June 28, 1932. R. S. McCONNELL 1,864,658

GRINDING WHEEL DRESSER

Filed April 10, 1931 2 Sheets-Sheet 1

Fig. 1.

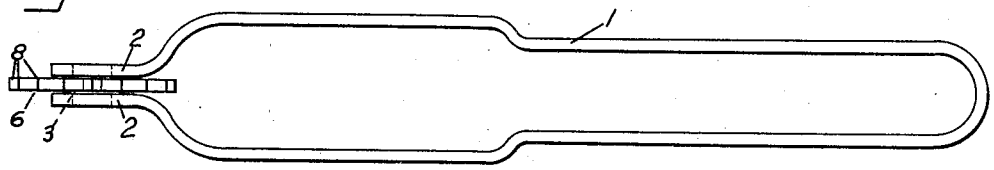


Fig. 2.

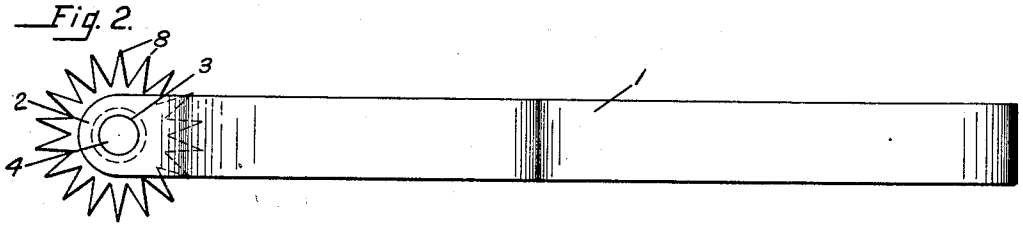


Fig. 3.

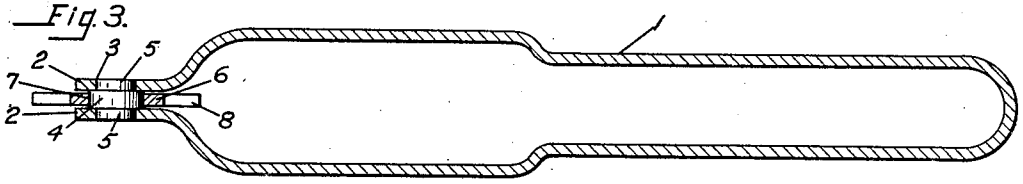


Fig. 4.

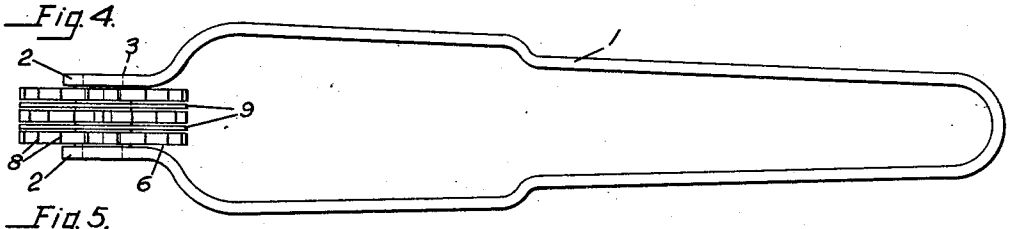


Fig. 5.

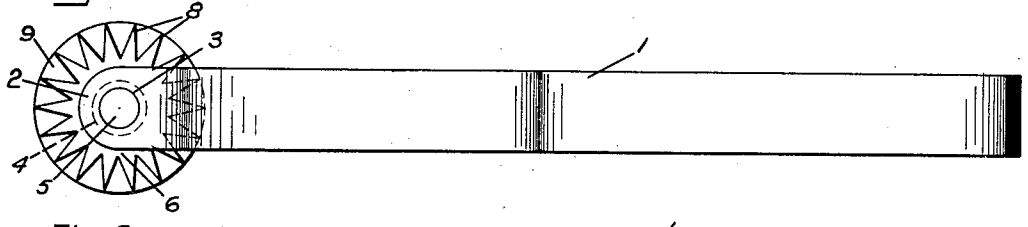
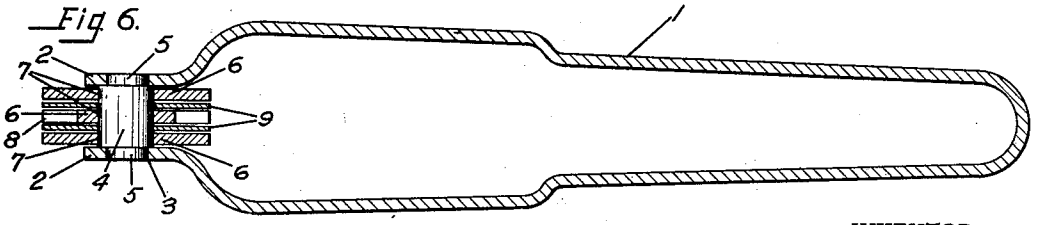


Fig. 6.



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June 28, 1932. R. S. McCONNELL 1,864,658

GRINDING WHEEL DRESSER

Filed April 10, 1931 2 Sheets-Sheet 2

Fig. 7.

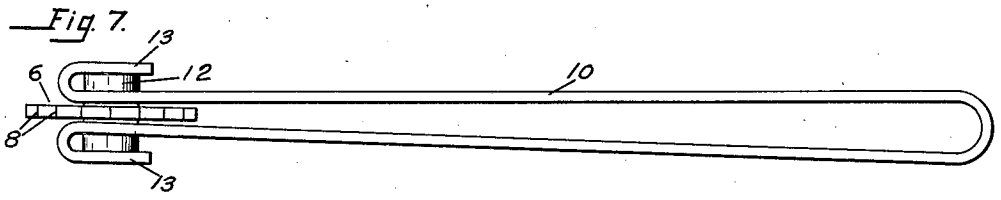


Fig. 8.

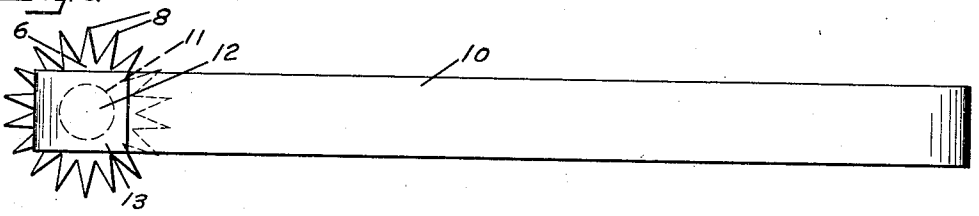


Fig. 9.

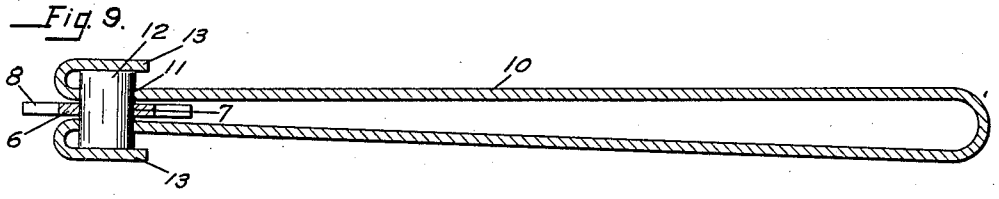


Fig. 10.

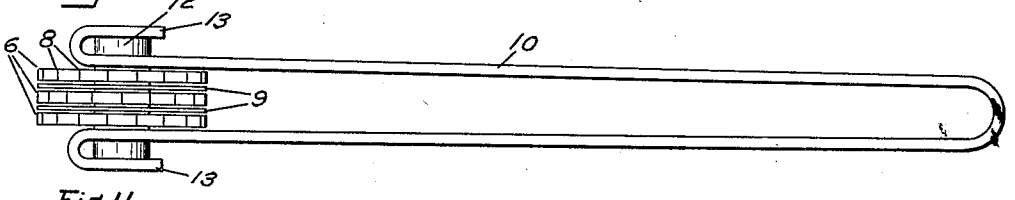


Fig. 11.

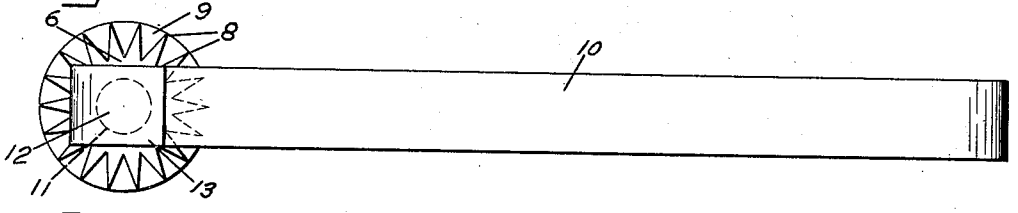


Fig. 12.

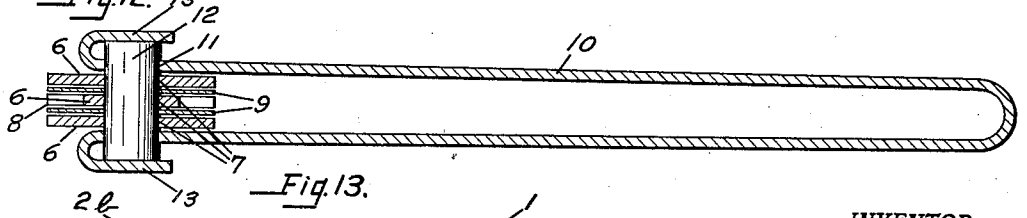
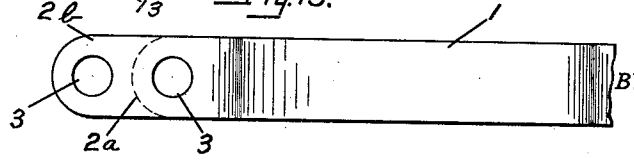


Fig. 13.



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UNITED STATES PATENT OFFICE

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GRINDING WHEEL DRESSER

Application filed April 10, 1931. Serial No. 529,029.

This invention relates to grinding wheel dressers, and has for its object to provide a tool that has a looped spring handle, in the free ends of which is located an axle.

It is particularly the object of this invention to provide, in connection with the resilient handle, axle means for supporting between the ends of the handle, which is in the form of a loop, one or more discs which have on the peripheries thereof teeth.

These discs are made of hard steel and are adapted to be held against the surface of a grinding stone or emery wheel to remove the uneven parts therefrom so the periphery of the wheel will present a flat surface about a common axis of rotation. It frequently happens in the use of grinding wheels that some parts become worn away more than other parts so that the peripheries of the wheels become uneven. It is the purpose of this tool to remove the unevenness from the periphery of the wheel.

It is also an object of this invention to provide, in connection with the resilient handle adapted to carry a plurality of toothed wheels, discs to space the wheels and hold them one from the other.

These and other advantages will appear from the following description taken in connection with the drawings, which show a preferred embodiment of this invention.

Referring to the drawings:

Figure 1 is a top plan view showing the looped handle, having between the free ends thereof a single rotating toothed disc.

Figure 2 is a side elevation of the tool shown in Figure 1.

Figure 3 is a longitudinal section through the handle showing the axle for supporting the disc.

Figure 4 is a top plan view of the tool, in which there are three toothed wheels spaced one from another by discs.

Figure 5 is a side elevation of the tool as shown in Figure 4.

Figure 6 is a longitudinal section through the tool shown in Figures 4 and 5, showing the form of axle for supporting a plurality of toothed discs with spacing discs between the toothed discs.

Figure 7 is a top plan view of a slightly modified form in which the loop forming the handle has no enlargements.

Figure 8 is a side elevation of the tool as shown in Figure 7.

Figure 9 is a longitudinal section of the tool shown in Figures 7 and 8.

Figure 10 is a top plan view of the tool, showing a plurality of cutting discs supported between the free ends of the handle.

Figure 11 is a side elevation of the tool as shown in Figure 10.

Figure 12 is a longitudinal section through the form of tool shown in Figures 10 and 11.

Figure 13 shows a slightly modified form of handle in which each end has a plurality of axle-receiving holes.

Any suitable form of handle may be used, but in the present instance the handle is shown formed of a single piece of metal, bent in the form of a loop 1. In the free ends of this loop are holes 3. Between the ends of the handle there is an enlarged part which terminates in parts 2 that are substantially parallel with each other, and between which the cutting or toothed discs are located.

In the holes 3 in the free ends of the handle is an axle 4, which has on each end a reduced part 5 for fitting in the holes in the free ends of the handle. In the form shown in Figures 1, 2 and 3 the axle is short and is adapted to support thereon, between the parts 2 of the handle, a single cutting disc or wheel 6. This wheel rotates on the large or central part of the hub, and has therethrough a hole 7 for receiving the large part of the axle. The teeth on the periphery of the cutting disc or wheel are indicated by the numeral 8.

When a single disc is used on the short axle there are no spacers provided, but when two or more of these toothed discs are used a spacing disc 9 may be located between the two adjacent toothed discs. In the form shown in Figures 4, 5 and 6 there are three discs located on a relatively long axle, with the reduced parts of the axle in the parts 2 of the handle. The discs 9 are of substantially the same diameter as the toothed discs so that the peripheries of these discs lie substantially flush with the ends of the teeth on

the toothed discs. This is illustrated in all of Figures 4, 5 and 6.

The same handle is used for one or a plurality of cutting discs. The handle being made of resilient metal, can be spread apart so it may receive between the ends 2 either a short or a long axle. In both cases the handle abuts the shoulders formed by the reduced part on the ends of the axle.

When it is desired to make even and smooth the periphery of a grinding wheel the toothed wheel or wheels are held against the periphery of the wheel as it rotates so that the uneven parts are cut down and made of the same diameter that the other parts are. This tool is also useful for removing from the outer periphery of a grinding wheel the smooth and polished surface so that a cutting surface is restored. It frequently happens, after emery and grinding wheels have been used, that the peripheries become smooth and ineffective for grinding purposes. By using this tool the surface may be cut off so that the smoothness and glaze appearance is removed and a cutting edge restored.

In Figures 7 to 12, inclusive, there is shown a tool in which the axle has no reduced part and the central hole within each toothed disc is the same size as the axle, which is also the same size as the hole 3 in the free ends of the handle. In this form the handle 10 is plain without any bulge adjacent the part 2 so that it is substantially the shape of a U, with the free ends bent toward each other.

The hole in the free end of each arm of the handle is indicated by the numeral 11 and the axle which fits in these holes and supports the rotating toothed disc is indicated by the numeral 12. This handle supports the toothed wheels in the same manner that they are supported in the form shown in Figures 1 to 6, inclusive, the difference being that there are no reduced ends on the axle and there are no lateral extensions on the handle, but there are loops 13 to hold the axle in the holes in the handle.

In Figure 13 there is shown a handle similar to that shown in Figure 1, except that the parallel parts are longer and provide space for two or more axle holes in which the axle 4 fits. The purpose of this modification is to provide a handle with the parallel ends sufficiently long that when the ends become worn they may be ground off along the line 2*a* between the two holes 3 on each end of the handle. The extension part outside of the line 2*a* is indicated by the numeral 2*b*, which is the part cut off after it becomes too much worn so that the handle presents an unused appearance.

I desire to comprehend within my invention such modifications as may be embraced within my claim and the scope of my invention.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

In a grinding wheel dresser, the combination comprising a one-piece handle formed from a strip of metal bent to form and having resilient arms, each arm having a hole at the open end thereof with loop extensions, an axle adapted to fit into said holes and held firmly therein by said looped extensions, toothed cutting members fixed to said axle and projecting therefrom, and spacers of substantially the same diameter as the toothed members positioned between each adjacent toothed member.

In testimony whereof, I affix my signature.

ROBERT S. McCONNELL.