

(No Model.)

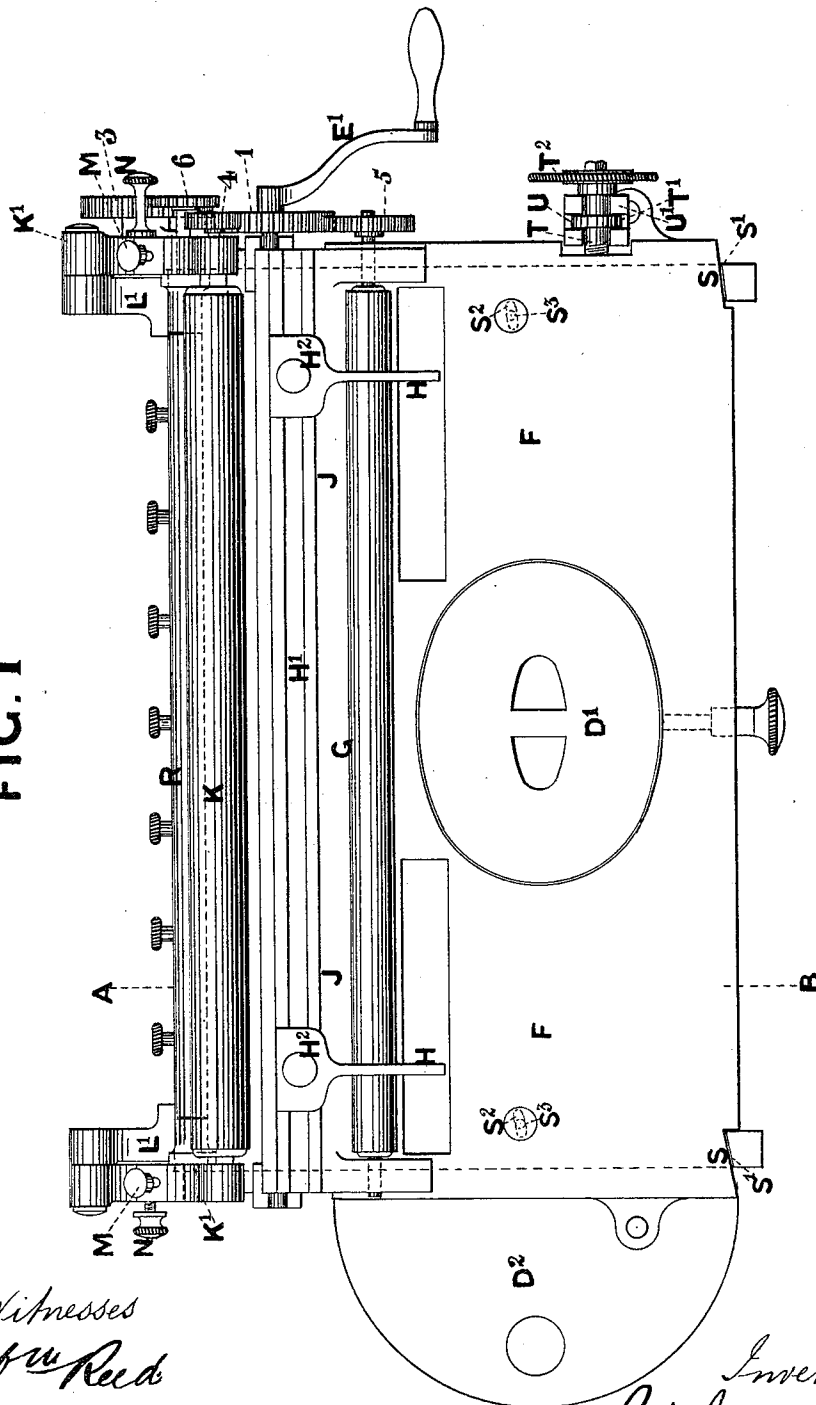
3 Sheets—Sheet 1.

J. J. ALLEN.
MACHINE FOR GUMMING PAPER.

No. 403,633.

Patented May 21, 1889.

FIG. 1



Witnesses
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Inventor
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FIG. 2

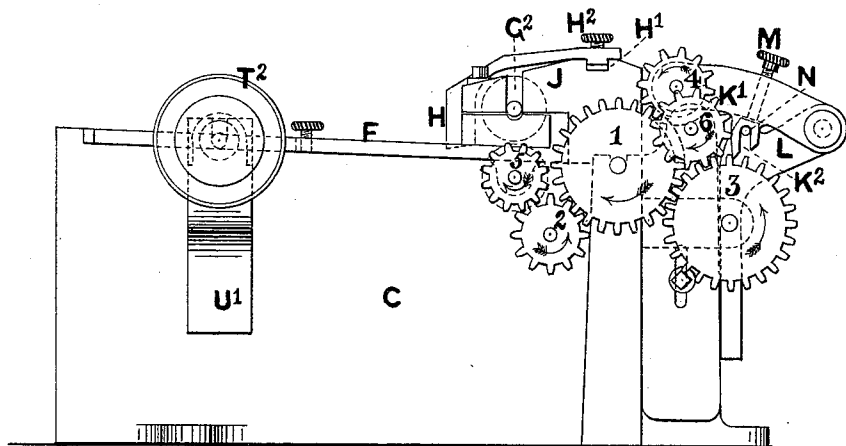
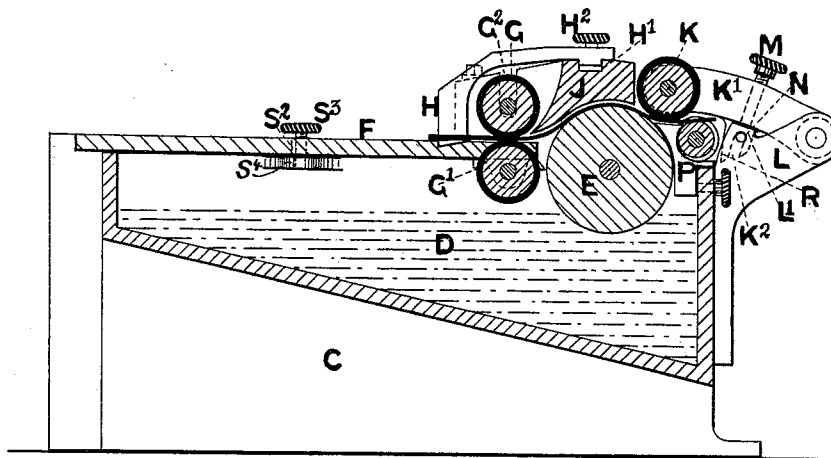


FIG. 3



Witnesses
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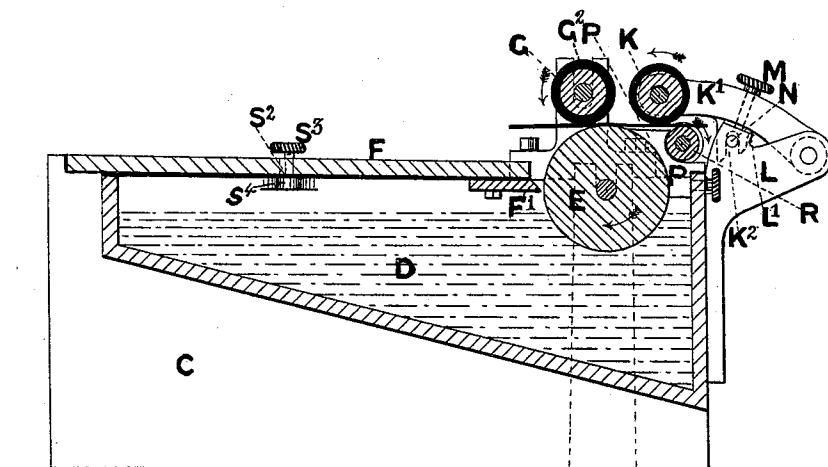
3 Sheets—Sheet 3.

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MACHINE FOR GUMMING PAPER.

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FIG. 4



Witnesses
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Henry D. Groves.

Inventor
John James Allen.

UNITED STATES PATENT OFFICE.

JOHN JAMES ALLEN, OF HALIFAX, COUNTY OF YORK, ENGLAND.

MACHINE FOR GUMMING PAPER.

SPECIFICATION forming part of Letters Patent No. 403,633, dated May 21, 1889.

Application filed September 18, 1888. Serial No. 285,738. (No model.)

To all whom it may concern:

Be it known that I, JOHN JAMES ALLEN, a subject of the Queen of Great Britain, residing at St. James's Street, Halifax, in the county of York, England, managing director of the Allen Machine Company, (Limited,) have invented new and useful Improvements in Machines for Gumming Paper and Card-Board, of which the following is a specification.

This invention relates to further improvements on my former United States Patent, No. 386,863, dated July 31, 1888, and relates to machines to be employed for applying a coating of gum or paste to paper or other flexible substances and to card-board, thereby dispensing with the use of brushes and avoiding the waste and labor which occur with hand-gumming.

My improved machine for gumming paper and the like flexible substances is constructed with a gumming-roller revolving in a trough containing paste or gum, with an adjustable strickle-plate or scraper, (for removing the excess of gum from the roller,) with feed-rollers and guides for guiding and feeding the paper to the gumming-roller, with a tension-cover which presses the paper onto the gumming-roller as it passes between, and thereby insures the covering of the whole surface with gum or other liquid, and fingers are provided to lift the paper from the gumming-roller, from which it passes over the finishing-roller. When card-board or similar inflexible substances are required to be gummed, the tension-bar is removed and the tension-roller and the top feed-roller are raised and adjusted to the required height, so that the card-board can be fed horizontally through the machine and operated upon as described.

In the drawings, Figure 1 is a plan of my machine for gumming paper or other similar flexible material. Fig. 2 is an end elevation of Fig. 1, showing gear. Fig. 3 is a cross-section of Fig. 1 through the line A B. Fig. 4 is a cross-section of Fig. 1 with guide-bar removed and tension-roller raised for gumming card-board or other stiff material.

C is the frame of the machine, having a trough, D, with lid D'. By the extension of the trough at one end, D², provision is made for a continuous supply of liquid to the trough from an air-tight cistern.

E is the gumming-roller revolving within the trough D, which contains paste or gum.

F is the adjustable cover, to which is attached the strickle-plate F', which regulates the layer of liquid and keeps down all superfluities in the trough.

G and G' are the feed-rollers. The top feed-roller, G, having its bearings in the slots G², is self-adjustable, and will take any thickness of paper or card-board.

H are the guides, carried upon the tension-cover in slot H', adjusted by thumb-screws H².

J is the tension-cover, which extends the whole length of the gumming-roller and keeps the paper down upon the periphery of the gumming-roller.

K is the tension-roller, carried on the pivoted arm K' and adjustable as to its height by means of the projections L' on each of the brackets L, and adjusting-screws M, with radial slots K² on the under side of each of the pivoted arms K'. Pins N, bearing in the slots K², secure the tension-roller in position when adjusted.

For taking the paper off the gumming-roller there is a series of fingers or take-offs, P, the ends of which enter slight grooves formed at intervals around the periphery of a finishing-roller, R, to insure the fingers getting under the paper. The paper then passes to the said finishing-roller R, over which it is quickly drawn and finished.

The adjustable cover F is formed with angle ends S, bearing against similar angles, S', on the frame C. The said cover has also the diagonal slots S² formed therein, through which pass the binding-screws S³, engaging with the lugs S⁴ on the frame C. Upon the frame C there is also a bracket, U', carrying a spindle, T, having a collar, T', and milled head T², the collar working in the slot U of the said bracket and preventing any longitudinal movement of the spindle. The threaded end of the spindle is tapped into the cover-plate, so that by turning the spindle one way or the other the cover-plate is moved longitudinally, and also, from the action of the studs of the binding-screws S³ upon the diagonal slots S² during said longitudinal movement, said plate and its attached strickle-plate are given any desired adjustment with respect to the gumming-roller, and thus regulating

the thickness of the layer of gum upon the roller. When the proper adjustment of the strickle-plate is obtained, the binding-screws S^3 are screwed down, thus firmly securing the cover-plate in the desired position.

E' is the handle upon the end of the spindle of the gumming-roller, for operating the various rollers by means of the gear-wheel 1, driving in turn the gear-wheels 2, 3, 4, 5, and 6 in the directions indicated by the arrows.

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

1. The combination of a trough for holding gum, a gumming-roller revolving therein, the strickle and adjustable cover plate with groove for guides, the feeding-rollers in front of the gumming-roller, the top feed-roller being self-adjustable, the regulating-guides, the tension-roller adjustable as to its height by means of the pivoted lever and screws, the taking-off fingers, and finishing-roller, for the purposes substantially as shown and described.

2. The combination of a trough for holding gum, a gumming-roller revolving in said trough, the adjustable cover-plate F , provided with slots S^2 and having its outer corners pro-

vided with angles S , the strickle-plate F' , attached to said cover-plate, the machine-frame C , having angles S' , corresponding with the angles of the cover-plate, the studs S^3 , the slotted bracket U' , attached to the machine-frame, and the spindle T , tapped into the cover-plate, said spindle being provided with a milled head, T^2 , and having a collar, T' , working in the slotted bracket, substantially as described.

3. The combination of a trough for holding gum, a gumming-roller revolving in said trough, a self-adjustable feed-roller located above the gumming-roller, an adjustable tension-roller, a pivoted arm upon which said tension-roller is mounted, means for adjusting said pivoted arm, and a finishing-roller, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN JAMES ALLEN.

Witnesses:

ABM. REED,
Clerk, Halifax.

HENRY D. GROVES,
Clerk, Bradford.