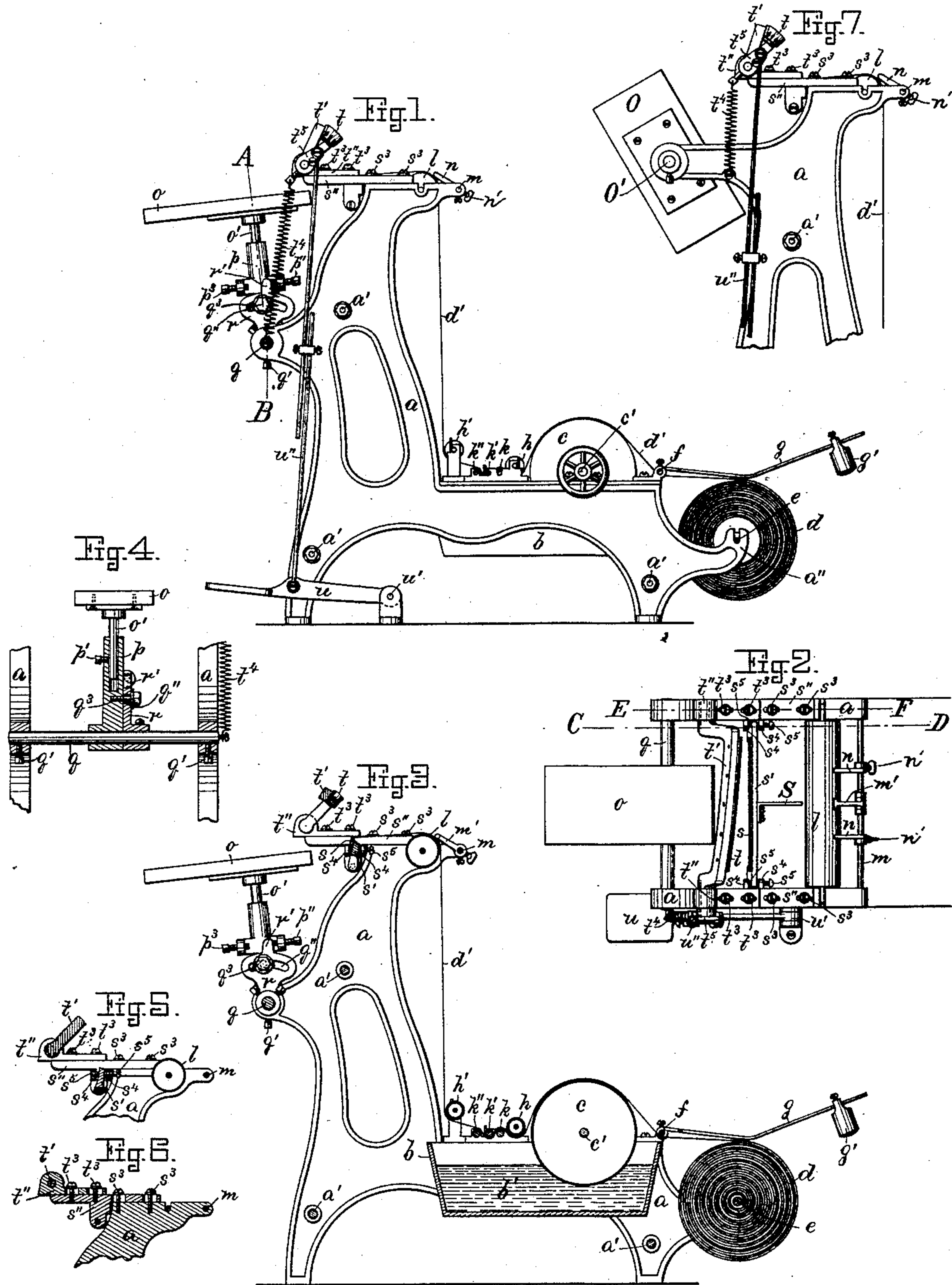


(No Model.)

G. W. GLAZIER.  
PAPER BOX COVERING MACHINE.

No. 360,582.

Patented Apr. 5, 1887.



Witnesses  
Henry Chadbourn.  
Charles H. Fry.

Inventor  
George W. Glasier  
by *Wm. Audrie*  
his atty.



# UNITED STATES PATENT OFFICE.

GEORGE W. GLAZIER, OF SALEM, ASSIGNOR OF FIVE-SIXTHS TO GEORGE A. CROSMAN, JOHN METCALF, AND JOHN B. ROLLINS, ALL OF LYNN, MASS.

## PAPER-BOX-COVERING MACHINE.

SPECIFICATION forming part of Letters Patent No. 360,582, dated April 5, 1887.

Application filed September 9, 1886. Serial No. 213,058. (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 Paper-Box-Covering 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-covering machines; and it is carried out as follows, reference being had to the accompanying drawings, wherein—

Figure 1 represents a side elevation of the machine. Fig. 2 represents a top view of the paper-strip-cutting-off device. Fig. 3 represents a vertical section of the machine. Fig. 4 represents a cross-section on the line A B, shown in Fig. 1. Fig. 5 represents a section on the line C D, shown in Fig. 2. Fig. 6 represents a section on the line E F, also shown in Fig. 2; and Fig. 7 represents a modification of the invention.

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

*a a* represent the frames or standards for supporting the various parts of the machine, said frames being held at a proper distance apart by means of suitable stay-bolts, *a' a' a'*, as usual.

*b* is the paste-trough containing paste or other liquid or semi-liquid adhesive material, *b'*, the said trough being secured to the frames *a a* in a suitable manner, as is common on machines of this kind.

*c* is the paste-roller located on shaft *c'*, loosely journaled in bearings on frames *a a*, said roller *c* being partially submerged in the adhesive material *b'*, as usual.

*d* is a reel of paper located on the spindle *e*, that is loosely supported in forked bearings *a'' a''* in the rear ends of the frames *a a*, as usual, and *d'* represents the paper strip drawn from the reel *d*.

*f* is a guide-rod secured to frames *a a* between the paste-roller *c* and reel *d*, for the purpose of properly guiding the paper strips from the reel to the paste-roller. For the pur-

pose of producing a proper and adjustable tension on the paper strip *d'* as it is drawn from the reel *d*, I pivot to the rod *f*, or to the frames *a a*, or to other suitable portion of the machine, the weighted rod or frame *g*, adapted to rest loosely on top of reel *d*, and provided in its outer end with an adjustable weight, *g'*, as shown in Figs. 1 and 3.

*h* and *h'* are loosely-rotating guide-rollers located in front of the paste-roller *c*, as shown in Figs. 1 and 3, said rollers having their spindles journaled in suitable bearings on the frames *a a*. Between the rollers *h* and *h'*, I locate my improved tempering device, which consists of a series of loosely-journaled rollers, *k k' k''*, (shown in Figs. 1 and 3,) supported in bearings secured to frames *a a*, above and below which the paper strip *d'* is carried in contact with said rollers on its way to the box-former after being pasted on its under side by passing around a portion of the paste-roller *c*. By the employment of the series of rollers *k k' k''* the paste or adhesive material applied to the paper by the paste-roller *c* is caused to be properly distributed on the paper strip and caused to enter more or less into the surface or body of the same, causing such paper strip to be properly tempered and in a proper condition to be applied to the box. According to the nature of the paste or other adhesive material, or according to the kind of paper that is used for covering the boxes, such "temper" of the paper may have to be varied, and this I do by removing one or more of said tempering-rollers *k k' k''*, which is done simply by lifting them out of their bearings on the frames *a a*.

From the roller *h'* the pasted and tempered paper strip *d'* is carried upward over a portion of the upper guide-roller, *l*, that is loosely journaled in bearings in the upper ends of the frames *a a*, as shown in Figs. 1, 2, 3, and 5. Back of guide-roller *l* is secured to the frames *a a* the rod *m*, to which is pivoted the weighted lever *m'*, the weighted free end of which lies in contact with that part of the paper strip that is for the time being carried over the roller *l*, by which the paper strip is at all times held in contact with said roller *l* and prevented from dropping down when severed by the



shearing mechanism. On said rod *m* is secured the fingers or guides *n n*, for properly guiding the paper strip relative to the box-former, on which the box is supported during the operation of covering it. Said fingers or guides *n n* are made adjustable on the rod *m* by means of thumb-screws *n' n'*, according to the width of the paper strip that is being used.

For covering tops and bottoms of covers and boxes, respectively, I use a box-former, *o*, and mechanism, as represented in Figs. 1, 2, 3, and 4. The box-former *o* has attached to its under side a shank, *o'*, that is longitudinally adjustable in a socket-piece, *p*, and secured to the latter after being adjusted by means of set-screw *p'*. (Shown in Fig. 4.) The lower end of the socket-piece *p* is hinged or pivoted on the rod or spindle *q*, secured by means of set-screws *q'* to the forward end of frames *a a*, as shown in Figs. 1, 3, and 4.

To the rod *q* is firmly secured the stop-block *r*, having a stop projection or tooth, *r'*, in its upper end, as shown in Figs. 1, 3, and 4, which is brought in contact with the inner ends of the regulating-screws *p'' p''*, that are screwed through ears on the socket-piece *p* when the box-former *o* is rocked on rod *q* to the limit of its stroke forward or back.

To prevent the socket-piece *p* from moving longitudinally on rod *q* away from the stop-block *r*, I make on the latter a curved slot, *q''*, through which passes the set-screw *q''*, the inner end of which is screwed into a screw-threaded perforation in the socket-piece *p*, as shown in Figs. 1, 3, and 4. If so desired, the socket-piece *p* and stop-block *r* may together be adjusted longitudinally on the spindle *q*, and the block *r* afterward secured to the said spindle by means of its set screw or screws. The object of thus rocking the box-former *o* on its fulcrum *q* is to permit it to be drawn or swung toward the operator and to be held in such a position (shown in Figs. 1 and 3) when the covered box (or cover) is removed from the block *o* and another one placed thereon, and thus enable the box to be removed from or placed on the block *o* without interfering with the movable shear of the paper-strip-cutting-off device.

After the box (or cover) has been placed on the block *o* the latter is rocked from the operator to the limit of its stroke, the pasted end of the paper strip is drawn by the operator and laid down smoothly on the top of the box, and the paper strip cut off the proper length by the cutting-off mechanism, hereinafter to be described.

The paper-strip-cutting-off mechanism is carried out as follows: It consists of a stationary straight knife, *s*, attached to a bar, *s'*, that is hinged in its ends to ears depending from the plates *s'' s''*, secured to tops of frames *a a* by means of set-screws *s'' s''* passing through slotted perforations in plates *s'' s''*, as shown in Figs. 2 and 6, by which arrangement the knife *s* may be adjusted so as to cut the paper strip at a right angle (more or less) to its sides,

as may be desired, according to the shape of the tops or bottoms of the boxes that are to be covered. For the purpose of enabling the stationary knife *s* to be adjusted to a nicety relative to the swinging knife *t*, I make on the insides of the plates *s'' s''* projections or ears *s'' s''*, through which pass the regulating set-screws *s'' s''* (shown in Figs. 2, 3, and 5) and by tightening one of said screws in each end of the stationary knife *s* and loosening the opposite ones, or vice versa, the position of the knife *s* can be adjusted with the greatest accuracy relative to the oscillating knife *t*.

*S* is a small plate secured to the rear of the bar *s'*, and it serves to support the paper strip *d'* between the guide-roller *l* and bar *s'*, and to prevent the end of said paper strip from dropping down between said bar and guide-roller.

*t* is the movable knife, that is made spiral, as shown in Fig. 2, and secured to the spiral frame *t'*, the ends of which are journaled in bearings *t'' t''*, the latter being adjustably secured to the adjustable plates *s'' s''* by means of set-screws *t'' t''* passing loosely through slotted perforations in bearings *t'' t''*, and screwed into the adjustable plates *s'' s''*, as shown in Figs. 2 and 6, by which arrangement the movable knife *t* may be adjusted properly to the stationary knife *s*. The movable knife *t* is normally held upward out of working position, as shown in Figs. 1, 2, 3, and 7, by the influence of the spring *t'*, secured in its lower end to one of the frames *a*, and in its upper end to the crank *t''*, secured to one end of the oscillating knife-frame *t'*, as shown in Figs. 1, 2, and 7. The knife *t* is caused to pass by the stationary knife *s*, and to sever the paper strip *d'* by the operator depressing the treadle *u*, hinged at *u'*, and provided with a link or rod, *u''*, the upper end of which is hinged to the crank *t''*, as shown in Figs. 1 and 2.

When it is desired to cover the sides of boxes and their covers, instead of using an oscillating box-former, *o*, as shown in Figs. 1, 2, 3, and 4, I use a rotary former, *O*, attached to a spindle, *O'*, that is free to rotate in a bearing in the forward end of one of the frames *a*, as shown in Fig. 7.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent and claim—

1. In an organized paper-box-covering machine, the oscillating box-former *o*, adjustably secured to the socket-piece *p*, the latter being pivoted to the rod *q*, and provided with regulating-screws *p'' p''*, in combination with the stop-block *r*, secured to rod *q*, and having stop projection *r'*, as described, and set-screw *q''*, passing through the slot *q''*, as and for the purpose set forth.

2. In a paper-box-covering machine, the rocking or rotating box-former in combination with the stationary knife *s* and the oscillating spiral knife *t*, as and for the purpose set forth.

3. In an organized paper-box-covering machine, the stationary knife *s*, adjustably se-



cured to the plates  $s'' s''$ , the latter being adjustable on the frames  $a a$ , combined with the oscillating spiral knife  $t$ , secured to the frame  $t'$ , and made to oscillate in the bearings  $t'' t''$ ,  
5 the latter being made adjustable relative to the plates  $s'' s''$ , as and for the purpose set forth.

4. In an organized paper-box covering machine, the stationary knife  $s$ , secured to the  
10 bar  $s'$ , the latter being pivoted to the plates

$s'' s''$ , and provided with regulating set-screws  $s^5 s^5$  passing through ears  $s^4 s^4$  on the plates  $s'' s''$ , combined with the oscillating knife  $t$ , as and for the purpose set forth.

In testimony whereof I have affixed my sig- 15  
nature in presence of two witnesses.

GEORGE W. GLAZIER.

Witnesses:

ALBAN ANDRÉN,

HENRY CHADBOURN.