

Sept. 10, 1957

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2,805,439

PAINT ROLLER

Filed Nov. 23, 1954

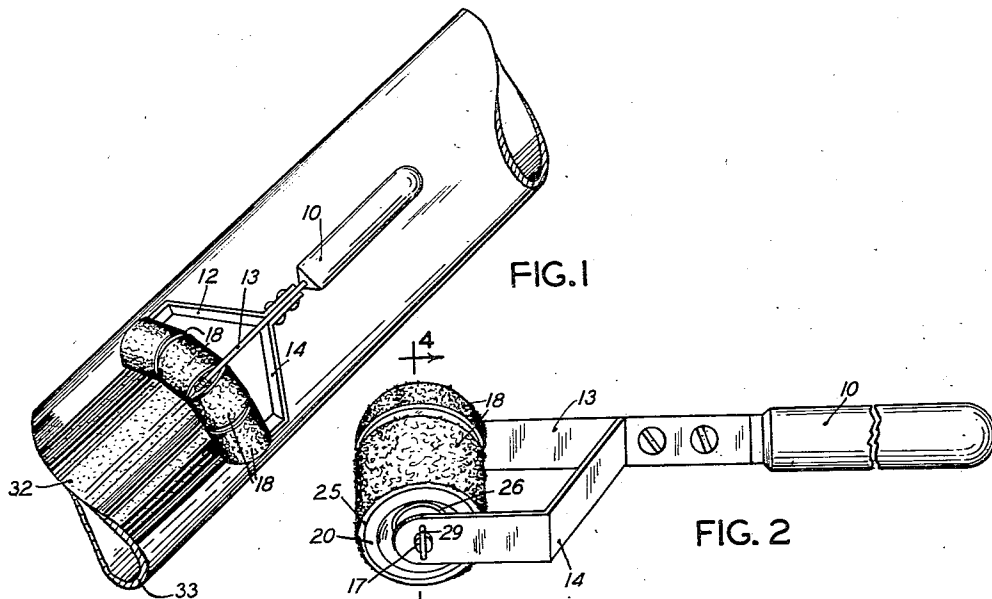
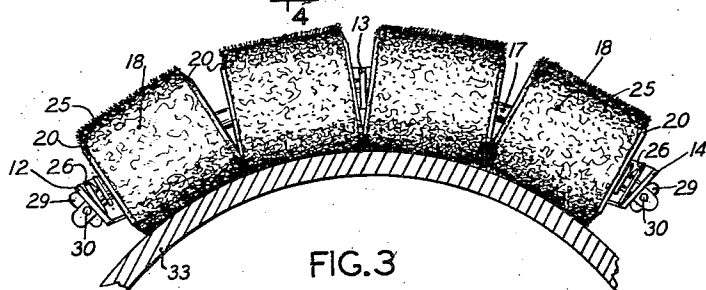
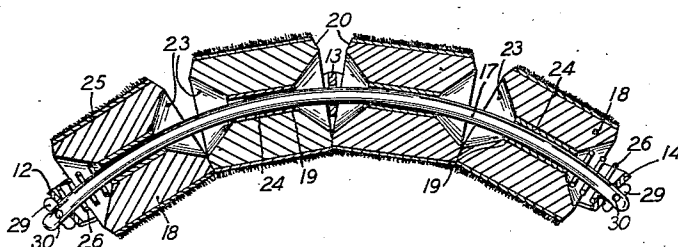
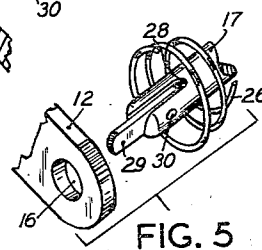


FIG. 4

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2,805,439

PAINT ROLLER

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Application November 23, 1954, Serial No. 470,606

2 Claims. (Cl. 15—230)

The present invention relates to an article for applying coating materials to curved surfaces, and more particularly to a device for applying paint to the curved surfaces of pipes and the like.

Heretofore no suitable roller applicator has been proposed for applying paint to curved surfaces such as on a pipe or on the spars and masts of a ship's rigging. Painting such structures with a brush is a slow and tedious task and, on seagoing vessels on which such structures must be painted frequently, the labor cost is considerable. It is a principal object of the invention to provide a new and improved implement for applying paint or other coating material with greater ease and rapidity to curved surfaces.

A specific object is to provide a roller type paint applicator particularly adapted for applying paint to the surfaces of pipes and the like.

In accordance with the illustrated embodiment, the present invention comprises a plurality of small paint applying rollers mounted end to end upon a longitudinally curved shaft whereby the rollers present a substantially continuous curved working area adapted to apply a swath of paint lengthwise of a curved surface.

Other details and objects and advantages of the invention will be made apparent in the following detailed description of the invention made with reference to the accompanying drawings wherein:

Fig. 1 is a perspective view showing how a device made in accordance with the invention is used to apply paint to a pipe;

Fig. 2 is an enlarged side view of the device;

Fig. 3 is an end view thereof;

Fig. 4 is a sectional view taken substantially along line 4—4 of Fig. 2; and

Fig. 5 is a fragmentary perspective view illustrating a further detail of the invention.

The illustrated form of the invention comprises a handle 10 having three laterally spaced apart limbs 12, 13 and 14, each having an aperture 16 adjacent its free end for receiving a longitudinally curved shaft 17 extending transversely through the limbs. The apertures 16 are of slightly larger diameter than the shaft 17 so that the shaft may be inserted or withdrawn from the limbs. It will be noted that, since the shaft 17 is engaged at three spaced points along its length by limbs 12, 13, 14, it is restrained from rotation.

Mounted on the shaft 17 are a plurality of cylindrical paint applying rollers 18 each having a coaxial bore 19, there being four such rollers in the illustrated device, two on each side of the center limb 13. The opposite edges of the rollers 18 are beveled as indicated at 20 so that the beveled faces of the rollers engage each other, thus providing relatively large wearing surfaces and reducing the rate of regression of the roller edges. To facilitate the rotation of the rollers 18 on the shaft 17, the central portion of each of the opposite ends of the rollers is conically recessed or dished as indicated at 23 whereby the

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shaft engaging portion of a roller is relatively short as compared to the overall length of the roller. This, as will be apparent, permits the use of a smaller bore 19 which, in any case, must be oversized to accommodate the curve of the shaft 17. The rollers 18 are conveniently formed of wood, though they may be made of other material, and if desired the bore 19 may be provided with a bushing or bearing 24 of a material which has greater wear resistance. A removable cover or sleeve 25 of a material having a suitable paint carrying nap is provided on each roller 18.

Means are provided for urging the rollers into engagement with one another. Mounted on the shaft 17 between each of the sidemost limbs 12, 14 and the adjacent roller 18 is a coil spring 26 adapted to bias the rollers away from the corresponding limb whereby the four rollers are urged together as best shown in Fig. 4.

Suitable means are provided for removably securing the shaft to the limbs whereby it may be withdrawn when it is desired to remove the sleeves 25 from the rollers to clean the same. As shown, each of the opposite ends of the shaft 17 is provided with a transverse slot 28 in which a key or lock button 29 is rotatably mounted by a pin 30 extending between the furcations defining the slot. The keys 29 are of greater length but lesser width than the diameter of the shaft 17 and in locking position extend transversely of the shaft and engage the outer surfaces of the adjacent limb 12 or 14 to prevent longitudinal movement of the shaft. When it is desired to remove the shaft 17 from the handle, the limbs 12, 14 are forced together sufficiently to permit one of the keys 29 to be pivoted to a position extending longitudinally of the shaft 17 whereupon the shaft may be withdrawn from the limbs as indicated in Fig. 5.

In using the device, the sleeves 25 are impregnated with paint and the device rolled lengthwise of the surface to be painted. Fig. 1 illustrates how the applicator of the invention is adapted to apply a relatively wide swath 32 of paint or similar coating material to the surface of a pipe 33 or like curved structure. Preferably, as shown in Fig. 3, the shaft 17 has a radius of curvature slightly greater than that of the surface to be painted so that the rollers define a curve substantially that of the surface to be painted. It should be observed that, for painting surfaces having a curvature of relatively small radius, it may be desirable to use rollers of relatively lesser length than those illustrated so as to form a substantially continuously curved line for contact with the surface to be painted.

With an applicator constructed as shown, tubular structures such as the masts, spars and booms of a ship's rigging may be painted in much less time than would be required if the paint were applied by brush. Furthermore, the task is less tedious than with a brush and the paint is applied smoothly and uniformly.

Having illustrated and described a preferred embodiment of the invention, it should be apparent to those skilled in the art that the invention permits of modification in arrangement and detail. I claim as my invention all such modifications as come within the true spirit and scope of the appended claims.

I claim:

1. A device for applying a coating material to a pipe or similarly curved surface comprising a handle, a longitudinally curved shaft, a tri-furcated support means extending from said handle and supporting said shaft at each of its opposite ends and in the middle thereof whereby said shaft is fixed against rotation, a plurality of rollers rotatably mounted on said shaft on each of the opposite sides of the middle support means, and a sleeve of fibrous material on each of said rollers.

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2. A device for applying paint or the like to a curved surface comprising a handle member having three laterally spaced apart rigid limbs, a shaft curved longitudinally in an arc of slightly greater radius than that of said surface extending transversely through said limbs, said limbs engaging said shaft at three longitudinally spaced points thereon whereby said shaft is secured against rotation, a plurality of paint applying rollers mounted on said shaft, and a sleeve of paint retaining, fibrous material mounted on each of said rollers.

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