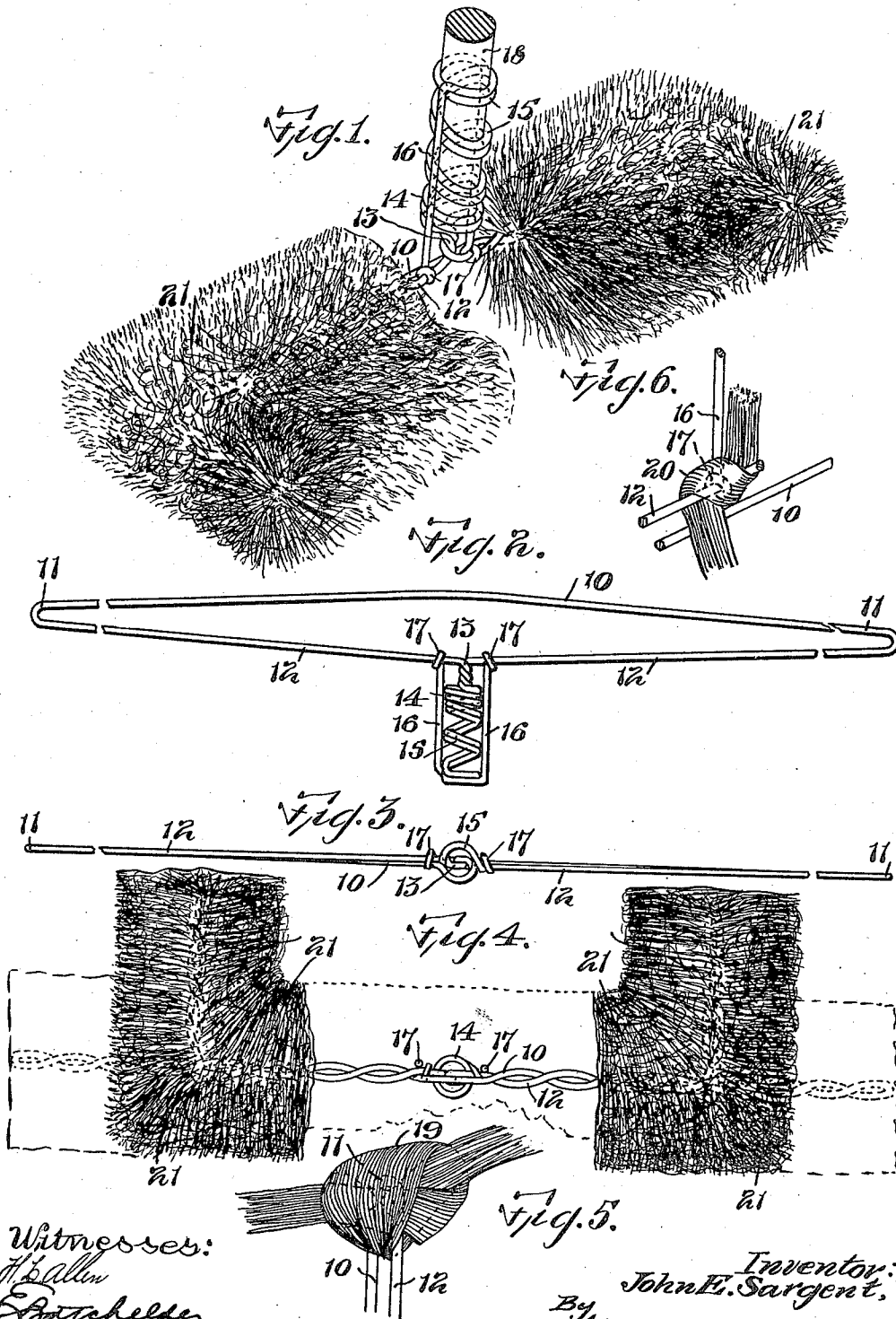


J. E. SARGENT.  
BRUSH.

APPLICATION FILED SEPT. 24, 1910.

1,060,029.

Patented Apr. 29, 1913.



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# UNITED STATES PATENT OFFICE.

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## BRUSH.

1,060,029.

Specification of Letters Patent.

Patented Apr. 29, 1913.

Application filed September 24, 1910. Serial No. 583,604.

*To all whom it may concern:*

Be it known that I, JOHN E. SARGENT, a subject to the King of Great Britain, and a resident of St. John, in the Province of New Brunswick and Dominion of Canada, have invented certain new and useful Improvements in Brushes, of which the following is a specification.

This invention relates to brushes, and has particular reference to that kind of implement known as dust brushes, or "dusters", although some of the features of improvement are applicable to other analogous implements such as mops.

One of the objects of my present invention is to provide an improved implement of the character described having a metal base or carrier for the fibrous material with the latter so applied or connected as to absolutely prevent any contact of any part of the metal carrier with the floor or any article that is being cleaned.

Another object is to provide a brush having a form that especially adapts it for cleaning long seat backs and seats such as those of church pews and seats.

Another object is to provide an implement of the character described having the metal carrier for the brush material, and also the screw socket for one end of a wood handle, all formed entirely of one piece of wire, with the two ends of the wire so located and protected as to avoid any possibility of said ends injuring any surface that is being cleaned.

To these ends, the invention consists in the construction and combination of parts substantially as hereinafter described and claimed.

Of the accompanying drawings: Figure 1 is a perspective view of a brush embodying my invention, the central portion of the brush material being omitted to show the twisting of the wire to form the screw coil socket for the wood handle. Fig. 2 is a side elevation of the wire brush head before the loop has been twisted to grip the fibrous material. Fig. 3 is a view from the under side of Fig. 2. Fig. 4 is a detail view illustrating how the brush head may be bent to give it a preferred final form. Fig. 5 illustrates the knot at one end of the loop. Fig. 6 illustrates the wrapping of the fibrous material at the points where the ends of the wire are located.

Similar reference characters indicate the same or similar parts in all of the views.

A length of wire is bent by suitable appliances to form an elongated loop presenting an outer length 10, and contracted tips 11, the wire then converging from said tips, as at 12, and twisted firmly together at 13. From the twist 13 the two portions of the wire are wrapped around a suitable mandrel to form the handle-receiving socket, the two portions being preferably close together. The coils 14 first carried about the mandrel, nearest the twist 13, are of a different pitch from the coils 15, for the purpose presently described. From the last coil, the wires are bent backwardly on opposite sides of the socket, as at 16, and the extreme ends of the wire are twisted tightly about the members 12, near the center twist 13, as shown at 17. This parallel arrangement of the wires at 16, and the eyes 17, provides a reinforcing structure which strengthens the coiled socket laterally and also holds the coils of the socket in their relative positions when the handle is screwed in. When a handle of fairly soft wood is employed, no threading thereof is required, as the coils press into the wood sufficiently to obtain and maintain a firm grip. Owing to the different pitch of the coils 14 and 15, the handle is securely held when screwed way in, said coils acting like set nuts for each other.

When the wire brush head has been formed as described, and is in the condition shown in Fig. 2, the next step is to secure some of the brush material so firmly at the tips 11 and the eyes 17 that said tips and the wire ends can never injure an article being cleaned. The material employed is preferably of a fibrous nature such as cotton yarn which has not been tangled up but is in the condition of bunches of fairly straight and parallel strands. I do not limit myself to such material, as anything suitable may be employed. For brevity of description, and without limiting myself, I shall hereinafter refer to the material as fibers.

A bunch of fibers is passed through the loop near each tip and then tied into a knot of the type shown in Fig. 5, this knot being pulled tightly and then slid along to the position shown in Fig. 5 so that a center portion of the knot, as at 19, covers the outer surface of the tip 11. This formation of the knot first around a side member

of the loop, and then forcing it to the end of the loop, results in the knot being jammed and held much more firmly than if the tying were done while the fibers occupied the extremity of the loop. One of these knots is applied to cover each tip 11. Each end 17 of the wire is protected by a bunch of fibers passed through the loop, then diagonally around and across the angle formed by the portions 12 and 16 of the wire, as shown at 20 in Fig. 6, and then again through the loop. After these have been placed as described, a sufficient quantity of the fibers are laid in the loop and the whole twisted up by suitable appliances so that the last mentioned fibers are clamped tightly at their middle portions, the ends falling loosely as indicated at 21. The presence of these last mentioned fibers, and the twisting, so binds the end knots, and the bunches over the wire ends 17, as to hold the same against dislodgment from position during use of the implement. To shape the brush head for use along settee and pew backs, and the backs of school chairs, the ends are bent up from the dotted line positions indicated in Fig. 4 to the full line positions shown in that figure, so as to form angular ends adapted to guide the brush while it is being slid along. For instance, a cleaner can walk slowly down an aisle and, by means of a handle 18 of suitable length, push the brush along a pew back while an angular end is hooked over the top rail of said back. Then the brush is given a quick turn over on to the seat and drawn back with the back of the brush head sliding along the seat. The hooked ends of the brush are found in practice to enable this operation to be performed so quickly that a cleaner can do the work on all the pew backs and seats without stopping his walk down the aisle.

The term "brush" as used in this description and in the claims is intended to mean

any cleaning implement of the general character described, whether for dry brushing or dusting, or for mopping which usually requires water on the floor or applied to the implement.

I claim:

1. A brush comprising a wire bent to form an elongated loop, the body of said loop being twisted, bunches of fiber tied in a knot around the wire and located in each bend of the loop, a portion of each knot covering the outer surface of its respective loop, and additional fibers secured between the twisted portion of said loop.

2. A brush comprising in its construction a fiber carrying loop and a handle socket all formed from a single piece of wire, said loop being unbroken throughout its length, the wire being twisted between the ends of said loop and socket, the end portions of the wire being shaped to form the handle engaging socket, the extremities of said end portions being bent downwardly and secured to the body portion of the loop, bunches of fiber twisted around the wire and covering the outer surface of each bend of the loop whereby the ends of the loop are prevented from contacting with the surface being cleaned, and fibers secured between the twisted portion of said loop.

3. A brush head comprising a length of wire twisted together near its ends, and formed with a fiber-carrying loop on one side of the said twist, the portions on the other side of the twist being coiled and forming a handle socket and having straight portions outside the coils and connecting the outer end of the socket with the said loop.

In testimony whereof I have affixed my signature, in presence of two witnesses.

JOHN E. SARGENT.

Witnesses:

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