Aug. 25, 1925. 1,551,289

E. J. DOHNAL

CLEANER

Filed July 2, 1924

Fig. 1.

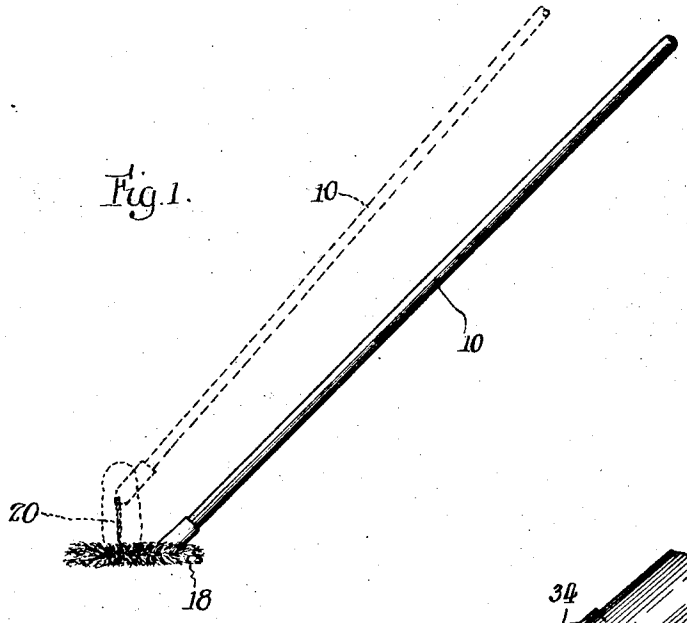


Fig. 2.

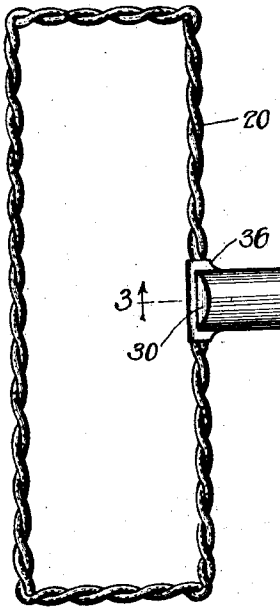


Fig. 3.

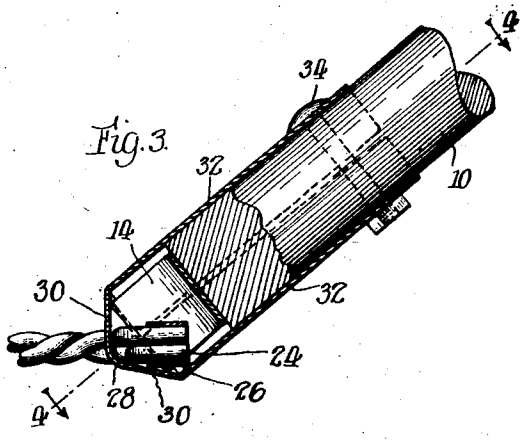
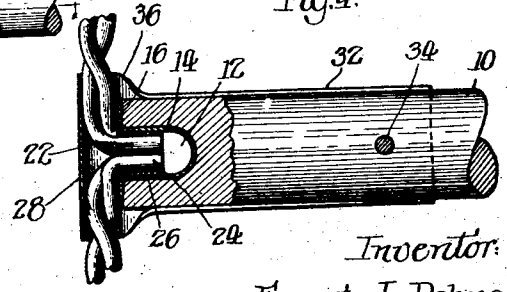


Fig. 4.



Witness:
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UNITED STATES PATENT OFFICE.

ERNEST J. DOHNAL, OF CHICAGO, ILLINOIS.

CLEANER.

Application filed July 2, 1924. Serial No. 723,618.

To all whom it may concern:

Be it known that I, ERNEST J. DOHNAL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Cleaners, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to utensils, and more specifically to handled devices such as dusters, mops, and the like.

The primary object of my invention is to increase the adaptability and serviceability of tools of this type for use under varying conditions, and especially in various positions.

Further objects and advantageous details of construction will become apparent as description proceeds.

In the accompanying drawings:

Fig. 1 is a side elevation of a duster or mop according to the invention, showing the different positions of use;

Fig. 2 is a plan view of the head portion, the fabric part of the cleaning element being omitted for the sake of clearness;

Fig. 3 is a section on line 3—3 of Fig. 2; and

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

In the embodiment of the invention selected for illustration, the handle 10 is slotted at 12 and the slot is lined by a simple U-shaped clip of spring steel 14, preferably provided with outwardly turned lugs 16 at the ends of the arms The fabric portions 18 are held by the twisted wire hoop 20, the ends of which come together at 22 and are turned at right angles into parallelism to form a projecting end 24 preferably enclosed in a ferrule 26. I prefer to make the ferrule of brass, to secure smooth sliding action against the spring steel liner 14. All the parts are held firmly in assembled condition by a single one-piece fitting bent to form a bight 28 constituting a transverse journal for the hoop 20. From the central portion of this bight, flat flanks 30 diverge and merge into the central portions of arms 32, each forming a substantially semi-circular channel to receive the handle 10. A bolt or rivet 34 completes the assembly. Beside the flanks 30, the outer ends of bight 28 are curved in as at 36 to merge into the arms 32, and also form a more complete bearing for the hoop 20.

Ends 24 or the free end of ferrule 26 will be limited in sliding movement in clip 14 by contact either with arms 32 or flanks 30 or both. In the particular design shown in the drawings, the length of the parts is such that ferrule 26 makes contact with arms 32 a little beyond the ends of flanks 30.

Referring now more particularly to Fig. 1, it will be evident that the cleaning element, comprising hoop 20 and fabric part 18, may lie at a predetermined angle to handle 10 in either direction. Thus the full line position indicates the use of the cleaner on the floor, but if a baseboard or other dihedral angle is encountered, the parts can be shifted into the dotted line position to afford a full bearing surface against such baseboard, without turning the entire tool over. Of greater importance, from the standpoint of durability in service, is the fact that by rotating the handle through 180° about its own axis, both sides of the fabric body 18 can be utilized with equal effectiveness on the same surface. The one-piece construction of the retaining clip materially cheapens the product both in the cost of material and in the processes of manufacture and assembly, and the liner 14 and ferrule 26 greatly prolong the life of the tool.

Without further elaboration, the foregoing will so fully explain the gist of my invention that others may, by applying current knowledge, readily adapt the same for use under various conditions of service without eliminating certain features which may properly be said to constitute the essential items of novelty involved, which items are intended to be defined and secured to me by the following claims:

I claim:

1. In a cleaner, in combination, a handle, a sleeve at one end of said handle, a transverse journal in the end of said sleeve, said sleeve and journal being formed of a single piece of sheet metal, a slot in the end of the handle inside said sleeve lying in a plane perpendicular to said journal, a jointed cleaning element, the joint of said element lying in said transverse journal, said joint comprising outturned ends and a ferrule re-

ceiving said ends and lying in said slot, the end of said joint contacting said sleeve to limit pivotal movement of said element.

2. In a cleaner, in combination, a handle, a sleeve at one end of said handle, a transverse journal in the end of said sleeve, a slot in the end of the handle inside said sleeve lying in a plane perpendicular to said journal, a cleaning element pivoted in said transverse journal, said element having a projection extending into said slot and engaging said sleeve to limit pivotal movement of the element.

3. In a cleaner, in combination, a handle, a transverse journal at the end of said handle, said handle having a slot adjacent said journal and lying in a plane generally perpendicular thereto, a cleaning element pivoted in said transverse journal, said element having a projection extending into and swingable in said slot, and means cooperating with said projection to limit pivotal movement of the cleaning element in said journal.

In witness whereof, I hereunto subscribe my name this 30th day of June, 1924.

ERNEST J. DOHNAL.