outer ends of the brass rods are furnished with knobs, into which are inserted the supports of the discharge rods or conductors. The latter are provided with vulcanite handles, by which they may be moved in these supports as may be required.

The stationary glass disks are each provided on their inner faces at diametrically opposite points with small metallic sockets, attached to the glass with cement, and containing brushes of tinsel or very fine brass wire, which touch the rotary disks lightly. The brushes of each pair are connected by a narrow strip of tin foil attached to the glass. The stationary glass disks may be turned in the vulcanite ring to adjust the brushes at the required angle, which is about 45° with the plane of the collecting forks.

One of the rotary disks is driven by a straight belt, the other by a crossed belt, both belts being carried by a doubly grooved wheel fixed to a shaft journaled in a standard attached to the base. This shaft is furnished with a crank, by which it is turned.

To secure good results, small Leyden jars or condensers must be connected with the conductors, as shown in Fig. 4. To the bottom of each jar is attached a small chain. These chains are brought into contact when a detonating discharge is desired, and separated for a silent discharge.

The machine is self-exciting, and yields sparks varying in length from one-fourth to nearly one-half of the radius of the rotary disks, according to the state of the atmosphere and the condition of the machine.

The machine illustrated has 12 inch rotary disks and 14 inch stationary disks.

Mr. Wimshurst has constructed the diagram (Fig. 5) which shows the distribution of the electricity upon the plate surfaces when the machine is fully excited. The inner circle of signs corresponds with the electricity upon the front surface of the disk. The two circles of signs between the two black rings refer to the electricity between the disks, while the outer circle of signs corresponds with the electricity upon the outer surface of the back disk.

The inventor found by experiment that when two disks made of a flexible material were driven in one direction, they close together at the top and the bottom, while in the horizontal diameter they are repelled. When driven in the reverse direction, the opposite action takes place.

CAVEATS.

Few persons, out of professional circles, have a correct idea of the effect of a caveat, or in other words, know what a caveat is. Perhaps the most prevalent notion is, that a caveat is a short termed patent, obtainable for a very small tee; in other words, that a caveat has the same effect, or affords the same protection, as a patent, and that the only difference is that a caveat does not afford that protection for as long a time, and costs therefore very much less. Many also believe that the money paid for a caveat will count towards the cost of the patent afterwards. Nothing could be more erroneous, although it is true that the cost of a caveat is much less than the cost of a patent. As a matter of fact, there is hardly a point of similarity between a caveat and a patent.

What is a caveat ? Experience has convinced us that it is practically impossible to explain the nature of a caveat within the compass of a business letter. Even in personal interviews we have had to cast the explanations in many different shapes before feeling that anything like a correct perception had penetrated the mist that had been created around the understanding of the questioner by amateur patent attorneys and by his own desire to secure protection at a less cost than that of a patent. The definition which we believe has generally had the most practical success is that "a caveat preserves your right to a patent for from three to twelve months." This of course is not strictly correct, but still it fairly embodies the essential idea as far as it is possible to compress it in a few words.

To be exact, we quote here the section of the Patent Act relating to the subject :

* Any intending applicant for a patent who has not yet perfected his invention and is in fear of being despoiled of his idea, may file, in the Patent Office, a description of his invention so far, with or without plans, at his own will; and the commissioner, on payment of the fee in this Act prescribed, shall cause the said document, which shall be called a caveat, to be preserved in secrecy, with the exception of delivering copies of the same whenever required by the said applicant or by any judicial tribunal,—but the secrecy of the document shall cease when the applicant obtains a patent for his invention :

2. If application is made by any other person for a patent for any invention with which such caveat may, in any respect, interfere, the commissioner shall forthwith give notice, by mail, of such application, to the person who has filed such caveat, and such person shall, within three months after the date of mailing the notice, if he wishes to avail himself of the caveat, file his petition and take the other steps necessary on an application for a patent, and if, in the opinion of the commissioner, the applications are conflicting, like proceedings may be had in all respects as are by this Act provided in the case of conflicting applications :

3. Unless the person filing a caveat makes application within one year from the filing thereof for a patent, the commissioner shall be relieved from the obligation of giving notice, and the caveat shall then remain as a simple matter of proof as to novelty or priority of invention, if required. 35 V., c. 26, s. 39.

The following quotation also fairly describes the nature of a caveat in a compact form :---

** A caveat is a document describing an invention under the oath of the inventor, which is filed in the secret archives of the Patent Office, entitling the person filing it to receive, during the 12 months following the date of filing, notice from the Patent Office if application is made for a patent by another person for the same invention. A caveat costs less than a patent, but affords an indifferent sort of protection for one year only. The money spent upon it, however, will not count towards the obtaining of a patent thereafter. It will not prevent any one making or manufacturing the invention. Any one may file a caveat in Canada, but only citizens of the United States can file caveats in the United States. A caveat is only then advisable if the inventor has any expectation of making further improvements in his invention and is afraid to be forestalled by others with what he already has got. A caveat can be renewed.

Thus it will be seen that a caveat is a kind of a contract between the inventor and the Patent Office, by which the latter undertakes to give the former notice if another person applies for a patent for the same invention within one year from the filing of the document, and not to take any action upon such an application before the caveator files his, provided he does so within three months of the notice. It follows, that should an application for a patent for the same invention be filed, say, on the day following the lodging of the caveat, the latter will only operate for three months, while if such an application should be filed on the last day of the year during which caveator is entitled to notice, it would hold his right practically for 15 months, because he need only file his application within three months of the notice.

It must also be noticed that the caveator will not be told whether a caveat for the same invention has already been filed, and that during the pendency or operation of caveat no exclusive privilege respecting the manufacture, sale or use of the