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2,159,674

GLUE APPLYING MACHINE

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**Fig. 1.**

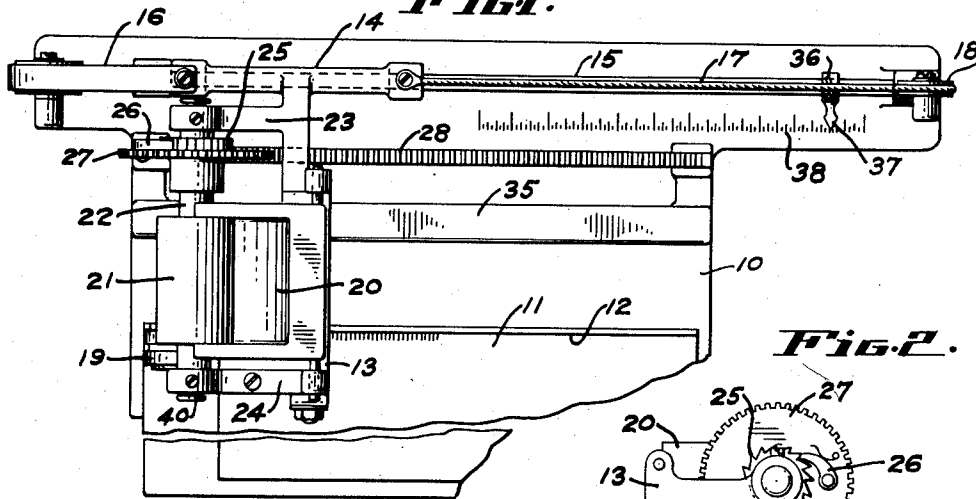


**Fig. 2.**

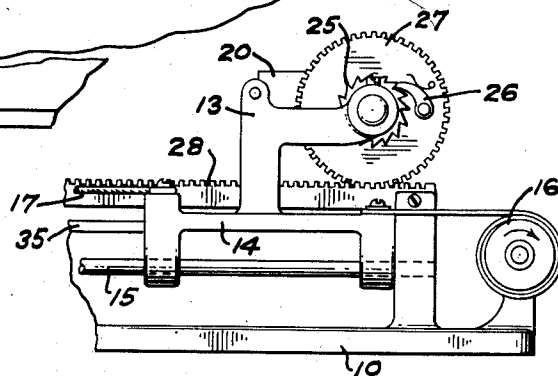


**Fig. 3.**

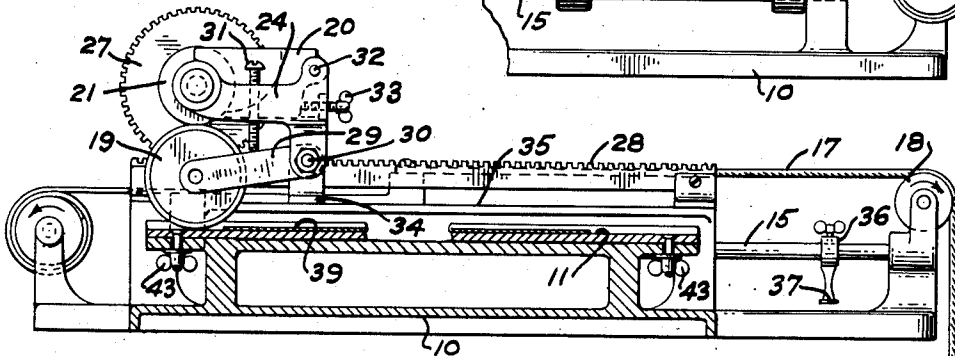


**Fig. 4.**

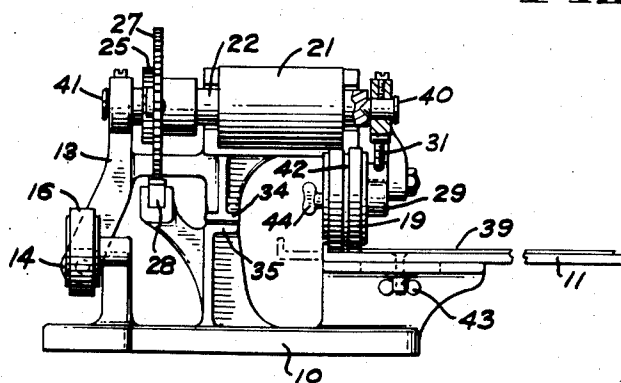
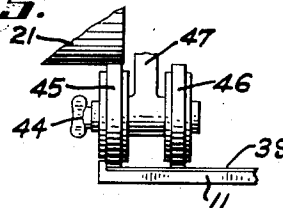


**Fig. 5.**



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## UNITED STATES PATENT OFFICE

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## GLUE APPLYING MACHINE

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6 Claims. (Cl. 91—50)

The present invention relates to glue applying apparatus, and more particularly to a machine for applying wet glue to the back of fly leaves and riders, such as are commonly inserted and used in connection with insurance contracts and like papers.

An object of the invention is to provide a new and novel arrangement, wherein wet glue may be applied along the edge of an article in a clean, efficient and practical manner.

Another object of the invention is to provide an improved machine, by means of which a striping of glue can be applied to a sheet of paper or like flat article by a foot operated mechanism, while the hands are free to position and hold the article upon which the glue is applied.

Another object of the invention is to provide in a device of the character described, an arrangement wherein the glue will be first applied to the article as the machine operates in one direction, and then evenly spread upon the article as the device returns to its original position.

Another object of the invention is to provide in a device of the character described, having a glue receptacle, a glue applying roller and a feed for transferring glue from a reservoir to the glue applying roller, in which the feed of glue from said reservoir to the glue applying roller will operate to feed glue to said roller as it passes over the work in one direction, and interrupt the feed of glue to said roller as it returns over the work to its initial position.

At the present time, where it is desired to insert riders and like papers in printed contract forms, such as insurance papers and/or to attach clippings to the leaves of a bound book, it is usually a very simple matter to apply the glue by hand with a small brush. However, where the insertion of such riders and/or clippings is carried out on an extensive scale, as for example, in the preparation of a large number of group insurance forms which require similar riders, resort to the hand method is laborious, expensive and often results in an unsightly appearance. Therefore, a further object of the present invention is to provide a device which may be set up and operated to apply glue to the backs of such papers or riders in a continuous, clean and efficient manner.

Other objects and advantages of the invention will be in part evident to those skilled in the art, and in part pointed out hereinafter in connection with the accompanying drawing, wherein there is shown by way of illustration and not of

limitation, a preferred embodiment of the invention.

In the drawing:

Figure 1 is a plan view of a machine constructed in accordance with the invention,

Figure 2 is a fragmentary view in elevation looking at the back of the machine illustrated in Figure 1,

Figure 3 is a front elevation of the device illustrated in Figure 1, with a portion in section to reveal details of construction,

Figure 4 is an end elevation of the device illustrated in Figure 1, and

Figure 5 is a fragmentary view showing a modified detail of construction.

Upon referring to Figure 1 of the drawing it will be seen that the machine, which has been chosen for the purpose of describing the invention, has a base, designated by the numeral 10. At the front of the base 10 there is a work receiving platen 11 having an upturned edge or flange 12 against which a sheet of paper or other article may be positioned. Arranged above and in overhanging relation with the platen 11 there is a carriage 13 that is adapted to move backward and forward over the end of the platen 11. This carriage 13 has a bearing member 14 that is slidably mounted upon a guide rod 15, and at one end of this bearing member there is attached a spring operated retrieving or biasing means 16 which operates to return the carriage 13 to its starting position, as shown in this figure of the drawing. At the other end the bearing member 14 is connected with a suitable cable 17 which passes downwardly over a sheave or pulley 18 and connects with a foot operated pedal (not shown), by means of which the carriage 13 is caused to move to the right over the platen 11. The overhanging end of the carriage 13 is supported by a roller 19 that is adjustable in a vertical direction, and which also functions to apply and spread the glue upon an article positioned upon the platen 11, as will hereinafter appear. Above the roller 19 and upon the carriage 13 there is a glue containing reservoir 20 with which a glue feeding roll 21 is associated. The roll 21 is shown as mounted upon a shaft 22 that is journaled upon brackets 23 and 24 of the carriage 13. This shaft 22 carries a ratchet 25, and associated with this ratchet there is a pawl 26 which is carried by a freely rotatable gear 27 that engages a stationary rack 28 disposed in the path of the gear 27. With this arrangement the shaft 22 and the feed roll 21 are caused to rotate when the carriage 13 moves to the right with respect

to the glue receiving article, and upon the return movement of the carriage 13 the shaft 22 and the feed roll 21 will remain stationary.

Upon referring to Figure 2 of the drawing it will be seen that when the carriage 13 moves to the left, as viewed in this figure of the drawing, the gear 27 will roll over the rack 28 and turn counter-clockwise, and as a result, the pawl 26 carried thereby will operatively engage the ratchet 25 and cause the shaft 22 with its feeding roll 21 to rotate in a similar direction, whereas upon the return movement of the carriage 13 the ratchet pawl 26 will be inoperative.

Reference is now made to Figure 3 of the drawing, wherein it will be noted that the glue applying roller 19 is journaled upon a bracket 29 that is pivotally mounted upon the carriage 13 at the point 30. This bracket 29 is also shown as adjustable with respect to the glue feeding roller 21 by a screw 31 so that a slight clearance is provided therebetween for a film of glue upon the feed roll 21. At this point it should be pointed out that the feed roll 21 is disposed so that it forms one side of the glue reservoir 20, and as a result, when it is rotated by the gear 27, due to movement of the carriage 13 to the right, a film of glue will be withdrawn from the reservoir and transferred to the glue applying roller 19. In order to regulate the flow of glue to the feed roll 21, the reservoir 20 is hingedly mounted upon a pin 32, so that its lower surface may be adjusted with respect to the feed roll 21 by means of a thumb screw 33 arranged immediately below the pin 32.

For the purpose of supporting the carriage 13, as when the glue applying roller 19 is out of contact with an article upon the platen 11, the carriage 13 is provided with a foot or pad 34 that is adapted to engage a transversely disposed auxiliary supporting rail 35 over which the foot 34 may freely slide. However, when the device is in operation, it is contemplated that the foot 34 will be raised out of contact with the rail 35, so as to permit the glue applying roller 19 to carry the weight of the overhanging carriage 13. This will insure a rolling traction between the article and the glue applying roller 19 which will produce a rotation of the latter roller as it moves over the work both in its backward and forward movements. In order to limit the forward travel of the carriage 13, as for example, when a narrow sheet of paper or other article is upon the platen 11, the guide rod 15 is provided with an adjustable stop collar 36 having a pointer 37 that co-operates with a graduated scale 38 upon the base 10, as shown in Figure 1 of the drawing.

Upon referring to Figure 4 of the drawing it will be noted that the carriage 13 extends upwardly from the guide rod 15 and over the stationary rack 28. As shown in this figure of the drawing, the glue applying roller 19 is in contact with an article 39 upon the platen 11, and as a result, the foot 34 is out of contact with the auxiliary supporting rail 35. To facilitate a cleaning of the reservoir 20 and its feed roll 21 at the end of a period of operation, the shaft 22 is shown as mounted between removable pivot bearings 40 and 41. With this arrangement it will be seen that by a displacement of these pivot bearings 40 and 41, the shaft 22 and the feed roll 21, together with the gear 27 may be removed from the carriage 13 for the purpose of washing same. In connection with this figure of the drawing it will also be noted that the glue applying roller 19 has a central peripheral groove 42, the effect of which

is to divide the glue applying roller 19 into what may be termed two distinct rollers. The purpose of the groove 42 is to limit the transfer of glue from the feed roll 21 to the left-hand end of the feed roller 19, as viewed in this figure of the drawing, and as a result, the right-hand end of the roller 19 will remain dry and function as a traction element upon the work to insure a rolling action at the glue applying end of the roller 19 and result in an even application and spreading of the glue upon the article 39. In practice the periphery of the glue applying roller 19 will be formed of relatively soft rubber, and it is contemplated that the traction or right-hand end of the roller 19 may be slightly larger in diameter than the left-hand or glue applying end of this roller. As shown by dot and dash lines, the platen 11 is made adjustable inwardly where it can be secured by wing nuts 43. This adjustment is to provide for a wider application of glue upon the surface of the article 39, and under these conditions the roller 19 will be of such a length that the left-hand or glue applying end thereof will correspond with this adjustment of the platen 11. It is contemplated that the glue applying machine will include a series of glue applying rollers 19 of different widths, and to facilitate an interchange of these rollers they are preferably arranged to be conveniently secured upon the adjustable bracket 29 by means of a wing nut 44.

Reference is now made to Figure 5 of the drawing, wherein there is shown a modified form in which the glue applying means comprises a roller 45 mounted in glue receiving relation with the feed roll 21 and a separate friction roller 46 which is spaced from the roller 45 and located at the opposite side of a supporting bracket 47, where it is adapted to engage the article 39 to which the glue is applied to a point removed outwardly from the glue receiving zone thereof. In this arrangement, when a wider area of glue is to be applied to the article 39, it is only necessary to remove the narrow glue applying roller 45 and substitute a wider one therefor.

For the purpose of describing the operation of the machine shown in the drawing, it will be assumed that the parts are in the positions illustrated. Under these conditions, if the machine is to be used for the purpose of applying glue to a rider or like paper, such as has been previously suggested are commonly used with insurance contracts and the like, the operator will place the rider or like paper face down upon the platen 11, so that its upper edge will align with the flange 12. When this is done, the operator can by a foot operation of the pedal below the machine exert a pulling force upon the cable 17 and thus cause the carriage 13 to move to the right over the article upon which the glue is to be applied. During this movement of the carriage 13 the glue transferring roll 21 will rotate in a clockwise direction and carry a film of glue from the reservoir 20 down to the left-hand end of the glue applying roller 19, where this roller will take the glue from the roll 21 and apply it with a rolling action upon the sheet or article 39 upon the platen 11. During this forward movement of the carriage 13 the gear 27 will roll over the rack 28 and drive the roll 21 so as to feed glue to the glue applying roller 19, and upon the reverse or backward movement of the carriage 13, the pawl 26 will disengage the ratchet 25 and permit the gear 27 to rotate without turning the glue feeding roll 21. This will prevent a discharge of

glue from the reservoir 20 during the backward movement of the carriage, and at the same time the glue applying roller 19 will roll backward over the glue applied to the article during the forward movement of the carriage and spread it evenly upon the surface thereof.

While I have, for the sake of clearness and in order to disclose my invention so that the same can be readily understood, described and illustrated specific devices and arrangements, I desire to have it understood that this invention is not limited to the specific means disclosed, but may be embodied in other ways that will suggest themselves to persons skilled in the art. It is believed that this invention is new and it is desired to claim it so that all such changes as come within the scope of the appended claims are to be considered as part of this invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. In a glue applying device of the character described, the combination of a supporting platen upon which a glue receiving article may be placed, a carriage movable over said platen, a glue containing reservoir upon said carriage, a glue applying roller surface beneath said reservoir adapted to receive glue therefrom as said carriage is moved with respect to the glue receiving article, and a second roller surface out of glue receiving relation with said reservoir adapted to frictionally engage the glue receiving article and be driven thereby to impart rotation to said glue applying roller surface as it passes over the article.

2. In a glue applying device of the character described, the combination of a stationary platen upon which a glue receiving article may be placed, a guide rod extending parallel with one end of said platen, a carriage mounted to slide along said guide rod at one end of said platen, a glue carrying reservoir upon said carriage, and a glue applying roller having axially displaced cylindrical portions, one of said portions being adapted to receive glue from said reservoir and transfer it by a rolling action to an article placed upon said platen when the carriage is moved with respect thereto, the other portion of said glue applying roller being adapted to engage the glue receiving article and cooperate with said guide rod to support said carriage, whereby a positive rolling action will be imparted to the glue transferring portion of said roller as it passes over the article.

3. In a glue applying device of the character described, the combination of a stationary platen upon which a glue receiving article may be placed, a carriage movable in a straight line adjacent said platen and having a glue containing reservoir, a glue applying means under said carriage adapted to contact the article and spread glue thereupon, a glue feeding roller associated with said reservoir for feeding glue to said glue applying means, means for biasing said carriage toward one end of its path of travel, means for moving said carriage against said bias to its other limit of travel, a stationary rack disposed along the path of said carriage between its limits of travel, and a ratchet driven gear meshing with

said rack adapted to rotate said glue feeding roller to feed glue to the applying means when said carriage is moved across the work against its bias and permitting said glue feeding roller to remain stationary and interrupt the feeding of glue from said reservoir as said carriage is returned to its initial position by said biasing means.

4. In a glue applying device of the character described, the combination of a supporting frame, a work supporting platen disposed horizontally upon said frame, a guide rod upon said frame extending parallel to one side of said platen, a carriage having a forward and backward movement pivotally mounted upon said guide rod and overhanging said platen, a glue containing reservoir at the overhanging end of said carriage, a glue applying roller adapted to receive glue and transfer it to the surface of the work upon said platen, and means associated with said glue containing reservoir adapted to transfer glue therefrom to said glue applying roller only when the carriage moves in its forward direction over the work.

5. In a glue applying device of the character described, the combination of a supporting frame, a work supporting platen disposed horizontally upon said frame, a guide rod upon said frame extending along one side of said platen, a carriage having a backward and forward movement pivotally mounted upon said guide rod and overhanging said platen, a supporting roller for said carriage adapted to engage the work and support the overhanging end thereof upon the work, a glue containing reservoir at the overhanging end of said carriage, a glue applying roller associated with said reservoir adapted to transfer glue therefrom to the surface of the work, said supporting roller being adapted to impart rotation to said glue transferring roller as it moves backward and forward over the work, and means associated with said glue containing reservoir adapted to feed glue to said glue applying roller only when the carriage moves in its forward direction over the work.

6. In a glue applying device of the character described, the combination of a supporting frame, a work supporting platen disposed horizontally upon said frame, a guide rod upon said frame extending parallel to one side of said platen, a carriage having one end slidably mounted upon said guide rod and its other end overhanging said platen, a glue containing reservoir at the overhanging end of said carriage, a glue applying roller associated with said reservoir adapted to apply glue to the surface of work on said platen, a transfer roller associated with said glue containing reservoir adapted to transfer glue therefrom to said glue applying roller, a second roller adapted to engage the work and support the overhanging end of said carriage and impart rotation to said glue transferring roller as it moves backward and forward over the work, and a drive for said transfer roller adapted to rotate said roller and transfer glue to said glue applying roller only when the carriage moves in its forward direction over the work.

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