Jan. 19, 1926. 1,570,090

J. H. SIMPSON

CONTACT FILING DEVICE

Filed July 26, 1922

Fig. 1.

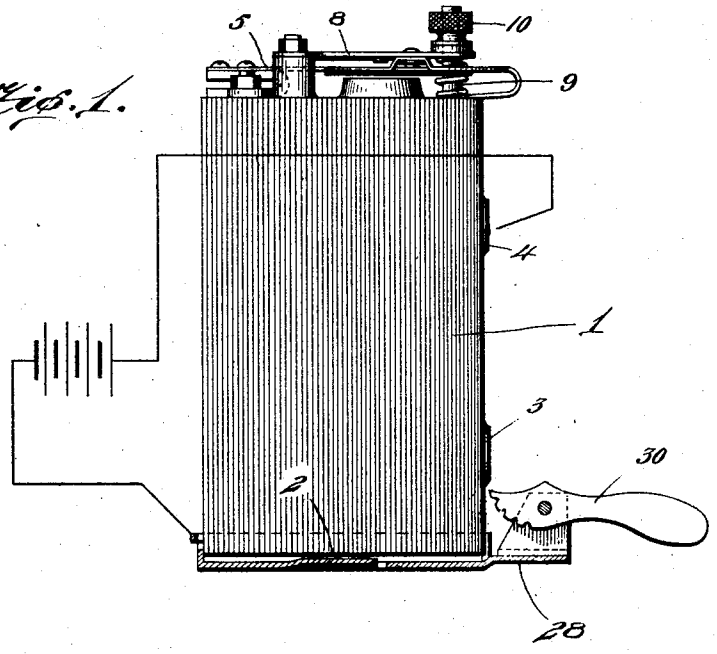


Fig. 2.

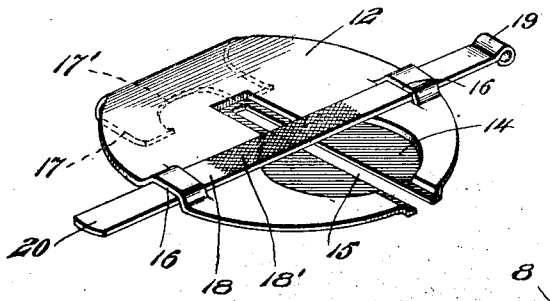


Fig. 3.

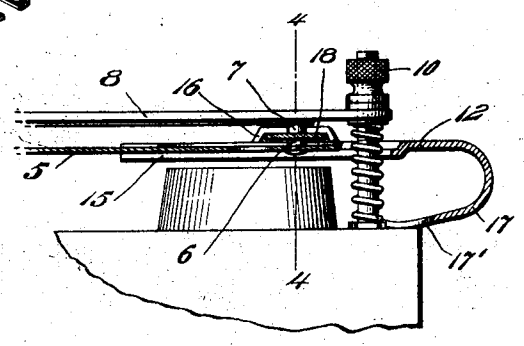
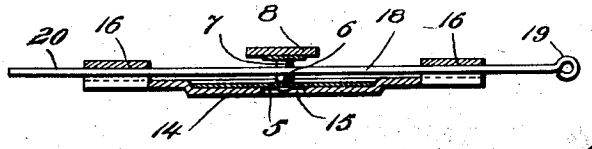


Fig. 4.



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UNITED STATES PATENT OFFICE.

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CONTACT-FILING DEVICE.

Application filed July 26, 1922. Serial No. 577,687.

To all whom it may concern:

Be it known that I, JOHN H. SIMPSON, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Contact-Filing Devices, of which the following is a specification.

My invention relates to an apparatus for filing the contact points of spark coils.

One object of my invention is to provide means to so position and hold the contact points of a spark coil vibrator that their coacting surfaces may be filed during one operation.

Another object of my invention is the provision of means for filing the contact points of a spark coil vibrator in a manner to insure that their respective coacting surfaces will be parallel to each other.

In the accompanying drawings which illustrates my invention

Fig. 1 is a side elevation of an ordinary spark coil showing my invention applied thereto, parts being shown in section.

Fig. 2 is a perspective view of the contact filing member,

Fig. 3 is an enlarged detail section of the contact filing member in operating position on the coil, and

Fig. 4 is a section taken on line 4—4 of Fig. 3.

Referring to Fig. 1, I have shown a spark coil 1 of conventional type provided with the usual terminals 2, 3, and 4, a vibrator spring 5 carrying a contact point 6, cooperating with the contact point 7 carried by the arm 8 and the post 9 and adjusting nut 10 threaded thereon. The general construction of a spark coil being well understood a further description will not be necessary.

After a spark coil has been in use for any length of time it frequently becomes necessary to clean the contact points, which is best accomplished by filing their coacting surfaces. However, as the best results are obtained from the coil when the coacting surfaces of the contact points are flat and parallel to each other, it will be seen that the filing of said surfaces must be rather carefully done.

In order to facilitate the filing operation above mentioned I have provided a contact filing device comprising a substantially flat plate 12. The plate 12 in this illustration being in the form of a disk having in its upper surface a countersunk portion 14, corresponding in shape to the free end of the vibrator spring 5 and adapted to receive said free end as shown. The countersunk portion 14 is provided with the open ended slot 15 to accommodate the post 9 when the device is in position as shown in Figs. 1 and 3. The plate 12 is also provided with guideways 16 struck upwardly from its upper surface, while diametrically opposite the open end of the slot 15 is the downwardly and inwardly bent extension 17, forming a spring adapted to rest on the top of the coil casing and assist in positioning the entire filing device. The free end of the extension 17 is cut away as at 17′ to afford clearance for the post 9.

For operation in the guideways 16 I provide a narrow blade-like file 18 roughened on both faces but at its center portion only as at 18′ and having one end rolled to form a head 19 while the opposite end 20 is flat to permit insertion in the guideways 16.

To place my contact filing device in operative position the file 18 is first removed from the guideways 16 and the plate 12 is then inserted under the vibrator spring 5 of the coil, the post 9 passing into the slot 15 and the free end of the vibrator spring 5 being received by the countersunk portion 14 of the plate 12 as shown. The file 18 is now inserted in one of the guideways 16 and the nut 10 of the post 9 being in a raised position the file 18 is passed between the contact points 6 and 7 and its flat end 20 is inserted in the opposite guideway 16 as shown in Fig. 4 of the drawings. The nut 10 is now adjusted downwardly on the post 9 and cooperates with the spring extension 17 of the plate 12 to position and maintain the contact points 6 and 7 in frictional engagement with the upper and lower faces respectively of the file 18. The device is now ready for operation and to file the contact points it is only necessary to grasp the flat end 20 of the file 18 and reciprocate the file 18 in the guideways 16 when the central portion 18′ will operate to cut away from the contact points any pits or foreign substance which may be present.

Remove the file 18 and withdraw plate 1 from under the vibrator spring 5. Test out the spark on any suitable coil testing device. If it is impossible to produce a

spark of the desired nature, the filing device may be replaced for further use, the contact points automatically taking up the same relative position assumed during the adjusting of said device.

Having thus described the construction and operation of my invention what I claim is,

1. A contact filing device comprising a substantially flat metallic member adapted to position and retain one contact point in fixed relative position with relation to another contact point of a spark coil, in combination with a file member adapted to cooperate therewith and simultaneously file the coacting surfaces of said contact points while in said relative position.

2. In a contact filing device, a substantially flat plate member having a slot, indented portions adapted to receive the vibrator of a spark coil, guideways on its upper surface, a resilient bent under portion adapted to cooperate with the vibrator adjusting nut and a file member insertable in said guideways and reciprocal therein.

In testimony whereof, I affix my signature.

JOHN H. SIMPSON.