

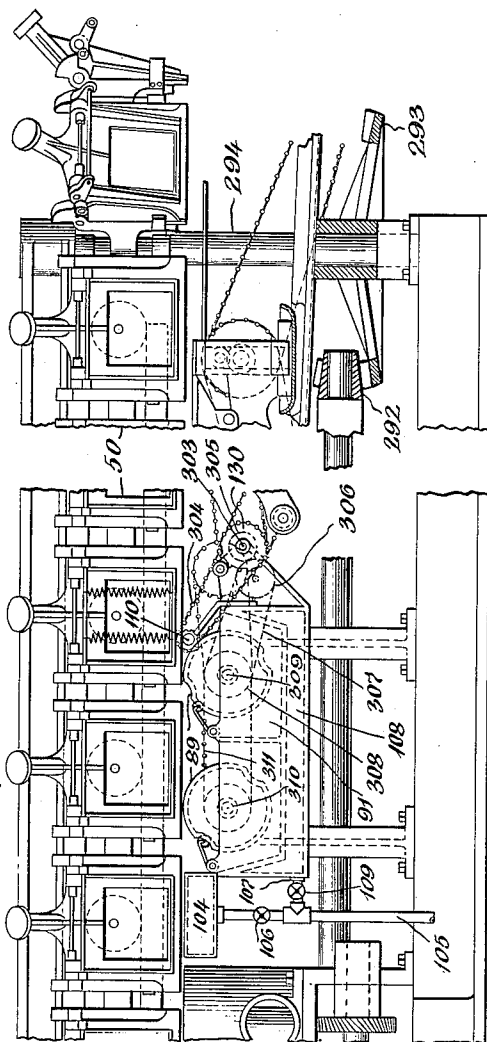
1,277,939.

C. A. JUENGST.
ADHESIVE APPLYING DEVICE.
APPLICATION FILED AUG. 7, 1914.

Patented Sept. 3, 1918.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses:
John J. Kittel
Lawrence Randolph Watson

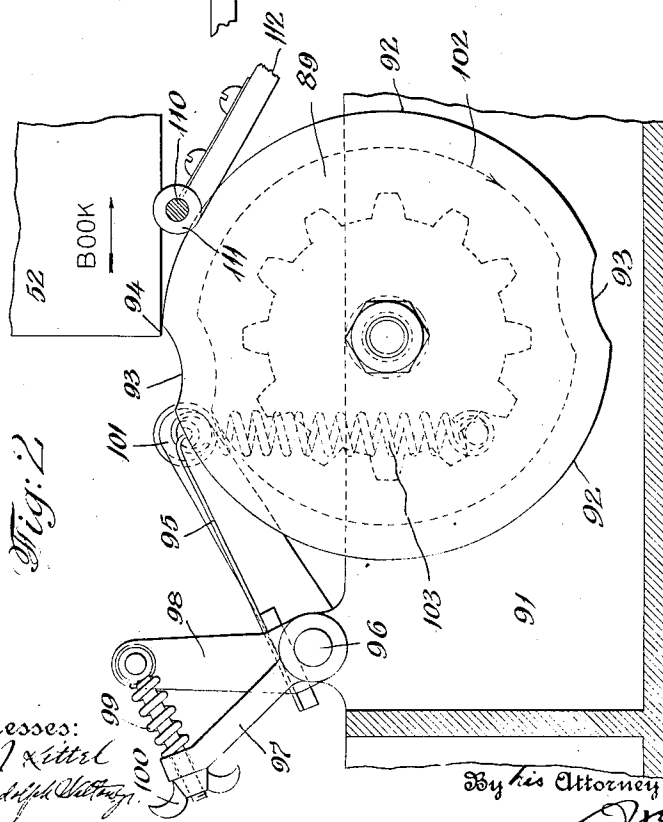
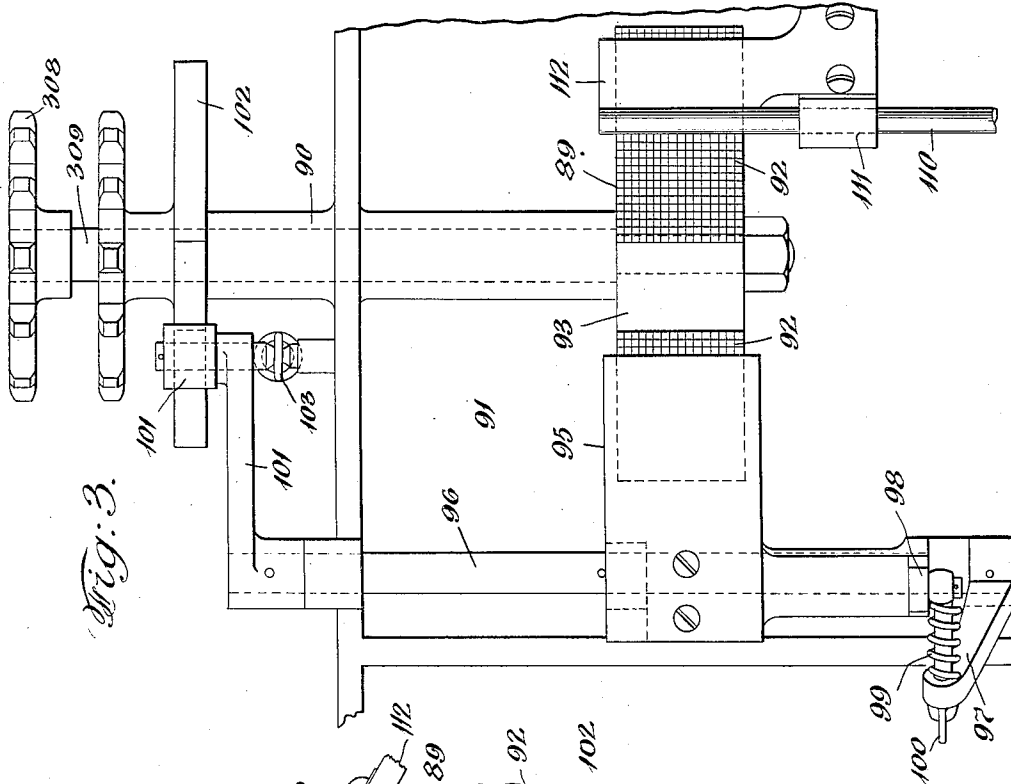
Inventor
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By the Attorney
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2 SHEETS—SHEET 2.



Witnesses:
John J. Kitzel
Edward Randolph Wittberg

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UNITED STATES PATENT OFFICE.

CHARLES A. JUENGST, OF CROTON FALLS, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO AMERICAN ASSEMBLING MACHINE COMPANY, A CORPORATION OF DELAWARE.

ADHESIVE-APPLYING DEVICE.

1,277,939.

Specification of Letters Patent.

Patented Sept. 3, 1918.

Original application filed September 26, 1913, Serial No. 791,942. Divided and this application filed August 7, 1914. Serial No. 855,644.

To all whom it may concern:

Be it known that I, CHARLES A. JUENGST, a citizen of the United States, and a resident of Croton Falls, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Adhesive-Applying Devices, of which the following is a specification.

The present invention relates generally to adhesive applying devices used more particularly in connection with book covering machines, and has for its main object means for applying the proper amount of adhesive to the stock or book.

This case is a division of the prior application Serial No. 791,942, filed Sept. 26, 1913.

I have found, if an adhesive is applied to the entire length of the back of the book, that there will be an accumulation of adhesive at the tail end of the book—a condition which is disadvantageous since the surplus tends to smear parts of the book not intended to be glued. I therefore prefer to construct the adhesive applying member in such a way that the glue is applied to the back of the book for a distance less than the entire length of the book, thereby avoiding the overplus of adhesive.

Also I provide a depressed portion in the surface of the adhesive applying member into which the accumulation of adhesive collects, and a scraper is provided which follows the contour of the adhesive applying member and removes all surplus from the same. To facilitate the application of the adhesive, and to aid in keeping it in a fluid condition while applying it to the book, I find it advantageous to heat the book before the glue is applied.

The invention consists of the foregoing and other features of construction herein-after described in connection with the preferred embodiment of the invention herein disclosed, from which embodiment however changes may be made without departing from the legitimate and intended scope of the invention as expressed in the appended claims.

In the drawings:

Figure 1 is a side elevation, having parts broken away, showing the invention applied to a book covering machine.

Fig. 2 is a detail view of one of the glue rollers, with a section through the glue pot.

Fig. 3 is a plan view of the parts shown in Fig. 2.

Similar characters of reference indicate corresponding parts in the several views.

50 indicates a book conveyer of any suitable construction, and preferably consisting of clamps hinged together to form a chain which is driven from the shaft 294. Motion is imparted to the said shaft 294 by means of the bevel pinion 292 and outer gear 293.

89 is an endless adhesive applying member here shown as a roller, suitably journaled as at 90 for rotation within the adhesive container 91. The member 89 is provided with adhesive applying surfaces 92 and depressed surfaces or gaps 93. Each surface 92 is of a length less than the length of the back of the book 52, or the surfaces 92 and 93 are so related circumferentially with relation to the travel of the book that a surface 92 will not contact the tail end 94 of the book 52. The surplus adhesive will therefore collect on the surfaces 93 of the roller 89.

95 is a scraper blade mounted loosely on the rockshaft 96. Mounted fast on the rockshaft 96 is an arm 97 and carried by the scraper 95 is also an arm 98. Interposed between the two arms is a spring 99 the tension of which may be adjusted by means of the wing nut 100. The spring 98 serves to hold the arms 97 and 98 as widely separated as the position of the wing nut 100 will permit, and under certain conditions to hold the scraper 95 against the roller 89 under a yielding tension. Connected to the rockshaft 96 is an arm or cam follower 101 arranged to faithfully follow the contour of the roller 89 by reason of its engagement with the cam 102. By means of the adjusting nut 100 it will be evident that the relative angular positions of the scraper 95 and the arm 101 can be varied so that the scraper can be placed in contact with the surface of the roller 89 or at a slight distance therefrom as the conditions of the work may require.

By thus varying the position of the scraper, bringing it nearer or farther away from the roller 89, the thickness of the glue film may be varied.

The cam follower 101 is held against the cam 102 by the spring 103. As will be seen from an inspection of Fig. 2 the cam 102 is of the same contour as the roller 89, so that the scraper 95 will maintain its position adjacent to or in contact with the surface of the roller 89 at all times. The adhesive applying surfaces 92 are roughened as shown in Fig. 3, while the gaps or depressed surfaces 93 are smooth. The direction of rotation of the roller 89 is shown in Fig. 2. It will now be apparent that the rotation of the roller 89 will cause its surface 92 to be scraped by the scraper 95 before glue is applied to the book and that therefore the glue will be mostly contained in the depressions of the roughened surface 92. In this way approximately the correct amount of glue will be supplied to the book. It will be further observed that the scraper 95 will remove substantially all the glue from the surface 93, and the latter will therefore readily hold any surplus glue that may be squeezed down by the book and surface 92.

Arranged adjacent to the path of the book conveyer and in advance of the adhesive applying means is a preheating member, here taking the form of a steam chest 104 over which the back of the book passes so as to heat the paper before glue is applied. Steam is supplied to this chest through the pipe 105 controlled by valve 106. A branch pipe 107 leads from the pipe 105 to the steam chamber 108 of the adhesive container for keeping the adhesive in a fluid condition. A valve 109 controls the branch pipe 107. In the present instance two rollers 89 are employed and the book may therefore be given two applications of adhesive.

If a surplus of glue has been applied to the book it sometimes happens that it will form into downwardly projecting "whiskers" or points. In order to remove this surplus there is provided a spinner 110 in rear of the adhesive applying member, below the path of the book but closely adjacent thereto. As here shown this spinner or surplus removing member is in the form of a bar mounted for rotation in the bearing 111. A chute 112 may also be provided adjacent to the bar 110 for conveying the "whiskers" back to the glue pot. From shaft 303 runs a sprocket chain 304 to the shaft or spinner 110 of the glue pot. The shaft 303 also carries a spur gear 305 meshing with another spur gear 306 from which extends the chain 307 to the sprocket 308 on the shaft 309 of one of the glue rollers 89. Motion is transmitted from 309 to the shaft 310 of the other glue roller 89 by means of sprocket chain 311.

What is claimed is:

1. In a machine of the character set forth, an endless adhesive applying member having an adhesive applying surface and a depressed surface in rear of the adhesive applying surface, a scraper adapted to engage the adhesive applying member, a rockshaft carrying the scraper, means for holding the scraper against the adhesive applying member with a yielding pressure, and means for actuating the rockshaft.

2. In a machine of the character set forth, an endless adhesive applying member having an adhesive applying surface and a depressed surface in rear of the adhesive applying surface, a scraper adapted to engage the adhesive applying member, a rockshaft carrying the scraper, a cam having a contour corresponding to that of the adhesive applying member, and connections between the cam and the rockshaft.

3. In a machine of the character set forth, an endless adhesive applying member having an adhesive applying surface and a depressed surface in rear of the adhesive applying surface, a scraper adapted to engage the adhesive applying member, a rockshaft carrying the scraper, a cam having a contour corresponding to that of the adhesive applying member, connections between the cam and the rockshaft, and adjustable means for exerting a yielding pressure on the scraper.

4. In a book covering machine, a book conveyer for holding a book with its back exposed, means for imparting movement to the book conveyer, means located adjacent to the path of the book conveyer for applying adhesive to the back of the book, and means also located adjacent to the path of the book conveyer for heating the back of the book before applying the adhesive.

5. In a book covering machine, a book conveyer for holding a book with its back exposed, means for imparting movement to the book conveyer, means located adjacent to the path of the book conveyer for applying adhesive to the back of the book, a steam chest also located adjacent to the path of the book conveyer and in advance of the adhesive applying means, and means for supplying steam to the steam chest and to the adhesive applying means.

Signed at New York, in the county of New York and State of New York, this 6th day of August, A. D. 1914.

CHARLES A. JUENGST.

Witnesses:

MARY W. WALLACE,
AXEL V. BEEKEN.