Aug. 5, 1941. A. J. TEGETHOFF 2,251,431

STRIPING INSTRUMENT

Filed Sept. 14, 1938

Fig. 1

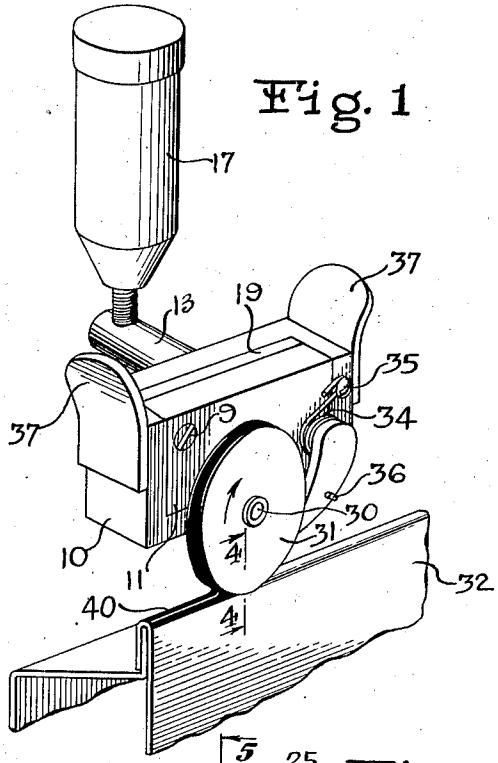


Fig. 2

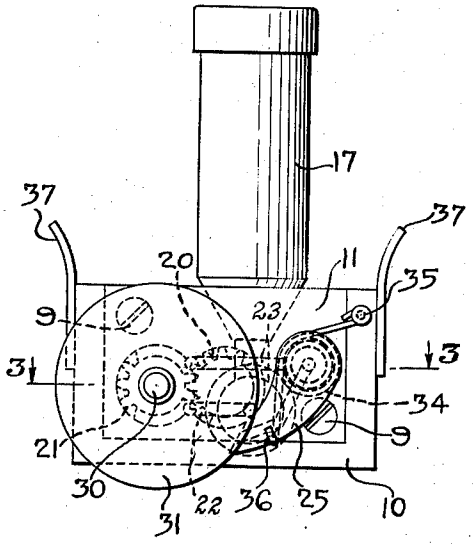
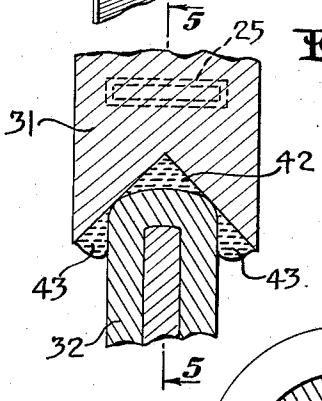


Fig. 4



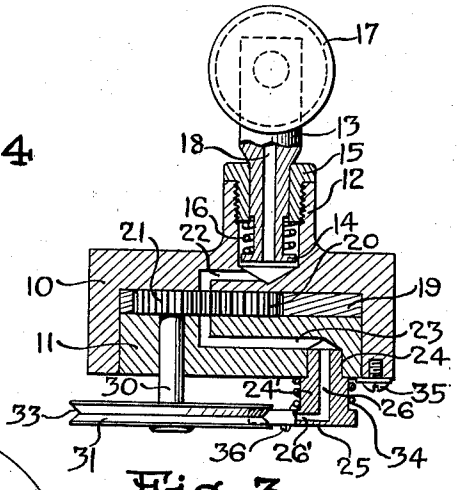
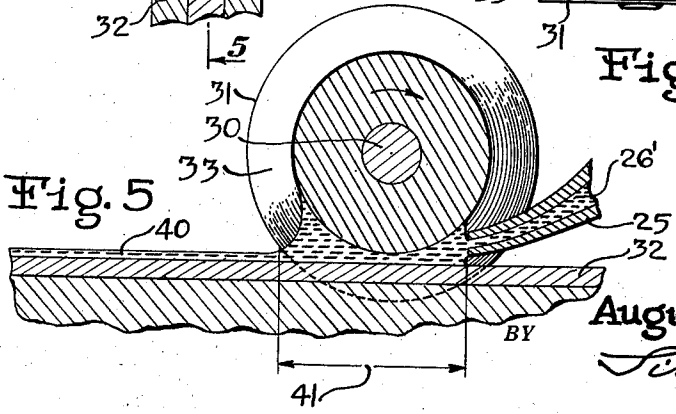


Fig. 3

Fig. 5



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STRIPING INSTRUMENT

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Application September 14, 1938, Serial No. 229,802

4 Claims. (Cl. 91—62.6)

This invention relates to a device for applying stripes.

Devices are now employed for applying stripes of paint, lacquer and other similar materials to pieces of work to provide a decoration or a coating. Such devices are usually formed with a body carrying a reservoir and a dispensing nozzle. Some form of guide means is also carried by the body and has been utilized to operate a pump within the body for moving the paint or lacquer from the reservoir through the dispensing nozzle. A device of such character is shown in Patent 1,956,848, issued May 1, 1934, to Earl M. Barden. Sometimes these devices do not employ pumps and the paint or lacquer flows by gravity, but the devices employing pumps have been found to be more satisfactory because they distribute the paint or lacquer uniformly on a piece of work regardless of the speed at which the device is moved by the operator.

In some instances a portion of the work to be striped does not permit the use of a guide and in other instances it is impossible to use both a guide member and a dispensing member. One instance in which such difficulties are encountered is in striping the edge portion of a sheet of metal such as door panels and engine bonnets of motor vehicles where a protective coating is required.

An object of this invention is to provide a striping device for quickly applying paint or lacquer evenly and uniformly on the edge portion of a piece of work.

Another object of the invention is to provide a striping device in which a roller is utilized as a guide, an applicator and to drive a pump.

Still another object of the invention is to provide a striping device in which paint or lacquer is fed upon an applicator roller at a point just in advance of its engagement with the surface to be striped.

A further object of the invention is to provide a striping device that can be readily kept clean between operations.

Other objects of the invention will appear from the following description taken in connection with the drawing, which forms a part of this specification, in which:

Fig. 1 is a perspective view of a striping device incorporating the invention shown in striping operation with the edge portion of a piece of work;

Fig. 2 is a side elevational view of the striping device;

Fig. 3 is a sectional view of the striping device taken on line 3—3 of Fig. 2;

Fig. 4 is an enlarged fragmentary sectional view taken on line 4—4 of Fig. 1, showing the applicator roller in operative engaged relation with an edge portion of a piece of work;

Fig. 5 is a sectional view taken on line 5—5 of Fig. 4.

Referring now to the drawing by characters of reference, the striping device is illustrated as having a body consisting of a casing 10 with an open side over which a cover 11 is secured by screws 9. A hollow interiorly threaded boss 12 projects from the integral side of the casing and serves as a bearing for a cylindrical rotatable connector 13 having a flanged end 14. A hollow nut 15 is screwed into the threaded neck and between the inner end of this nut and the flange 14 is arranged a coil spring 16 that serves to hold the connector in any position of its rotation. Carried by the connector is a reservoir 17 having a passage through its outlet end that is in open communication with a passage 18 extending through the connector and opening into the boss 12.

Between the cover 11 and the inner adjacent face of the casing 10 is arranged a pump plate 19 having an apertured portion for receiving meshing pump gears 20 and 21. Passage 22 is formed in the body 10 to establish communication between the interior of the boss 12 and the apertured portion of the pump plate, and an outlet passage 23 leads through cover 11 from the aperture in the pump plate and terminates in an enlarged end 24 for receiving the shaft 24' carrying nozzle 25. This shaft fits closely in the enlarged end 24 of the outlet passage and has a passage 26 therethrough that is in open communication with the passage 23 and with the nozzle opening 26'.

The cover 11 provides a bearing for the shaft 30 that has fixed on its inner end the pump gear 21. On the end of the shaft projecting beyond the cover is fixed a roller 31 that applies paint or lacquer in a stripe to a piece of work indicated at 32. This roller is formed with a recessed periphery 33 which in the present instance is in V-form, however, various other contours can be utilized for use with different work pieces. The nozzle 25 is rotatably mounted and arranged so that its dispensing end lies within the recessed periphery of the roller and at a point slightly in advance of the portion of the work being striped by the roller. In order to maintain the nozzle in such relationship, there is provided a coil spring 34 that is wound around the nozzle shaft. One end of this spring is fixed to the body cover by screw 35 and the other end of the spring is arranged to engage under the nozzle in a relation to exert an upward force thereagainst. This spring therefore holds the nozzle outlet end in the recessed periphery of the roller and also serves to exert a pressure against the nozzle in a direction inwardly of the cover.

The reservoir 17 is filled with the desired paint

or lacquer or other material to be applied in a stripe and the operator swings the reservoir to desired position, the reservoir and its connector being retained in such position due to the spring retained frictional engagement of the connector with the nut 15. On each end of the body is fixed a handle element 37 that is grasped by the operator during actuation of the device. The recessed roller periphery is placed against the edge portion of a piece of work to be striped and the operator moves the device along the edge with the roller engaging thereagainst. The roller serves as a support and guide for the device and operates the pump gear 21 through shaft 30 so that the pump will feed paint or lacquer from passage 22 through the passage 23 in the body and passage 26 and the nozzle. Regardless of the speed at which the operator moves the device along the piece of work, a uniform quantity of lacquer or paint will be moved through the nozzle to the roller and onto the surface over which the device is rolled to apply a stripe of uniform thickness and width.

With the nozzle outlet arranged adjacent the work surface about to be striped, the applied paint or lacquer flows into the grooved periphery of the roller and is immediately transferred to the piece of work. As a consequence, the paint and lacquer will not overflow the recessed periphery of the roller and become displaced from the roller before application to the piece of work. The entire peripheral surface of the roller will be covered with a thin coating of paint or lacquer after one revolution but the major portion of paint or lacquer transferred to the roller will be fed upon and distributed from the roller in a small portion of its circumference. The walls forming the peripheral recess in the roller serve as a bearing and a guide when engaged against the edge portion of a piece of work to be striped, and the outer portions of such peripheral faces are arranged to overlie the sides of the work piece edge when the stripe is desired to be laid along the sides of the work piece edge as well as along the work piece edge. As shown in Figs. 1, 4 and 5, the device is in operative relation with the edge of a piece of work, such as a motor vehicle door panel, and the stripe that has been applied is indicated at 40. As shown in Fig. 5, the major portion of the paint or lacquer fed by the nozzle is moved onto the roller and dispensed therefrom in a small portion of its circumference as indicated at 41. As the paint or lacquer is fed into the roller peripheral recess by the nozzle, a portion thereof will be trapped in the smaller diameter of the roller periphery, as indicated at 42, above the edge of the piece of work and the other portions thereof will lie between the side faces of the roller periphery and the sides of the piece of work as indicated at 43. Capillary attraction will limit the flow of these portions 43 of the paint or lacquer and therefore the terminal lines of the applied stripe on the sides of the work piece will be parallel to and uniform with the roller engaged edge portions of the piece of work.

This device has been found to be extremely useful because its simplicity, accurateness, and ease in manipulation allows unskilled labor to satisfactorily operate the same. As the paint is applied through a closed passage to the roller and as the roller can be placed in cleaning fluid between operations, the paint or lacquer will not dry thereon and require cleaning when the device is used at a later time. The roller, it will be noted, serves to support the device, to guide the device, to apply the paint or lacquer stripe and to operate the pump.

Although the invention has been described in connection with a specific embodiment, the principles involved are susceptible of numerous other applications which will readily occur to persons skilled in the art. The invention is therefore to be limited only as indicated by the scope of the appended claims.

What is claimed is:

1. A device for striping the edge portion of a piece of work comprising a body having a passage therein, a gear pump in the passage in said body, a striping fluid container on the body communicating with the inlet end of the passage, a nozzle carried outside of the body and communicating with the outlet end of the passage, a shaft extending into the body connected to drive said gear pump, and a peripherally recessed roller fixed on the shaft outside of the body, the dispensing end of said nozzle projecting into the recessed periphery of the roller to feed fluid upon the recessed surface of the roller about to contact the work piece being operated upon.

2. A device for striping the edge portion of a piece of work comprising a body having a passage therein, fluid reservoir means connected with the body passage, a shaft carried by the body, gear pump means mounted in the body for driving striping fluid through the passage, a roller fixed on the shaft for rolling contact with the edge portion of a face of a piece of work to be striped, said roller having a recessed periphery shaped to overlie the edge portion of the work with a relief beyond the contacting portions, and fluid feeding means leading from the body passage into the recessed periphery of the roller and depositing the fluid therein at a point about to contact the work piece while rolled thereon, said roller transferring the deposited fluid to the edge portion of the piece of work and guiding and supporting the device in its striping movement.

3. In a device for striping the edge portion of an article, an applicator roller having a grooved peripheral face, a nozzle having an outlet end extending within the leading portion of the grooved face of the roller, and means for feeding striping fluid through the nozzle and onto the roller.

4. A device for striping the edge portion of an article comprising a body, a shaft carried by and projecting from the body, a peripherally grooved applicator roller fixed to the projecting end of the shaft, gear pump means in the body connected to be actuated by said shaft, a nozzle swingably carried by the body in advance of the roller, said nozzle having its outlet end extending into the grooved periphery of the roller, spring means engaging the nozzle and the body for normally holding the nozzle outlet in the peripheral groove of the roller, and passage means in the body through which lacquer moves from the pump to the nozzle.

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