J. F. ZAPF.

GLUING MACHINE.

APPLICATION FILED FEB. 19, 1907.

905,269.

Patented Dec. 1, 1908.

4 SHEETS—SHEET 1.

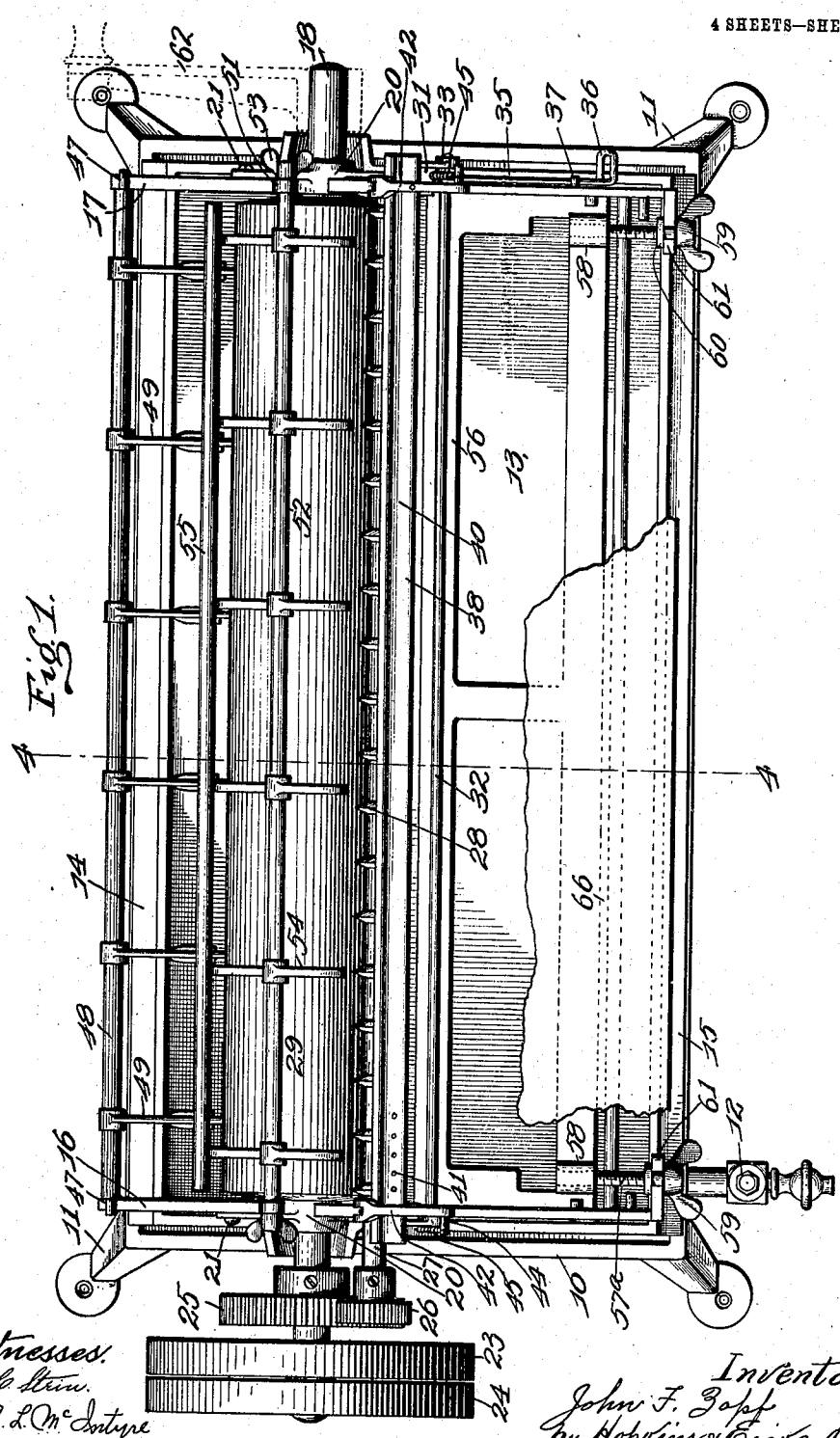


Fig. 1.

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4 SHEETS—SHEET 2.

Fig. 2.

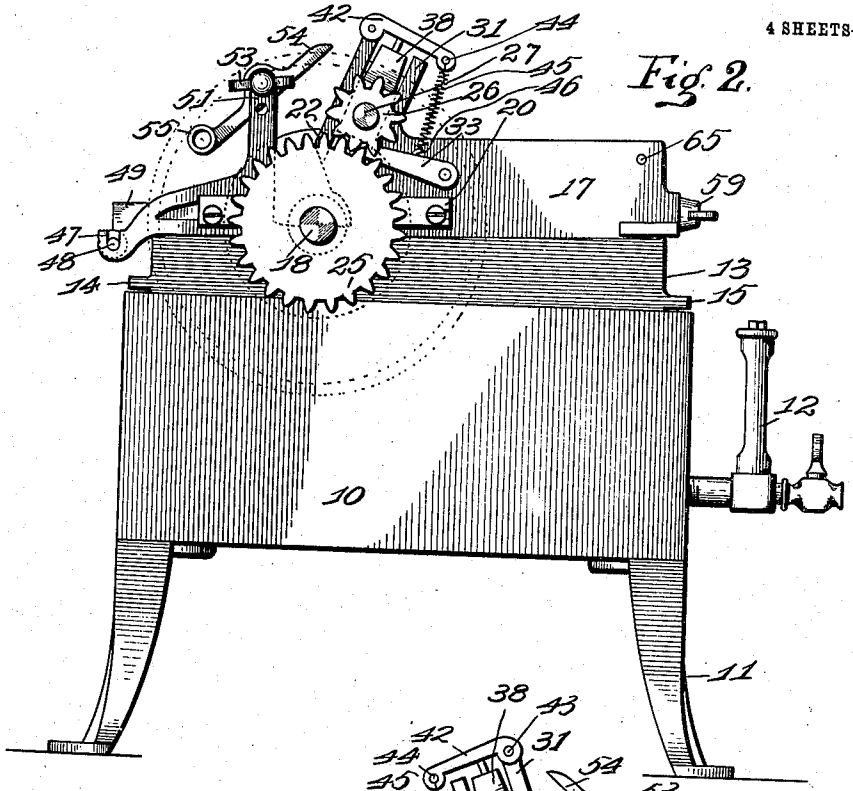
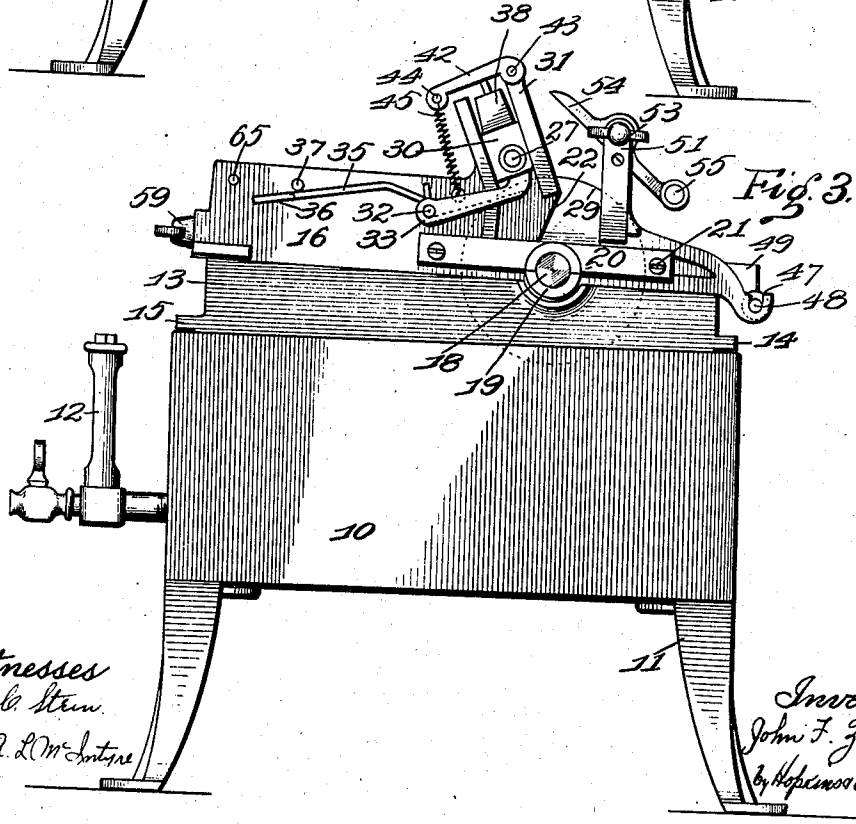


Fig. 3.



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4 SHEETS—SHEET 3.

Fig. 4.

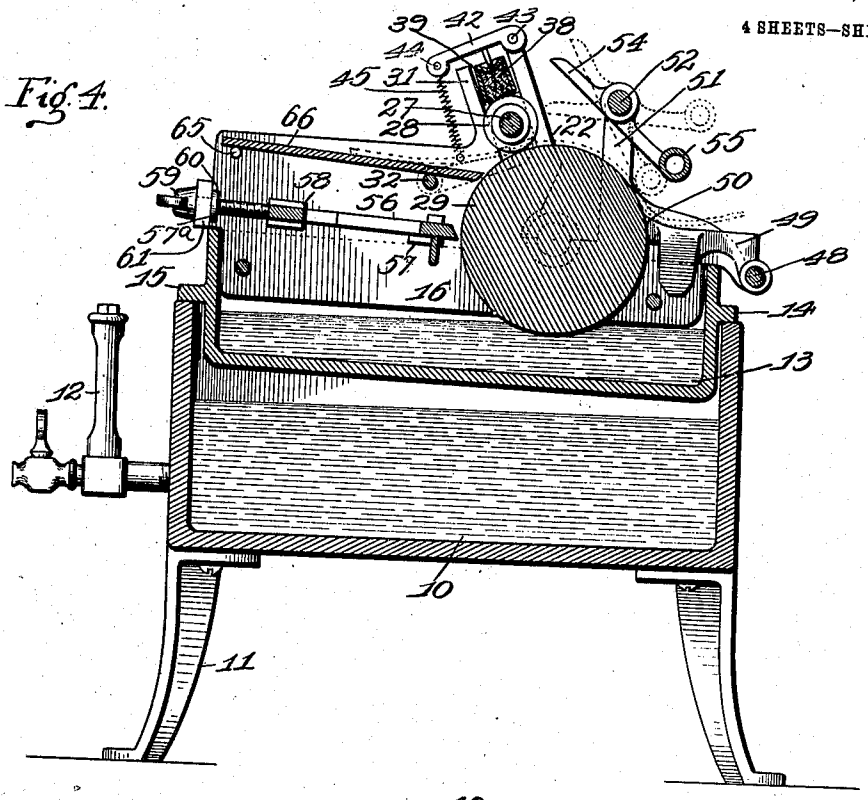


Fig. 6.

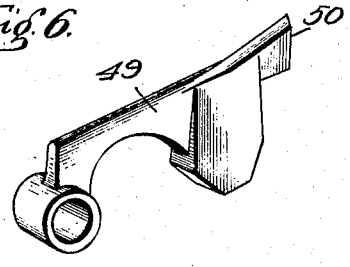


Fig. 5.

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4 SHEETS—SHEET 4.

Fig. 7.

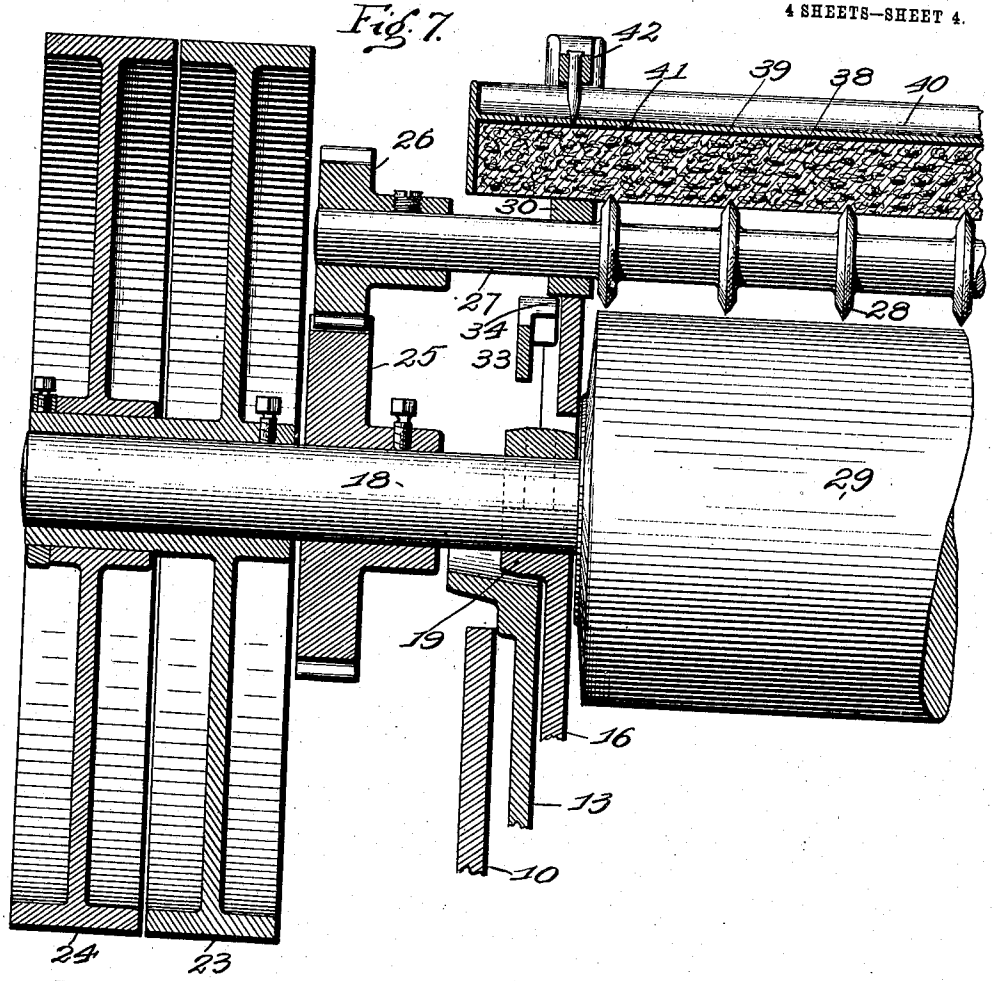


Fig. 8.

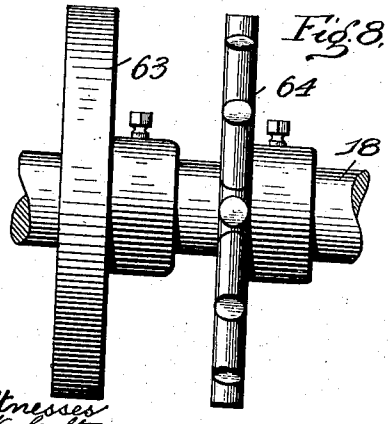
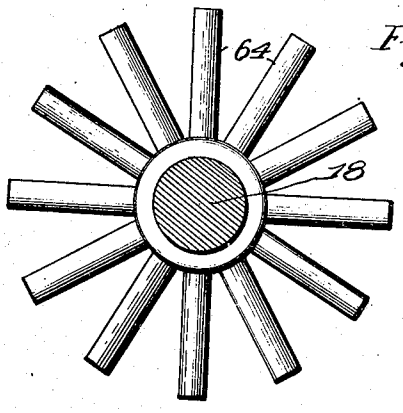


Fig. 9.



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UNITED STATES PATENT OFFICE.

JOHN FREDERICK ZAPF, OF ST. LOUIS, MISSOURI.

GLUING-MACHINE.

No. 905,269. Specification af Letters Patent. Patented Dec. 1, 1908

Application filed February 19, 1907. Serial No. 358,307.

To all whom it may concern:

Be it known that I, JOHN FREDERICK ZAPF, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Gluing-Machines, of which the following is a specification.

This invention relates to improvements in gluing machines and consists of the novel arrangement, construction and combinations of parts as will be fully hereinafter described and claimed.

The object of this invention is to construct a machine whereby glue or paste is applied to the entire face or surface of a sheet of paper or cardboard to which is applied covers as used in bookbinding and the like.

A further object of my invention is to provide a machine having an adjustable means to accommodate the insertion of any thickness of paper or cardboard and to apply glue or paste to the entire surface of the material.

In the drawings—Figure 1 is a top plan view of my complete invention. Fig. 2 is an end view of the same looking from the left. Fig. 3 is an end view of the same looking from the right. Fig. 4 is a vertical, central, cross-sectional view taken on the line 4—4 of Fig. 1. Fig. 5 is a detail, perspective view of a portion of the adjusting mechanism with parts thereof broken away, showing its construction. Fig. 6 is a detail, perspective view of one of the guide-pawls made use of to guide the paper or cardboard from the roller. Fig. 7 is an enlarged, detail, sectional view of a portion of the gluing mechanism showing its connection and mode of operation. Fig. 8 is a plan view of a modified form of gluing disks which may be applied to the shaft. Fig. 9 is an end view of the same.

In the construction of my invention I provide a vat 10 mounted upon suitable legs or supports 11 and to one side of the vat I apply an indicator 12 by which the amount of water contained within the vat is designated. Beneath the vat I may apply any suitable heating device by which the water contained within the vat may be heated.

Upon the vat and extending partly into the same I provide a basin 13 in which the paste or glue is retained, and the same is held in position by projecting lugs 14 and 15, the lug 14 being higher than the lug 15 so as to provide a tilt or inclined pitch to the basin so as to retain most of the paste or glue in the rear end of the basin. The glue or paste within the basin is kept in proper condition by the heated water within the vat.

Upon the vat I mount the gluing mechanism which consists of a pair of side walls 16 and 17 through which extends an operating shaft 18 and operates in bearings, the lower portion of said bearings being formed by the projecting lug 19 which is integral with the walls 16 and 17, and the upper portion 20 of said bearings being adjustable and secured to the side walls 16 and 17 by screws 21 or the like. In order that the shaft may be removed from the end walls I slot the same as indicated by the numeral 22.

Upon one end of the shaft 18 I provide a set of tight and loose pulleys 23 and 24 by which said shaft is revolved when power is to be used, and upon said shaft I also provide a gear-wheel 25 which meshes with a gear-pinion 26 mounted upon a shaft 27. The said shaft 27 is provided with a plurality of feeding-disks 28 which are arranged to come in contact with the sheet of material to feed the same over the roller 29, which is revolubly mounted upon the shaft 18. The shaft 27 is mounted in adjustable bearings 30 and is held and guided in inclined brackets 31 formed integral with the end walls 16 and 17.

Extending from wall to wall is a rod 32 and on its projecting ends are located pawls 33, its free end provided with an inwardly projecting portion 34 which comes in contact with the under surface of the adjustable bearings 30, and the same is held in its adjusted position by means of the spring-lever 35 connected to one end of the rod 32, the other end formed into a handle 36, and when it is desired to keep the feeding-disks in raised position the said lever is brought in contact with the under surface of the projecting lug 37 formed on the end wall 17.

Between the inclined brackets 31 and resting upon the upper surface of the bearings 30 is a wiper casing 38 in which is placed a strip of felt or other suitable material 39 and contacts with the edge of the several feeding-disks to wipe the surplus glue or paste which may by chance come in contact with the disks.

The casing 38 has its upper surface trough-

shaped as indicated by the numeral 40, and in the same is provided a plurality of openings 41 through which moisture may be applied to the wiping material as well as to act as air escapes when the material is placed in position within the casing 39. In order to retain the wiper in close contact with the feeding-disk, I provide arms 42 pivotally connected at their one end to one of the inclined brackets 31 at the point indicated by the numeral 43, and the other end of the arms 42 is provided with pins 44 to which is fastened one end of the springs 45, and the other ends of the said springs are held to the walls by means of the pins or screws 46.

The rear ends of the walls 16 and 17 are provided with recesses 47 in which is supported a rod 48, and on said rod are placed a plurality of guide-pawls 49, the said pawls are loosely mounted upon said rod so that the same may be adjusted laterally as found desirable and their ends 50 are brought in contact with the periphery of the roller 29 (see Fig. 4). The upper surface of each of the pawls is suitably curved so as to guide the strip of material and remove it from the surface of the roller. The end walls 16 and 17 are also provided with upwardly projecting integral arms 51 to which is supported a rod 52, the ends of said rod projecting through the arms and is provided with thumb-nuts 53 by which said rod may be rigidly locked in position. Upon said rod are placed a plurality of guide-bars 54 and to the rear end of said guide-bars is fastened a tube or rod 55; the object of this device is to accommodate the various thicknesses of material to be passed over the roller 29, and by means of the thumb-nuts 53 the device can be adjusted to bring the tube 55 in contact with the material to retain the same against the roller, as shown by dotted lines in Fig. 4. When it is desired to apply the paste or glue to a sheet of stiff cardboard, the device is then placed in horizontal position as shown by dotted lines in Fig. 4, which will then permit the sheet of material to pass on a straight line over the roller.

The glue or paste is applied to the sheet of material by means of the roller 29, a portion of its periphery being submerged into the glue contained within the basin, and in order to prevent too much of the glue from coming in contact with the sheet, I provide a scraper 56 which consists of a skeleton frame supported upon lugs 57 carried by the end walls 16 and 17, and the said scraper is held in adjusted position by means of adjusting screws 57ª, the said screws operating in threaded bores formed in the lugs 58 of the scraper and are operated by the thumb-nuts 59. The said screws are also provided with washers 60 which retain said screws in position within the lugs 61 formed on the end walls 16 and 17.

In instances where power is not available, I may apply, as shown by dotted lines in Fig. 1, a handle 62 by which the roller may be operated.

In some instances where it is desired to apply glue or paste to the material in ridges or in spots, I provide the shaft 18 with disks 63 and spurs 64, as shown in Figs. 8 and 9.

Upon the rod 32, and lugs 65 secured to the end walls I provide a table 66 upon which the sheets of material are laid to be fed over the roller, as shown by the dotted lines in Fig. 4.

Having fully described my invention, what I claim is:

1. A gluing machine comprising a basin, a roller extending throughout the length of said basin, and revolubly mounted on the ends thereof, feeding-disks adjustably mounted above the roller, a spring actuated wiper located above the feeding-disks and a plurality of pawls for removing the material to be glued from the roller, substantially as specified.

2. A gluing machine comprising a basin, a gluing roller mounted upon said basin, feeding-disks adjustably mounted above the roller, a spring controlled wiper located above the feeding-disks, guide-pawls contacting with the periphery of the roller and means for holding the material in contact with the roller while glue is being applied, substantially as specified.

3. A gluing machine, comprising a vat, a basin containing glue, removably located upon said vat, a gluing roller located within the basin and supported on the ends thereof, a plurality of feeding-disks for feeding the material over the gluing roller, a spring controlled wiper for removing the surplus glue from the feeding-disks, and a pawl for removing and guiding the material from the roller, substantially as specified.

4. A device of the class described comprising a vat mounted on standards, a basin containing glue supported upon said vat, a gluing roller extending into said basin, end walls supporting the roller upon said basin, a scraper adjustably located between the walls, a feeding mechanism adjustably located above the roller, a spring controlled wiping mechanism contacting with the feeding mechanism, and adjustable mechanism for retaining the material in contact with the roller while the glue is being applied and a mechanism for removing the material and guiding it away from the roller, substantially as specified.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

JOHN FREDERICK ZAPF.

Witnesses:

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