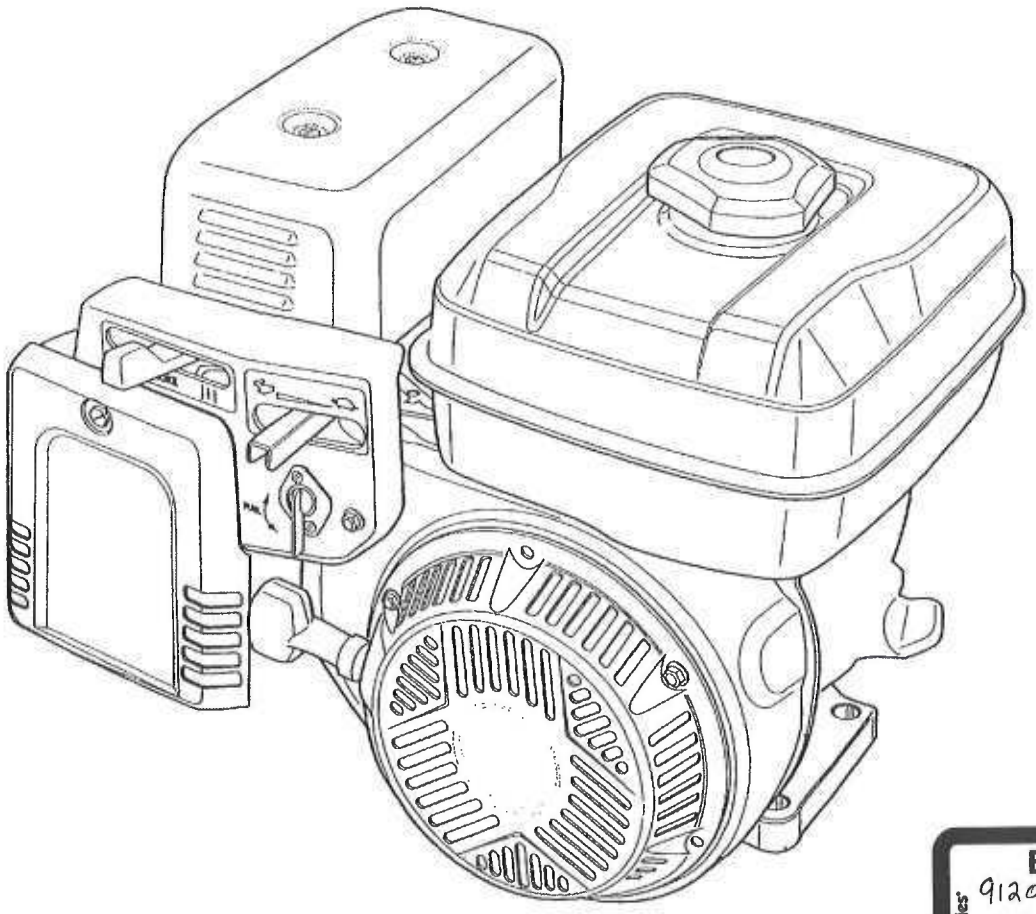
FIG. **4** is a second side view opposite the first side view of the engine of FIG. **1**;

FIG. **5** is a top view of the engine cover of FIG. **1**;

FIG. **6** is a bottom view of the engine cover of FIG. **1**; and,

FIG. **7** is a rear view of the engine cover of FIG. **1**.

1 Claim, 7 Drawing Sheets



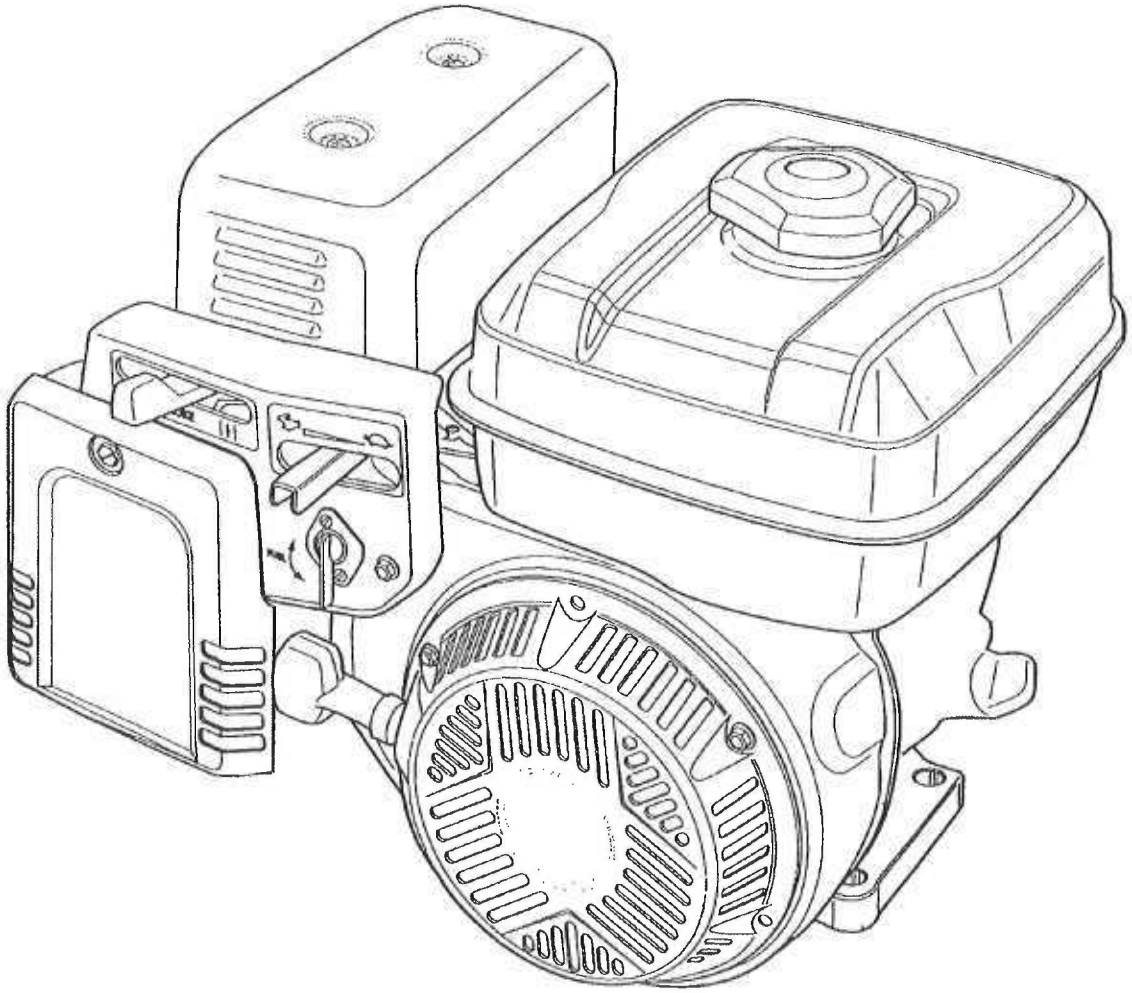


Fig. 1

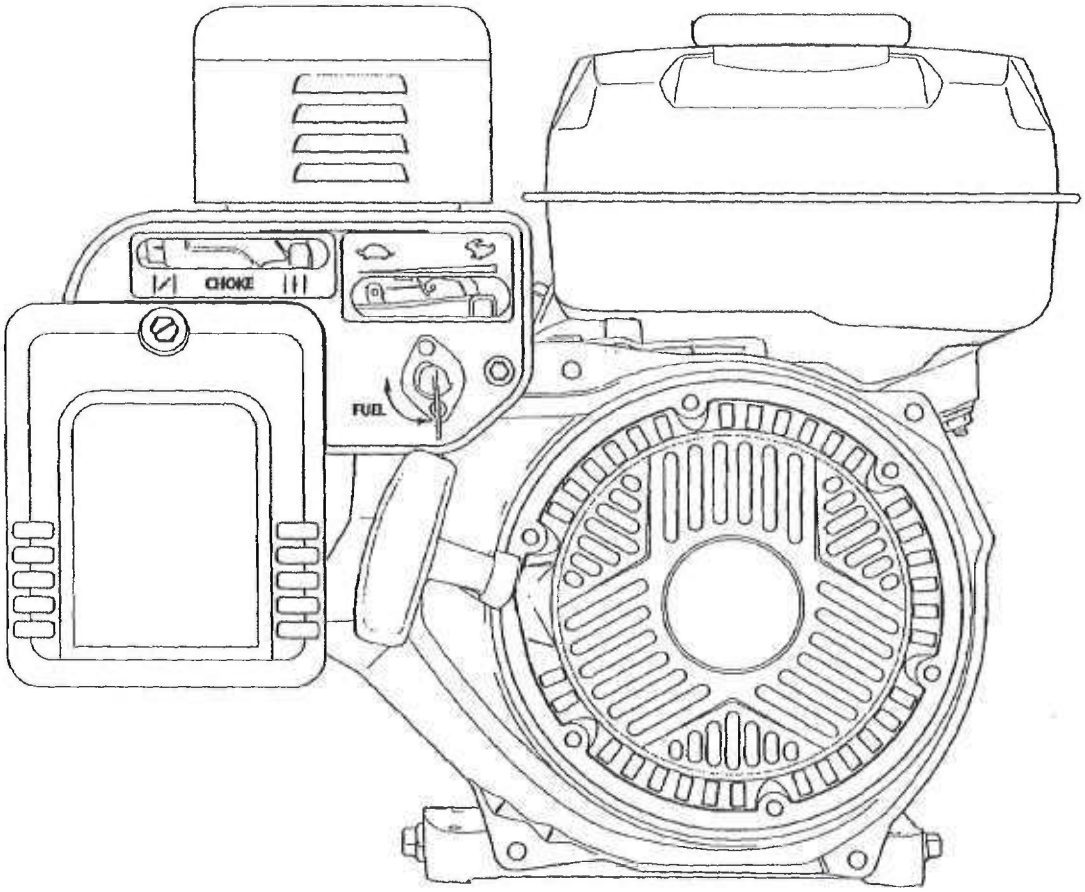


Fig. 2

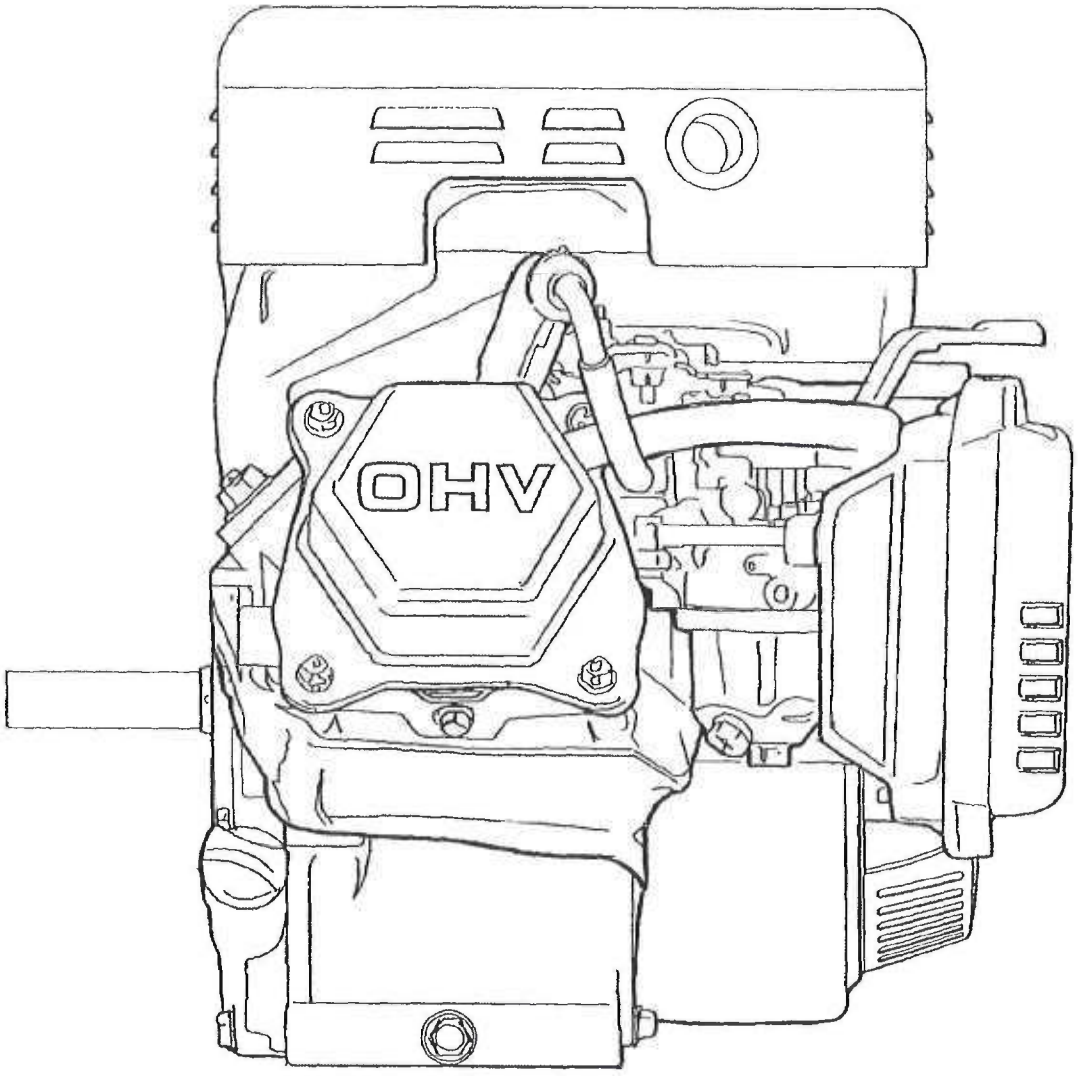


Fig. 3

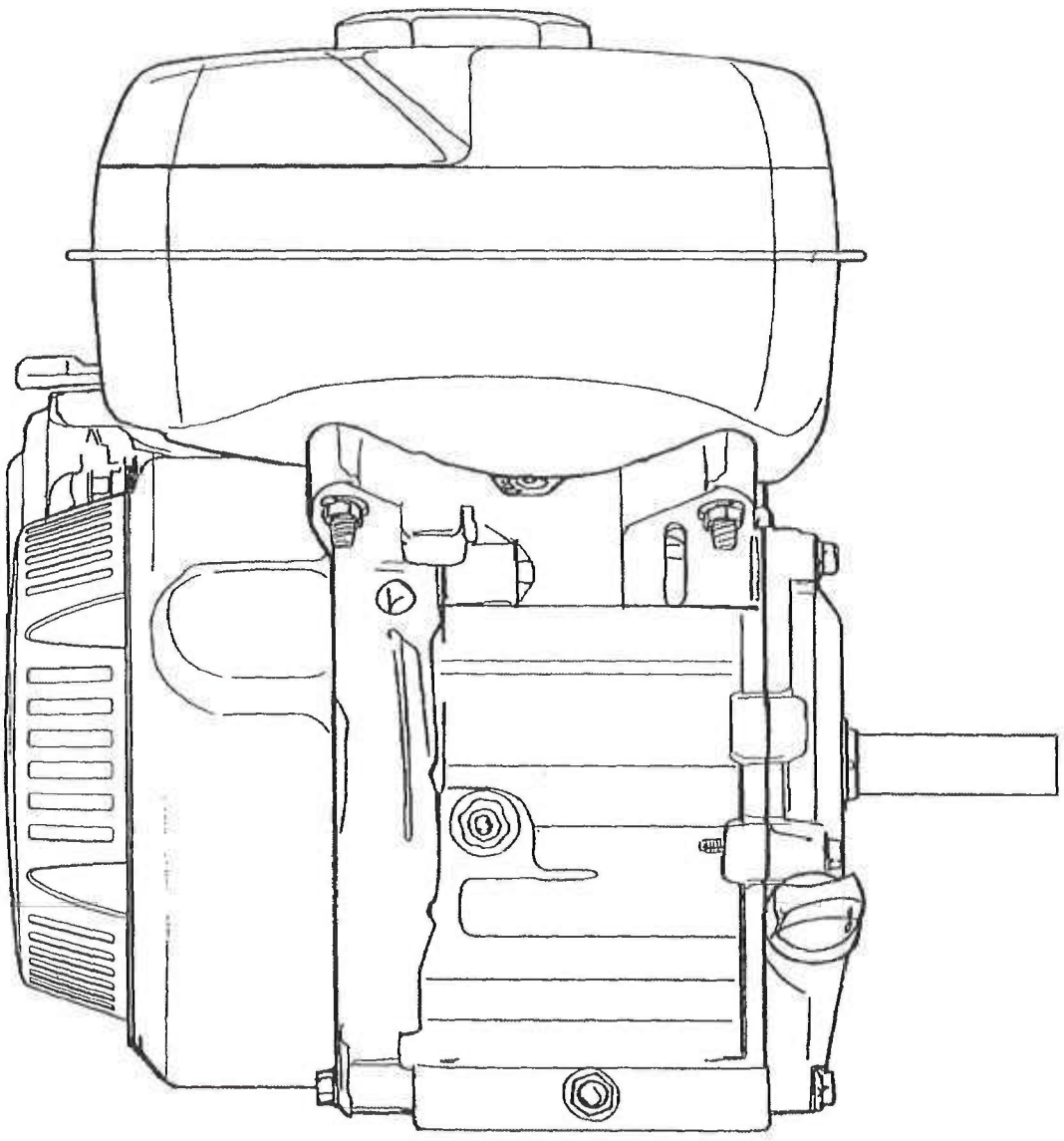


Fig. 4

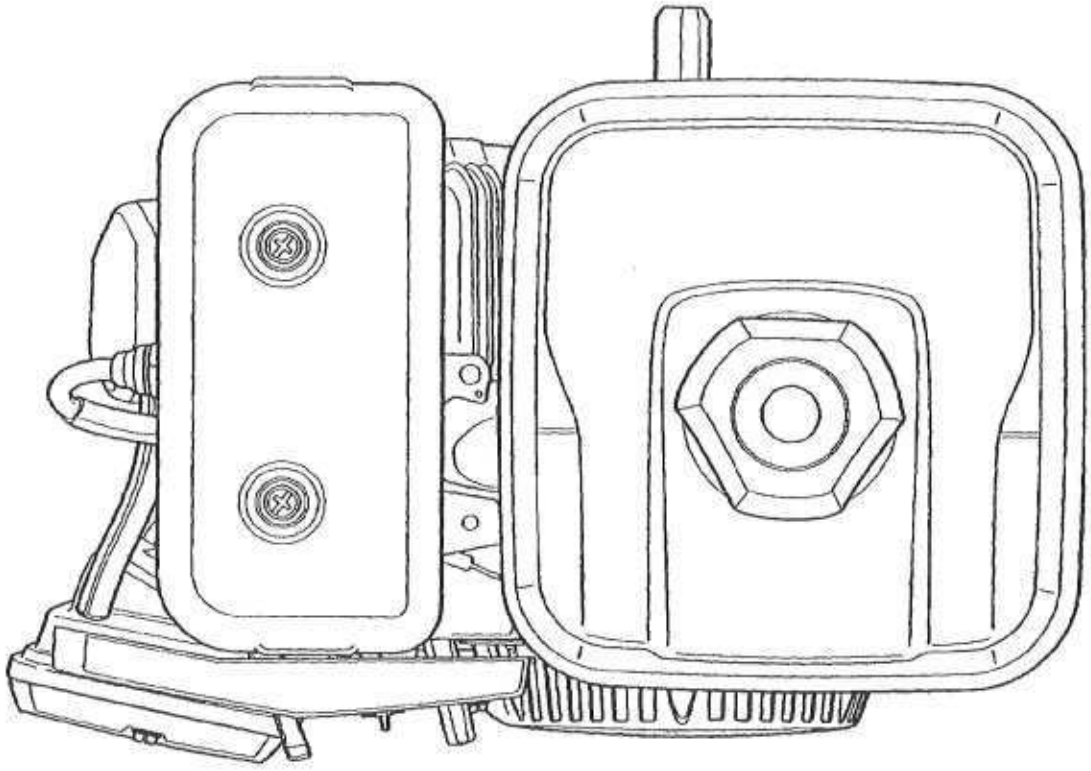


Fig. 5

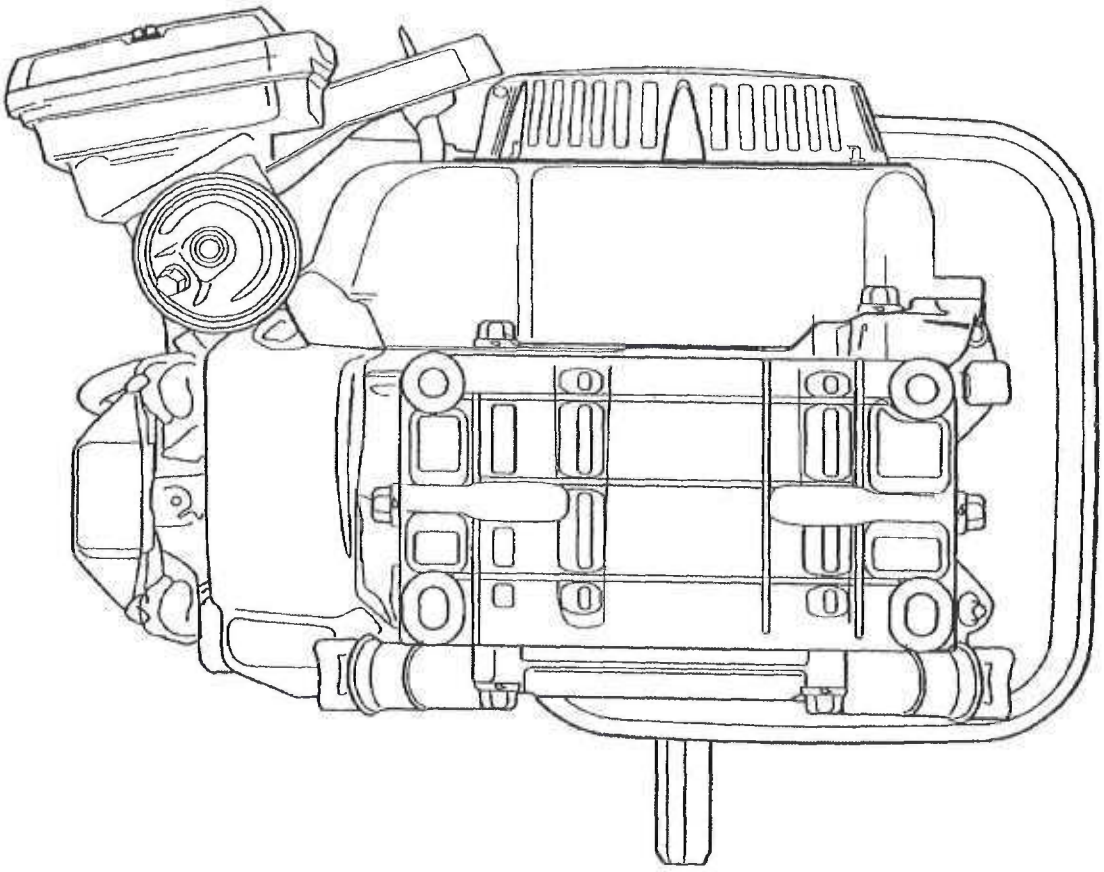


Fig. 6

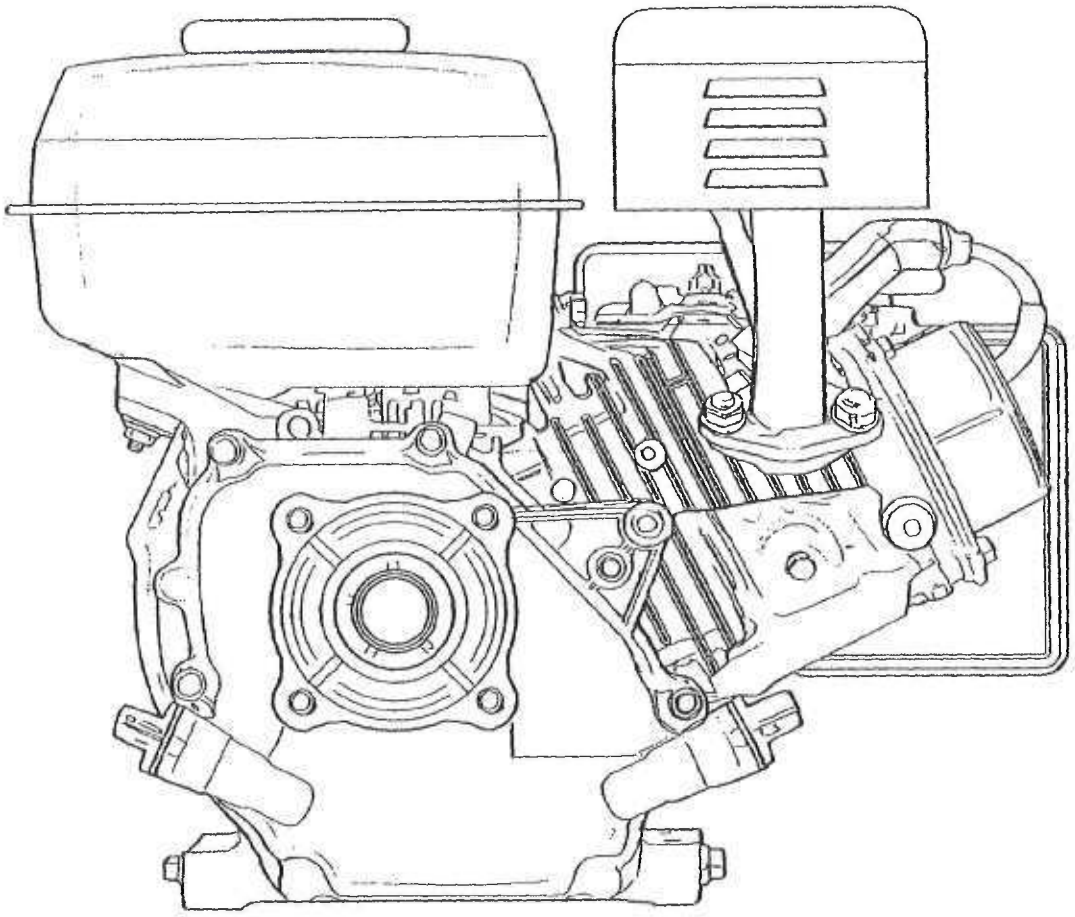


Fig. 7

US00D605661S

(12) United States Design Patent

Koehl

(10) Patent No.: US D605,661 S
(45) Date of Patent: ** Dec. 8, 2009

(54) **ENGINE**

(75) Inventor: **Richard R. Koehl**, Sheboygan Falls, WI (US)

(73) Assignee: **Kohler Co.**, Kohler, WI (US)

(**) Term: **14 Years**

(21) Appl. No.: **29/326,622**

(22) Filed: **Oct. 21, 2008**

(51) **LOC (9) Cl.** **15-01**
(52) **U.S. Cl.** **D15/1**
(58) **Field of Classification Search** ..... D15/1, D15/3, 5, 17; 123/50 A, 50 B, 50 R, 198 E, 123/70 R, 41.7, 306, 308, 667
See application file for complete search history.

(56) **References Cited**

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D282,071	S	*	1/1986	Nakamura	D15/1
D309,612	S	*	7/1990	Nakagawa	D15/1
D515,589	S	*	2/2006	Lin et al.	D15/1
D516,580	S	*	3/2006	Li	D15/1
D529,046	S	*	9/2006	Maeda et al.	D15/1
D552,128	S	*	10/2007	Li	D15/1
D561,784	S	*	2/2008	Yin et al.	D15/1
D570,877	S	*	6/2008	Glass et al.	D15/1
D579,026	S	*	10/2008	Busschaert	D15/1
D583,829	S	*	12/2008	Fan	D15/1

OTHER PUBLICATIONS

Commercial Engine Product Literature; Internet Screen Shots from commercial websites and Google; the screen shots are dated Mar. 3, 2009; 28 pages.

Consumer Engine Product Literataure; Internet Screen Shots from consumer websites and Google; the screen shots are dated Mar. 03, 2009; 16 pages

Chart listing types and pictures of various commercial engines; 2 pages; Mar. 2, 2009* [Note: *This date is provided because it is believed that at least some of the pictures contained in this document were obtained from the Internet on or around Mar. 2, 2009].

* cited by examiner

Primary Examiner—Ian Simmons
Assistant Examiner—Wan Laymon
(74) *Attorney, Agent, or Firm*—Whyte Hirschboeck Dudek SC

(57) **CLAIM**

The ornamental design for an engine, as shown and described.

DESCRIPTION

FIG. **1** is a front perspective view of an engine showing my new design;

FIG. **2** is a front view thereof;

FIG. **3** is a left side view thereof;

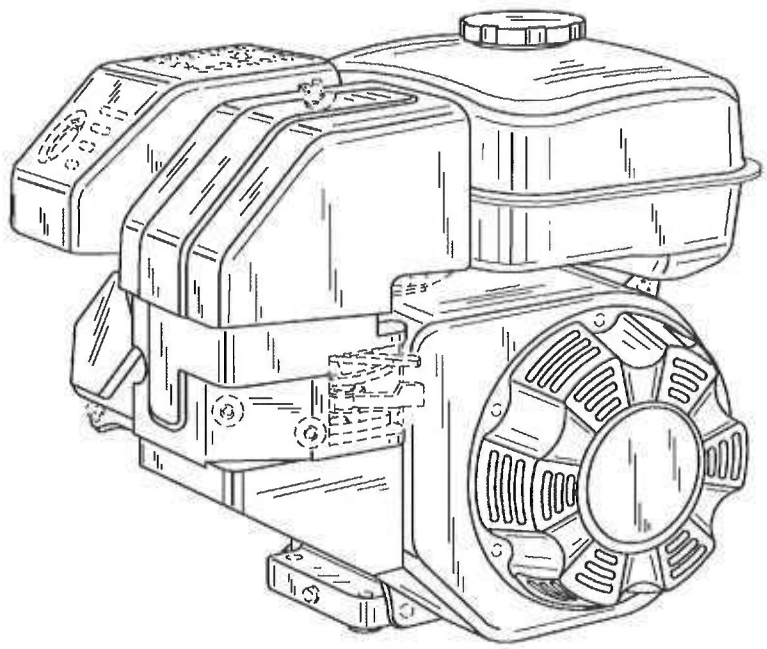
FIG. **4** is a rear view thereof;

FIG. **5** is a right side view thereof; and,

FIG. **6** is a top view thereof.

The broken lines shown in the figures are for illustrative environmental purposes only and form no part of the claimed design.

1 Claim, 6 Drawing Sheets



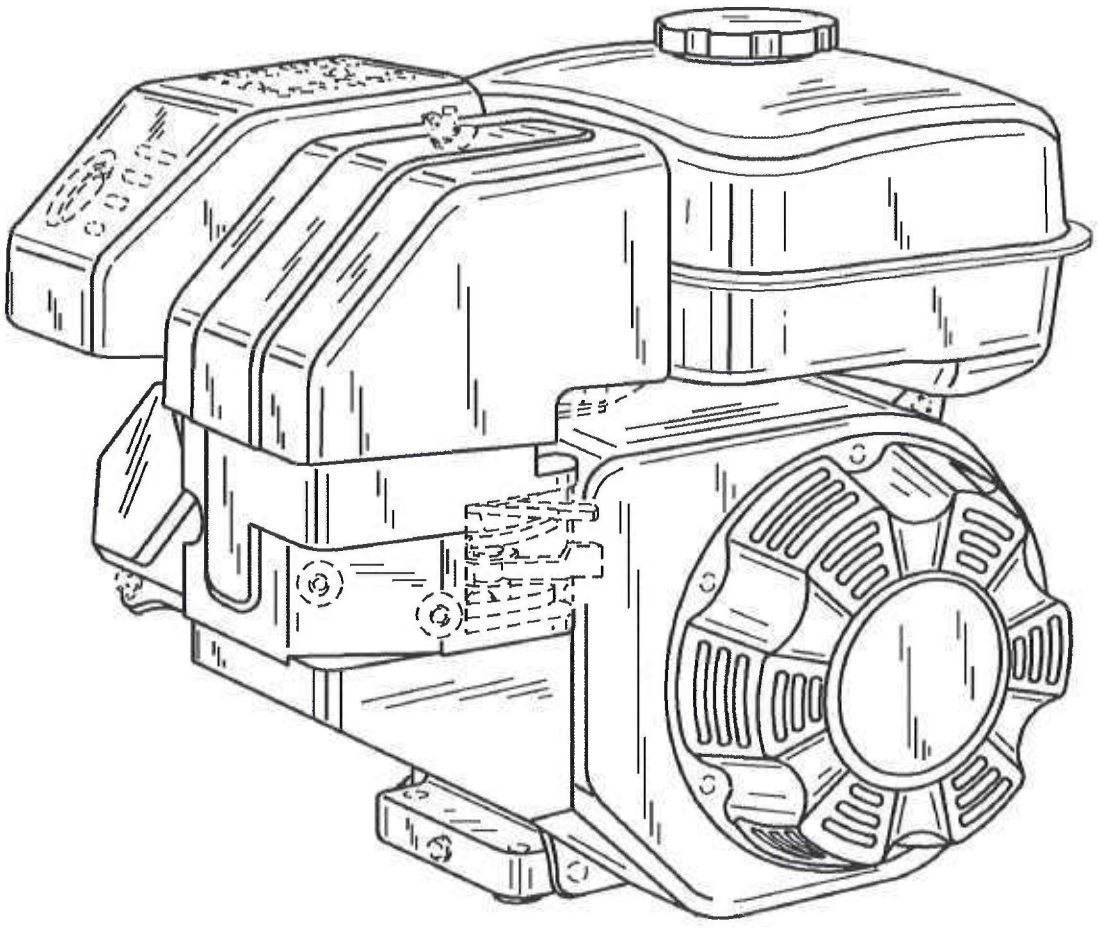


FIG. 1

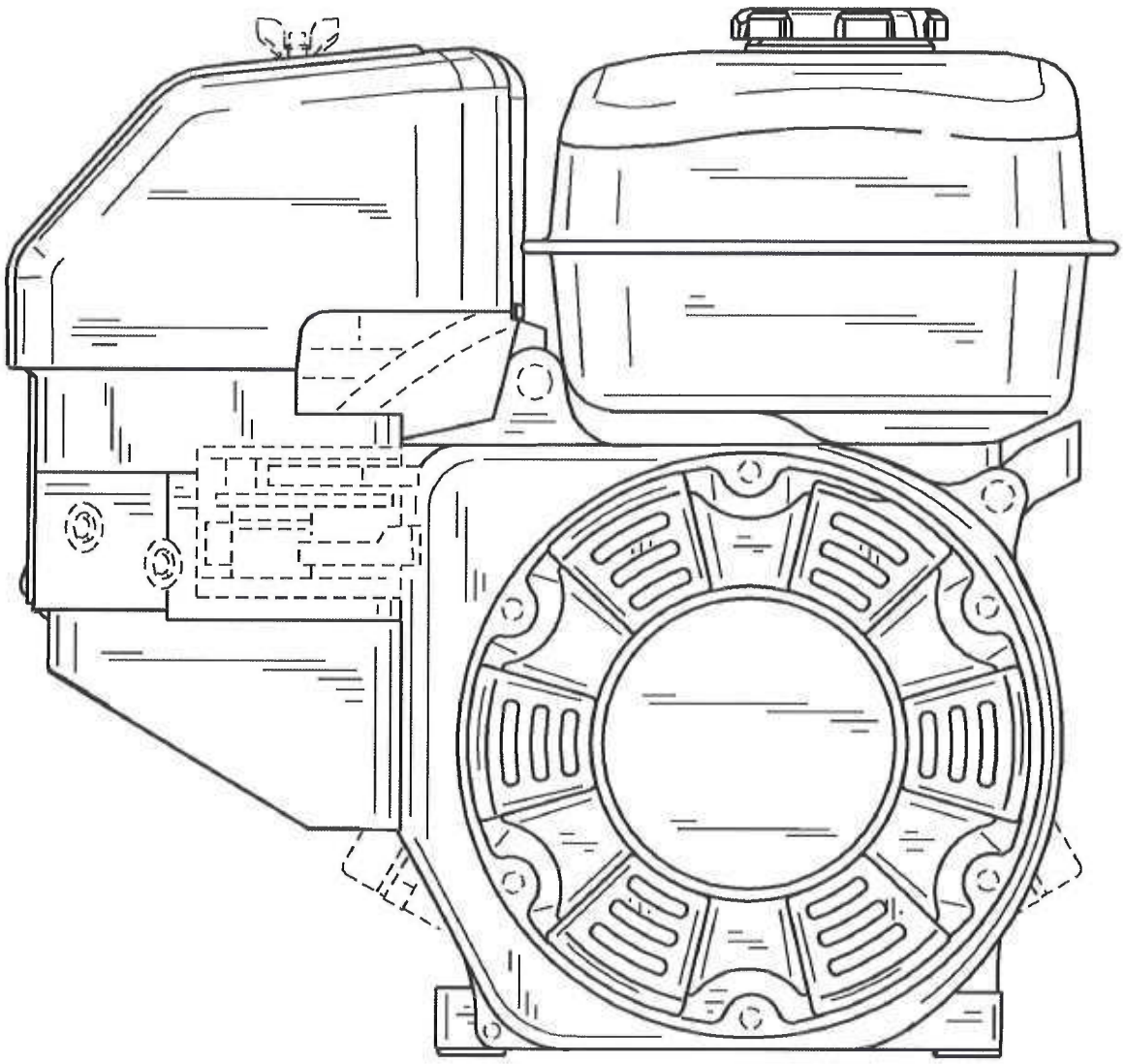


FIG. 2

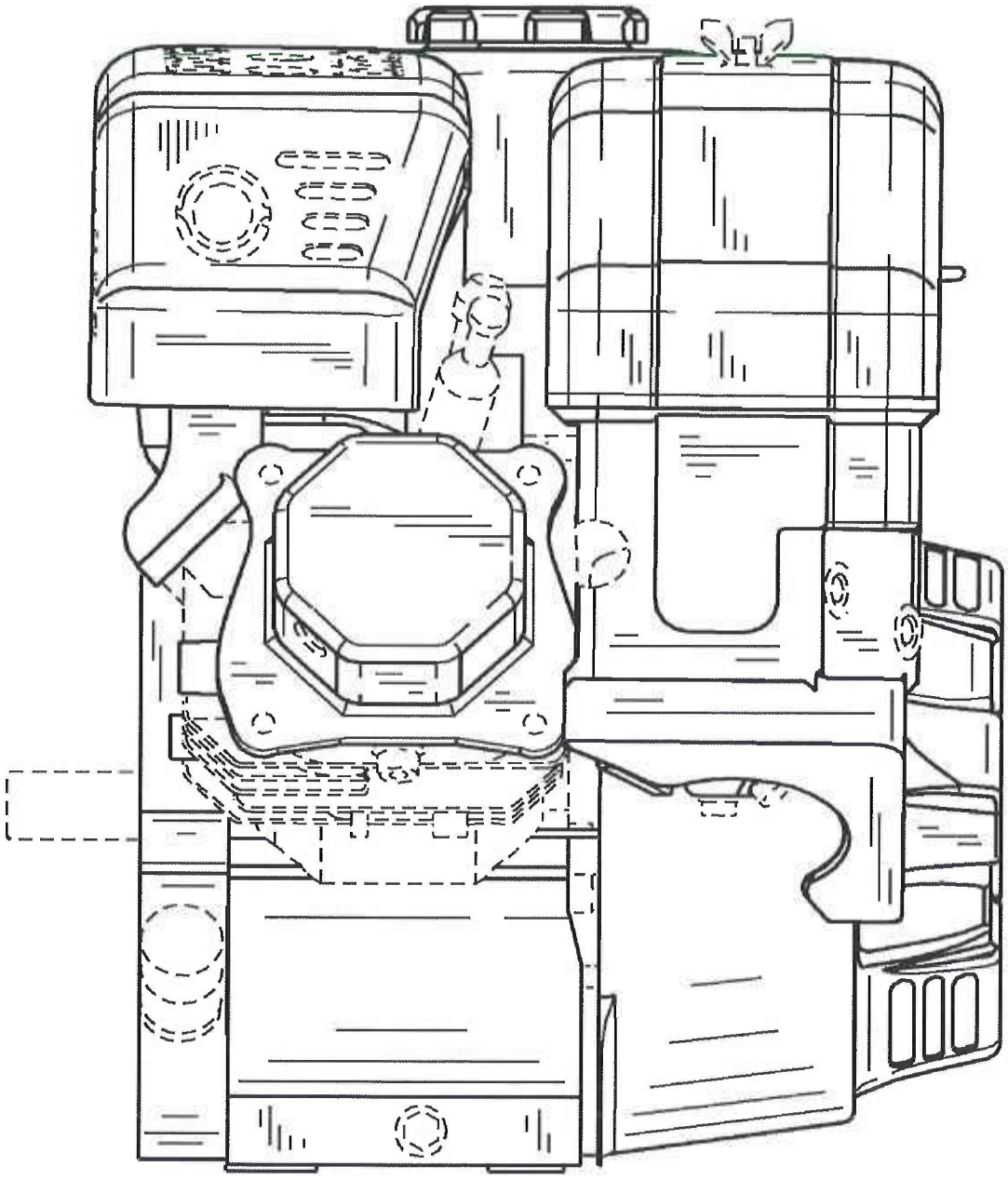


FIG. 3

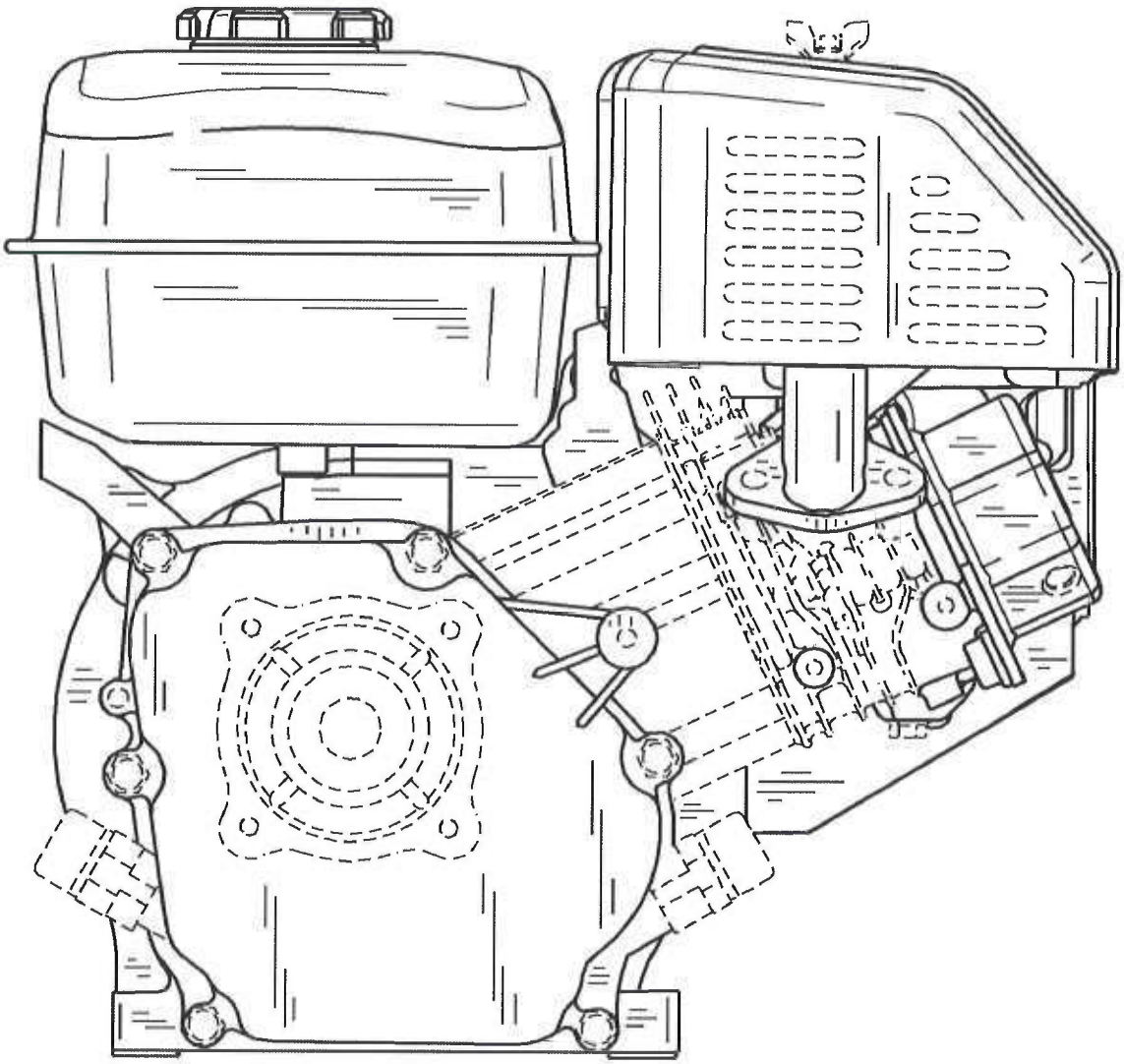


FIG. 4

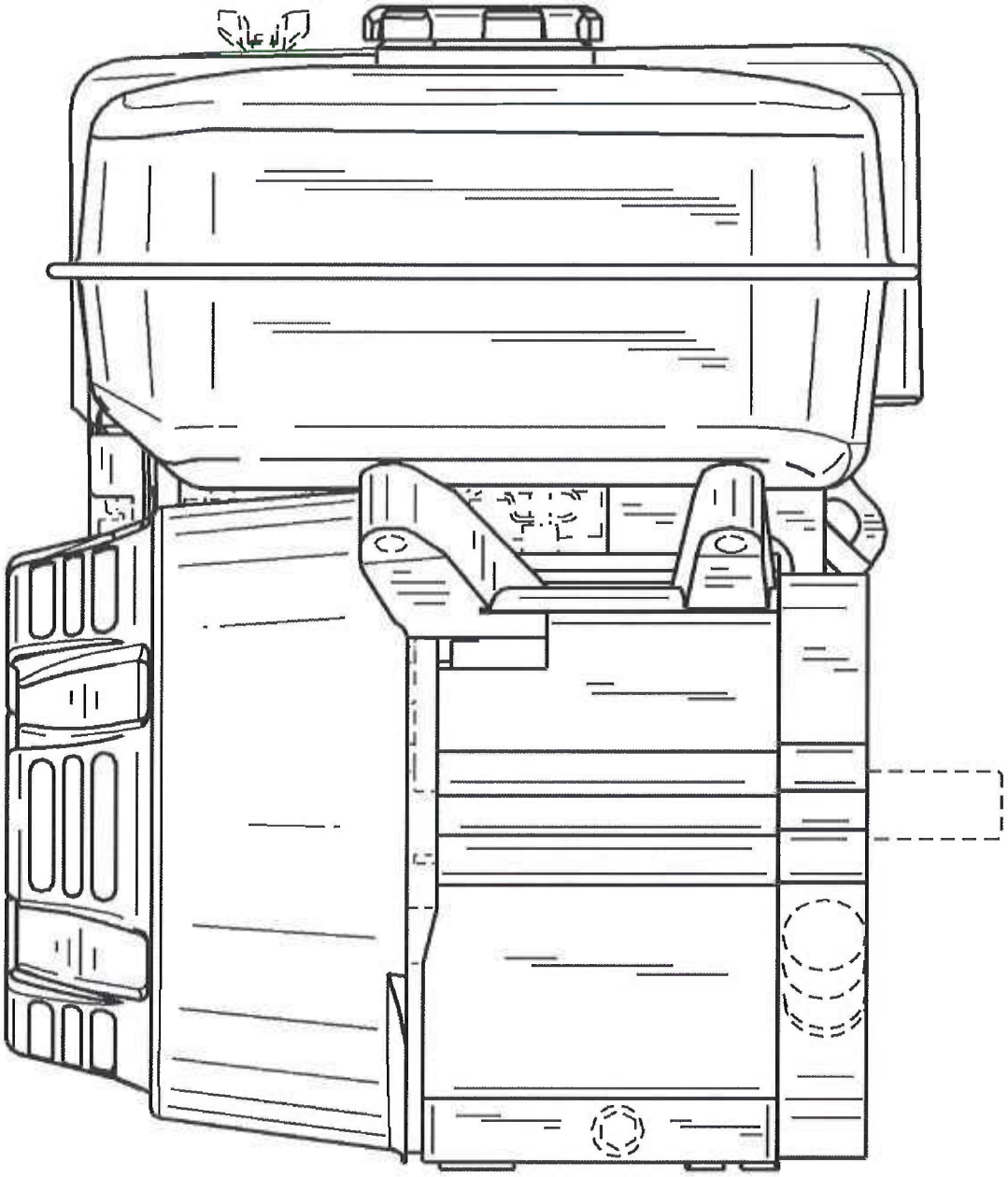


FIG. 5

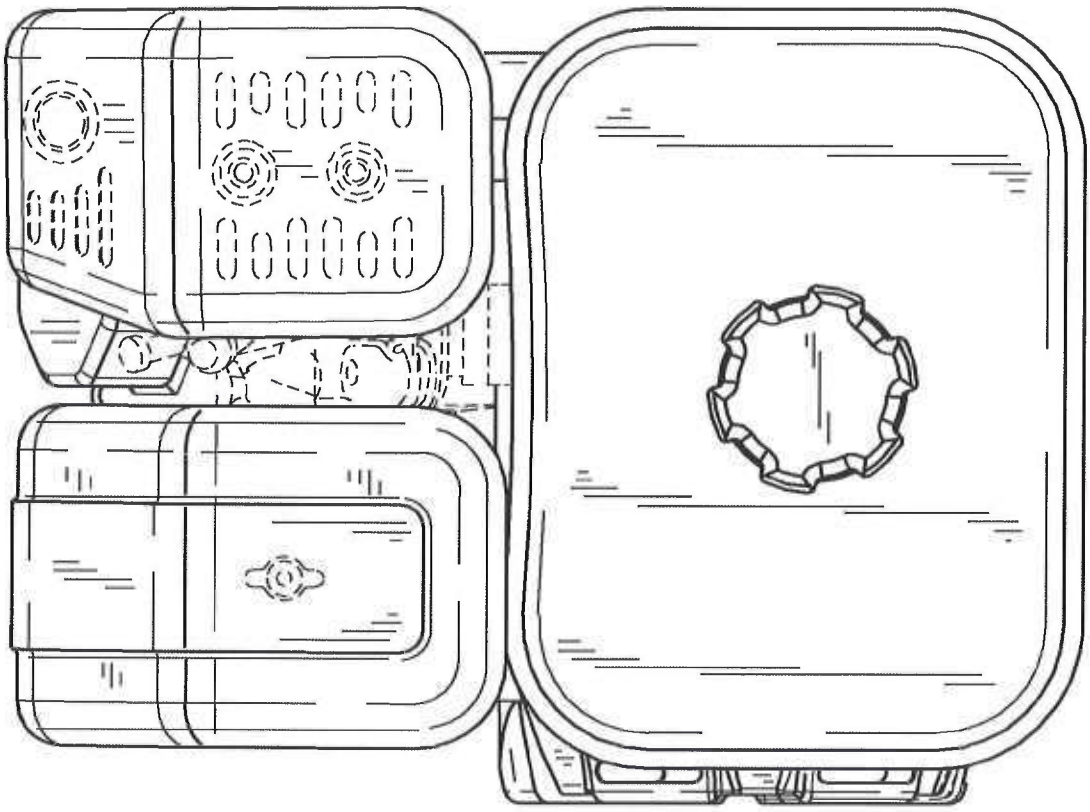


FIG. 6

United States Patent [19]

Nakamura

[11] Patent Number: Des. 282,071

[45] Date of Patent: ** Jan. 7, 1986

[54] INTERNAL COMBUSTION ENGINE

[75] Inventor: Tetsuo Nakamura, Saitama, Japan

[73] Assignee: Honda Giken Kogyo Kabushiki Kaisha, Tokyo, Japan

[**] Term: 14 Years

[21] Appl. No.: 478,941

[22] Filed: Mar. 25, 1983

[30] Foreign Application Priority Data

Oct. 20, 1982 [JP] Japan 57-47691

[52] U.S. Cl. D15/1

[58] Field of Search ..... D15/1; 123/56 B, 56 BC, 123/56 BA, 41.66, 41.67, 41.7, 195 G, 195 B, 195 R, 198 E

[56] References Cited

U.S. PATENT DOCUMENTS

D. 247,177	2/1978	Stevens	D15/1
D. 257,844	1/1981	Stevens	D15/1
D. 276,160	10/1984	Tuggle et al.	D15/1

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Implement & Tractor, 2-21-79, p. 37, Kawasaki Engine.

Implement & Tractor, 3-21-79, p. 11, Kawasaki Engine.

Primary Examiner—Wallace R. Burke

Assistant Examiner—Lynn Wilder

Attorney, Agent, or Firm—Sughrue, Mion, Zinn, Macpeak & Seas

[57] CLAIM

The ornamental design for an internal combustion engine, as shown.

DESCRIPTION

FIG. **1** is a front, top and left side perspective view of an internal combustion engine showing my new design;
FIG. **2** is a left side elevational view thereof;
FIG. **3** is a front elevational view thereof;
FIG. **4** is a rear elevational view thereof;
FIG. **5** is a top plan view thereof;
FIG. **6** is a right side elevational view thereof; and
FIG. **7** is a bottom plan view thereof.

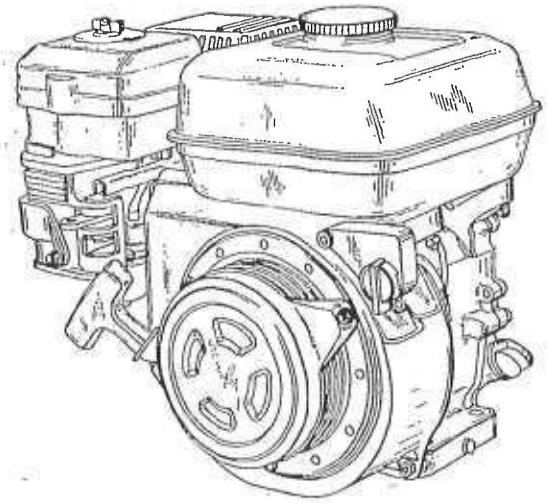


FIG. 1

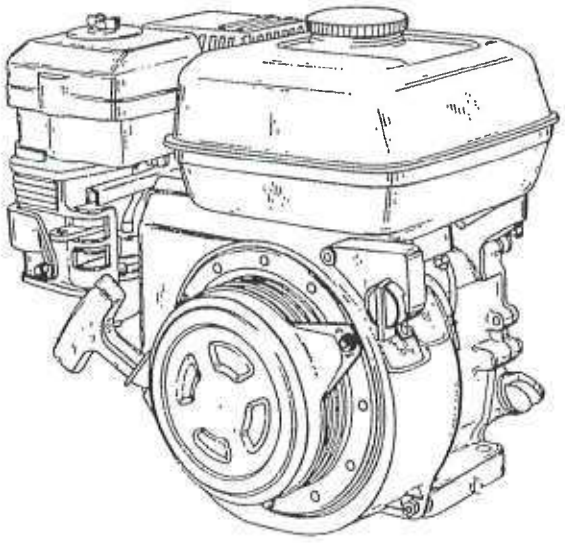


FIG. 2

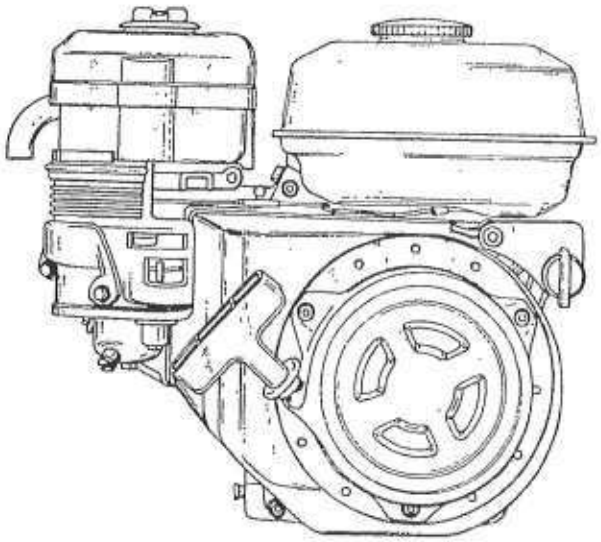


FIG. 3

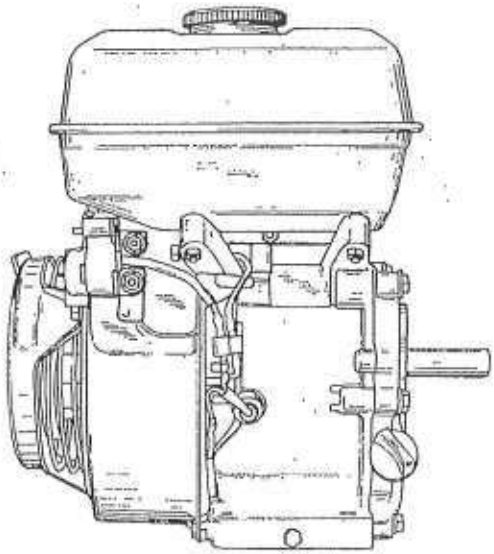


FIG. 4

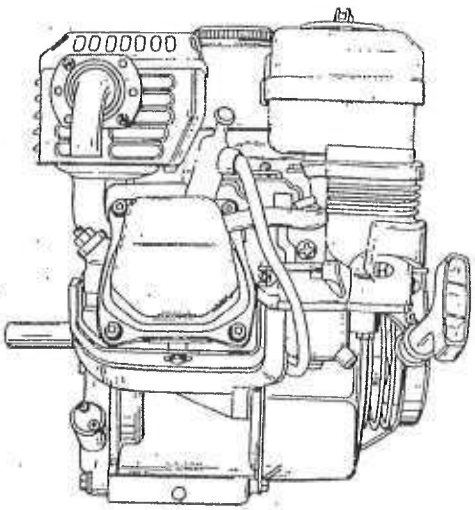


FIG. 5

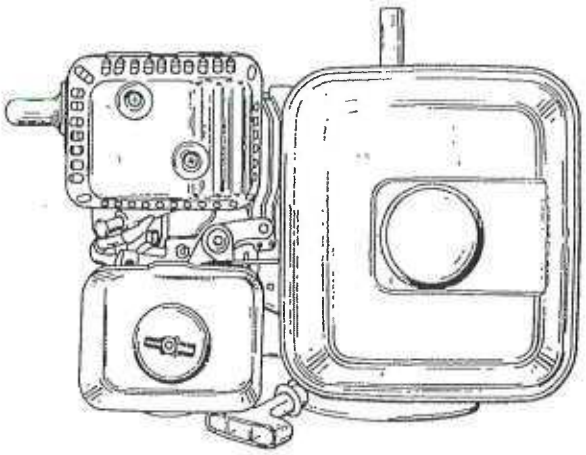


FIG. 6

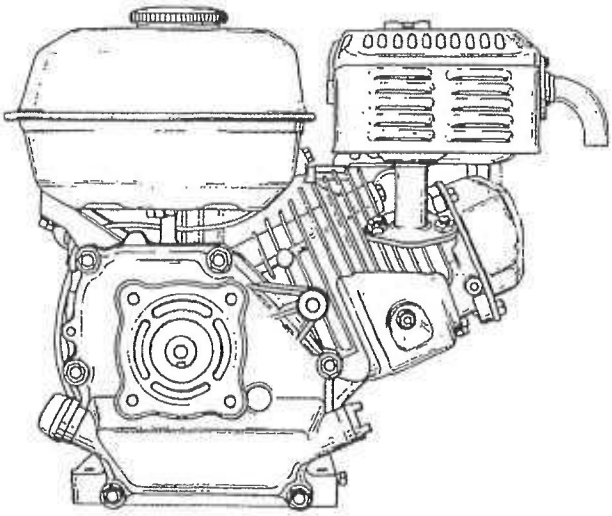
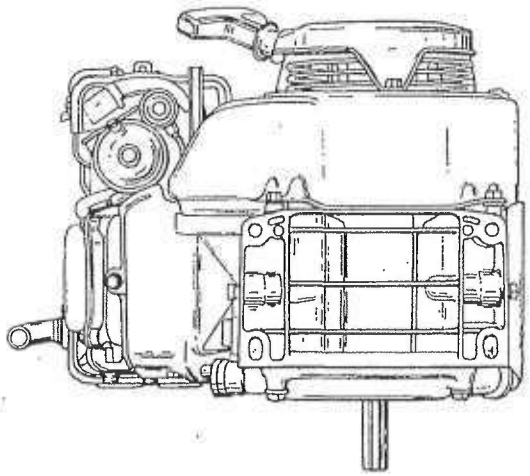


FIG. 7



John R. Reisel

Education: **Bachelor of Mechanical Engineering**
Minor: Mathematics
Villanova University, Villanova, PA - 1989

M.S. - Mechanical Engineering
Purdue University, West Lafayette, IN - 1991
Thesis Title: *Laser-saturated fluorescence measurements of nitric oxide in atmospheric-pressure flames.*

Ph.D. - Mechanical Engineering
Purdue University, West Lafayette, IN - 1994
Dissertation Title: *Laser-induced fluorescence measurements and modeling of nitric oxide in high-pressure premixed flames.*

Graduate Advisor: Prof. Normand M. Laurendeau
Fields of Study: Combustion, thermodynamics, fluid mechanics, optics

Work Experience:

August 2014 – Present	Professor Mechanical Engineering Department College of Engineering and Applied Science University of Wisconsin-Milwaukee
June 2001 – August 2014	Associate Professor Mechanical Engineering Department College of Engineering and Applied Science University of Wisconsin-Milwaukee
August, 1994-June 2001	Assistant Professor Mechanical Engineering Department College of Engineering and Applied Science University of Wisconsin-Milwaukee
September 1995-Present	Associate Director, Center for Alternative Fuels University of Wisconsin-Milwaukee College of Engineering and Applied Science

May-August, 1994	Post-Doctoral Research Associate Purdue University School of Mechanical Engineering
August, 1989 - May, 1994	Graduate Research Assistant Purdue University School of Mechanical Engineering

Professional Societies: American Society for Engineering Education
American Society of Mechanical Engineers
The Combustion Institute
Society of Automotive Engineers

Professional Registration: Professional Engineer
State of Wisconsin

Honors and Awards:

2010 ASEE-New Engineering Educators Divsion Best Paper Award – 2nd place

2010 CEAS – Top 10 Research Expenditures 2009-10 (award only given in 2009 and 2010)

2005 UWM Distinguished Undergraduate Teaching Award

2000 UWM-CEAS Outstanding Teaching Award

1998 SAE Ralph R. Teetor Educational Award

Purdue University's nominee for 1995 CGS/UMI Dissertation Award in Mathematical / Physical Sciences / Engineering

1989 GE Foundation Graduate Fellowship

1989 Dean's Award for Academic Excellence (Villanova University)

Research Interests:

- Engineering education (impacts of undergraduate research participation, impacts of early-career interventions; innovations in educational delivery)
- Internal-combustion engines (particularly air pollution minimization)
- Renewable energy (particularly ethanol production, implementation of renewable energy systems in existing facilities, and water current processes)
- Energy efficiency of industrial processes
- Sustainable water treatment processes
- Laser diagnostics of combustion processes
- Combustion chemical kinetics

Laboratory Facilities:

Energy Conversion Efficiency Lab – co-Director
UWM Center for Alternative Fuels – Associate Director
UWM Industrial Assessment Center – co-Director

COURSES TAUGHT

Undergraduate:

ME 301	Basic Engineering Thermodynamics
ME 302	Applied Engineering Thermodynamics
ME 321	Basic Heat Transfer
ME 390	Design Projects
ME 402	Thermo-Fluids Engineering
ME 432	Internal-Combustion Engines
ME 434	Air-Conditioning System Design
ME 435	Powerplant Theory and Design
ME 490	Topics in Mechanical Engineering: Applied Optics in Engineering (ME451)
ME 490	Topics in Mechanical Engineering: Aerodynamics
ME 490	Topics in Mechanical Engineering: Energy:Sources, Uses, and Economics
ME 699	Independent Study
EAS 497	Study Abroad

Graduate:

ME 702 Advanced Engineering Thermodynamics
ME 703 Principles of Combustion
ME 999 Advanced Independent Study

COURSE EVALUATIONS

Below are the overall average teacher evaluation ratings, from the student evaluations of the classes. These are listed by semester and course. The scale used is 1 - 5, with 5.0 being the best rating.

Fall 2014:	ME 301: 4.36	ME 402: 4.69
Spring 2014:	ME 402: 4.82	ME 435: 4.66
Fall 2013:	ME 402: 4.79	ME 432: 4.67
Spring 2013:	ME 402: 4.58	ME 490: 4.61
Fall 2012:	ME 402: 4.79	ME 435: 4.75
Spring 2012:	ME 402: 4.58	ME 432: 4.72
Fall 2011:	ME 301: 4.72	ME 301: 4.44
Spring 2011:	ME 402: 4.38	ME 435: 4.50
Fall 2010:	ME 402: 4.52	ME 432: 4.50
Spring 2010	ME 301: 4.51	ME 402: 4.43
Fall 2009:	ME 435: 4.48	ME 702: 4.64
Spring 2009:	ME 402: 4.15	ME 432: 3.90
Spring 2008:	ME 402: 4.70	ME 435: 4.54
Fall 2007:	ME 432: 4.25	ME 702: 4.64
Spring 2007:	ME 301: 4.53	ME 402: 4.44
Fall 2006:	ME 301: 4.36	ME 435: 4.57
Spring 2006:	ME 402: 4.78	ME 432: 4.58
Fall 2005:	ME 301: 4.47	ME 434: 4.70
Spring 2005:	ME 402: 4.59	ME 435: 4.83
Fall 2004:	ME 301: 4.71	ME 432: 4.39
Spring 2004:	ME 402: 4.21	ME 703: 4.77
Fall 2003:	ME 301: 4.42	ME 435: 4.53
Spring 2003:	ME 301: 4.46	ME 432: 4.11
Fall 2002:	ME 301: 4.59	ME 435: 4.44
Spring 2002:	ME 432: 3.97	ME 703: 4.93
Fall 2001:	ME 301: 4.28	ME 435: 4.29
Spring 2001:	ME 301: 4.40	ME 490: 4.37
Fall 2000:	ME 302: 4.56	ME 432: 4.12
Spring 2000:	ME 301: 4.51	ME 703: 4.58
Fall 1999:	ME 301: 4.41	ME 435: 4.12
Spring 1999:	ME 301: 4.63	ME 432: 4.47
Fall 1998:	ME 435: 4.50	
Spring 1998:	ME 302: 4.27	ME 432: 4.05
Fall 1997:	ME 301: 4.60	ME 302: 4.45
Spring 1997:	ME 302: 4.34	ME 435: 4.46
Fall 1996:	ME 301: 4.24	ME 432: 3.76
Summer 1996:	ME 301: 4.55	
Spring 1996:	ME 301: 3.52	ME 490: 3.95

Fall 1995:	ME 302: 4.41	ME 702: 4.15
Spring 1995:	ME 301: 4.45	
Fall 1994:	ME 321: 3.87	

Ph.D. DISSERTATIONS DIRECTED:

Arash Kialashaki, Ph.D. Dissertation: *Evaluation and Forecast of Energy Consumption in Different Sectors of the United States Using Artificial Neural Networks.* Mechanical Engineering Department, University of Wisconsin-Milwaukee, December 2014.

Marissa R. Jablonski, Ph.D. Dissertation: *Sustainable Decolorization of Reactive and Acid Dye Wastewater Using Photo-Fenton Oxidation both with and without Biodegradation: Laboratory and Field Studies.* Civil and Environmental Engineering Department, University of Wisconsin-Milwaukee, May 2015.

M.S. THESES DIRECTED:

Damon F. Bresenham, M.S. Thesis: *An Assessment of Proposed Spindt Method Expansions for Use with Highly Oxygenated Fuels in Small Utility Engine Emissions Testing Applications.* Mechanical Engineering Department, University of Wisconsin-Milwaukee, August 1998.

Kenneth B. Jordan, M.S. Thesis: *Comparison of Detailed Chemical Kinetics Mechanisms for Modeling Nitric Oxide Formation in Premixed Ethane Flames.* Mechanical Engineering Department, University of Wisconsin-Milwaukee, December 2000.

Diego Caceres, M.S. Thesis: *Exhaust Emissions Deterioration over the Life Cycle of Small Utility Engines.* Mechanical Engineering Department, University of Wisconsin-Milwaukee, April 2001.

Mikhail Kremer, M.S. Thesis: *Theoretical Study of the Effect of Atmospheric Conditions on Air Compressor Performance.* Mechanical Engineering Department, University of Wisconsin-Milwaukee, April 2001. (co-directed with Dr. K.J. Renken)

David M. Leckman, M.S. Thesis: *Synthetic Lubricant Type and Atmospheric Conditions Affecting Power Consumption Measurements of a Rotary Screw Air Compressor.* Mechanical Engineering Department, University of Wisconsin-Milwaukee, May 2004 (co-directed with Dr. K.J. Renken)

Thomas J. Walczak, M.S. Thesis: *Induction Water Injection of a Spark Ignition Internal Combustion Outboard Marine Engine.* Mechanical Engineering Department, University of Wisconsin-Milwaukee, December 2005.

Nicholas J. Doll, M.S. Thesis: Effects *of Aging on Catalysts on Emissions for Small Engines.* Mechanical Engineering Department, University of Wisconsin-Milwaukee, August 2006.

Santha K. Ravi, M.S. Thesis: Investigation of the Effects of Inlet Flow Velocity on the Forces Experienced by a Small Engine Catalytic Converter Using Computational Fluid Dynamics. Mechanical Engineering Department, University of Wisconsin-Milwaukee, December 2008.

Sourabh Kumar, M.S. Thesis: Modeling of Energy Usage for the Production of Corn Ethanol Using Wind and Solar Energy. Mechanical Engineering Department, University of Wisconsin-Milwaukee, May, 2009.

Elizabeth A. Ehrke, M.S. Thesis: Modeling Energy Production of Solar Thermal Systems and Wind Turbines for Installation at Corn Ethanol Plants. Mechanical Engineering Department, University of Wisconsin-Milwaukee, December 2012.

Will R. Didier, M.S. Thesis: Development and Validation of a Mathematical Model for Predicting the Performance of Rotary Hammer Drills. Mechanical Engineering Department, University of Wisconsin-Milwaukee, May 2013.

M.S. NON-THESIS OPTION STUDENTS ADVISED

Nachiketh Chandran. Mechanical Engineering Department, University of Wisconsin-Milwaukee, May 2011

Arash Kialashaki. Mechanical Engineering Department, University of Wisconsin-Milwaukee, December 2011

BOOKS PUBLISHED

1. J.R. Reisel (2015). *Principles of Engineering Thermodynamics.* Cengage Learning, Boston, MA. ISBN: 978-1-285-05647-0.

2. J.R. Reisel (2010). *Passing the Students' Test: Simple Techniques for Becoming a Good Engineering or Science Teacher.* ISBN: 978-1-453-89417-0. Publisher: CreateSpace.

REFEREED PUBLICATIONS:

1. J.R. Reisel, M. Jablonski, E. Munson, and H. Hosseini (2014). Peer-led Team Learning in Mathematics Courses for Freshman Engineering and Computer Science Students. *Journal of STEM Education,* **15(2):** 7-15.

2. A. Kialashaki, and J.R. Reisel (2014). Development and Validation of Artificial Neural Network Models of the Energy Demand in the Industrial Sector of the United States. *Energy* **76**: 749-760.

3. A. Kialashaki and J.R. Reisel (2014). Forecasting United States' Energy Demand of Industrial Sector Using Artificial Neural Networks. *International Journal of Energy and Statistics* **2:** 207-226.

4. A. Kialashaki and J.R. Reisel (2014). Transport Energy Demand Modeling of the United States Using Artificial Neural Networks and Multiple Linear Regression, *ASME 12th Fuel Cell Science, Engineering, and Technology Conference*, Paper No. ES-FuelCell2014-6447, Boston, MA.

5. J.R. Reisel, M. Jablonski, A. Kialashaki, E. Munson, and H. Hosseini (2014). Analysis of the Impact of Participation in a Summer Bridge Program on Mathematics Course Performance by First-Semester Engineering Students *Proceedings of the 2014 American Society for Engineering Education Annual Conference & Exposition*. Paper No. 8492, Indianapolis, IN.

6. A. Kialashaki and J.R. Reisel (2013). Modeling of the Energy Demand of the Residential Sector in the United States Using Regression Models and Artificial Neural Networks. *Applied Energy* **108**: 271-280.

7. M.R. Jablonski, S. Shaligram, A. Qureshi, H. Purohit, J. Reisel, and R. El-Hajjar. (2013). Degradation Kinetics of Resorcinol by Enterobacter Cloacae Isolate. *African Journal of Microbiology Research* **7**: 3632-3640.

8. J.R. Reisel (2013). Analysis of the Impact of Testing Frequency on Student Performance in a Basic Thermodynamics Course. *Proceedings of the 2013 American Society for Engineering Education Annual Conference & Exposition*. Paper No. 5686, Atlanta, GA.

9. J.R. Reisel, M. Jablonski, and E. Munson (2013). A Study of the Impact of Peer-Led Team Learning on the First-Year Math Course Performance of Engineering Students. *Proceedings of the 2013 American Society for Engineering Education Annual Conference & Exposition*. Paper No. 5685, Atlanta, GA.

10. E. Ehrke and J.R. Reisel (2013). Modeling the Feasibility of Using Solar Thermal Systems for Meeting the Heating Requirements at Corn Ethanol Production Facilities. *Int. J. of Green Energy* (submitted for publication).

11. A. Kialashaki and J.R. Reisel (2013). Analysis of Electricity Production from Renewable Resources in the United States: Lessons from Leading States. *Renewable & Sustainable Energy Reviews* (submitted for publication).

12. J.R. Reisel (2012). Incorporating Public Policy Creation and Analysis Activities into a Mechanical Engineering Curriculum. *Proceedings of the ASME 2012 International Mechanical Engineering Conference & Exposition*, Paper No. IMECE2012-86371, Houston, TX.

13. J.R.Reisel, M. Jablonski, H. Hosseini, and E. Munson (2012). Assessment of factors impacting success for incoming college engineering students in a summer bridge program. *Int. J. of Mathematical Education in Science & Technology,* **43**: 421-433.

14. J.R. Reisel, M. Jablonski, L. Rineck, E. Munson, and H. Hosseini (2012). Analysis of Math Course Placement Improvement and Sustainability Achieved Through a Summer Bridge Program. *Proceedings of the 2012 American Society for Engineering Education Annual Conference & Exposition.* Paper No. AC 2012-2984, San Antonio, TX.

15. J.R. Reisel, M. Jablonski, E. Munson, and H. Hosseini (2012). Analysis of the Impact of Formal Peer-Led Study Groups on First-Year Student Math Performance. *Proceedings of the 2012 American Society for Engineering Education Annual Conference & Exposition.* Paper No. AC 2012-2983, San Antonio, TX .

16. M. Jablonski and J.R. Reisel (2012). Sustainable International Development as a Process. *Proceedings of the 2012 American Society for Engineering Education Annual Conference & Exposition.* Paper No. AC 2012-4985, San Antonio, TX.

17. E. Mohseni-Languri, H. Taherian, K. Hooman, and J.R. Reisel (2011). Enhanced Double-Pass solar Air Heater with and without Porous Medium. *Int. J. of Green Energy* **8**: 643-654

18. J.R. Reisel, L. Rineck, M. Jablonski, E. Munson, and H. Hosseini (2011). Evaluation of the Impacts of Math Course Placement Improvement Achieved Through a Summer Bridge Program. *Proceedings of the 2011 American Society for Engineering Education Annual Conference & Exposition*, Paper No. AC 2011-51, Session M548.

19. M. Jablonski, J.R. Reisel, H. Hosseini, E. Munson, and L. Rineck (2011). Initial Evaluation of the Impacts of Math Study Groups on First-Year Student Course Success. *Proceedings of the 2011 American Society for Engineering Education Annual Conference & Exposition*, Paper No. AC 2011-243, Session M354.

20. S. Kumar and J.R. Reisel (2011). *Modeling of Energy Usage for the Refining of Ethanol from Corn. Int. J. of Sustainable Energy* **30**: 98-109.

21. J.R. Reisel (2010). Gaining the Respect of Your Students: Fundamental Tips for New Engineering Teachers. *Proceedings of the 2010 American Society for*

Engineering Education Annual Conference & Exposition, Paper No. AC 2010-230, Session 2475, 11 pages.

22. J.R. Reisel, M. Jablonski, H. Hosseini, and E. Munson (2010). Evaluation of Factors Affecting the Success of Improving Math Course Placement for Incoming Freshmen in a Summer Bridge Program. *Proceedings of the 2010 American Society for Engineering Education Annual Conference & Exposition*, Paper No. AC 2010-231, Session 1376, 9 pages.

23. M. Jablonski, C. Papadopoulos, and J.R. Reisel (2009). Building Trust During International Development Work: A Case Study of a Recent EWB Project. *Proceedings of the 2009 American Society for Engineering Education Annual Conference & Exposition*, Paper No. AC2009-1089, Session 1360, 6 pages.

24. E. Mohseni-Languri, H. Taherian, R. Masoodi, and J.R. Reisel (2009). An Energy and Exergy Study of a Solar Thermal Air Collector. *Thermal Science* **13**: 205-216.

25. J.R. Reisel (2008). The Use of Undergraduate Students in a Long-Term Air Pollution Reduction Project. *Proceedings of the 2008 American Society for Engineering Education Annual Conference & Exposition*, Paper No. AC2008-204, Session 3451, 14 pages.

26. C. Papadopoulos and J.R. Reisel (2008). Do Students in Summer Bridge Programs Successfully Improve Math Placement and Persist? A Meta-Analysis. *Proceedings of the 2008 American Society for Engineering Education Annual Conference & Exposition*, Paper No. AC2008-1623, Session 1565, 7 pages.

27. N.J. Doll and J.R. Reisel (2007). Catalyst Deterioration over the Lifetime of Small Utility Engines. *J. Air & Waste Man. Assoc.* **57**:1223-1233.

28. J.R. Reisel (2007). The Development of Energy Policies by Undergraduate Engineering Students. *Proceedings of the 2007 American Society for Engineering Education Annual Conference & Exposition*, Paper No. AC2007-484, Session 1344, 13 pages.

29. J.R. Reisel and K.J. Renken (2006). Development of Experimental Apparatuses to be Used in Two Sequential Thermal Science Courses. Proceedings of the *2006 American Society for Engineering Education Annual Conference & Exposition*, Paper No. AC2006-328, Session 3133, 11 pages.

30. J.R. Reisel, A. Schmitt, and Z. Ouradnik (2003). Investigation of the source of increased hydrocarbon emissions over the life cycle of small utility engines. 2003 Small Engine Technology Conference. Paper No. *SAE 2003-32-0022.*

31. J.R. Reisel, K.J. Renken and B.A. Price (2003). Two senior capstone design projects on the potential energy savings at the Pettit National Ice Center. *Proceedings of the 2003 American Society for Engineering Education Annual Conference & Exposition,* Session 2433, 13 pages.

32. D. Caceres, J.R. Reisel, A. Sklyarov, and A. Poehlman (2003). Exhaust emission deterioration and combustion chamber deposit composition over the life cycle of small utility engines. *ASME J. Eng. Gas Turbines and Power.* **125**, 358-364.

33. J.R. Reisel (2000). Effects of mass flow rate and initial temperature on predictions of NO and OH from detailed chemical kinetics models. *Combust. Sci. and Tech.* **160**, 47-63.

34. J.R. Reisel and K.J. Renken (2000). Establishment of an air compressor experimentation facility via undergraduate student projects, *2000 Annual Conference Proceedings: The 2000 American Society for Engineering Education Annual Conference.* Session 2333, 18 pages.

35. J.R. Reisel, T.A. Kellner, and K.F. Neusen (2000). Speciated hydrocarbon emissions in small utility engines. *J. Air & Waste Man. Assoc.* **50**, 522-528.

36. J.R. Reisel (2000). Modeling of nitric oxide formation in high-pressure premixed laminar ethane flames. *Combust. Flame* **120**, 233-241.

37. D.F. Bresenham and J.R. Reisel (1999) The effect of high ethanol blends on emissions from small utility engines, 1999 Small Engine Technology Conference Paper No. *SAE 1999-01-3345.*

38. W.P. Partridge, Jr., J.R. Reisel, and N.M. Laurendeau (1999). Laser-saturated fluorescence measurements of nitric oxide in an inverse diffusion flame. *Combust. Flame* **116**, 282-290.

39. D.F. Bresenham, J.R. Reisel, and K.F. Neusen (1998). Spindt air-fuel ratio method generalization for oxygenated fuels. *SAE Paper No. 982054.* Also appeared in *SAE 1998 Transactions – Journal of Engines.*

40. D.F. Bresenham, J.R. Reisel, and K.F. Neusen (1998). The effects of oxygenate addition on emissions reduction in small utility engines. *Clean Power Sources and Fuels - 31st International Symposium on Automotive Technology and Automation*, pp. 345-363.

41. J.R. Reisel (1998). Trends of NO formation in low-temperature hydrocarbon flames. *Combust. Flame* **112**, 275-277.

42. J.R. Reisel, C.D. Carter, and N.M. Laurendeau (1997). Measurements and modeling of OH and NO in premixed $C_2H_6/O_2/N_2$ flames at atmospheric pressure. *Energy & Fuels* **11**, 1092-1100.

43. T.K. Kim, B.J. Alder, J.R. Reisel, and N.M. Laurendeau (1996). Exhaust and in-situ measurements of nitric oxide for laminar partially premixed C_2H_6-air flames: effect of premixing level at constant burner tube flowrate. *Energy & Fuels*, **10**, 1060-1066.

44. M.S. Klassen, D.D. Thomsen, J.R. Reisel, and N.M. Laurendeau (1996). Laser-induced fluorescence measurements of nitric oxide formation in high-pressure premixed methane flames. *Combust. Sci. and Tech.* **110-111**, 229-247.

45. J.R. Reisel, C.D. Carter, and N.M. Laurendeau (1996). Evaluation of chemical kinetics predictions for NO and OH in atmospheric-pressure $C_2H_6/O_2/N_2$ flames. *Transport Phenomena in Combustion.* S.H. Chan, ed. Taylor & Francis, Washington, D.C., pp. 317-328.

46. J.R. Reisel and N.M. Laurendeau (1995). Quantitative LIF measurements and modeling of nitric oxide in high-pressure $C_2H_4/O_2/N_2$ flames. *Combust. Flame* **101**, 141-152.

47. J.R. Reisel, W.P. Partridge Jr., and N.M. Laurendeau (1995). Transportability of a laser-induced fluorescence calibration for NO at high pressure. *J. Quant. Spectrosc. Radiat. Transfer* **53**, 165-178.

48. J.R. Reisel and N.M. Laurendeau (1994). Quantitative LIF measurements of nitric oxide in laminar high-temperature flames. *Energy & Fuels* **8**, 1115-1122.

49. J.R. Reisel and N.M. Laurendeau (1994). Laser-induced fluorescence measurements and modeling of nitric oxide formation in high-pressure flames. *Combust. Sci. and Tech.* **98**, 137-160.

50. J.R. Reisel, C.D. Carter, N.M. Laurendeau, and M.C. Drake (1993). Laser-saturated fluorescence measurements of nitric oxide in laminar, flat, $C_2H_6/O_2/N_2$ flames at atmospheric pressure. *Combust. Sci. and Tech.* **91**, 271-295.

51. J.R. Reisel, C.D. Carter, and N.M. Laurendeau (1993). Laser-induced fluorescence measurements of nitric oxide in laminar C_2H_6 /O_2 /N_2 flames at high pressure. *Combust. Flame* **92**, 485-489.

52. J.R. Reisel, C.D. Carter, and N.M. Laurendeau (1992). Einstein coefficients for rotational lines of the (0,0) band of the NO $A^2\Sigma^+$-$X^2\Pi$ system. *J. Quant. Spectrosc. Radiat. Transfer* **47**, 43-54.

CONFERENCE PRESENTATIONS:

Papers:

1. A. Kialashaki and J.R. Reisel (2013). Renewable Energy Development for Electricity Production: Federal and State Policies. Paper presented at the 2013 Western Energy Policy Research Conference, Portland, OR.

2. M. Jablonski and J.R. Reisel (2013). The importance of Native In-country Coordinators for Predictive Awareness of Cultural and Design Details for International Sustainable Engineering Projects. *Proceedings of the 2013 ASCE World Environmental & Water Resources Congress.* Paper No. 707, Cincinnati, OH.

3. A. Kialashaki and J.R. Reisel (2012). Modeling of the Energy Demand of the Residential Sector in the United States. Paper presented at the 2012 Western Energy Policy Research Conference, Boise, ID.

4. A. Kialashaki and J.R. Reisel (2012). Transport Energy Demand Modeling of The United States Using Artificial Neural Network. Paper presented at the Green Energy Sustainability Summit, Milwaukee, WI.

5. J.R. Reisel (2009). Incorporating consideration of contemporary issues and societal impacts into traditional engineering courses. Paper presented at the ASEE-North Midwest Section Conference 2009, Milwaukee, WI.

6. J.R. Reisel, J.W. Dujmovic, T.D. Schisel, and A.C. Schmitt (2003). Determination of the relative importance of oil-introduction mechanisms on the hydrocarbon emissions from small utility engines. Paper presented at the Central States Section / The Combustion Institute 2003 technical meeting, Chicago, IL.

7. J.R. Reisel, J.W. Dujmovic, and J.T. Krajewski (2002). Effects of engine modifications on the pollutant emissions from small utility engines. Paper presented at the Central States Section / The Combustion Institute 2002 technical meeting, Knoxville, TN.

8. K.B. Jordan and J.R. Reisel (2001). Evaluation of GRI-MECH v. 3.0 for predicting NO and OH concentrations in laminar, premixed, $C_2H_6/O_2/N_2$ flames. Paper presented at the 2nd Joint Meeting of the U.S. Sections of the Combustion Institute, Oakland, CA.

9. D. Caceres, J.R. Reisel, and A. Sklyarov (2001). Analysis of combustion chamber deposit formation in small, air-cooled, utility engines. Paper presented

at the 2nd Joint Meeting of the U.S. Sections of the Combustion Institute, Oakland, CA

10. D. Caceres, J.R. Reisel, and A. Poehlman (2000). The deterioration of the exhaust emissions over the life cycle of small utility engines. Paper presented at the Central States Section / The Combustion Institute 2000 technical meeting, Indianapolis, IN. pp. 193-198.

11. J.R. Reisel (2000). Effects of initial condition variations on the modeling of flat laminar flames. Paper presented at the Central States Section / The Combustion Institute 2000 technical meeting, Indianapolis, IN. pp. 415-420.

12. D.F. Bresenham and J.R. Reisel (1998). High ethanol fuel blends effect on emissions from small utility engines. Paper presented at the BioEnergy '98 conference, Madison, WI. pp. 819-828.

13. J.R. Reisel (1998). Modeling of nitric oxide formation in ethane flames. Paper presented at the Central States Section / The Combustion Institute 1998 technical meeting, Lexington, KY. pp. 309-314.

14. J.R. Reisel, T.A. Kellner, and K.F. Neusen (1997). Speciated hydrocarbon emissions in small utility engines. Paper presented at the Central States Section / The Combustion Institute 1997 technical meeting, Point Clear, AL. pp. 242-247.

15. J.R. Reisel (1996). Experimental correlations of NO formation in low-temperature hydrocarbon flames. Paper presented at the Central States Section / The Combustion Institute 1996 technical meeting, St. Louis, MO. pp. 74-79.

16. J.R. Reisel and N.M. Laurendeau (1994). Quantitative LIF measurements of nitric oxide in laminar, high-temperature $C_2H_6/O_2/N_2$ flames. Paper presented at the Central States Section / The Combustion Institute 1994 technical meeting, Madison, WI. pp. 219-224.

17. J.R. Reisel and N.M. Laurendeau (1993). Laser-induced fluorescence measurements and modeling of NO formation in premixed $C_2H_6/O_2/N_2$ flames at high pressure. Paper presented at the Joint Central-Eastern States Sections / The Combustion Institute Spring 1993 technical meeting, New Orleans, LA. pp. 122-126.

18. J.R. Reisel, C.D. Carter, and N.M. Laurendeau (1992). Laser-induced fluorescence measurements of nitric oxide in premixed $C_2H_6/O_2/N_2$ flames from 1 to 9 atm. Paper presented at the Central States Section / The Combustion Institute Spring 1992 technical meeting, Columbus, OH. pp. 306-311.

19. J.R. Reisel, C.D. Carter, and N.M. Laurendeau (1991). Laser-saturated fluorescence measurements of nitric oxide in atmospheric $C_2H_6/O_2/N_2$ flames.

Paper presented at the Central States Section / The Combustion Institute Spring 1991 technical meeting, Nashville, TN. pp. 157-162.

Posters:

1. A. Kialashaki and J.R. Reisel (2014). Effects of Federal and State Policies on Production of Electricity from Renewable Sources. Poster presented at the 2014 Sustainability Summit and Exposition, Milwaukee, WI.

2. J.R. Reisel, T.K. Kim, B.J. Alder, and N.M. Laurendeau (1995). Measurements of nitric oxide concentrations in partially-premixed flames. Poster presented at the Joint Central States-Western States-Mexican National Sections / The Combustion Institute 1995 technical meeting, San Antonio, TX.

3. J.R. Reisel and N.M. Laurendeau (1994). LIF measurements of nitric oxide in laminar, high-temperature $C_2H_6/O_2/N_2$ flames. Poster presented at the 25th International Symposium on Combustion, Irvine, CA.

4. J.R. Reisel and N.M. Laurendeau (1993). Laser-induced fluorescence measurements of nitric oxide in laminar high-pressure flames. Poster presented at the 1993 Gordon Conference on Laser Diagnostics in Combustion, Plymouth, NH.

5. J.R. Reisel, C.D. Carter, and N.M. Laurendeau (1991). Laser-induced fluorescence measurements of nitric oxide in premixed $C_2H_6/O_2/N_2$ flames from 1 to 9 atm. Poster presented at the 1991 Gordon Conference on Laser Diagnostics in Combustion, Plymouth, NH.

TECHNICAL REPORTS

1. S.Q Zaman and J.R. Reisel (2004). Application of Catalytic Converters in Small Four Stroke Gasoline Engines. UW-Milwaukee Center for Alternative Fuels - Wisconsin Small Engine Consortium.

2. D. Caceres and J.R. Reisel (1999). Life cycle emissions deterioration emissions tests results: Final Report - Part 1. UW-Milwaukee Center for Alternative Fuels – Wisconsin Small Engine Consortium.

3. J.R. Reisel, T.A. Kellner, D.M. Rose, and K.F. Neusen (1997). Speciated hydrocarbon emissions from small utility engines. UW-Milwaukee Center for Alternative Fuels - Wisconsin Small Engine Consortium.

4. J.R. Reisel and N.M. Laurendeau (1994). Laser-induced fluorescence measurements and modeling of nitric oxide in high-pressure premixed flames. NASA Contractor Report 195404.

UNDERGRADUATE RESEARCH PROJECTS DIRECTED:

Providing research opportunities for undergraduate students introduces the students to ideas and practices which are often not available in the typical undergraduate curriculum. Being involved with a research project often spurs the students towards greater heights. At UW-Milwaukee, Dr. Reisel has supervised many undergraduate research projects. A select listing of some of those projects is given below.

1. *Development of the Combustion Diagnostics Laboratory*
   Mr. Paul Honkanen (1996)
2. *Development of an Air Compressor Energy Efficiency Laboratory* (with K. Renken)
   Mr. Michael Jarmuskiewicz (1997)
3. *Air Compressor Lubricant Viscosity Measurements* (with K. Renken)
   Mr. Mac Milleur (1997-1999)
4. *Air Compressor Energy Efficiency Measurements* (with K. Renken)
   Mr. Kevin Mueller (1998)
5. *Thermal Imaging of Operating Air Compressors: Effects of Lubricant Variation* (with K. Renken)
   Mr. Justin Seipel (1998-1999)
6. *Life Cycle Emissions Testing of Small Utility Engines*
   Mr. Diego Caceres (1998-1999)
7. *Evaluation of Oil Introduction Mechanisms on Increasing Hydrocarbon Emissions from Small Utility Engines*
   Mr. Timothy Carlson (2000-2001)
   Mr. Timothy Bunkelman (2000-2002)
8. *Hydrocarbon Emissions Deterioration in Small Utility Engines*
   Mr. Jason Krajewski (2001-2002)
9. *Pollutant Emissions Changes with Modifications to Small Utility Engines*
   Mr. Jeffrey Dujmovic (2001-2002).
10. *Oil Introduction Source Evaluations in Small Utility Engines*
    Mr. Travis Schisel (2002)
    Mr. Austin Schmitt (2002-2003)
    Mr. Zack Ouradnik (2003-2004)

11. *A Review of the Application of Catalytic Converters to Small Utility Engines*
Mr. Samih Zaman (2004)

12. *Analysis of Catalytic Converter Deterioration in Small Utility Engines*
Mr. Daniel Janssen (2006-2007)
Mr. Kevin Rammer (2006-2007)

13. *Lab Measurements of the Effect of Intake Air Humidity Level on Air Compressor Performance* (with K. Renken)
Mr. Zach Jensen (2008-2009)

14. *Investigation of the Impact of Relative Humidity on the Performance of Industrial Air Compressors* (with K. Renken)
Mr. Jordan Fischer (2009-2010)

15. *Further Investigation of the Impact of Relative Humidity on the Performance of Industrial Air Compressors* (with K. Renken)
Mr. Milam Smith (2010-12)

UNDERGRADUATE EDUCATION DEVELOPMENT PROJECTS DIRECTED

Dr. Reisel is heavily involved with the development of new instructional laboratories in the Mechanical Engineering Department at UWM. These laboratories are being developed along with Dr. Kevin J. Renken. These labs are being developed with the assistance of undergraduate students, whom the faculty are supervising. Some of the projects for which Dr. Reisel has been primarily responsible, along with the students supervised are listed below.

ME 301: Experiment 1-Liquid Vapor Transition: Boiling of Water
Ms. Colleen Bell,
Ms. Christina Wisler (2001-02).

ME 301: Experiment: First Law Analysis Involving a Heat Exchanger
Mr. Austin Schmitt
Mr. Todd Murray (2002-03).

ME 301: Experiment: Coefficient of Performance of a Refrigerator
Mr. Zack Ouradnik (2003-04).

ME 301: Experiment: Entropy Generation in a Lighting Fixture
Mr. Erik Bauer
Mr. Chad Housner (2005).

RESEARCH GRANTS / FUNDING

1. J.R. Reisel and C.M. Walker, Research Initiation Grant: Defining Success for Undergraduate Research Experiences by Non-Elite Engineering Students. National Science Foundation, **$149,995**, (2013-2015).

2. J.R. Reisel, Support for Undergraduate Researcher in Thermal Engineering Technology Lab – 2012-13 Academic Year. University of Wicsonsin-Milwaukee, College of Engineering and Applied Science (Undergraduate Research Assistantship Program. **$2,000**, (2012-13).

3. C. Yuan, E. Wornyoh, B. Church, J.R. Reisel, and P. Rohatgi, Establishing an Industrial Assessment Center at the University of Wisconsin-Milwaukee. U.S. Department of Energy, **$1,500,152** (+ **$1,115,000** cost share), (2011-2016).

4. J.R. Reisel, *Support for Undergraduate Researcher in Thermal Engineering Technology Lab – 2011-12 Academic Year.* University of Wisconsin-Milwaukee, College of Engineering and Applied Science (Undergraduate Research Assistantship Program). **$2,000** (2011-12).

5. J.R. Reisel, *Support for Undergraduate Researcher in Thermal Engineering Technology Lab – Summer 2011.* University of Wisconsin-Milwaukee, College of Engineering and Applied Science (Undergraduate Research Assistantship Program). **$2,100** (2011).

6. J.R. Reisel, *Support for Undergraduate Researcher in Thermal Engineering Technology Lab.* University of Wisconsin-Milwaukee, College of Engineering and Applied Science (Undergraduate Research Assistantship Program). **$3,000** (2010-11).

7. J. Koch, S. Goldsborough, and J.R. Reisel. *Design of Cost-Competitive, Fuel-Flexible, Low-NOx Burners with a Range of Firing Rates.* Southeastern Wisconsin Energy Technology Research Consortium (SWETRC), **$85,000** (2009-2010)

8. J.R. Reisel, *Investigation of the Impact of Relative Humidity on the Performance of Industrial Air Compressors.* University of Wisconsin-Milwaukee, College of Engineering and Applied Science (Undergraduate Research Assistantship Program). **$3,000** (2009-2010).

9. J.R. Reisel, *Lab Measurements of the Effect of Intake Air Humidity Level on Air Compressor Performance.* UWM Office of Undergraduate Research. **$2,000** (2008-2009).

10. J.R. Reisel, *Analysis of Factors Affecting the Deterioration of Catalysts In Small Utility Engines.* Wisconsin Small Engine Consortium. **$60,000** (2006-2007).

11. J.R. Reisel, *Reduction of the Deterioration of Small Engine Exhaust Emissions Over the Life Cycle of Small Utility Engines.* Wisconsin Small Engine Consortium. **$60,000** (2004-2006).

12. J.R. Reisel, *Reduction of the Deterioration of Small Engine Exhaust Emissions over the Life Cycle of the Engines.* Wisconsin Small Engine Consortium. **$37,500** (2002-2003).

13. J.R. Reisel and K.J. Renken, *A Feasibility Study of Potential Energy Savings at the Pettit National Ice Center.* Department of Administration, State of Wisconsin. **$50,000** (2001-2002).

14. J.R Reisel, *Reduction of Oil Introduction into Small Engine Cylinders to Improve Engine Emissions over the Life Cycle of the Engines.* Wisconsin Small Engine Consortium. **$55,668.** (2000-2001).

15. J.R. Reisel, *Effects on Exhaust Emissions of Oil Introduction into the Engine Cylinder over the Life Cycle of Small Utility Engines.* Wisconsin Small Engine Consortium. **$56,038.** (1998-2000).

16. J.R. Reisel, *A Study of Pollutant Formation in Ethanol and Propane Flames*, University of Wisconsin Graduate School. **$6,070** (course release time). (1997-1998).

17. J.R. Reisel and K.J. Renken, *Utilization of Synthetic Lubricant Technology to Enhance the Performance of Wisconsin Air Compressors.* University of Wisconsin System ($42,718) and Wenninger Compressor Co. ($53,000). **$95,718.** (1997-1998).

18. J.R. Reisel, *Measurement and Modeling of Major Species Concentrations in Atmospheric-Pressure Flames.* University of Wisconsin-Milwaukee Graduate School. **$9,844.** (1995-1996).

RESEARCH EQUIPMENT / SUPPLY DONATIONS

19. J.R. Reisel, Cochrane Compressor Corp., Milwaukee, WI: two donations of 5 gal. of Synoil 825 Synthetic Air Compressor Lubricant, Jan. 1998, Oct. 1999. Amount: **$300.**

EDUCATION GRANTS / EQUIPMENT / FUNDING

Note: The education grants designated with an asterisk also contain a significant amount of engineering education research activities.

20. D.C. Yu, R.S. Amano, T.-C. Jen, V. Nanduri, and J.R. Reisel. *Master Curriculum Development for Energy Auditors, Commissioning Agents, and Energy Engineers.* U.S. Department of Energy through Milwaukee Area Technical College. **$201,102** (2010-2012).

21. J.R. Reisel, E.V. Munson, E.A. Beimborn, G.W. Hanson, H.S. Hosseini. *Fostering Opportunities for Tomorrow's Engineers (FORTE).* National Science Foundation **$1,989,483** (2008-2015).*

22. H.S. Hosseini, J.R. Reisel, G.W. Hanson, E.V. Munson. *Educating Tomorrow's Engineers and Computer Scientists (E-TECS).* National Science Foundation, **$599,764**, (2008-2014).

23. K.J. Renken and J.R. Reisel. *Design and Implementation of a Multimode Heat Transfer Experiment for Use in Two Sequential Thermal Science Courses.* ASHRAE, **$5,000**, (2004-05).

24. K.J. Renken and J.R. Reisel. *Vertical Integration of a Refrigerator Experiment Between Two Thermal Science Courses.* ASHRAE, **$5,000**, (2003-2004).

25. K.J. Renken, J.R. Reisel, T.J. Posnanski, and B.A. Price. *Establishment of a Collaborative Thermal Engineering Technology Laboratory by UWM Mechanical Engineering Faculty and Undergraduate Students.* National Science Foundation **$150,000** (+ **$224,159** UWM Match). (2002-2004). *

26. J.R. Reisel and K.J. Renken. *Design and Fabrication of an Interactive Heat Exchanger Experiment for Two Thermal Science Courses.* ASHRAE, **$5,000** (2002-2003).

27. J.R. Reisel, Ariens Company, Brillion, WI: Donation of 3 engines, Aug. 2001. Amount: **$3,446** (2001).

28. J.R. Reisel and K.J. Renken. *Development of an Air Compressor Experimentation Facility for Engineering Undergraduates.* ASHRAE. **$5,000**, (2000-2001).

UNIVERSITY SERVICE:

University Committee (2013-)

Parliamentarian, UWM Zilber School of Public Health (2014 -)

Rules Committee (2012-14), **Chair** (2013-14)

Affirmative Action in Faculty Employment Committee (2013-)

Center for Community-Based Learning, Leadership, and Research Faculty Advisory Council (2013 -)

Columbia-St. Mary's Planning Committee (Special committee of the Senate) (2010)

Economic Benefits Committee (2009)

Faculty Rights and Responsibilities Committee (2008-2011)

Codification Committee (2007- 2008, 2011-13)

Faculty Senate (2006- 2008, 2011-)
President Pro Tem (2013-14)

Extension Policy Committee (2004-2007) **Chair** (2005-06)

Faculty Appeals and Grievances Committee (2002-2003) **Chair**

Undergraduate Student Academic Misconduct Committee (2000 - 2008)

Graduate School Scholastic Appeals Committee (2000 - 2003)

Member, APCC Review Committee for the School of Business Administration (2003)

Athletic Board (2000-01)

Academic Program and Curriculum Committee (1996, 1997-98, 2010-2012)

Member of Special Program Array Review Committee (1998)

Chair, APCC subcommittee for review of Linguistics Program (1998)

Admissions and Records Policy Committee (1996-1999, 2009-2010)

COLLEGE OF ENGINEERING AND APPLIED SCIENCE SERVICE:

Secretary of the CEAS Faculty (2002 -)

CEAS Academic Planning Committee (2010 - 2013) **Chair** (2010-11)

Faculty Advisor to Engineers Without Borders Student Organization (2007-)

CEAS Curriculum Committee (1999-2000, 2004-2008, 2009-2010) **Chair** (2007-2008)

CEAS Scholastic Appeals Committee (2007-2011)

CEAS Nominations Committee (2001-03, 2011-13)

CEAS Awards and Recognition Committee (2010-12)

Faculty Advisor to SAE Student Organization (1997-)

MECHANICAL ENGINEERING DEPARTMENT SERVICE:

ABET Accreditation Coordinator (2005-2009)

Undergraduate Program Coordinator (2004-2008)

Undergraduate Student Advisor (2003-)

Executive Committee Recording Secretary (2001-2005)

Department Recording Secretary (1995-98)

Coordinator of UWM/Sundstrand/SAE Scholarship (1995-)

PROFESSIONAL SERVICE:

ABET Mechanical Engineering Program Evaluator (from ASME) (2012 -)

Internal Advisory Board, Carroll University NSF-STEP grant (2012 -)

Professional Society Leadership Positions:

Division Chair, ASEE – Engineering and Public Policy Division (2011 -)

Vice Chair for Conference Program, ASEE- Engineering and Public Policy Division (2007 - 2011)

Vice Chair for Administration, ASEE-Engineering and Public Policy Division (2006-2007)

Conference Sessions Chaired:

"Engineering and Public Policy II", Engineering and Public Policy Division / ASEE, 2013 ASEE Annual Conference, Atlanta, GA, June 2013

"Public Policy in Engineering Education", Engineering and Public Policy Division / ASEE, 2011 ASEE Annual Conference, Vancouver, BC, June 2011

"Engineering Educators in Government: Panel Session", Engineering and Public Policy Division / ASEE, 2011 ASEE Annual Conference, Vancouver, BC, June 2011

"Aspects of Public Policy in Engineering Education", Engineering and Public Policy Division / ASEE, 2010 ASEE Annual Conference, Louisville, KY, June 2010.

"Teaching Engineering and Public Policy", Engineering and Public Policy Division / ASEE, 2008 ASEE Annual Conference, Pittsburgh, PA, June 2008.

"Combustion Chemistry", Central States Section / The Combustion Institute 2000 technical meeting, Indianapolis, IN, April 2000.

"NO_X Formation and Reduction", Central States Section / The Combustion Institute 1998 technical meeting, Lexington, KY, June 1998.

Reviewer of Manuscripts:

International Journal of Mathematical Education in Science and Technology

International Journal for Service Learning in Engineering

International Journal of Green Energy

Energy Efficiency

ASEE Annual Conference papers (2007-2014)

SAE Transactions Selection Committee.

30th International Symposium on Combustion (2004).

29th International Symposium on Combustion (2002).

National Heat Transfer Conference (1995-2000)

28th International Symposium on Combustion (2000)

ASME/IGTI Turbo Expo (1998-2008).

Journal of Energy Engineering

ASME Journal of Energy Resources Technology

ASME Journal of Engineering for Gas Turbines and Power

27th International Symposium on Combustion (1998)

ASME 1996 Winter Annual Meeting

ASME 1995 Winter Annual Meeting

International Symposium on Transport Phenomena - 8 conference (1995)

Have also served on NSF and NASA review panels

Book Reviews Prepared:

Experimental Heat Transfer, Fluid Mechanics and Thermodynamics 1993, eds. M.D. Kelleher, R.K. Shah, K.R. Sreenivasan, and Y. Joshi. Appeared in *Experimental Thermal and Fluid Science*, **11**, 414 (1995)

Other:

Judge for UWM Rube Goldberg Machine Design Contest for High School students (1998 - 2005) (Lead Judge 2000-2004)

Participated in Purdue University Student Chapter of ASEE panel discussion on Being a Young Engineering Faculty Member. 9/20/95

- Honda's trademark application serial no. 78924545.
- Letter of protest concerning the '545 Application.
- Declarations of Kevin Hoag and James Mieritz filed by Honda.
- The Trademark Office's February 5, 2010 office action.
- Notices of Opposition filed by Briggs and Kohler, and Honda's Answers.
- U.S. Patent Nos. 4,813,385; 6,362,533; 6,489,690; 6,331,740; 6,941,919; 61525,430; 7,086,389.
- Japanese Patents Nos. S57-30407; S63-35160; S62-33961; S59-40536; S63-3234; 57-170212 (abstract).
- Images of engines manufactured by companies other than Honda.
- Interviews of engineers from Briggs and Kohler.
- Letters dated January 19, 2007 and April 6, 2007 from the Stetina law firm to Attorney Matuschak of the Wilmer Cutler law firm.
- Transcript from the deposition of Kevin Hoag on August 23, 2007.
- Transcript from the deposition of James Mieritz on August 28, 2007.
- Transcript from the deposition of Motohiro Fujita on August 15, 2007, along with Exhibit 512 from the same.
- Transcript for the deposition of Steven Connor on August 9-10, 2012.
- Transcript of December 10, 2014 Deposition of Motohiro Fujita.
- Transcript of December 12, 2014 Deposition of Motohiro Fujita
- Transcript of March 26, 2014 Deposition of Peter Hotz
- Transcript of March 19, 2014 Deposition of Cameron Litt
- Transcript of March 28, 2014 Deposition of Manual Rumao
- Transcript of May 29, 2014 Deposition of Yukio Sugimoto
- Transcript of March 27, 2014 Deposition of Jeff Whitmore
- November 21, 2012 Rebuttal Report from Mr. James Mieritz
- Japanese Patent Application S57-170212
- Japanese Utility Model Application H03-13535

- Japanese Utility Model Application S58-156124
- Japanese Utility Model Application S59-40536
- Japanese Utility Model Application S59-62263
- Japanese Utility Model Application S62-18699
- Japanese Utility Model Application S62-31640
- Japanese Utility Model Application S62-33961 (Japanese language version)
- Japanese Patent Application S62-126264
- Japanese Utility Model Application S63-27046
- Japanese Utility Model Application S63-32344 (Japanese language version)
- Japanese Patent Application S63-46266
- Additional Third-Party Engines

Honda GX160

Suburu SP170

Kohler SH265

Briggs and Stratton 550 Series

Briggs 750

Kohler Command Pro

Briggs & Stratton Corp. and
Kohler Co. v. Honda

Predator 346cc

Lifan 420cc

Champion Model #61151 (338cc)

Kawasaki FJ180

Generac
212CC OHV Engine

V Power Equipment
212cc Hemi Head High Pefomance
Engine (60363)

V Power Equipment
212CC 7HP

Jiangdong JF120

Jiangdong JF240

Lifan
LF168F-2

Blue Max 6783

All-Power APE7006V