Oct. 14, 1947. A. T. ADAMS 2,428,953

ROLLER STIPPLER

Filed Jan. 9, 1946

Fig. 1.

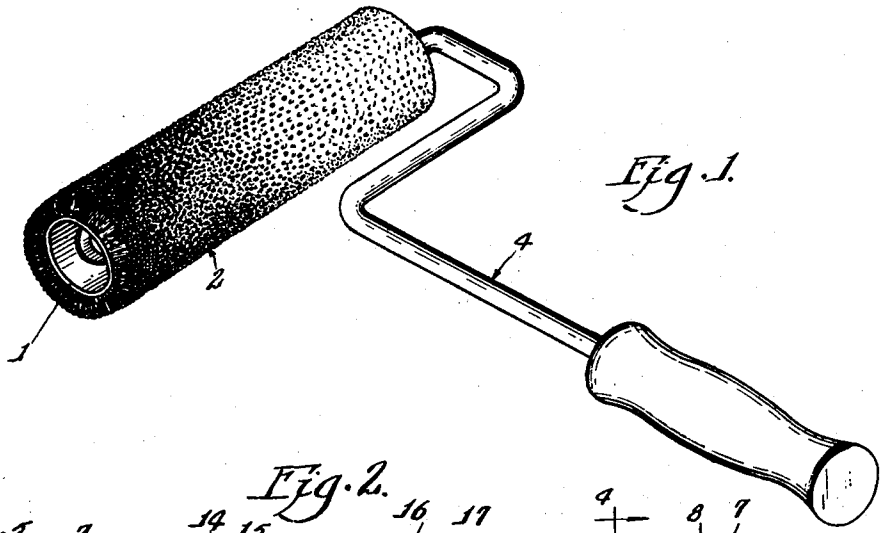


Fig. 2.

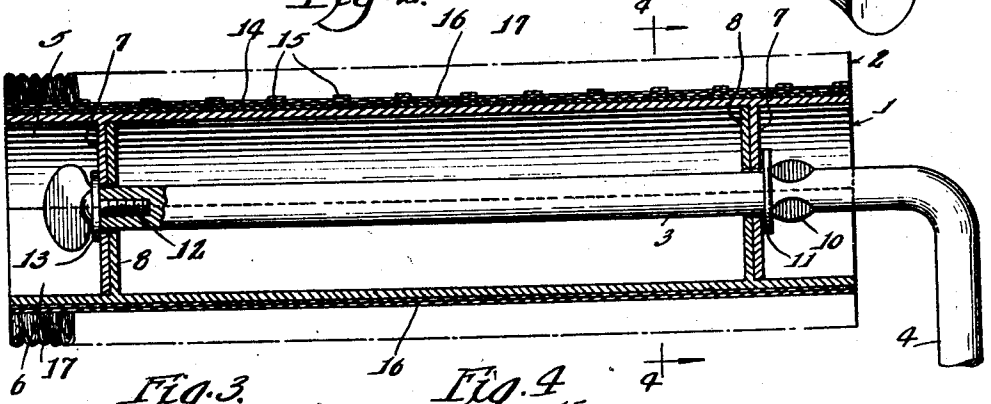


Fig. 3.

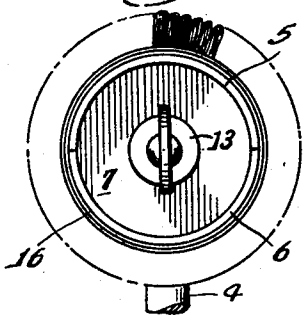


Fig. 4.

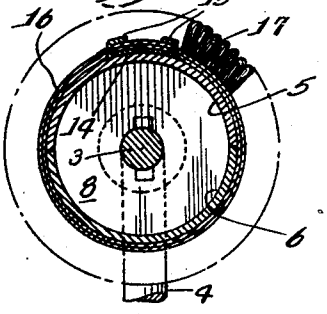


Fig. 7.

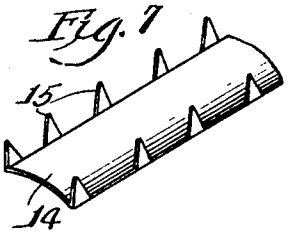


Fig. 5.

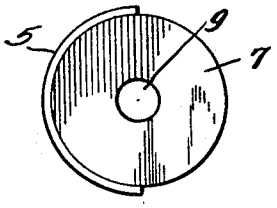
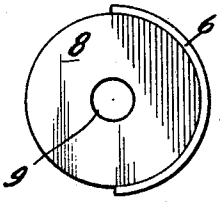


Fig. 6.



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ROLLER STIPPLER

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4 Claims. (Cl. 41—5.5)

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Tools of the type to which the present invention relates comprise a core in the form of a handled roller over which a separate stippling element, in the form of a tube or sleeve, is slipped; the internal diameter of such element being such that the frictional grip between the element and the core holds the element in place for use, while permitting removal and replacement thereof.

The object of the present invention is to improve such tools, particularly the core rollers and stippling elements thereof, in a manner to facilitate the assembly and the taking apart thereof and the cleaning of the same.

The stippling elements are usually made from pieces of carpet having a heavy cord-like pile or nap; each element being formed by fashioning a piece of fabric of the proper size into a sleeve or tube and sewing the meeting edges together. This is a tedious process and makes it difficult to achieve the proper fit of the sleeves on the core rollers, although it is especially desirable that each stippling element fit any standard core roller.

Viewed in one of its aspects, the present invention may be said to have for an object so to simplify and improve the construction of the aforesaid stippling elements as to make it easy to manufacture them and to insure uniformity in size in an indefinite number of such devices.

The various features of novelty whereby the present invention is characterized will hereinafter be pointed out with particularity in the appended claims; but, for a full understanding of the invention and of its objects and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawing, wherein:

Figure 1 is a perspective view of a tool constructed in accordance with the present invention; Fig. 2 is a central, longitudinal section, on a larger scale than Fig. 1, through the body portion of the tool, the shaft and a fragment of the handle being shown in elevation; Fig. 3 is an end view of the body structure or roller assembly, on the same scale as Fig. 2; Fig. 4 is a section on line 4—4 of Fig. 2; Figs. 5 and 6 are end views of the two sections of the metal core tube, separated from each other; and Fig. 7 is a perspective view of an end portion of the pronged metal strip that unites the meeting ends of the fabric sheet of which the tubular stippling element is formed.

In the drawing, 1 is a stippling tool core member in the form of a roller; 2 is a stippling sleeve fitted over the core to complete the roller assembly or body portion of the tool; 3 is a shaft extending lengthwise through the core at the axis of the latter and rotatably supporting the same; and 4 is a handle attached to one end of the shaft.

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In accordance with the present invention, the core member is a metal tube or shell divided lengthwise into a plurality of sections. In the arrangement shown, there are two like sections, 5 and 6. These core sections are provided with a means which, in cooperation with the shaft, holds them all together while allowing the core to revolve about the shaft. In the preferred arrangement, such means serves also to create transverse partitions extending entirely across the interior of the tubular core a short distance inwardly from the ends of the cores; each section having fixed therein two disc-like parts arranged at right angles to the axis of the core, so that one half of each disc constitutes a permanent partition in one section while the other half enters into the other section when the assembly is made. Discs 7 in section 5 are spaced a little farther apart than are discs 8 in section 6, so that when the two sections are placed together, each of the discs 8 fits slidably against the inner side or face of the corresponding disc 7; thus locking the two sections against relative lengthwise movements. Each disc has at the center a hole 9 for the reception of the shaft 3; the shaft being thus provided not far from each end of the roller with a bearing whose length equals the thickness of two discs.

The shaft, with its handle, may be substantially the same as those heretofore used with wood rollers; the shaft being deformed near the handle end to produce projections 10 against which a washer 11 may bear, and there being a screw 12 entering the other end of the shaft at the axis of the latter. The parts are so proportioned that when washer 11 engages with the adjacent partition 7, the free end of the shaft extends almost imperceptibly beyond the other partition 7, where a part 13 that is a washer or an enlarged base portion of the screw head engages the same; such part 13 preventing the withdrawal of the shaft while the screw is in place. With the shaft so secured, the two halves of the tubular roller are effectively held together against relative movements in any direction; the roller as a whole being, however, free to rotate on the shaft.

The stippling element may be a tube or sleeve comprising a piece of carpet-like material such as has heretofore been used. However, instead of sewing together the meeting ends of the sheet, I simply bring such ends close together and fasten

them to each other with a metal strip 14 as long as the sleeve is to be and having sharp upturned prongs 15 along each long edge; the strip being curved transversely on the same radius as the metal roller, with the convex face on the side from which the prongs protrude. The prongs along one edge of the securing strip are preferably disposed in staggered relation to those along the other edge; except that there are prongs directly opposite each other close to the ends of the strip, as shown in Fig. 7.

After the ends of the sheet have been brought together and the prongs have been forced through the fabric backing 16 thereof, on opposite sides of the joint, the prongs are clenched so as to overlie the backing layer and point toward the longitudinal center of the strip. As the prongs are flattened down they cause adjacent strands of the deep cord-like pile 17 attached to the backing to be thrust aside, so that all of the pile remains standing and the prongs are completely covered thereby.

The sections of the metal rollers are preferably die castings and so require but little labor for their manufacture. The partitions prevent paint and the like from passing into the rollers farther than is the case with ordinary wooden rollers. On the other hand, when it is desired to clean a roller it can easily be taken apart, so that all deposits or accumulations of foreign material within the same may be removed quickly and effectively.

So far as the tubular stippling elements are concerned, they can be made with little labor and at a relatively low cost; and they can be very accurately dimensioned because they are not dependent for accuracy on uncertain and more or less yielding sewed seams.

Consequently, by using metal rollers that can easily be kept clean and which do not vary perceptibly in dimensions in service, together with tubular stippling elements that are accurately dimensioned, a painter is able with a little care to keep his roller stipplers in good condition at all times and to change from one stippling element to another with little effort.

While I have illustrated and described with particularity only a single preferred form of my invention, I do not desire to be limited to the precise details thus illustrated and described;

but intend to cover all forms and arrangement that come within the definitions of my invention constituting the appended claims.

I claim:

1. In a tool of the character described, a tube divided lengthwise into separate sections, a shaft for rotatably supporting the tube extending through the same at the axis thereof, and elements, each fixed to only a single section, within the tube and forming for the shaft bearings that cooperate with the shaft to hold the plural sections together, said elements being in interlocked relation to each other and preventing relative lengthwise movements between said sections.

2. In a tool of the character described, a tube divided lengthwise into two separate sections, each section containing fixed cross partitions that project into the other section and lie adjacent to and overlap corresponding partitions in the latter section, the partitions in one section being so disposed with respect to the others as to prevent relative endwise movements between said sections, the overlapping portions of said partitions containing openings having their centers at the axis of the tube, and a shaft extending through and rotatable in said openings.

3. A tool as set forth in claim 2, wherein the projecting portions of at least some of the partitions are near the ends of the tube, are semicircular in form and fit against the interior of the sections to which they are not attached.

4. A tool as set forth in claim 2, wherein partitions in one section are disposed between and in engagement with the corresponding partitions in the other section.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
438,808	Hansen	Oct. 21, 1890
1,733,893	Lynch	Oct. 29, 1929
2,320,078	Harpootlian	May 25, 1943

FOREIGN PATENTS

Number	Country	Date
730,340	France	Aug. 11, 1932