

E. G. STAUDE.
GLUE POT FOR BOX MAKING MACHINES.
APPLICATION FILED MAR. 8, 1909.

1,127,538.

Patented Feb. 9, 1915.

2 SHEETS—SHEET 1.

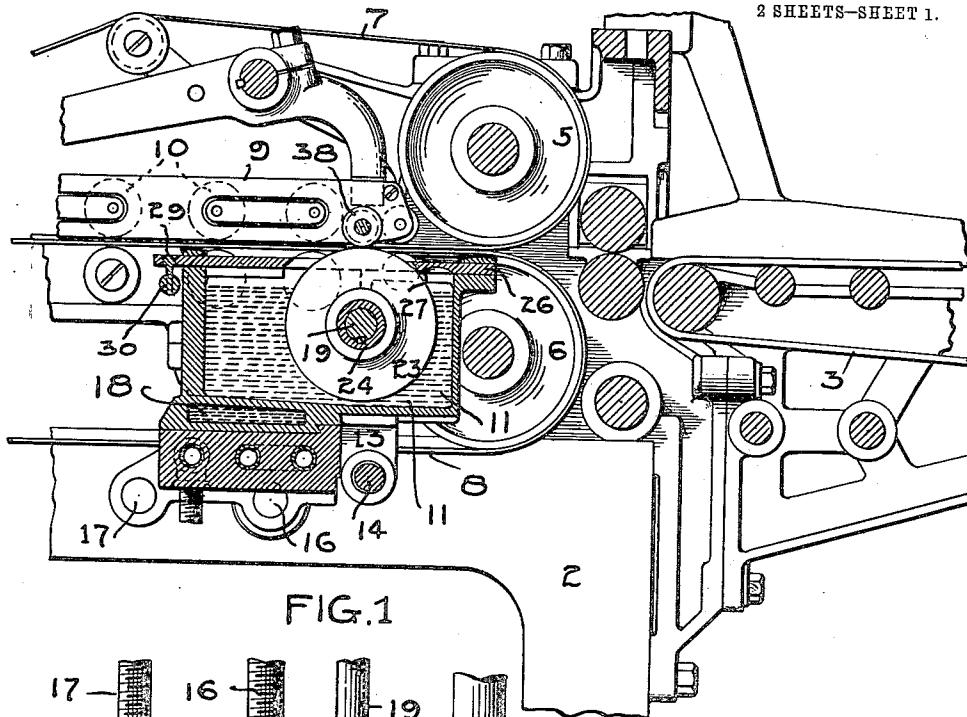


FIG. 1

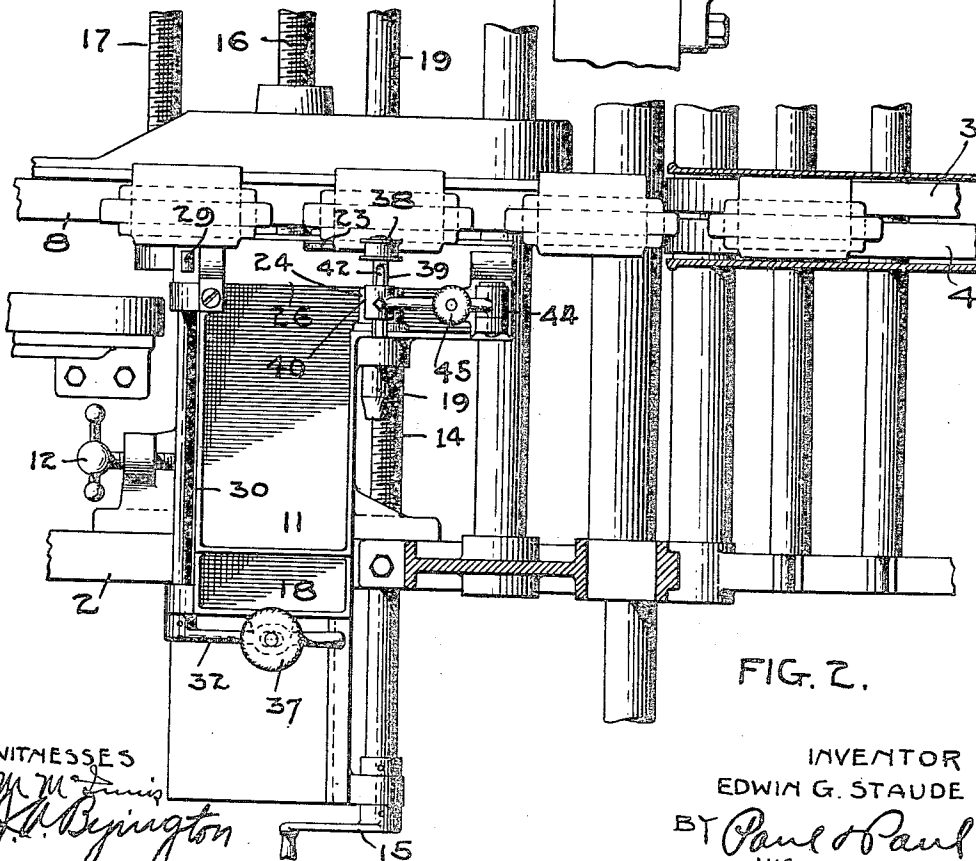


FIG. 2.

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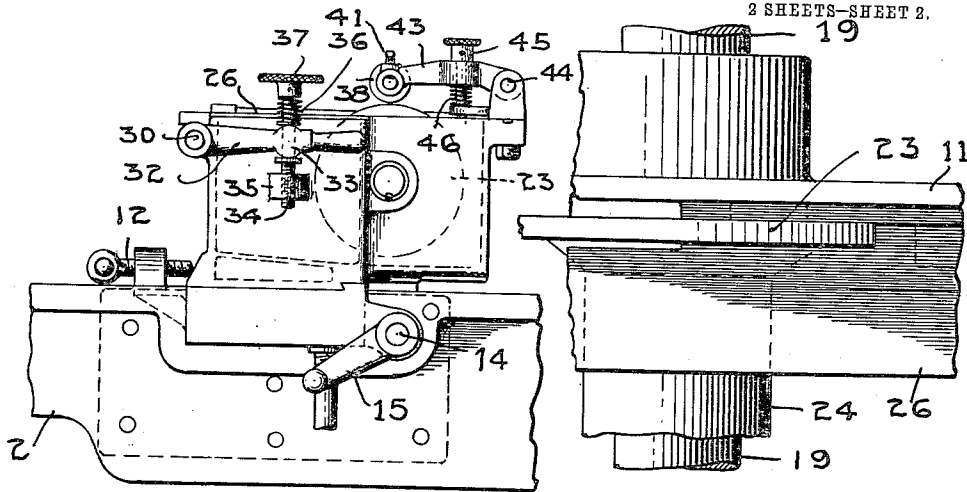


FIG. 3.

FIG. 4.

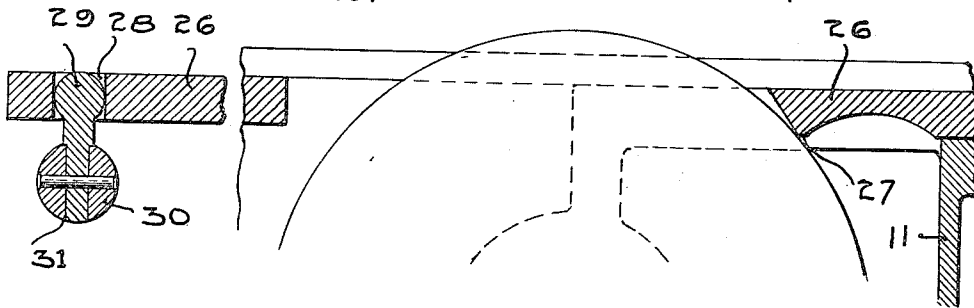


FIG. 5.

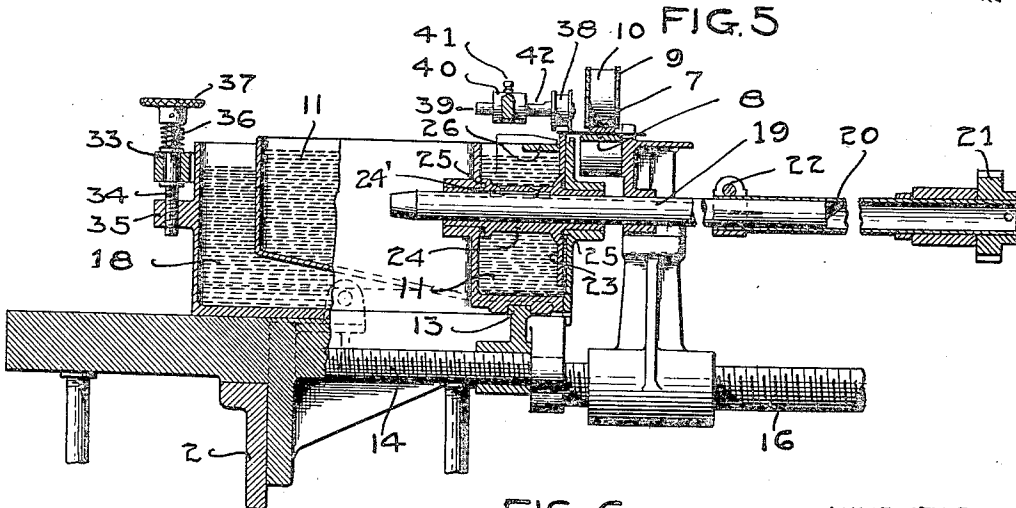


FIG. 6.

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UNITED STATES PATENT OFFICE.

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GLUE-POT FOR BOX-MAKING MACHINES.

1,127,538.

Specification of Letters Patent.

Patented Feb. 9, 1915.

Application filed March 8, 1909. Serial No. 482,154.

To all whom it may concern:

Be it known that I, EDWIN G. STAUDE, of Minneapolis, Hennepin county, Minnesota, have invented certain new and useful
5 Improvements in Glue-Pots for Box-Making Machines, of which the following is a specification.

The object of my invention is to provide means for applying glue to a flexible blank, and adapted for use on blanks of different
10 sizes, ranging from comparatively large to very small blanks.

A further object is to provide a glue-pot and glue-wheel or disk of comparatively
15 simple construction, which can be easily and quickly adjusted for blanks of different sizes while the machine is in motion.

A further object is to provide a means for operating the gluing wheel which will allow
20 the convenient removal of the glue-pot and wheel from the machine for cleaning or other purposes without the necessity of disconnecting the driving means for the glue-wheel.

Other objects of the invention will appear from the following detailed description.

The invention consists generally in various constructions and combinations, all as hereinafter described and particularly pointed
30 out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical, sectional view of a glue pot and the feeding mechanism for the blanks, embodying my invention, Fig. 2 is a top view of the same, Fig. 3 is a side view in detail, illustrating the mechanism for moving the gluing device back and forth to accommodate it to the variation in the sizes of the blanks,
40 Fig. 4 is a detail view, illustrating the width of the glue wheel, Fig. 5 is a detail sectional view, showing the scraper for the glue wheel, Fig. 6, is a transverse sectional view, illustrating the mechanism, which permits the lateral adjustment of the glue pot and wheel.

In the drawing, 2 represents the frame of the machine, 3 and 4 feed belts over which the blanks are fed to the rollers 5 and 6
50 carrying belts 7 and 8.

9 represents a frame, carrying anti-friction wheels 10 that are adapted to bear on the feed belts.

Considerable difficulty has been experienced heretofore in handling small blanks,

owing to the time required for adjusting the machine preparatory to operating on small stock and particularly for the reason that the gluing devices, as heretofore made, are not adapted for such small work and are
60 incapable of suitable adjustment for handling large as well as very small blanks. It is my purpose, in this application, to equip a machine with a gluing device, which will not only handle large and very small
65 blanks successfully, but also all those of intermediate sizes, and furthermore, to provide a construction, which will permit the adjustment of the glue pot and wheel without stopping the machine. With this end in
70 view, I provide a glue pot or receptacle 11 of suitable size and shape, extending transversely of the machine and movable upon a guiding screw 12 and a shoe 13 that is interiorly threaded to receive a transverse screw
75 14. This screw is operated by means of a crank 15. Screws 16 and 17 are also provided, by means of which the transverse adjustment of the feed rollers and their belts is obtained, for the purpose of varying the
80 transverse width of the machine according to the width of the box blanks. This feature of the machine is not included in my present invention. A chamber 18 incloses the glue pot and is adapted to contain hot
85 water or any other suitable heating agent, by means of which the glue is kept at the proper consistency for the application to the flaps of the box blanks.

19 represents a shaft that is arranged to
90 telescope with the tube 20 that is driven through a pinion 21. A clamp 22 is mounted on the tube by means of which the shaft and the tube may be securely locked together. Upon loosening the clamp 22 the
95 shaft 19 may be withdrawn from the glue-pot to allow the convenient removal of the glue-pot and gluing wheel or disk from the machine for cleansing or other purposes. The gluing wheel consists preferably of a
100 disk 23 having a hub 24 that is secured to a slide 24' which is movable back and forth in a key-seat provided in the shaft 19. The hub has packing rings 25 at each end which effectually prevent the leakage of the glue
105 through the joints between the ends of the hub and the walls of the glue-pot. This manner of mounting the gluing wheel in the hub allows it to slide freely back and forth on the shaft with the adjustment of
110

the glue-pot and it is unnecessary to have separate adjusting devices for the wheel and for the pot, as is usually provided in gluing mechanisms of this character. The glue wheel is submerged in the glue for a considerable distance above the center thereof, as indicated in Fig. 1 and I am thus able to prevent, to a very considerable degree, the drying of the glue on the wheel and I am also able to use a comparatively large amount of glue in the pot with a wheel of small diameter. It will be noted that the wheel is arranged at one end of its hub, so that it may be operated close to the wall of the glue pot and be utilized for applying the glue to the edges of small cartons. I prefer to provide a scraper device in connection with the glue wheel, consisting of a plate 26 having a scraping edge 27 in position to engage the periphery of the wheel. An opening 28 is provided in said plate into which a head 29 is inserted. A shaft 30 has a recess 31, to receive the shank of said head and said shaft has a lever 32 at one end, provided with a socket 33 to receive a screw 34 that is threaded to enter a lug 35 in the wall of the glue pot. A spring 36 is provided on the screw above the lever 32. The screw is provided with an adjusting wheel, 37, by means of which the lever may be raised or lowered, the shaft 30 rocked and the desired adjustment obtained for the scraper 36. This clean-off device for the glue wheel may be operated without changing the adjustment of the pot. Above the glue wheel is a roller 38 carried by a shaft 39 that is adjustable lengthwise in a block 40 that is provided with a set screw 41 to enter a longitudinal recess 42 in said shaft. The block 40 is mounted on an arm 43 that is pivoted at 44 and is vertically adjustable by means of a screw 45 and a spring 46. The pressure of the roller on the flap of the blank is regulated by the screw 45 and the horizontal adjustment of the roller is obtained by movement of its shaft 39 in the block 40.

The roller 38, as will be noted from the foregoing description, is carried by the glue-pot and consequently will move back and forth with the glue-pot and gluing wheel without changing the relative position of these parts of the device.

In the operation of the machine, the glue-pot and glue-wheel are adjusted on the shaft 19 by means of the screw 14 to adapt them for applying glue to the size of blank passing through the machine, and the glue-pot and wheel may be set up close to the friction wheel 10 and the feed belts, as indicated in Fig. 6, to adapt the machine for handling very small blanks, or the glue-pot and wheel may be moved away from the belts to adapt them for applying glue to blanks of a larger size, and this adjustment may be easily and quickly accomplished

without stopping the machine and without checking the driving mechanism for the gluing wheel. Upon loosening the clamp 22 the shaft 19 may be moved endwise in one direction to allow a wider range of adjustment of the glue-pot, or this shaft may be withdrawn entirely from the glue pot to allow the removal of the pot and the gluing wheel from the machine to clean out the pot and remove the glue from the wheel, or for other purposes, without the necessity of disconnecting the driving pinion for the shaft and wheel. The adjustment of the glue-wheel scraper and the flap roller 38 can be effected without changing the position of the glue-wheel.

In various ways the details of construction herein set forth may be modified and still be within the scope of my invention.

I claim as my invention:—

1. The combination, in a machine of the class described, with a machine frame and a blank feeding means, of a movable glue pot, a glue wheel located in said glue pot and having a hub with its ends arranged between the walls of the glue pot and forming tight joints therewith, means for driving said wheel having a sliding connection with an end of said hub through a wall of the glue pot, and means for adjusting said glue pot and the contained glue wheel transversely to the line of travel of the blanks.
2. The combination, in a machine of the class described, with a machine frame and blank feeding means, of a transversely movable glue pot, a glue wheel provided with a suitable hub and located in said glue pot and movable therewith, means for driving said wheel having a sliding connection with said hub through a wall of the glue pot, and means for adjusting said glue pot and the contained glue wheel transversely to the line of travel of the blank.
3. The combination, in a machine of the class described, with a machine frame, and a blank feeding means, of a transversely movable glue pot, a glue wheel located in said glue pot and having a sleeve or hub with its ends arranged between the walls of the glue pot and forming tight joints therewith, a shaft for driving said wheel extending into said hub and having a sliding connection therewith, and means for adjusting said glue pot and the contained glue wheel toward and from the blank feeding means.
4. The combination, in a machine of the class described, with a machine frame and a blank feeding means, of a transversely movable glue pot, a glue wheel located in said glue pot and having a sleeve or hub that extends through the glue pot and forms a tight joint at both ends with the walls thereof, a shaft for driving said wheel extending into said hub and having a sliding connection therewith, and means for adjusting said glue

pot and the contained glue wheel toward and from the blank feeding means.

5 The combination, with a frame, of a blank feeding means mounted thereon, a glue pot, a glue wheel therein, a scraper mounted to contact with the periphery of said wheel, a roller mounted on said glue pot between which and said wheel the blank to be gummed is fed, and a screw having a driving connection with said glue pot for moving it, said wheel, said scraper and said roller toward or from said feeding means.

6 The combination, with a frame, of a blank feeding means mounted thereon, a glue pot, a glue wheel therein, a scraper mounted to contact with the periphery of said wheel, a roller mounted on said glue pot between which and said wheel the blank to be gummed is fed, and means connected with said glue pot for moving said glue pot, said wheel, said scraper and said roller toward or from said feeding means.

7 The combination, with a frame, of a blank feeding means mounted thereon, a glue pot, a glue wheel therein, a roller mounted on said glue pot between which and said wheel the blank to be gummed is fed, and means in connection with said glue pot for moving said glue pot, said wheel and said roller toward or from said feeding means.

8 The combination, in a machine of the class described, with a machine frame and a blank feeding means, of a movable glue pot, a glue wheel arranged within said pot close to a vertical wall thereof and projecting above said pot to contact with and gum a blank, said glue wheel having a hub with its ends arranged between the walls of the glue pot, and forming tight joints therewith, the proximity of said wheel to the wall of said pot permitting its adjustment close to said feeding means for gumming small blanks, means for driving said wheel having a sliding connection with an end of said hub through a wall of the glue pot, and means for adjusting said glue pot and the contained glue wheel transversely to the line of travel of the blanks.

9 The combination, with a frame, of a glue-pot mounted therein, a glue-wheel journaled in said pot, a driving shaft projecting into said pot and on which said wheel is slidable, said driving shaft having a driving pinion and composed of telescoping sections, whereby the part projecting into said

pot may be withdrawn to allow the convenient removal of the pot from said frame.

10 In a machine of the class described, the combination, with a frame, of a glue-pot, a tube, a shaft telescoping therewith and on which shaft said glue-pot is slidably mounted, a glue-wheel mounted in said pot and slidable therewith, a blank feeding belt operating near said pot, and means for moving said pot and glue-wheel toward and from said belt.

11 In a machine of the class described, the combination, with means for feeding blanks, of a glue-pot, a glue-wheel mounted in said glue-pot, an adjusting screw and bracket whereon said glue-pot is mounted, a shaft projecting into said glue-pot and supporting said glue-wheel, a tube having a driving pinion, and means for clamping said tube on said shaft, said shaft telescoping in said tube to allow the removal of said glue-pot without displacing said tube and pinion.

12 The combination, in a machine of the class described, with a machine frame and a blank feeding means, of a movable glue pot, a shaft passing through said glue pot and the walls thereof, a glue wheel arranged in said pot and having a hub with a slidable connection with said shaft, said hub being normally immersed in the glue within said pot and having glue tight joints with the walls of said pot whereby an accumulation of the glue on said shaft will be prevented, and means for simultaneously moving said glue pot and wheel toward and from the line of feed of the blanks.

13 The combination, with means for feeding the blanks, of a glue-pot, a glue-wheel, an adjusting screw operating parallel with the axis of said glue-wheel, and a guiding screw operating at right angles to the axis of said glue-wheel.

14 The combination, with means for feeding flexible blanks, of a glue-pot, a glue-wheel mounted to revolve in said pot, mechanism for adjusting said glue-pot and glue-wheel simultaneously to adapt them for gluing blanks of different sizes, a presser roller mounted on said pot and adjustable therewith, and means for adjusting said roller with respect to said wheel.

In witness whereof, I have hereunto set my hand this 2d day of March 1909.

EDWIN G. STAUDE.

Witnesses:

RICHARD PAUL,
J. A. BYINGTON.