(No Model.) 2 Sheets—Sheet 1.

E. H. TAYLOR.

MACHINE FOR COVERING PAPER BOXES.

No. 521,299. Patented June 12, 1894.

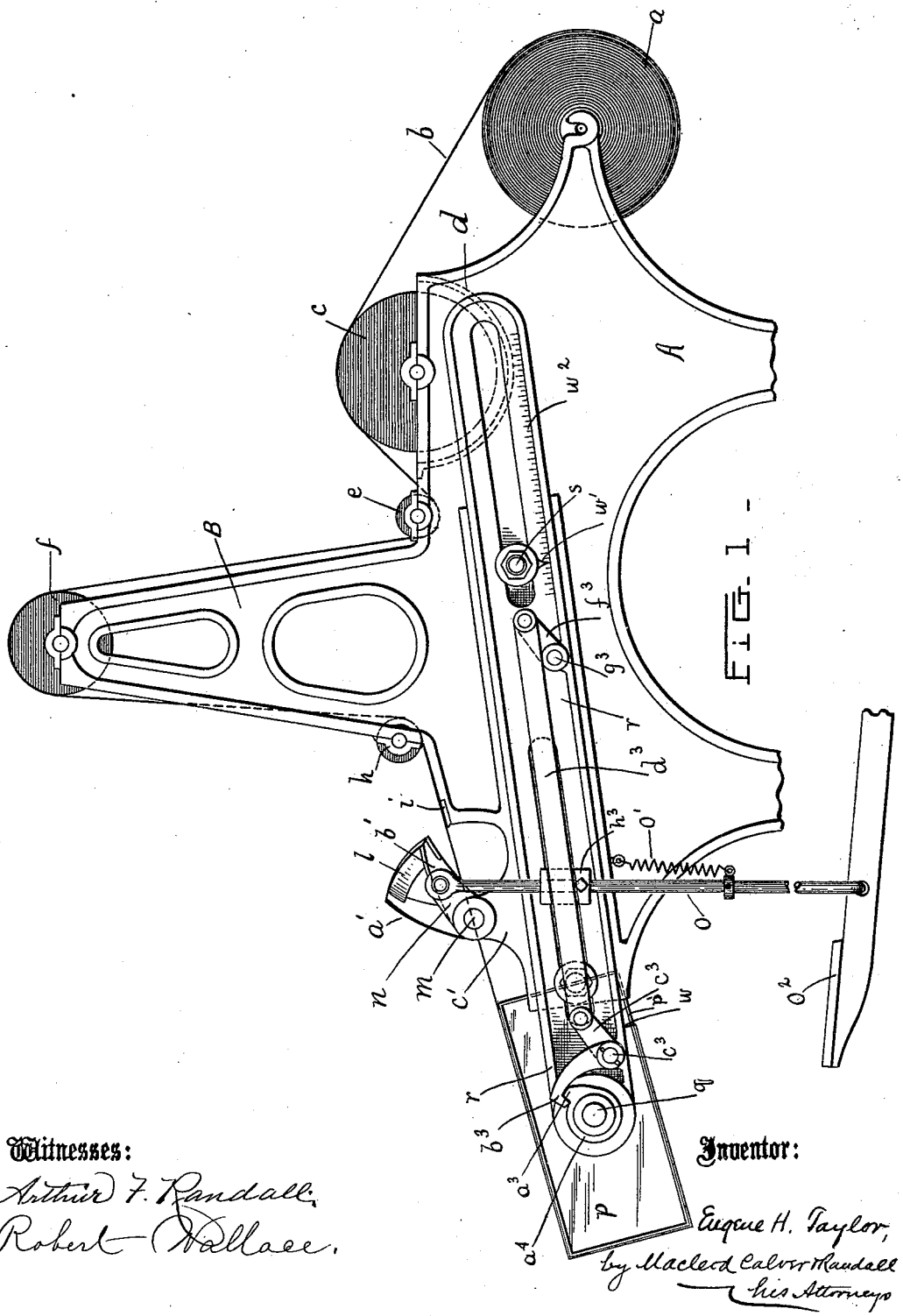


FIG. 1.

Witnesses:
Arthur F. Randall.
Robert Wallace.

Inventor:
Eugene H. Taylor,
by Macleod Calvert Randall
his Attorneys

THE NATIONAL LITHOGRAPHING COMPANY.
WASHINGTON, D. C.

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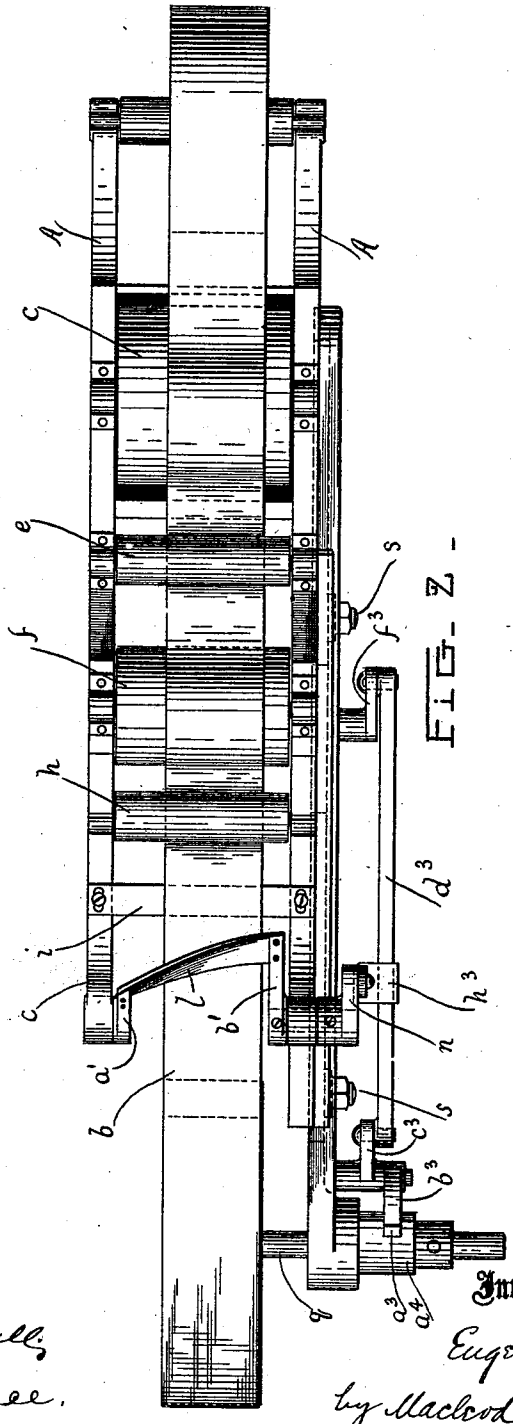


FIG. 2.

Witnesses:
Arthur F. Randall,
Robert Wallace.

Inventor:
Eugene H. Taylor,
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THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EUGENE H. TAYLOR, OF LYNN, MASSACHUSETTS.

MACHINE FOR COVERING PAPER BOXES.

SPECIFICATION forming part of Letters Patent No. 521,299, dated June 12, 1894.

Application filed August 9, 1893. Serial No. 482,733. (No model.)

To all whom it may concern:

Be it known that I, EUGENE H. TAYLOR, a citizen of the United States, residing at Lynn; in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Machines for Covering Paper Boxes, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to machines for covering paper boxes and the like, and it consists more particularly in the improved mechanism hereinafter set forth for governing the movement of the form relatively to the movement of the knife so as to insure the cutting off of the requisite length of paper from the continuous strip to cover the box which is on the form.

Heretofore, so far as known to me, in practice the machines employed for covering the sides of paper boxes have not been provided with any means for determining the point at which the continuous strip of paper should be cut in order that the length cut off should be sufficient, and only sufficient, to finish the box, that is to completely cover it. These machines, owing to the absence of such means, occasion, in their practical operation, considerable wastage of stock since the operator in judging the amount of paper to be cut off invariably allows a greater length than is necessary which results in loss.

My invention has for its object to provide a device by the employment of which these objections may be obviated, the paper being cut to precisely the proper length for the size of box on the form.

In the following description reference is had to the accompanying drawings, in which I have shown my invention in the best form now known to me and in which—

Figure 1 is a side elevation of a box covering machine, with my improvement applied thereto. Fig. 2 is a plan view thereof.

Like letters of reference refer to like parts in both views.

Having reference to the drawings, A represents the framework of a box covering machine of well known construction, which consists of two upright side pieces braced in any suitable manner which are shown clearly in the drawings. At one end of the said framework are provided the open bearings for the spindle carrying the roll of paper *a* from which the continuous strip of paper *b* is drawn.

At *c* is the paste roller such as is commonly used, the lower portion of which is immersed in the adhesive solution contained within the paste trough *d*. The strip *b* is in contact with a portion of the periphery of the paste roller *c* and is thus coated with the adhesive solution after which it passes under the guide roll *e*, thence over the tension roller *f*, which is mounted upon the upwardly projecting portion B of the frame of the machine. From the tension roll *f* the strip *b* passes downwardly under another guide roll *h*, over the stationary knife *i* and forward to the box to be covered which is on the form *p*.

The stationary knife *i* is suitably secured to the frame A.

The movable knife *l* is of the curved or spiral form shown to insure a shearing cut and is carried by the two arms *a' b'*. The arms *a' b'* have journals which are fitted to bearings in the projections *c'* of the frame and are so located that the knives may co-operate to sever the strip *b*.

A short lever arm *n* is mounted on the journal of the arm *b'* and is connected by means of a rod *o* with a treadle o^2 so that by depressing the treadle the movable knife *l* will be operated and the strip *b* severed. The knife *l* is moved in the opposite direction by means of the spring *o'*. The form *p* upon which the box *p'* to be covered is placed, is adapted to be slipped onto a shaft *q* mounted in a bearing in the end of the extensible frame piece *r*. This frame piece slides in ways on the side of the main frame of the machine, and is provided with lengthwise slots through which pass clamping bolts *s*, thus permitting the piece *r* to be extended or retracted, and secured in place, to accommodate forms of different sizes.

The machine as thus far described is of well known construction. It will be noted, however, that in the operation of such a machine the severing of the strip *b* is left to the judgment of the operator, who, after moving the form *p* through a certain part of its revolution, puts his foot on the treadle, severing the strip *b* at a time when in his judgment, the piece of paper thus severed will

suffice to complete the covering of the box. This not only results in wastage even at the hands of an experienced operator, but so taxes the operator as to greatly increase the burden of his work, and seriously interfere with the speed with which a given amount of work may be accomplished.

I will now describe the device which forms the subject-matter of my present improvement. If a form p of given size be set at a given distance from the stationary knife i and the covering strip b be started at a given point, as for example, at w, on one of the sides of the box there will be a point in the revolution of the form at which if the form be stopped and the strip severed the length of strip severed will be exactly sufficient to complete the covering of the box. The point w at which to begin the covering may be exactly determined by measurement and after being determined may be indicated by a mark on the form. The point at which the form is to be stopped in its revolution may also be accurately determined and for the purpose of stopping the form automatically at the proper point I provide a collar a^4 fast on the shaft q having a tooth or shouldered projection a^3 which engages with a hooked latch or dog b^3 pivoted on the stud c^3 set in the extensible piece r. The boss or bearing of the dog b^3 is provided with an arm c^3 rigidly secured thereto or cast integral therewith, and which at its free end is pivoted to one end of the horizontal bar d^3. The bar d^3 extends parallel with the sliding piece r and at the other end is pivoted to a link f^3 which is pivoted on a stud g^3 on said piece r. The link f^3 and arm c^3 are preferably of equal length and thus if the bar d^3 be moved vertically both its ends maintain the same relative position to each other and its parallelism is not disturbed. As will be clear, if the bar d^3 be moved downwardly, the dog b^3 will be raised out of contact with the projection a^3 and the shaft q and form p will be free to revolve in the proper direction to lay the paper on the box. The form p should be thus freed either simultaneously with the severing of the paper strip b or immediately after the strip is severed. To depress the bar d^3 and raise the dog b^3 at the time the paper is severed I provide a block h^3 which is secured to the treadle-connecting rod o. The block h^3 is slotted transversely and the bar d^3 passes through the slot, the slot being somewhat larger than the bar to allow for the necessary play of the parts during the vertical movement of the block. If now, the parts of the device being in the position shown in Fig. 1, the treadle be depressed, the dog will be raised, freeing the form, and at the same time the paper strip will be severed, and the severed portion will be of exactly the right length to complete the covering of the box. The operator then turns the form by hand, until it completes its revolution and lays the remainder of the paper covering strip on the box.

The object in making the bar d^3 of considerable length, as shown, is to provide for the covering of boxes of various sizes. If a box of larger size is to be covered a correspondingly large form p must be placed on the shaft q, this will involve the extending or sliding outwardly of the movable supporting piece r which will carry with it the bar d^3. The bar d^3 will move relatively to the rod o and block h^3, moving through the slot in said block, and the operative relation of the rod o and block h^3 to the bar d^3 will not be changed, so that boxes of various sizes may be covered with equal efficiency. As soon as the treadle is released the reciprocating cutter l is returned to its normal position by means of the spring o' allowing the dog b^3 to drop back into contact with the collar on shaft q in position to stop the form p at the proper point in its next revolution when the succeeding box is being covered. The distance between the shaft q and the cutters may be determined and regulated by means of a graded scale w^2 on the sliding piece r and a pointer placed on a fixed part in proximity to said scale as for example on one of the clamping bolts or studs as shown at w' Fig. 1.

As will be clear, the device may be used for covering the sides of box covers as well as for covering the sides of the boxes themselves.

What I claim is—

1. A box covering machine having a revoluble form to receive the box to be covered, cutters for severing the covering strip, a support for the said form adjustable toward and from the said cutters, cutter-operating mechanism, stop-devices for arresting the form at a given point in its revolution, the same comprising a projection moving with the form and a dog mounted on the adjustable support and engaging the said projection, and operative connections of the said dog through which the latter, in all positions of adjustment of the form-support, is disengaged from the said projection each time the covering strip is severed, substantially as described.

2. A box-covering machine having a revoluble form to receive the box to be covered, cutters for severing the covering strip, a support for the said form, adjustable toward and from said cutters, cutter-operating mechanism, and stop devices for arresting the form at a given point in its revolution, the same comprising a projection moving with the form, a dog mounted on said support, and engaging said projection, and a bar operatively connected with said dog, and in sliding engagement with the cutter operating means, whereby to disengage the dog and release the form in any position of adjustment of the support aforesaid, substantially as described.

3. A box covering machine having a revoluble form to receive the box to be covered, cutters for severing the covering strip, the adjustable frame-piece constituting the support for the said form, cutter-operating mechan-

ism including a rod *o*, stop-devices for arresting the form at a given point in its revolution, the same comprising a projection moving with the form and a dog pivotally mounted on the adjustable frame-piece, and the releasing bar pivotally connected with the said dog and the said frame piece and in sliding engagement with the rod *o*, whereby to enable the dog to be disengaged from the said projection, in all positions of adjustment of the form-support, each time the covering strip is severed, substantially as described.

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

EUGENE H. TAYLOR.

Witnesses:
WM. A. MACLEOD,
ROBERT WALLACE.