(No Model.) 2 Sheets—Sheet 1.

G. W. GLAZIER.

BOX PASTING MACHINE.

No. 288,172. Patented Nov. 6, 1883.

Fig 1.

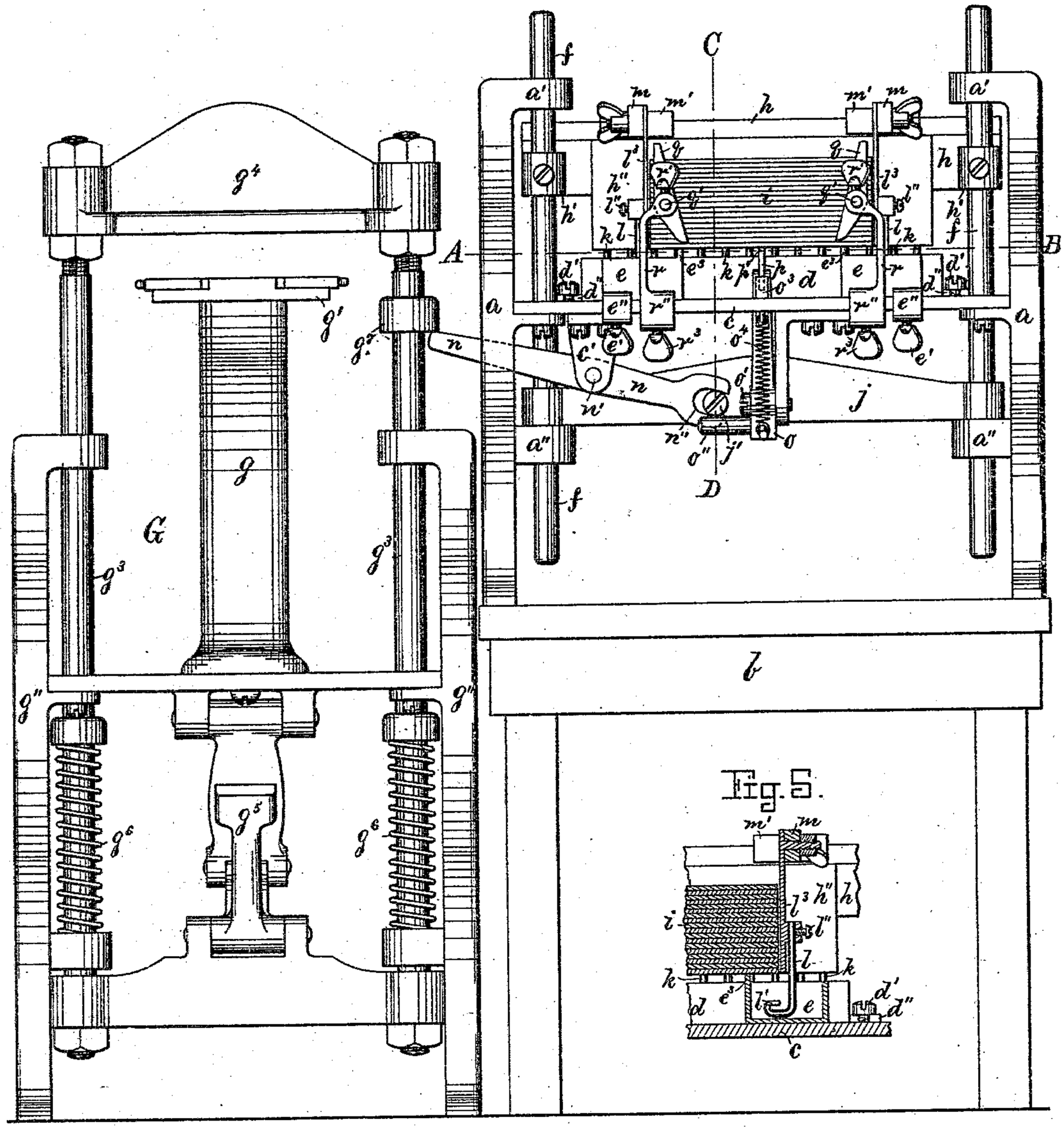

Fig. 5.

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C. A. Blackwell.

Inventor
George W. Glazier.
by Wilkinson Audrein
his attys

(No Model.)

2 Sheets—Sheet 2.

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BOX PASTING MACHINE.

No. 288,172.

Patented Nov. 6, 1883.

Fig. 2.

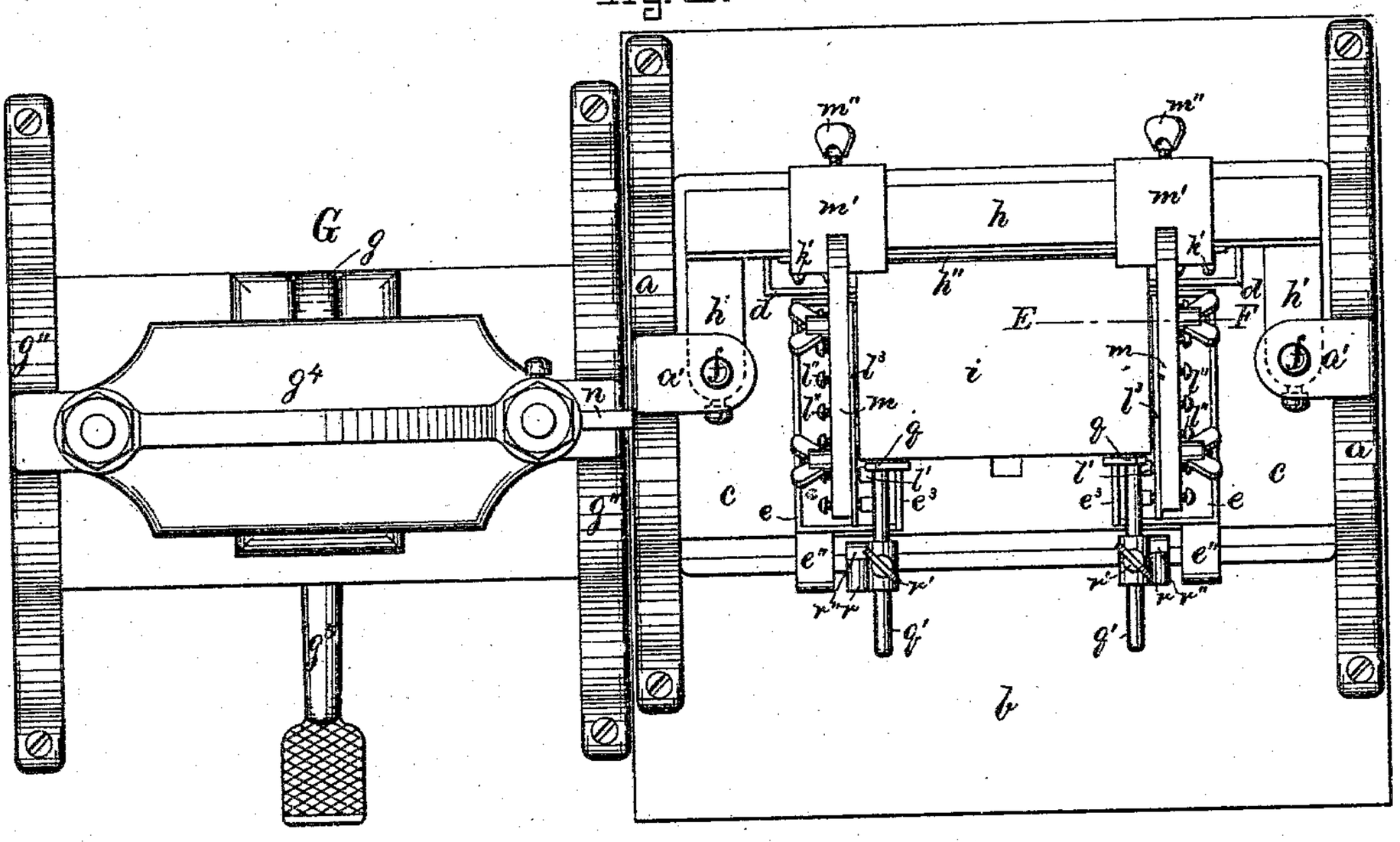


Fig. 3.

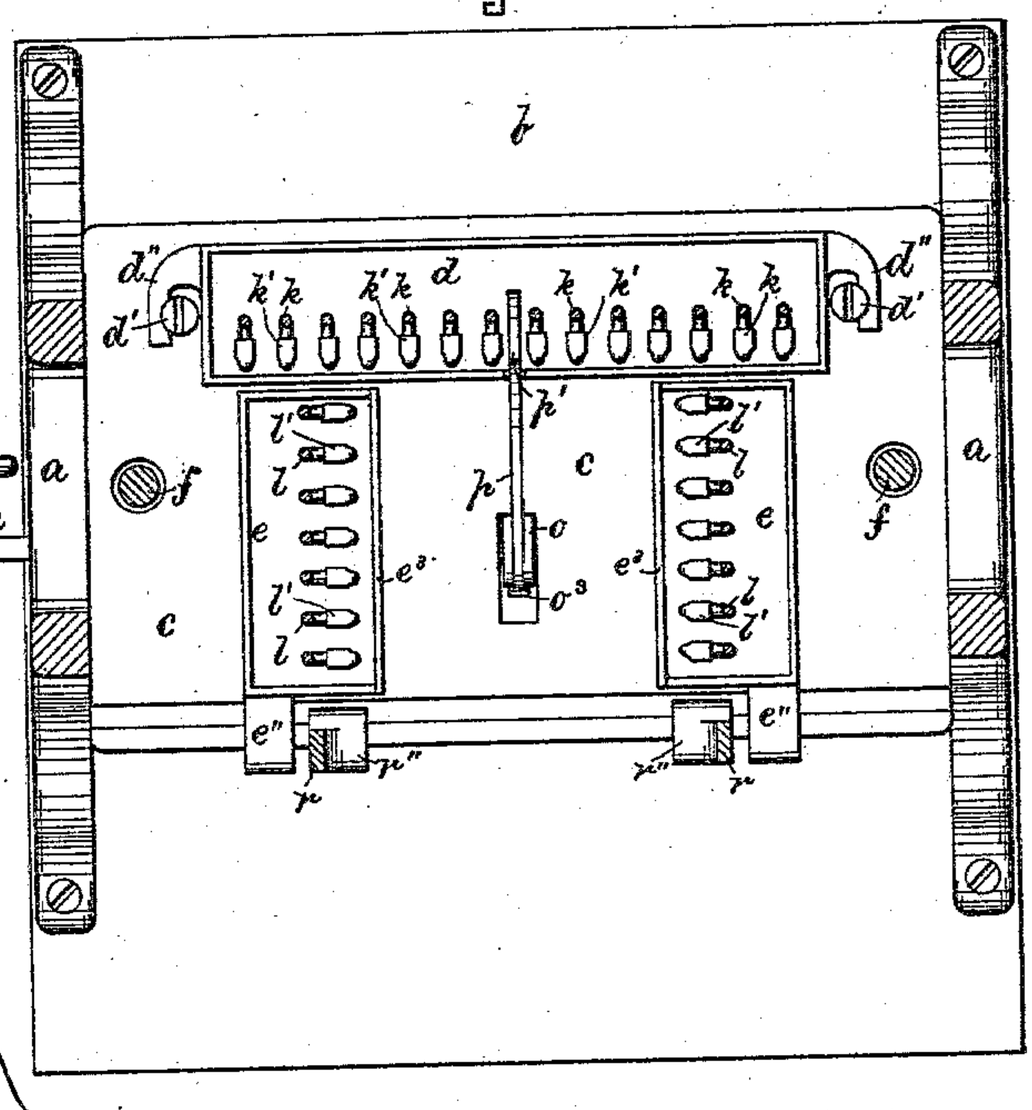
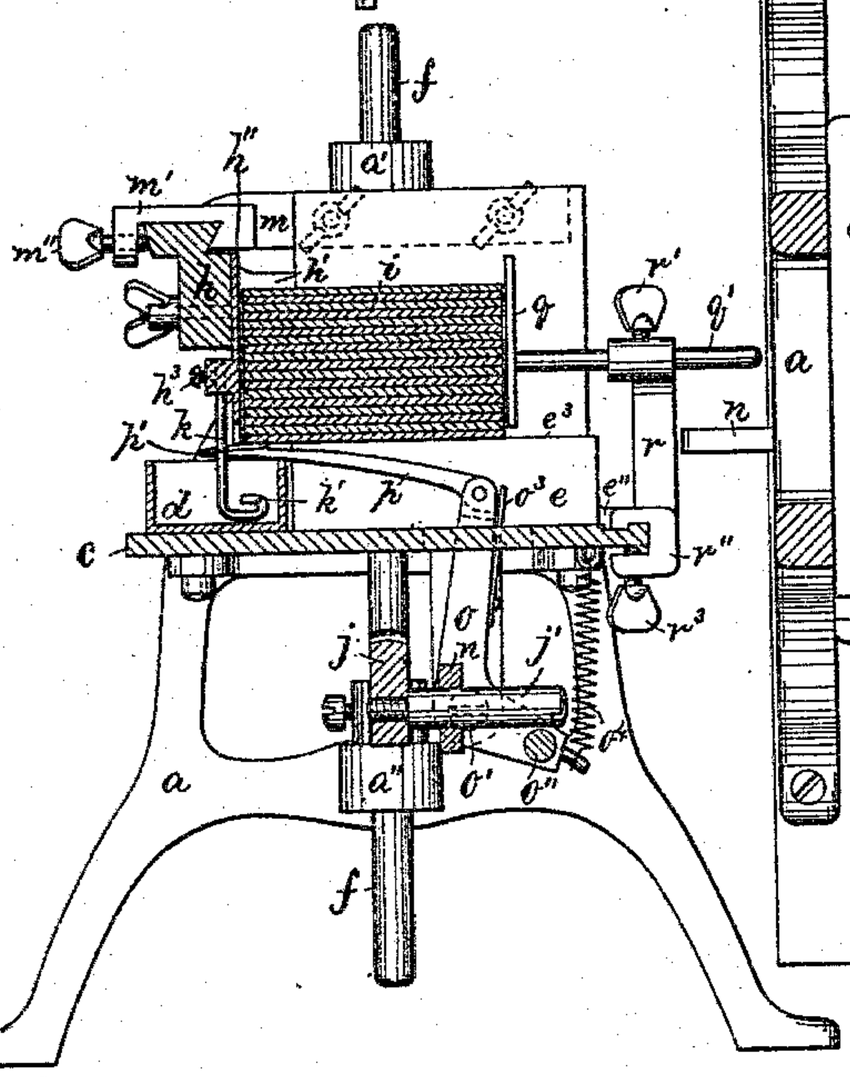


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE W. GLAZIER, OF SALEM, ASSIGNOR OF ONE-HALF TO JOHN B. ROLLINS, OF LYNN, MASSACHUSETTS.

BOX-PASTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 288,172, dated November 6, 1883.

Application filed May 21, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. GLAZIER, a citizen of the United States, residing at Salem, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Box-Pasting Machines; and I do hereby declare that the same are fully described in the following specification and illustrated in the accompanying drawings.

This invention relates to improvements in paper-box-pasting machines, and it is carried out as follows, reference being had to the accompanying drawings, where—

Figure 1 represents a front elevation of the improved pasting-machine in connection with a press for uniting the pasted ends of the boxes to their respective sides and bottoms. Fig. 2 represents a top view of Fig. 1. Fig. 3 represents a horizontal section on the line A B, shown in Fig. 1. Fig. 4 represents a vertical cross-section on the line C D, shown in Fig. 1, and Fig. 5 represents a sectional view on the line E F, as shown in Fig. 2.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

This my improved pasting-machine is intended for the purpose of automatically applying paste to three of the edges of the pasteboard ends that are used in setting up boxes, and to automatically separate such pasted piece from the others piled upon it, so that it may be removed after being pasted from the pile of unpasted sheets and placed upon the work-plate of the press, there to be pressed and stuck to pasteboard lips, forming a part of the sides and bottom of the box, to be made as is usual in making boxes of this kind.

G represents an ordinary foot-power press, such as is used for pressing and uniting the pasted edges of box parts to corresponding meeting surfaces of the unpasted portions of the box, and *g* is the stationary work-supporting post, with its upper work-supporting plate or table *g'*. *g'' g''* represent the press-frame, with its vertically-movable rods g^3 g^3 and head g^4, which are actuated by means of treadle-lever g^5 and springs g^6 g^6, as usual; and I wish to state that I do not claim the above-described press as forming a part of my invention.

The pasting-machine is composed of the upright frames *a a*, supported in their lower ends upon a suitable table, *b*, or other similar support. To the uprights *a a* is secured the horizontal plate *c*, that serves as a support for the paste-troughs *d e e*, the former being adjustable forward and back by means of the set-screws *d' d'*, passing through slotted ears *d'' d''* in the ends of said trough *d*, and screwed into the plate *c*. The troughs *e e* are adjustable to and from each other by means of set-screws *e' e'*, screwed through projections *e'' e''*, that are adapted to clamp on the front edge of the horizontal plate *c*, as shown, and in this manner the troughs *e e* may be laterally adjustable, according to the size of the pasteboard that is to be pasted. Each trough *e* has an upwardly-projecting edge, e^3, that projects above the remaining sides of it, and serves as a rest for the under side of the pasteboard while being pasted, and it also serves to prevent the paste from being scraped off while removing the pasteboard after it is pasted, as would otherwise be the case if the pasteboard came in contact with the ends of said troughs *e e*.

The troughs *d e e* contain the paste that is taken up by the pasting mechanism and applied to the sheet, as will now be described.

To the upright frames *a a* are attached or made in one piece the bearings *a' a''* for the vertical rods *f f*, which are guided and made to move up and down in said bearings *a' a''*. Below the table or plate *c* the rods *f f* are united by means of the horizontal bar or beam *j*, secured to them, so as to impart a simultaneous vertical motion to both rods *f f* when the beam *j* is operated. Above the plate *c* and its troughs *d e e* the rods *f f* are united by means of the horizontal beam *h* and its projecting ends or brackets *h' h'*, as shown in Fig. 2. To the front of the beam *h* is secured the vertical and detachable plate *h''*, that serves as a rear guide for the pile or layers *i* of pasteboards while in the process of being pasted. To said plate *h''* are secured, by means of set-screws h^3 h^3, the vertical wires *k k*, having lower bent ends, *k' k'*, which dip into the paste in the trough *d* during the downward stroke of the rods *f f*, and take up a portion thereof and apply it in spots to the under side of the low-

est sheet *i* in the pile of pasteboards during the upward stroke of said rods *f f*, and in this manner the paste is automatically applied to the under side of the rear of the pasteboard. The paste is applied to the side edges of the pasteboard by means of the lower bent ends, *l' l'*, of the vertical wires *l l*, which are secured by means of suitable set-screws, *l'' l''*, to the respective vertical and detachable plates l^3 l^3, which latter are secured at their upper ends to the laterally-adjustable bars *m m*, having heads *m' m'*, with grooved bottoms fitting the top of bar or beam *h*, on which they are adjustable to and from each other, according to the width of the pasteboards that are being operated upon. After being adjusted the said grooved heads *m' m'* are secured to beam *h* by means of set-screws *m'' m''*. (Shown in Figs. 2 and 4.)

The beam *j* and its connecting mechanism to the pasters *k' l' l'* are operated upward by means of the rock-lever *n*, hung at *n'* to a bracket, *c'*, secured to the under side of plate *c*, and having its inner end, *n''*, forked to embrace the stud or projection *j'*, secured to the lower beam, *j*, as shown in Fig. 1. The outer end of the lever *n* is operated downward by the collar g^7 on one of the press-rods g^3, as shown in Fig. 1, and it will thus be seen that when the rods g^3 g^3 and press-head g^4 are moved downward by pressing on the treadle g^5 the lever *n* is automatically acted upon, and by the connecting mechanism, as described, the pasters *k' l' l'* are automatically caused to rise and transfer a portion of the paste from the troughs *d e e* to the under side of the lowest sheet in the pile *i*. When the operator relieves his foot-pressure on the treadle g^5, the springs g^6 g^6 cause the rods g^3 g^3 to rise upward, and in so doing the outer end of the lever *n* is liberated from the collar g^7, when the pasters *k' l' l'* drop down into the paste-troughs *d e e* by the weight of the rods *f f* and beams *h j*, until the latter come at rest on top of bearings *a'' a''*, as shown in Fig. 1. During the descent of the pasters and their connecting mechanism the lower sheet in the pile *i* is automatically pushed toward the operator sufficiently to enable him to take hold of it and release it and remove it entirely from the pile by the following mechanism:

In bearing *c'*, attached to the under side of the table *c*, is journaled at *o'* the rock-lever *o*, having a pin or projection *o''* in its forward end, which is acted upon by the stud or projection *j'*, when the beam *j* descends. To the upper end of the rock-lever *o* is hinged the picker-rod *p*, having a picker projection or tooth, *p'*, in its rear end, as seen in Fig. 4.

o^3 is a suitable spring secured to rock-lever *o*, and pressing against the hinged end of the picker-rod *p*, so as to automatically keep its rear end upward against the under side of the lowest sheet in the pile *i*.

o^4 is a coiled spring, connecting the lower end of lever *o* with the under side of table *c*.

q q are adjustable gage-plates, arranged in front of the pile of sheets *i* in such a manner that their lower ends shall not project downward any farther than to allow the lowest sheet in the pile *i* to be drawn freely forward between the space left between the upper edges e^3 e^3 of the troughs *e e* and the lower ends of the gages *q q*, as shown in Figs. 1 and 4, after the paste has been applied to the under side of said lowest sheet in the pile, and thus to prevent more than one sheet to be moved forward, and that the lowest one, from time to time. Each gage *q* is attached to a rod *q'*, passing through a perforation in the upper end of the vertical arm or bracket *r*, to which it is secured by means of set-screw *r'*, after being adjusted, and it will thus be seen that by turning the rod *q'* in its bearing the lower end of the gage *q* may be raised or lowered to leave the desired space between it and the edges e^3 e^3 on the troughs *e e*, according to the thickness of the pasteboards that are in the process of being pasted. By sliding the rods *q' q'* forward or back in their bearings in the brackets *r r*, the gages *q q* may be adjusted forward or back, according to the size of the sheets in the pile *i*, and after being thus properly adjusted in both directions the said gages *q q* are firmly secured by means of the aforesaid set-screws *r' r'* to the brackets *r r*. The brackets or gage-supports *r r* are laterally adjustable on the grooved front edge of the table *c* by having lower forked ends *r'' r''* placed over the front edge of said table *c*, and secured to the same, after being properly adjusted, by means of set-screws r^3 r^3, as shown in Figs. 1 and 4.

The operation of the improved machine is as follows: After the paste has been placed in the troughs *d e e* and a pile of pasteboards, *i*, laid on top of edges e^3 e^3, between the space inclosed by rear plate, *h''*, side plates, l^3 l^3, and gage-plates *q q*, the operator depresses treadle-lever g^5, causing the pasters *k' l' l'* to come in contact with the under side of the lowest sheet in the pile *i*, and after such sheet has been pasted in this manner the pressure on treadle-lever g^5 is removed, when the pasters *k' l' l'* are automatically caused to descend into the paste-receptacles *d e e* by their own gravity and that of the vertically-movable connecting mechanism, as described. During the upward motion of the pasters the picker-tooth *p'* is automatically moved back of the rear edge of the lowest sheet *i* by the influence of the spring o^4, and during the descent of the beam *j* the picker-tooth *p'* is automatically moved forward by the action of the projection *j'* on the pin *o''*, attached to the lower end of rock-lever *o*, and by such forward motion of picker-tooth *p'* the lower sheet of the pile *i*, that has been pasted, is moved forward a small distance between the supporting-edges e^3 e^3 and the lower edges of the gages *q q*, to enable the operator to take hold of it and remove it from the other sheets in the pile, and so on.

What I wish to secure by Letters Patent, and claim, is—

1. In a pasting machine, the combination of paste-troughs *d e e* and vertically-movable plates *h'' l³ l³* with their pasting-fingers *k' l' l'*, adapted to distribute a portion of the paste on the under side of the sheet, as described.

2. In a pasting-machine, the combination of vertically-reciprocating plates *h'' l³ l³*, stationary table *c*, provided with independent paste-receptacles *d e e*, and means, substantially as described, for adjusting said plates and receptacles independently of each other, as described.

3. In a pasting-machine, the stationary table *c*, carrying adjustable paste-receptacles *d e e*, the beams *h* and *j*, vertically-movable rods *f f*, laterally-adjustable arms *m m*, and vertically-movable plates *h'' l³ l³*, with their pasters *k' l' l'*, as set forth.

4. In a pasting-machine, the adjustable paste-receptacles *d e e*, in combination with the vertically-reciprocating beam *h*, arms *m m*, and detachable plates *h'' l³ l³*, as described.

5. In a pasting-machine, the laterally-adjustable paste-receptacles *e e*, with their upwardly-projecting supporting-edges *e³ e³*, for the support of the sheets, as described.

6. In a pasting-machine, the combination, with the vertically movable and adjustable plates *h'' l³ l³*, of the adjustable guides and gages *q q*, as described.

7. In a pasting-machine, the herein-described gages and guides combined, consisting of plates *q*, rods *q'*, arms *r*, having lower heads, *r''*, adjustable on supporting-table *c* and having regulating and fastening screws *r' r³*, as set forth.

8. In combination with the press G and the pasting-machine, as described, the intermediate connecting-lever, *n*, for the automatic operation of the pasting-machine by the manipulation of the said press G, as described.

9. In a pasting-machine, the improved picker consisting of picker-rod *p p'*, hinged to knee-lever *o*, and having stud *o''*, in combination with the vertically-movable projection *j'* and springs *o³ o⁴*, as set forth.

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

GEORGE W. GLAZIER.

Witnesses:
ALBAN ANDRÉN,
HENRY CHADBOURN.