

R. SCHEUER.
 COLORING MACHINE FOR APERTURES IN BELTS AND SIMILAR ARTICLES.
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1,062,257.

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Fig. 1.

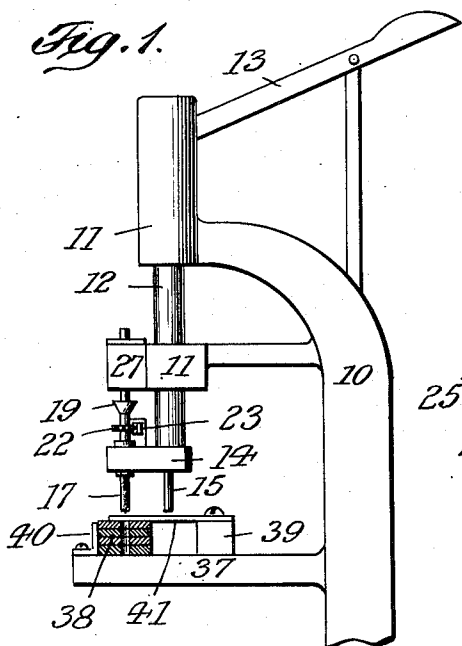


Fig. 3.

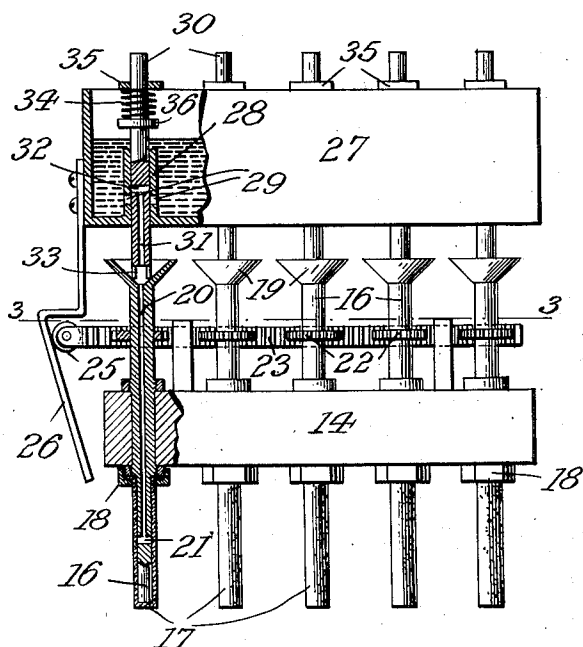
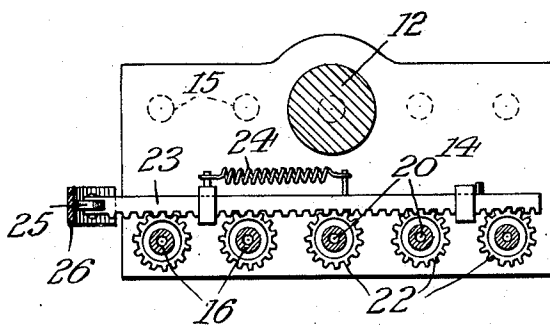
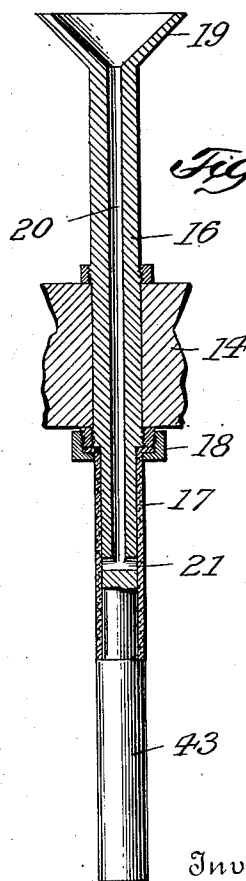


Fig. 2.

Fig. 4.



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COLORING-MACHINE FOR APERTURES IN BELTS AND SIMILAR ARTICLES.

1,062,257.

Specification of Letters Patent.

Patented May 20, 1913.

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To all whom it may concern:

Be it known that I, RALPH SCHEUER, a citizen of the United States, residing at New York city, county and State of New York, have invented a new and Improved Coloring-Machine for Apertures in Belts and Similar Articles, of which the following is a specification.

This invention relates to a machine of novel construction which will rapidly and neatly color the walls of apertures made in apparel belts and similar articles.

After an apparel belt has been punched for the purpose of forming the tongue-receiving apertures, it becomes frequently necessary to color the inner faces of said apertures, so that such faces harmonize with the general appearance of the belt. This coloring operation has been heretofore generally performed by hand, which involved a considerable loss of time, and required great accuracy. By my invention, the coloring is performed in an automatic manner, so that time is saved and accuracy is insured.

In the accompanying drawing: Figure 1 is a side view of the main part of a coloring machine embodying my invention; Fig. 2 a front elevation partly in section thereof; Fig. 3 a horizontal section on line 3—3, Fig. 2, and Fig. 4 a longitudinal section through a modification of one of the punches.

The machine frame 10 is provided with tubular guides 11 in which reciprocates a plunger 12, operated by a lever 13 and treadle (not shown) or in other suitable manner. Plunger 12 carries a plate or cross head 14 from which depends a row of punches 15 and a parallel row of alined coloring implements. Each of these implements comprises essentially a rod 16 over the lower end of which is drawn a stocking or covering 17 of felt or similar saturable material. This stocking is removably secured to the rod by a coupling 18, so that it can be readily replaced when worn. At the top, rod 16 is provided with a funnel 19 from which there extends downward an axial bore 20, opening into a lower cross duct 21 that terminates opposite the inner face of the stocking. Rods 16 are rotatably fitted into cross head 14, and carry pinions 22 engaged by a rack 23 which is guided on the cross head. The rack is influenced by a spring 24 and is provided at one end with a roller 25 engaging an inclined fixed guide 26. Thus when cross head

14 descends, the rods will be simultaneously turned in one direction by the engagement of roller 25 of rack 23 with guide 26, while when the cross head ascends, the rods will be turned in the other direction by the action of spring 24 upon the rack, as will be readily understood.

Above the row of rods 16, there is secured to the machine frame, a fixed magazine 27 adapted to contain a suitable dye or thin coloring solution. From the bottom of this magazine, extend upwardly a number of tubular guides 28, which are axially alined with rods 16 and have lower liquid egress ports 29 that open into the guides. Within each guide 28 is free to move a valve 30 which is adapted to be opened or closed by the reciprocative movement of cross head 14. To this effect valve 30 is provided with an axial duct 31 extending through the lower section thereof and which communicates at its top with a cross duct 32 and at its bottom with a number of lateral discharge orifices 33. The upper end of valve 30 is encircled by a coiled spring 34 bearing with one end against a fixed bar 35 and with the other end against a collar 36 of the valve, so that in this way the valve is held in yielding contact with the funnel 19 of rod 16.

It will be seen that as rods 16 are reciprocated through cross head 14, a play will be imparted to the valves 30, which play is defined by the engagement of collars 36 with the upper end of guides 28, so that the stroke of the valves is considerably shorter than that of the rods. During the movement of the valve, its port 32 will be brought into temporary alinement with the ports 29 of guide 28, so that a limited quantity of the dye is permitted to enter the valve and to be conveyed by the latter through funnel 19 and ducts 20, 21 to the stocking 17, so as to saturate the same without however causing any objectionable overcharge.

Below cross head 14, there is provided a fixed support 37 upon which the stack of belts 38 to be punched and colored is supported. This stack may be placed either below the row of punches 15, or it may be shifted below the row of coloring rods 16, to which effect a rail 39 and gage 40 are provided. To rail 39 may be secured a spider or finger 41 adapted to hold the belts down upon their seats.

In use, the belts are first placed below the punches, so as to become apertured and are

then shifted sidewise to be subjected to the action of the coloring implements. As the latter are arranged directly opposite the punches, each aperture punched, will receive one of the revolving coloring rods which will by means of its stocking neatly and accurately paint the inner wall thereof.

With the construction shown in Fig. 4, the punch 43 is made integral with the coloring rod 16 and projects beneath the lower end of stocking 17, so that in this way one and the same tool will first form the aperture and then color the wall thereof. This construction however can only be applied with advantage to the punching and coloring of apertures of a comparatively large size.

I claim:

1. A machine of the character described, comprising a vertically reciprocable rod having a liquid duct, a saturable stocking removably fitted on the lower portion of said rod, means for securing the upper end of the stocking to the rod, means for supplying a coloring liquid to said duct, a pinion secured to the rod, a rack engaging said pinion and participating in the vertical reciprocation of the rod, and an inclined fixed guide for horizontally shifting said rack.

2. A machine of the character described, comprising a vertically reciprocable rod having a liquid duct, a saturable stocking removably fitted on the lower portion of said rod, means for securing the upper end of the stocking to the rod, means for supply-

ing a coloring liquid to said duct, a pinion secured to the rod, a spring-influenced rack engaging said pinion and participating in the vertical reciprocation of the rod, a roller on said rack, and an inclined fixed guide engaged by said roller.

3. A machine of the character described, comprising a vertically reciprocable rod having an upper funnel and a liquid duct, a saturable stocking removably fitted on the lower portion of said rod, means for securing the upper end of the stocking to the rod, a stationary liquid magazine above said rod and funnel, a valve within the magazine and extending downwardly through the bottom thereof, a spring for holding said valve in operative engagement with the funnel, and means for limiting the descent of the valve.

4. A machine of the character described, comprising a vertically reciprocable plunger, a cross head carried thereby, a row of coloring implements depending from the cross head, funnels formed at the upper ends of said rods, saturable stockings removably fitted over the lower portions of the rods, a stationary liquid magazine above the funnels, spring-influenced valves extending downwardly through the bottom of the magazine into engagement with the funnels, and means for limiting the descent of said valves.

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