R. LEUMANN.

GLUE APPLYING APPARATUS FOR LABELS, WRAPPERS, AND THE LIKE.

APPLICATION FILED NOV. 20, 1917.

1,313,098. Patented Aug. 12, 1919.

Fig. 1

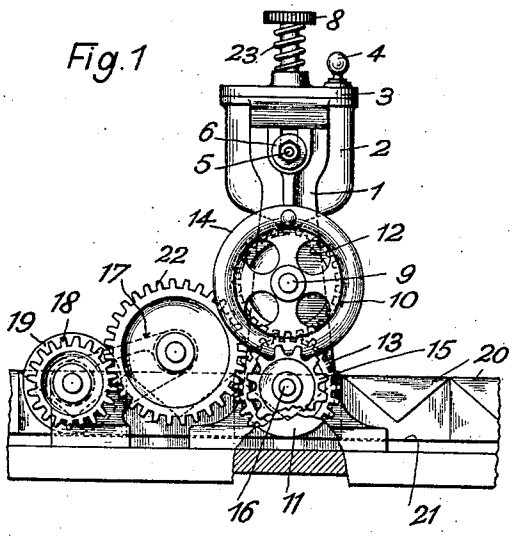


Fig. 2

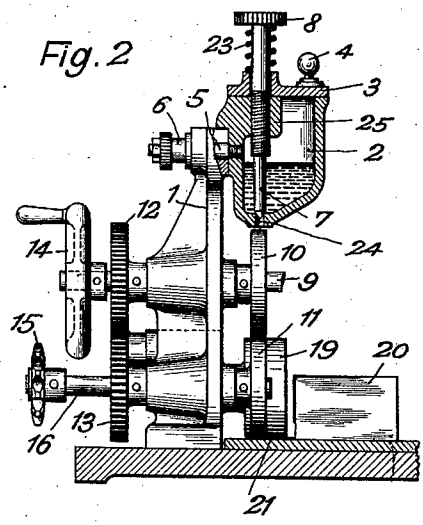


Fig. 3

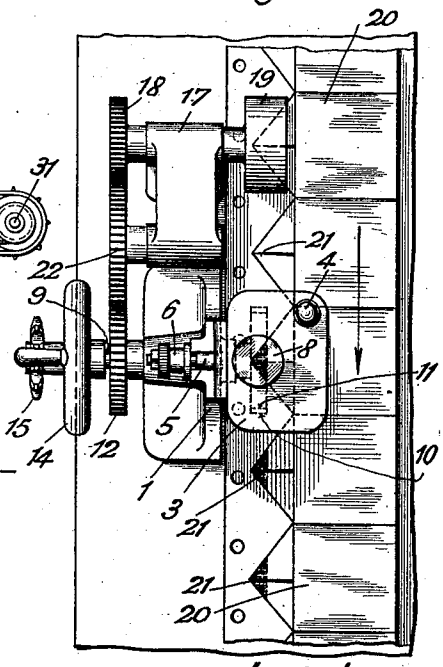
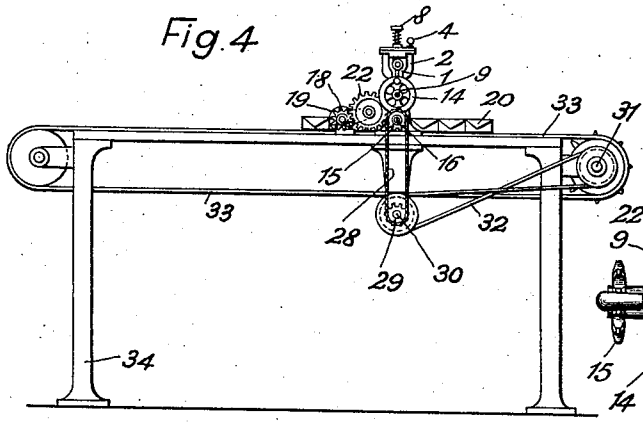


Fig. 4



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UNITED STATES PATENT OFFICE.

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GLUE-APPLYING APPARATUS FOR LABELS, WRAPPERS, AND THE LIKE.

1,313,098. Specification of Letters Patent. Patented Aug. 12, 1919.

Application filed November 20, 1917. Serial No. 202,937.

To all whom it may concern:

Be it known that I, RICHARD LEUMANN, a citizen of the Republic of Switzerland, residing at Villa "La Loex", Chailly sur Lausanne, Switzerland, have invented certain new and useful Improvements in Glue-Applying Apparatus for Labels, Wrappers, and the like; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to glue-applying apparatus for labels, wrappers and the like. The hitherto known glue-applying apparatus are generally provided with a roller of suitable width. This roller dips into a glue-reservoir and feeds, while it is carrying out a rotary movement, the glue adhering to it from the glue-reservoir upward, so that it may then be removed at the top in any suitable manner from the roller and applied to a label, wrapper or the like.

In known embodiments of such an apparatus, the glue can only be applied directly from the glue-roller to labels or the like, when the labels are fed over the roller, *i. e.* only when the glue can be applied to the bottom side of the paper. In some cases, however, where for instance in employing the gluing apparatus in a wrapping machine of a type in which it is necessary that the surface to be glued shall lie uppermost, more or less complicated device must be employed, such as for instance a small roller which takes glue by contact from the roller that dips in the glue-reservoir, and which is then caused by certain mechanism to pass over the label or wrapper or the like.

Besides the complicated mechanism required to this end, the known apparatuses of the kind referred to have the further drawback that the axis of the small transferring roller is easily overspread with glue, so that this roller is prevented from rotating. The result of this is, that the glue is applied in an imperfect manner.

The object of this invention is to provide a glue-applying apparatus, in which the drawbacks referred to are remedied. To this end the apparatus according to the invention is constructed in such a manner, that it applies the glue directly to the upper surface of a label, wrapper or the like. To this end the construction is such, that the glue drips from above on a glue-roller, so that the lower part of the roller is free and may be brought without difficulty in contact with the label or the like. It has been found advantageous, when also not indispensable, to provide, that the glue dripping on the roller is not directly applied by the latter to the label, or the like, but by means of a roller coöperating with the first mentioned one. This has the advantage, that the glue is divided in an equal manner over the surface of the rollers touching one another and rotating in opposite directions (*i. e.* rolling on each other).

The apparatus may be stationary and the label or the like may be fed under the glue-applying roller past the latter, the circumferential speed of the glue-applying roller being thereby adapted to the speed of the moved label.

The novel apparatus may also be provided with a device for smoothing the paper before it is glued. This is particularly of advantage when the paper to be glued consists not only of a smooth sheet, but is folded; this is the case, for instance, with regard to the tip of a wrapper ready to be glued up.

This invention will now be more particularly described with reference to the accompanying drawings, which illustrate a constructional example of the invention.

In these drawings:

Figure 1 is a side view, and

Fig. 2 a corresponding front view, partly in section, of a part of the novel apparatus.

Fig. 3 is a corresponding plan view, and

Fig. 4 is a side view of the whole apparatus.

The apparatus illustrated on the drawings comprises a standard 1 resting on a table of a frame 34. To the upper end of the standard 1 is fixed the glue-reservoir 2 by means of a screw-threaded bolt 5 and a nut 6. The reservoir 2 is provided with a cover 3 having a knob 4. A needle 7 is arranged within the glue-reservoir 2 and the bottom of the latter is provided, for instance, with one aperture 24. The latter may be closed or opened to a smaller or greater degree by means of the needle 7. To this end, the upper part of the needle 7 is provided with a screw-

thread coöperating with a screw-thread provided in the projection 25 which is formed integral with the glue-reservoir 2. To the top of the needle 7 is fixed a knob 8 for turning said needle 7 by hand. The helical spring 23 arranged between knob 8 and cover 3 is for closing this cover 3 on the reservoir 2. In the standard 1 are also fitted bearings for the shafts 9 and 16. To the shaft 9 are fixed a narrow roller 10, a toothed wheel 12 and a hand wheel 14. The rollers 10 and 11 may be rotated by hand by means of the hand-wheel 14 should it be desired to clean them by means of a wet flap pressed against these rollers. The shaft 16 is arranged beneath the shaft 9. This shaft 16 carries the roller 11 touching the roller 10, a toothed wheel 13 meshing with the toothed wheel 12 and a chain-wheel 15. A standard 17 is arranged beside the standard 1 and carries the shaft of a toothed wheel 22 and also the shaft of a toothed wheel 18 and of a roller 19. The roller 19, which is for smoothing the folds of the tips 21 of wrappers 20, is positively driven by the toothed wheels 22 and 18 of which the wheel 22 meshes with the wheels 18 and 13. A chain 28 passing over the chain-wheel 15 passes also over a chain-wheel 29 fixed to a main driving shaft 30. The latter drives also a shaft 31 by means of the belt 32. Shaft 31 drives an endless band 33 which is for feeding the wrapper 20 past the glue-applying roller 11.

When the needle 7 is screwed backward or forward, the aperture 24 is opened to a greater or smaller degree, respectively, so that the glue flows out of the reservoir 2 and drips on the roller 10. From the latter it is transferred to the roller 11 and from this roller 11, in the embodiment shown, to the tip 21 fed beneath said roller 11 past the latter. The tip 21 is smoothed by the roller 19 before it is fed beneath the roller 11.

What I do claim as my invention, and desire to secure by Letters Patent is:

A glue-applying apparatus of the character described, comprising a glue reservoir having a funnel-shaped lower part and a straight vertical passage in its bottom, a vertically adjustable needle valve in said reservoir adapted to regulate the quantity of glue flowing through said passage, two superposed rollers arranged in superficial contact with each other and arranged beneath said vertical passage so that the vertical axis of the latter passes through the axes of the rollers whereby the glue drips along a perfectly straight vertical line through said passage onto the upper one of said rollers which transfers it to the lower one, means for rotating said rollers, means operatively connected to the last mentioned means adapted to carry labels, wrappers, or the like past the lower roller, a smoothing roller so arranged relatively to the lower one of said rollers that the labels, wrappers, or the like are smoothed before passing said lower roller, and means for positively rotating the smoothing roller.

In testimony that I claim the foregoing as my invention, I have signed my name.

RICHARD LEUMANN.

Witnesses:

EDOUARD BLANC,

ALFRED MANLEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."