

1,033,968.

4 SHEETS—SHEET 1.



Free White
Rene's Ruine

Franklin C. Waldron,

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F. C. WALDRON.
WRAPPING OR MAILING MACHINE.
APPLICATION FILED MAY 19, 1908.

1,033,968.

Patented July 30, 1912.

4 SHEETS—SHEET 2.

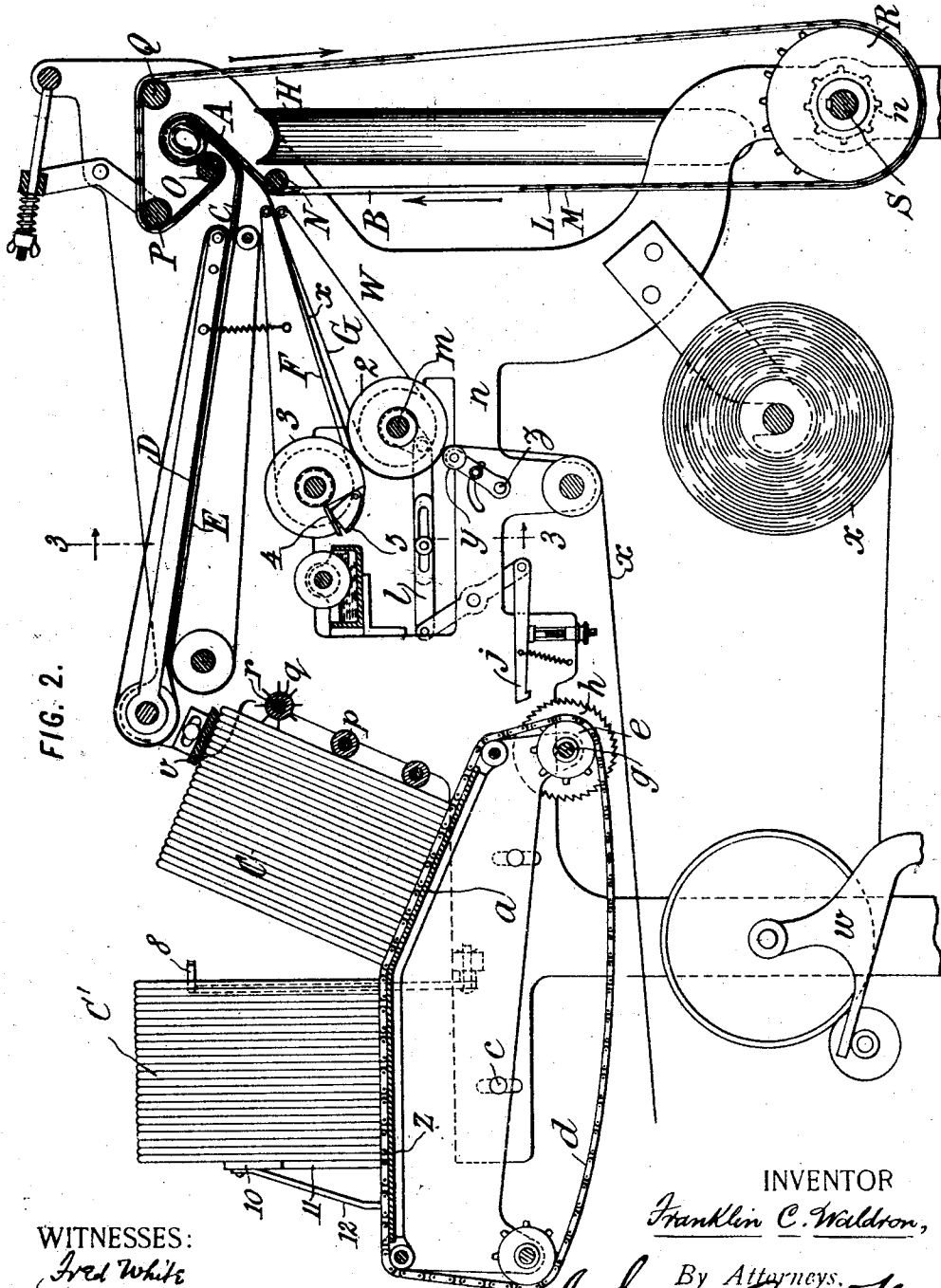


FIG. 2.

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4 SHEETS—SHEET 3.

FIG. 3.

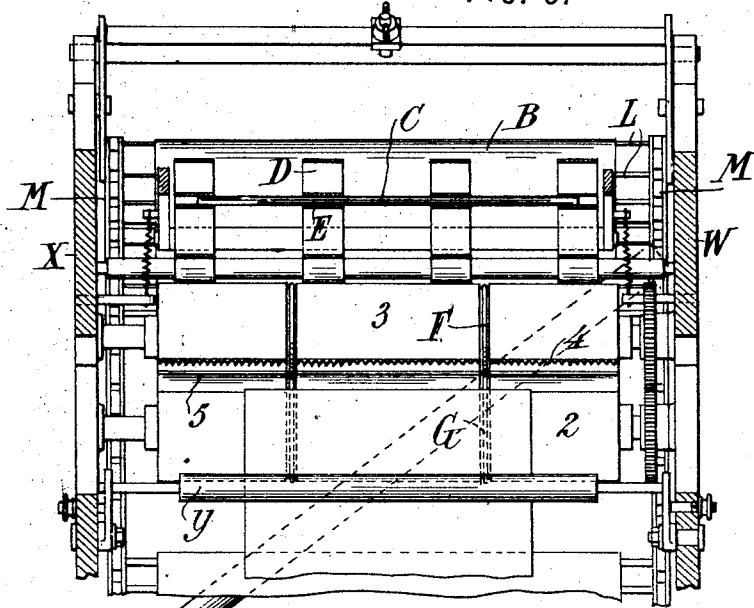


FIG. 4.

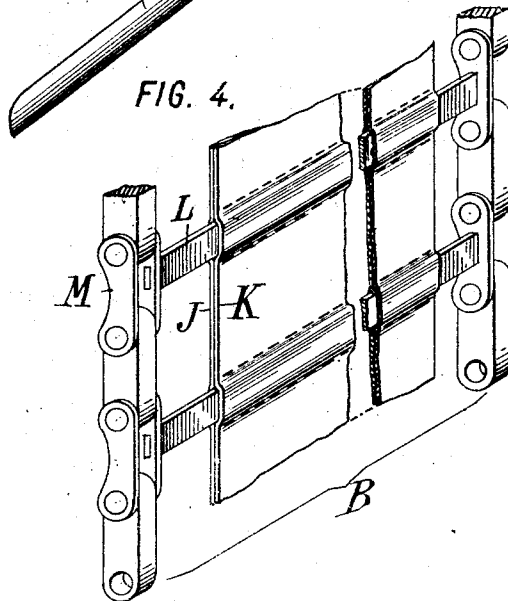
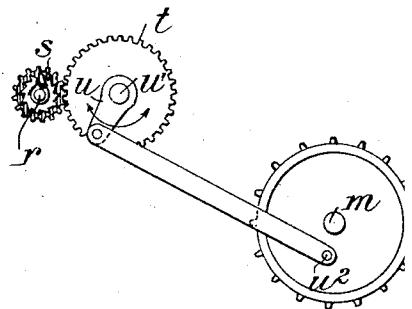


FIG. 5.



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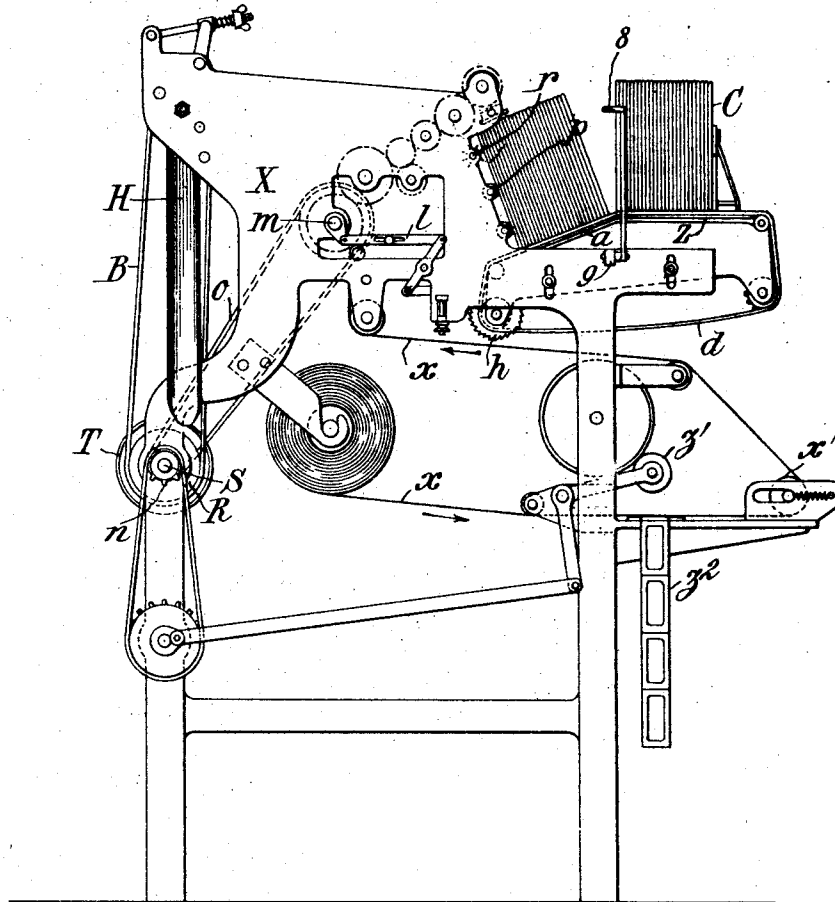
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4 SHEETS-SHEET 4.

FIG. 6.



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UNITED STATES PATENT OFFICE.

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WRAPPING OR MAILING MACHINE.

1,033,968.

Specification of Letters Patent.

Patented July 30, 1912.

Application filed May 19, 1908. Serial No. 433,673.

To all whom it may concern:

Be it known that I, FRANKLIN C. WALDRON, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Wrapping or Mailing Machines, of which the following is a specification.

This invention aims to provide certain improvements in various features of this class of machines. The web by means of which the paper is wrapped is of improved construction.

Various other features of improvement are referred to in detail and claimed hereinafter.

The accompanying drawings illustrate a machine embodying the invention.

Figure 1 is a plan, partly in section. Fig. 2 is a vertical section just inside of one of the side frames, approximately on the line 2-2 of Fig. 1. Fig. 3 is a transverse section on the line 3-3 of Fig. 2. Fig. 4 is a perspective view of a part of the web. Fig. 5 is a detail of the feeding mechanism. Fig. 6 is an elevation of the machine, looking in the opposite direction from that of Fig. 2.

Referring to the embodiment of the invention illustrated, the rolling of the paper is effected by means of a loop A in a web B. The papers, magazines, or the like, C, are carried from the stack between tapes D and E to the wrapping loop A. At the same time the wrapper paper is introduced in successive lengths, each length having its free edge gummed, the wrappers being guided by tapes F and G. With each paper a wrapper is fed into the loop and carried around in a spiral, as shown, and the rear edge of the wrapper with the gum still fresh upon it is pressed down so as to seal the package. The web B is made up of one or more wrapping portions of a length sufficient to engage the paper continuously until it is wrapped, and is provided with one or more openings which move to a point on the under side of the loop after the wrapping of a paper is finished, so that the wrapped paper may drop through said openings and into a chute H which is inclined so as to carry the wrapped paper laterally out of the machine and on to a table H' which may be of any design suitable for receiving the wrapped papers from the machine.

The wrapping web comprises a sheet of leather, textile material, or other flexible

fabric. For example, it may comprise, as shown in Fig. 4, a double sheet of leather J K stiffened at intervals by transverse bars L which serve to connect it to the driving sprocket chain M, and which double sheet may be provided with any suitable filling between the transverse bars L, so as to make it of substantially uniform thickness, if desired. The face of the leather is so smooth as not to injure the paper.

The course of the web is effected by means of guide rollers N, O, P and Q, all of which run entirely across between the side frames of the machine, the guide roller P being adjustable to maintain the tension of the belt; and sprockets R which engage the sprocket chain M at opposite sides of the web and which are mounted on a shaft S driven by suitable belting from fast and loose pulleys T and U. The loop A is formed by a pair of short rollers V or sprockets or the like arranged just inside of the side frames W and X, and over which run the chain M and the transverse bars L of the web, so as to hold the web out to the looped shape desired. The size of the loop may be varied by simply removing the screws Y which hold the rollers V in place, and replacing the latter by larger or smaller rollers as desired.

The papers C are automatically fed from a stack in which the papers are arranged on edge on a platform Z the rear part of which is horizontal so that it may be extended to any desired length, and the front part of which consists of a plate *a*, which is set at an angle to cause the weight of the stack to bear forward. The holder for the stack of papers is provided also with a laterally adjustable side wall *b* at the side opposite the operator for guiding the papers. The table is vertically adjustable to accommodate papers of different sizes by means of bolts *c* passing through vertical slots in the side frame of the machine. The papers are preferably carried forward by a pair of chains *d* running over suitable guide pulleys and driving sprocket *e*, the chain being arranged to run below the level of the plates Z and *a*. The travel of the chain can be very nicely adjusted to synchronize the feed of the papers with the wrapping and discharging of them. For this purpose the shaft *g* of the chain-driving sprocket *e* is rotated by means of a ratchet wheel *h* and a pawl *j*, the latter being oscillated by means of a lever *k* and a link *l* driven by a crank-

pin from a shaft *m* which is driven by a sprocket *n* and chain *o* from the main shaft *S*. The link *l* is in two parts fastened together by a pin and slot connection, as shown, so as to be adjustable in length. The pawl *j* on its backward movement rides up on the ratchet *h*, and on its forward movement is pulled clear of the ratchet, turning the latter through an angle depending upon the extent of the backward movement. The extent or distance to which the pawl moves backward over the ratchet depends upon the length of the link *l*, and by adjusting this link the rate of feed may be accurately adjusted.

As the stack of papers presses forward, its lower part is supported against stops or rollers *p*, and its upper part against rollers *q* provided with a number of points which engage the paper sufficiently to lift its weight without substantially defacing it. These rollers *q* are preferably arranged at such distances from each other as to engage the margins, that is to say, the unprinted portions of the paper, and are preferably adjustable along the shaft *r* on which they are carried. This shaft is rotated intermittently by any suitable mechanism such as the mechanism of a common type shown in Fig. 5. In this figure the pinion *s* is mounted rotatably upon the shaft *r* and is given alternate movements to the right and to the left. In the rotation to the left the internal ratchet carried by the pinion *s* rides over a pawl mounted upon the end of the shaft *r* and arranged to yield to the left. In the right-hand movement of the pinion *s*, however, the pawl is engaged by the internal ratchet, and the pawl and shaft are carried around to the right. This is a common type of mechanism and does not need more than the substantially diagrammatic illustration of Fig. 5. The alternate right- and left-hand rotation of the pinion *s* is effected by means of a gear *t* in engagement therewith and which is oscillated by a crank *u* on its shaft *u'*. The crank *u* is linked to a crank-pin *u''* of smaller radius than the crank *u*, and rotating about the shaft *m*. The rotation of the shaft *m* therefore causes an oscillation of the shaft *u'* and gear *t*. Each revolution of the shaft *m* rotates the shaft *r* to the right sufficiently to raise the upper edge of the foremost paper to a point where it is seized between the belts *D* and *E* and carried forward thereby. When the paper is being carried forward by the belts *D* and *E*, its rear portion still engages the rollers *q* and continues to rotate them and the shaft *r* to the right, the pawl and ratchet connection between the shaft *r* and the pinion *s* permitting the free rotation of the shaft *r* in this direction. An adjustable stop *v* extends over all but the foremost of the papers in the stack.

The wrappers come either from a plain roller or from an addressing machine, represented typically at *w*. We suppose this to be the type of machine which prints the address upon the top of the paper, and the web of paper *x* is therefore reversed over a roller *x'* before entering the wrapping machine. It passes first around a guide roller *y* which is mounted on arms pivoted at *z* and angularly adjustable by the pin and slot arrangement shown; and thence between the tapes *F* and *G* which feed it to the wrapping loop *A*.

The roller *x'* is yieldingly mounted to take up the slack caused by the alternate stopping and releasing of the wrapping paper by the addressing machine. The printing of the addresses is accomplished by bringing the inked roll *x'* down on the successive stencils *z'* by means of connections actuated once for each paper wrapped.

At the entrance to the tapes *F* and *G* are rolls 2 and 3. The latter carries a knife 4 which, at each revolution, cuts off a suitable length of wrapping paper, and the same roll 3 carries also a pad or wiper 5 just in front of the knife, hinged at its forward edge and free at its rear edge and held out by springs and arranged to pass with a wiping movement over the roller 6 of a paste pot at each revolution, and to apply a line of paste to the wrapping paper just in front of the knife, or at the rearmost edge of each piece of paper, so that when the wrapping is completed the edge with the moist paste thereon will be the last to enter the loop.

The arrangement of the addressing machine under the point where the operator stands to supply newspapers to the feed table is a great convenience. Being in plain sight, it facilitates the arranging of the wrapped papers in "clubs" or bundles, all the papers of which are addressed to the same town. It is usual in addressing means to provide a way, such as by a change of color in a stenciling ribbon or otherwise, for indicating the completion of all the addresses for one town and the beginning of the addresses for another town. The use of the addressing machine in the combination described makes the proper classification of the wrapped bundles very easy and almost automatic.

Preferably the papers *C* should rest upon the table *a* in a stack of substantially uniform weight or quantity so as to secure the best operation of the feeding roller *q*. This result is obtained by properly proportioning the inclination of the table upon which they are stacked and the length of the inclined portion of this table. Preferably also means are provided for holding back a portion of the papers as indicated at *C'*. Such means for example may comprise a pair of springs 7, 8, the former fixed to the upright

wall *b* and the latter pivoted to a lug 9 upon the opposite side frame of the machine so that it may swing toward or away from the papers to provide for papers of different width, and may be clamped in the desired position by a nut on the pivot pin. The papers are advanced by means of a bracket 10 having depending legs 11 and braces 12 whose lower ends fit into links of the sprocket chains *d*, so that when the papers in the stack *C'* are nearly exhausted the entire bracket 10 may be lifted. A new supply of papers is provided and the bracket replaced at the rear. The springs 7, 8, allow the papers to escape only at such a rate as to maintain the stack *C* full, while relieving the rollers *g* of any pressure from more than the desired number of papers.

Various mechanisms may be provided for transmitting the motions to the several parts of the machine, and various other modifications may be made in detail and in the arrangement and combination of the parts without departing from the invention.

What I claim is:—

1. A wrapping machine including in combination a traveling wrapping web and means for returning the web on itself forming a loop to embrace the article to be wrapped, said web having a continuous face on the inside of the loop to embrace said article continuously at all points and having transverse stiffeners at intervals back of said continuous face.

2. A wrapping machine including in combination a traveling wrapping web and means for returning the web on itself forming a loop to embrace the article to be wrapped, said web including stiff transverse members and sprocket chains having separate links attached to the ends of separate transverse members for driving the web at the edges, and sprocket wheels for driving said chains.

3. A wrapping machine including in combination a traveling wrapping web and means for returning the web on itself forming a loop to embrace the article to be wrapped, said web having a continuous face on the inside of the loop to embrace said article and having stiff transverse members and sprocket chains attached to the ends of said members for driving the web at the edges, and sprocket wheels for driving said chains.

4. A machine of the class described, including in combination means for feeding a strip of wrapping paper, means for cutting the same into suitable lengths, and a paste-applying mechanism including a cylinder 3 carrying a tape constituting part of said feeding means and having a flap 5 having its forward edge pivoted and its rear edge free, and adapted to strike a supply of paste and to carry it to the paper.

5. In a machine of the class described, a feed table *Z* open at one side, a receiving table *H'* on the side of the machine adjacent to the open side of the feed table, means for carrying papers from said feed table, wrapping them and discharging the wrapped papers on the side of the machine corresponding to the open side of the feed table, and an addressing mechanism for printing the addresses on the wrappers before wrapping the papers, said addressing mechanism being under the feed table and near the discharge side of the machine so as to be easily visible by the operator standing on that side.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

FRANKLIN C. WALDRON.

Witnesses:

DOMINGO A. USINA,
THEODORE T. SNELL.