

No. 654,214.

Patented July 24, 1900.

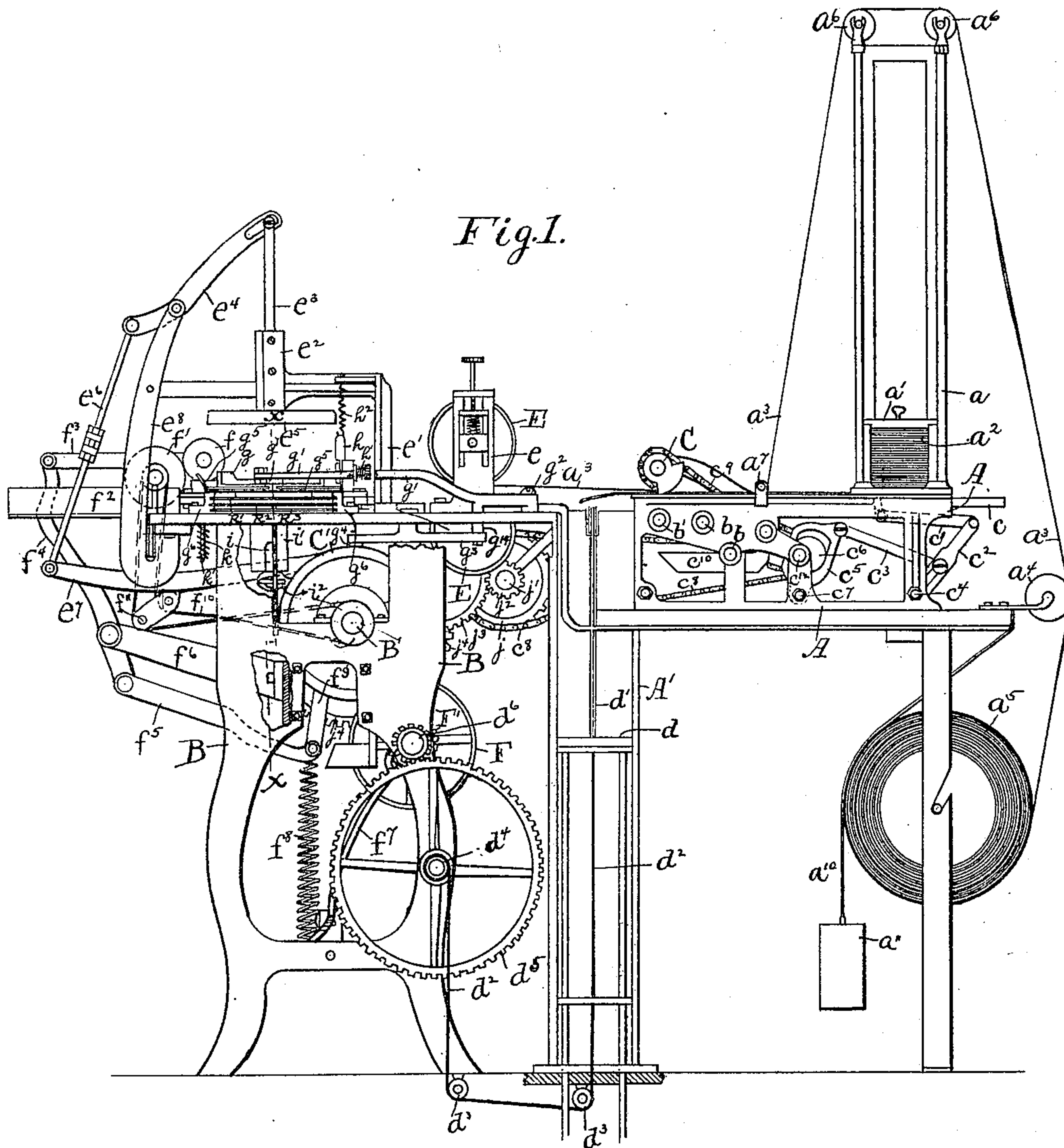
L. C. WING.

MACHINE FOR ADDRESSING AND WRAPPING ARTICLES.

(Application filed Aug. 17, 1898.)

(No Model.)

5 Sheets--Sheet 1.



Witnesses:
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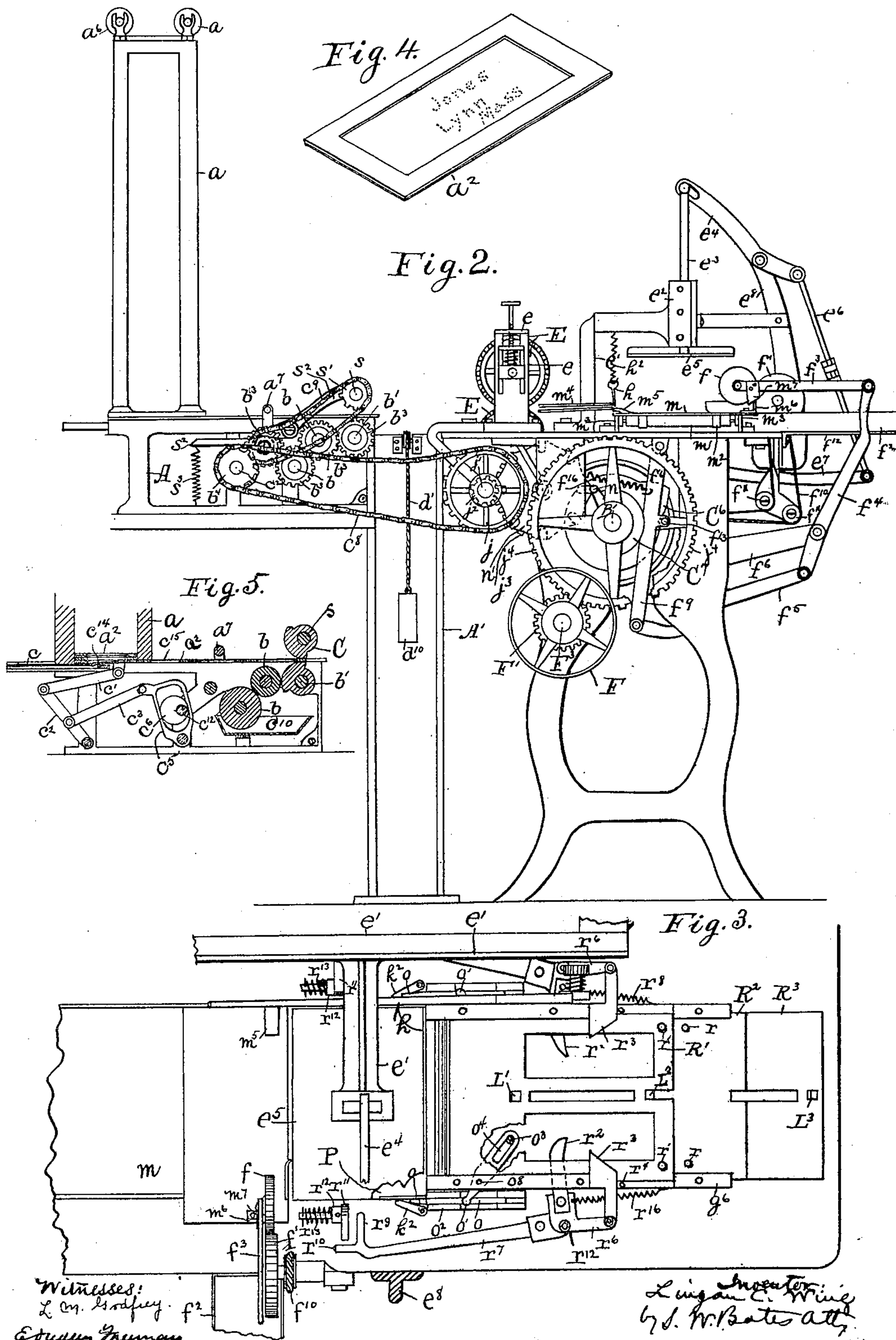
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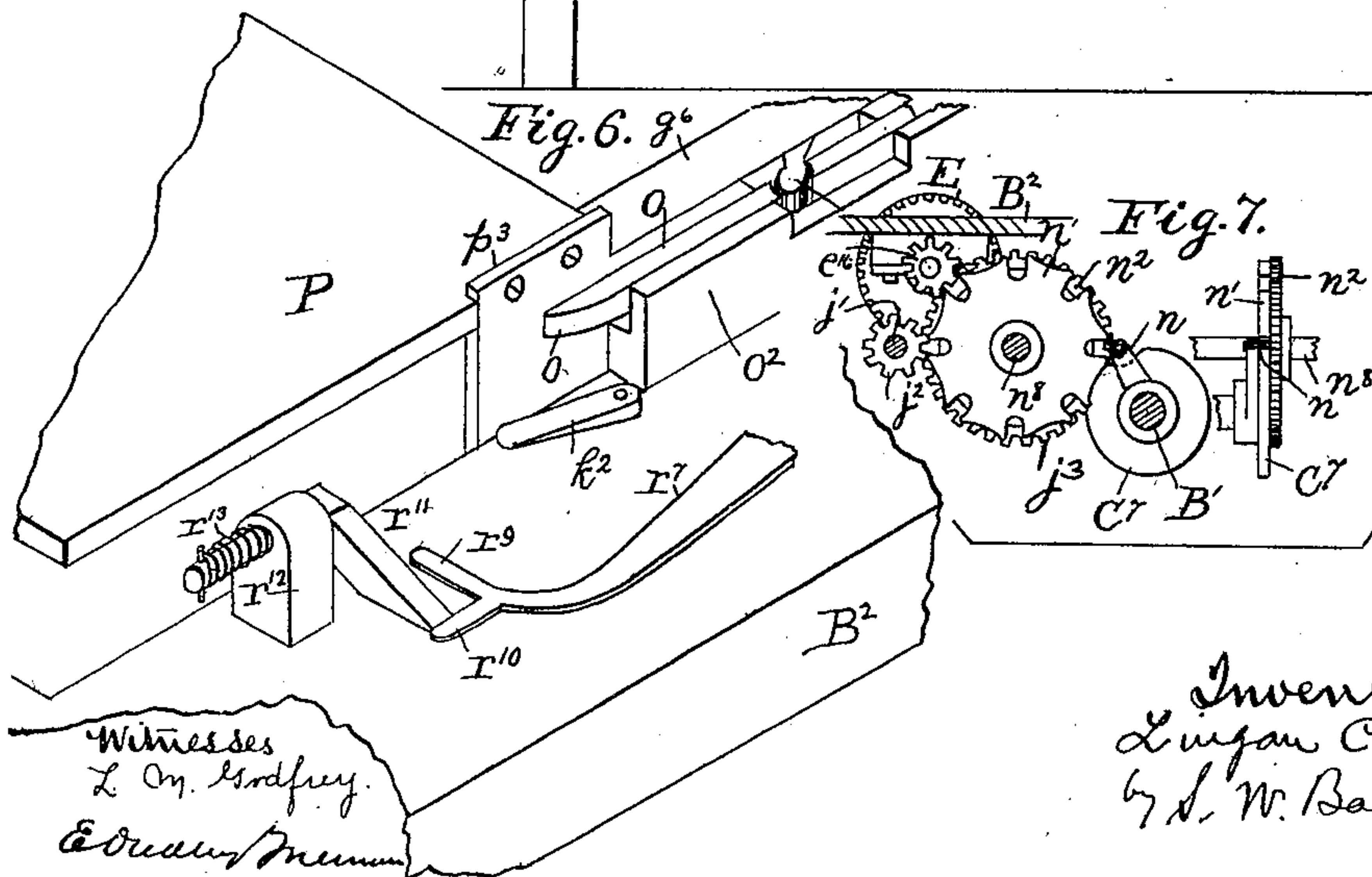
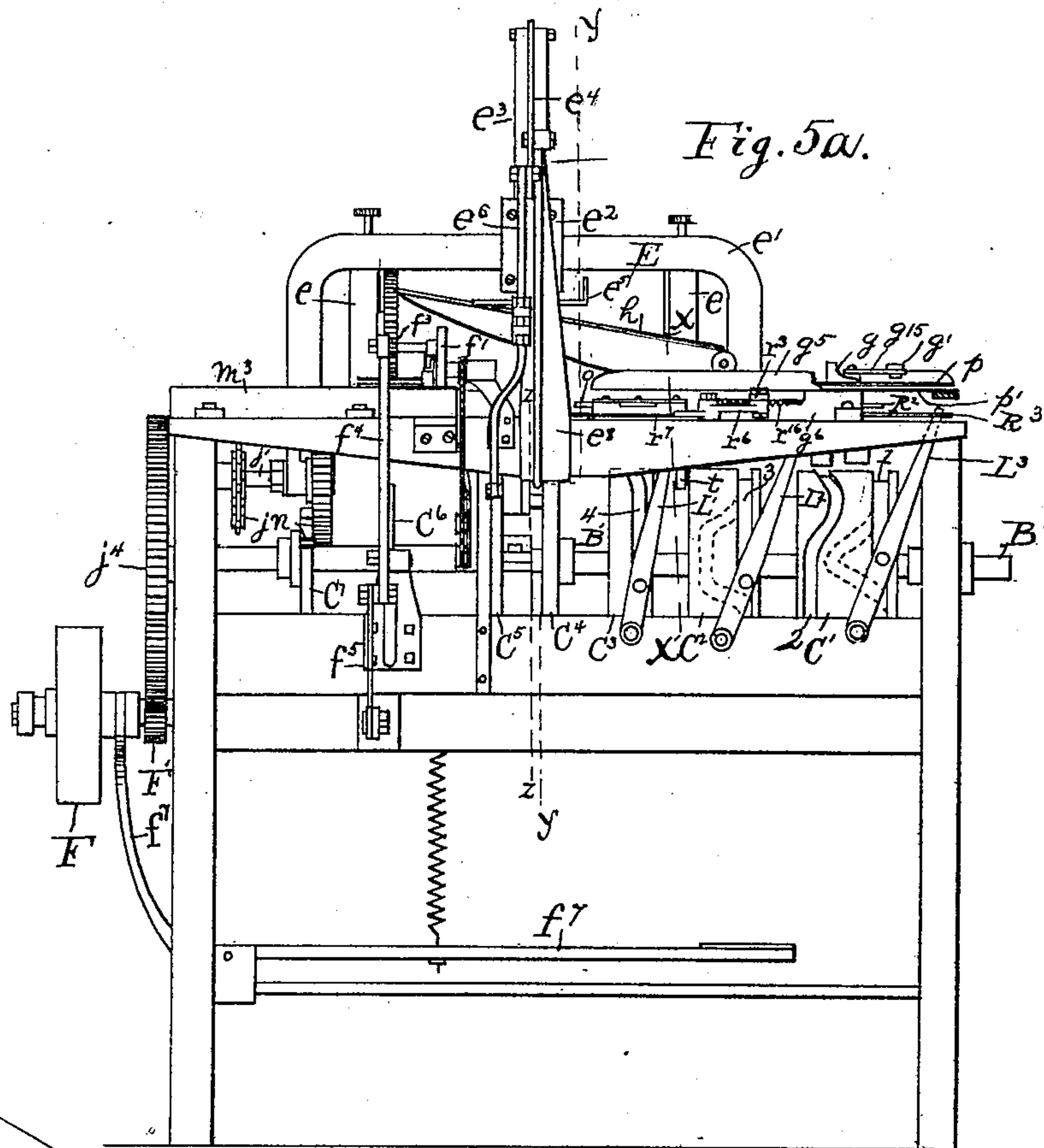
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Witnesses
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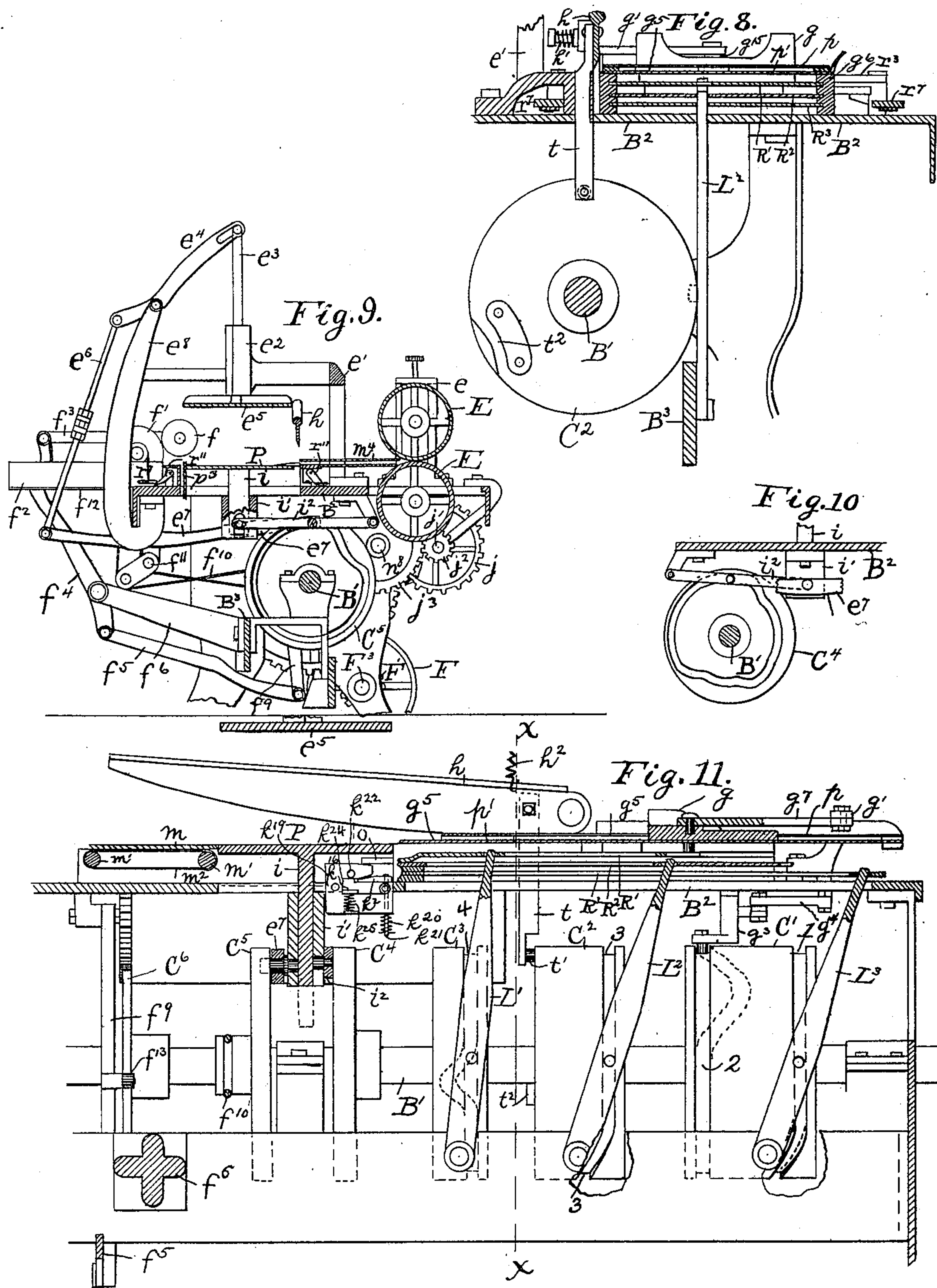
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5 Sheets—Sheet 4.



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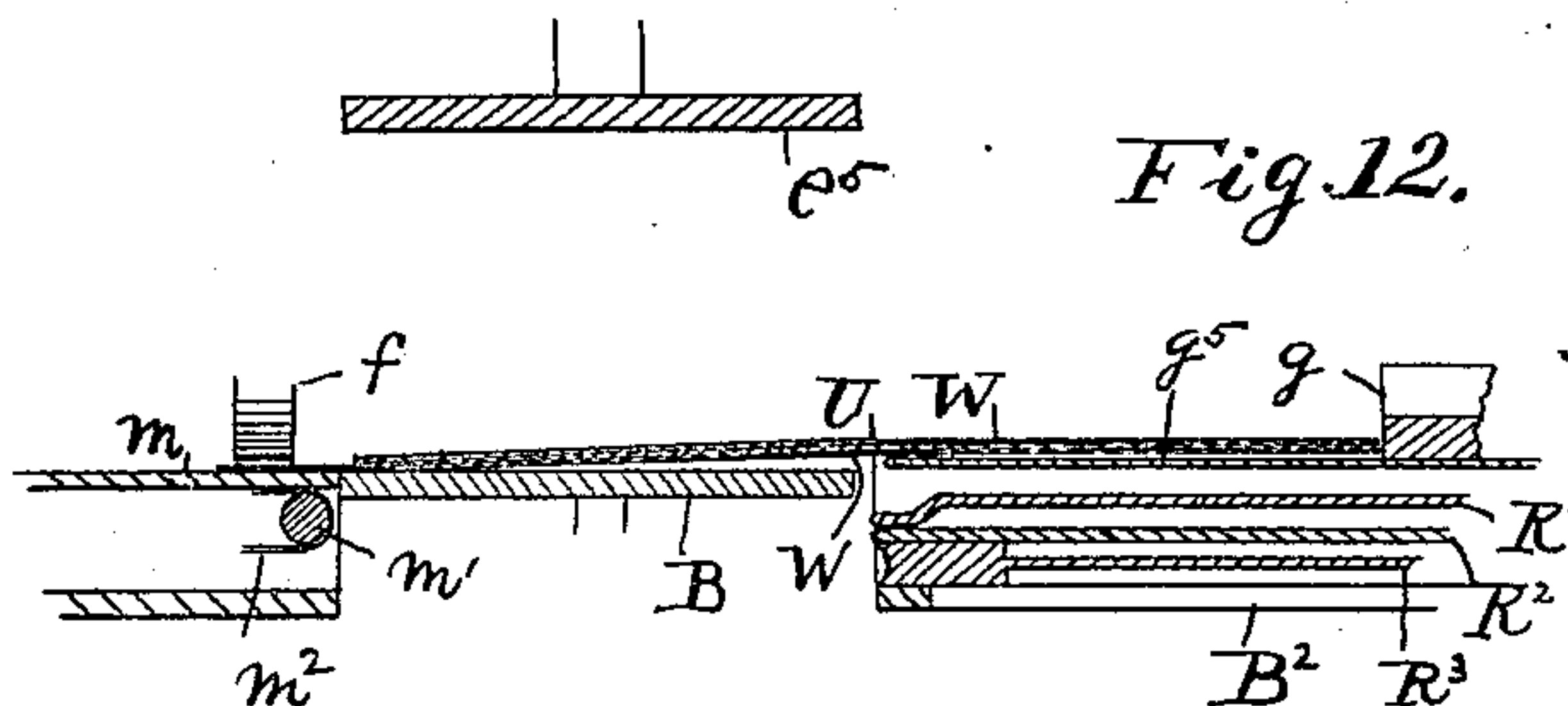


Fig. 12.

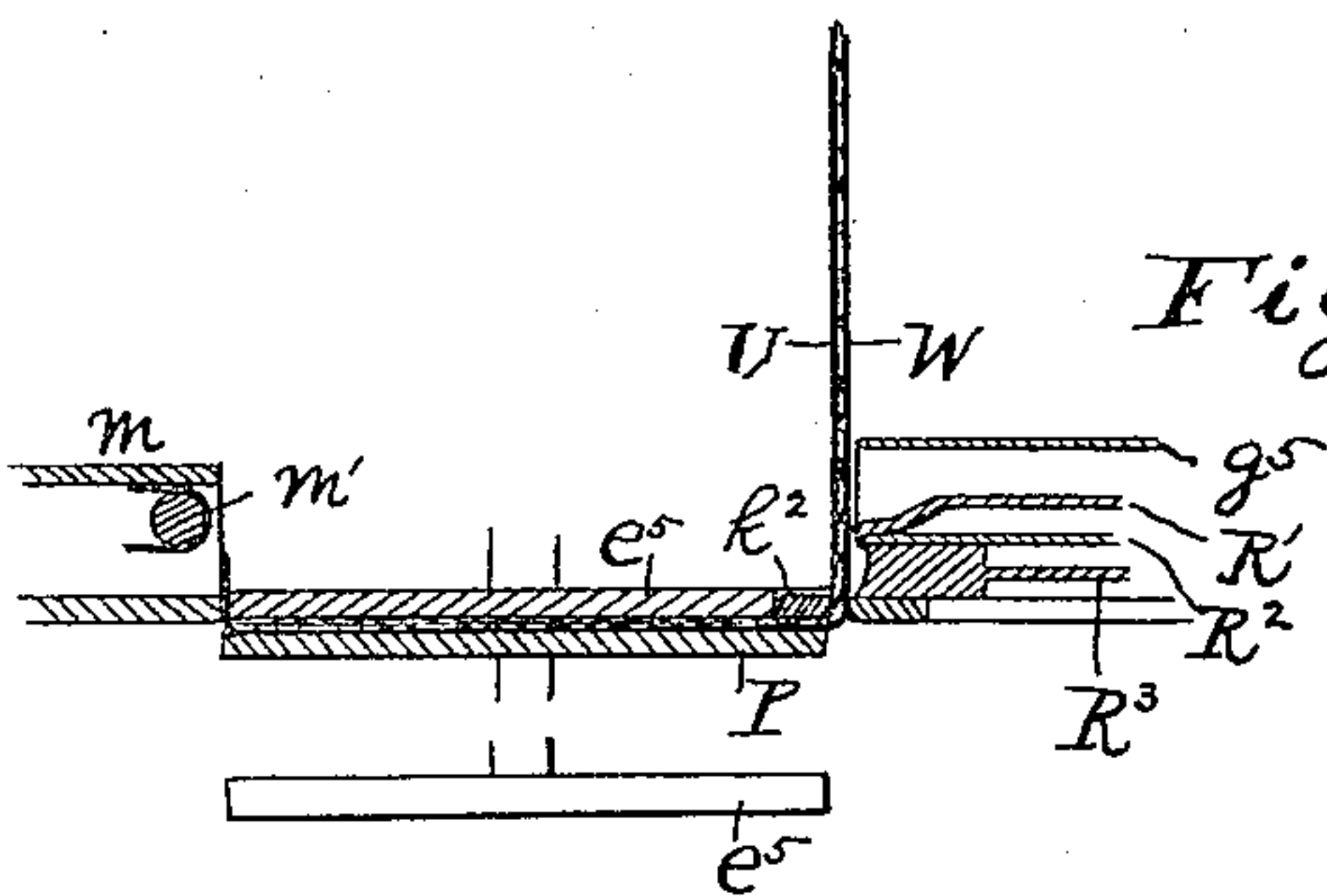


Fig. 13.

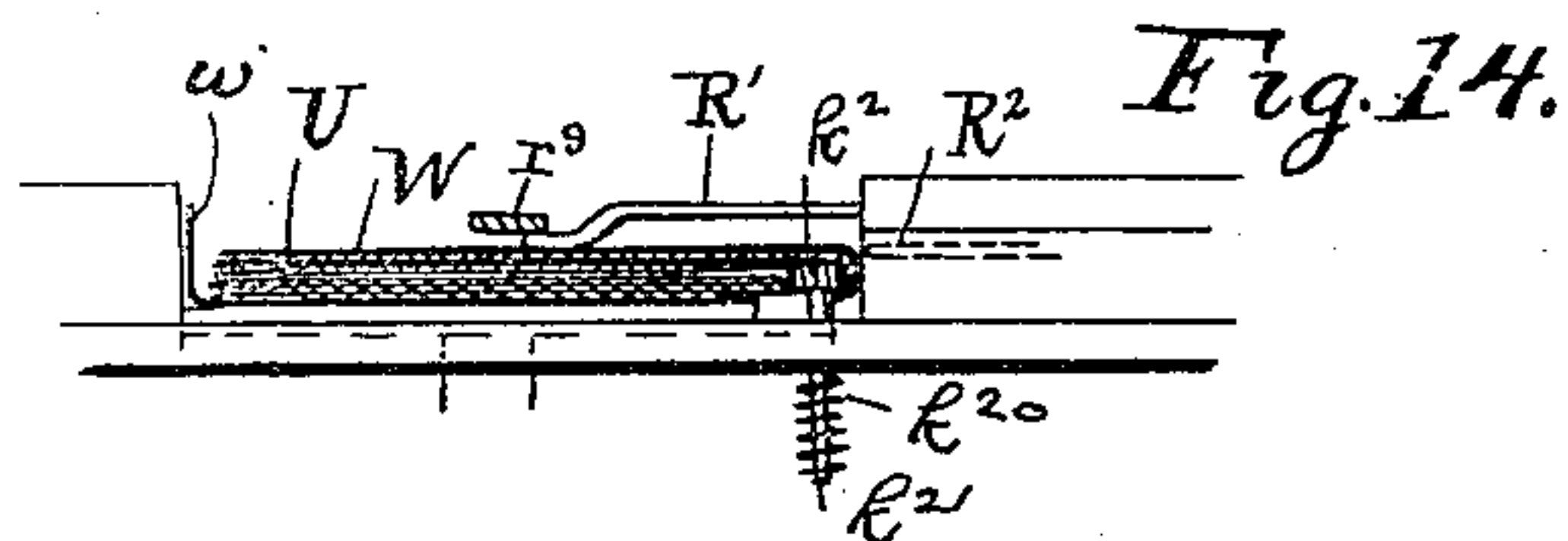


Fig. 14.

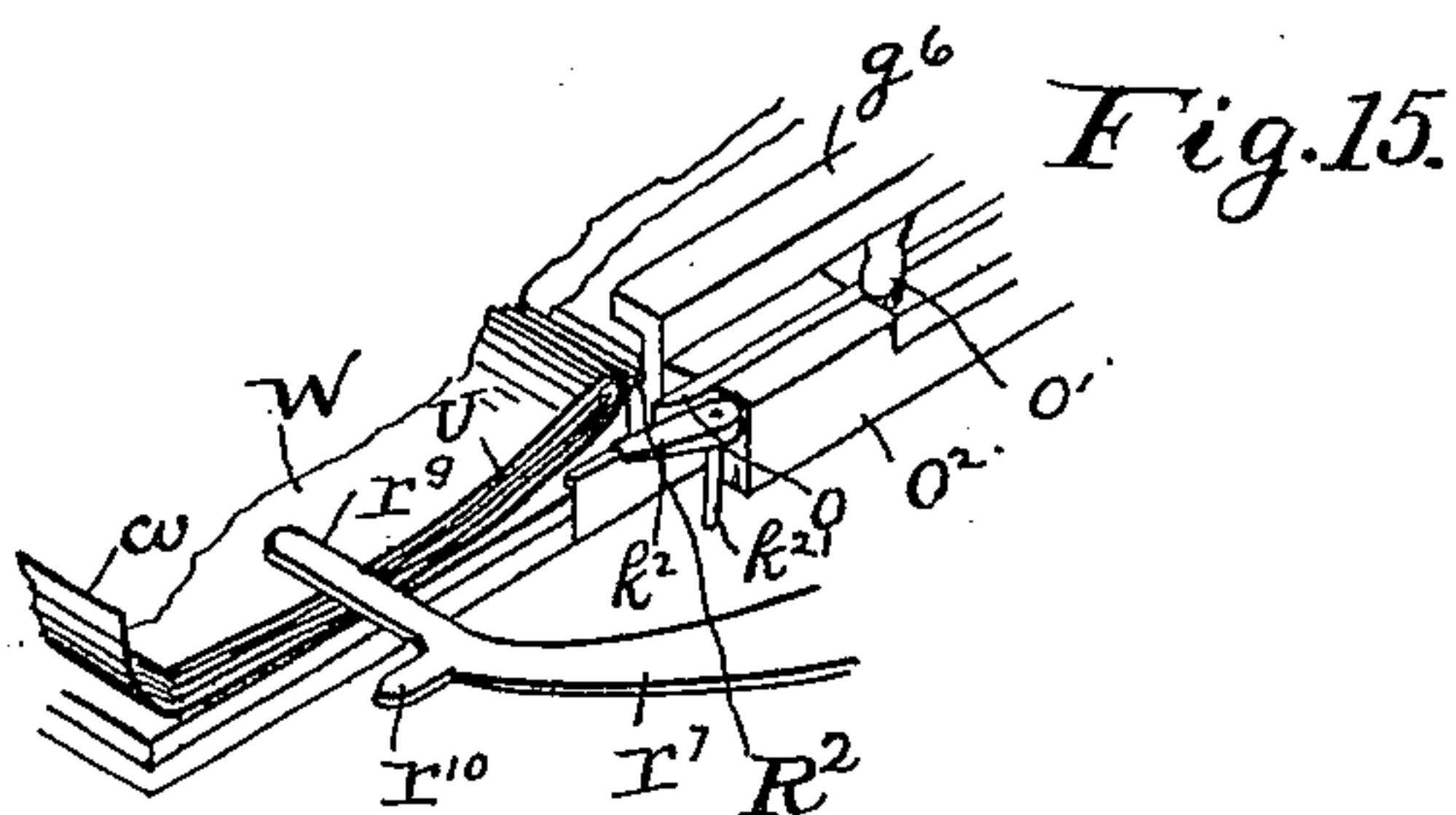


Fig. 15.

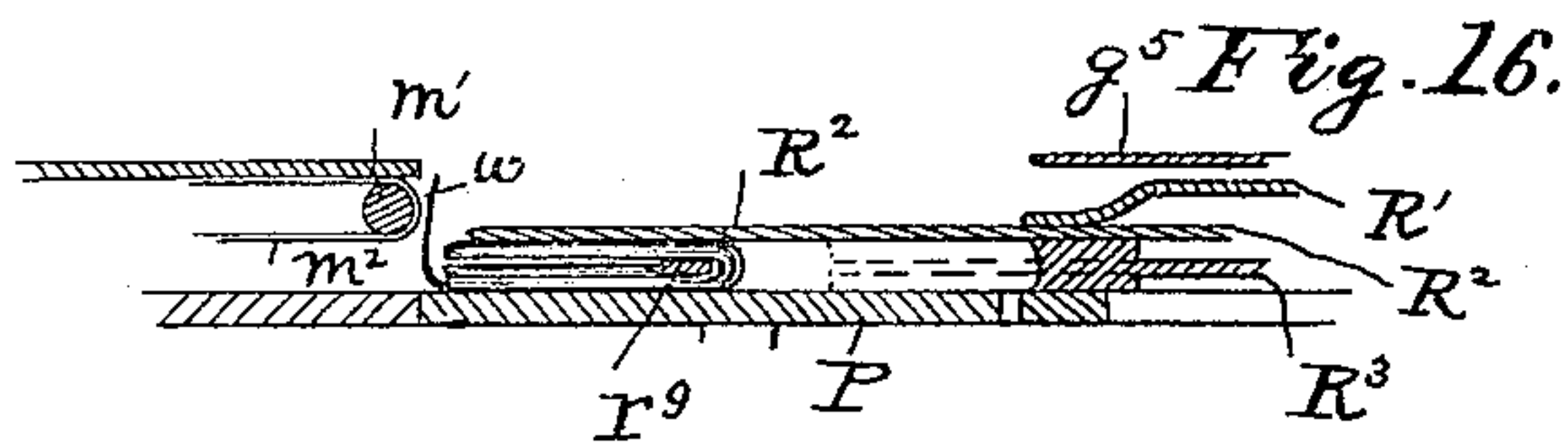


Fig. 16.

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UNITED STATES PATENT OFFICE.

LINGAN C. WING, OF NEW YORK, N. Y.

MACHINE FOR ADDRESSING AND WRAPPING ARTICLES.

SPECIFICATION forming part of Letters Patent No. 654,214, dated July 24, 1900.

Application filed August 17, 1898. Serial No. 688,774. (No model.)

To all whom it may concern:

Be it known that I, LINGAN C. WING, a citizen of the United States of America, and a resident of New York, New York county, State of New York, have invented certain new and useful Improvements in Machines for Addressing and Wrapping Articles, of which the following is a specification.

My invention relates to a machine for wrapping and addressing newspapers, pamphlets, and other articles which are now commonly wrapped and addressed by hand; and the object of my invention is to improve the construction of such machines.

My machine consists of two principal parts—namely, an addressing mechanism by which the wrappers are addressed and a wrapping mechanism by which the wrappers are applied and the newspapers or other article folded in the wrapper and the wrapper is pasted; but my invention, so far as it is claimed in the present application, relates chiefly to the wrapping mechanism.

So far as the details of my addressing mechanism are concerned I make no claim to them in my present application; but as used in connection with the other portion of my machine it consists of an open-bottomed reservoir filled with stencil-plates having the addresses desired, and it is provided with a reciprocating slide which pushes them out and passes them in contact with a web of wrapping-paper between an inking-roll and a press-roll, having projecting segments which register with each other and by which the address is impressed on the wrapping-paper, the web being then cut into suitable lengths for wrappers and the stencil-cards discharged into another reservoir. In this portion of my machine as I construct it I make the complete circumference of the segmental portion of the press-roll and the inking-roll just equal to the length of the wrapper, so that one address will come on each wrapper, and I provide an operating connection between this mechanism and my wrapping mechanism, so that it is operated intermittently to address and feed forward a wrapper as fast as one is needed to wrap the article. In connection with the addressing mechanism I make use of the wrapping mechanism, in which the invention claimed herein chiefly lies. In this

portion of my machine the web of wrapping-paper after having been addressed, as stated, is carried along through feed-rolls to a point where it is cut off into suitable lengths to form wrappers, the edges of the wrappers being coated with paste by means of a paste-roll or other equivalent device. In wrapping the article—as, for instance, a newspaper, for which the machine herein shown is particularly designed—it is fed in and deposited on the wrapper, the newspaper and wrapper are then folded together with two folds by means hereinafter fully described, and the wrapper and folded newspaper are then pushed out beneath a roll which presses down the pasted edge of the wrapper and forms the complete folded package.

I illustrate my invention by means of the accompanying drawings, in which—

Figure 1 is a general side elevation of one side of my machine. Fig. 2 is a partial elevation of the opposite side. Fig. 3 is a partial plan view of the machine, showing the folding mechanism and with the feed-table removed. Fig. 4 is a view of one of the stencil-cards. Fig. 5 is a central longitudinal section through the addressing mechanism. Fig. 5^a is a front view. Fig. 6 is a detail of some of the parts adjacent to the platen. Fig. 7 is a side and edge view of the star-gear which gives the intermittent motion to the addressing mechanism. Fig. 8 is a partial section on the line X X of Fig. 11. Fig. 9 is a section on the line Y Y of Fig. 5^a. Fig. 10 is a partial detail section on the line Z Z of Fig. 5^a. Fig. 11 is a section taken through the line X X of Fig. 1. Fig. 12 is a detail section taken on the same plane as Fig. 11. Figs. 13, 14, and 16 are the same, showing several steps of folding the newspaper; and Fig. 15 is a perspective view showing one of the steps.

A is the frame of the addressing portion of the machine.

a is the reservoir for the stencil-cards.

*a*² indicates the cards, and *a*¹ is the weight by which they are held down. The cards are fed forward through the guides *c*¹⁵, Fig. 5, by means of the reciprocating slide *c*, having a spring-tongue *c*¹⁴. The slide *c* is driven from the shaft *c*¹² by means of the eccentric *c*⁶, lever *c*⁵, pitman *c*³, lever *c*², and pitman *c*¹. The stencil-cards pass between the press-roll

C and the ink-roll b' , which is beneath it, each being segmental in form, with a portion cut away. The ink-roll b' is connected with the ink-rolls b , which convey ink from the ink-receptacle c^{10} . Gears b^3 connect the several ink-rolls and transmit motion to them from the shaft c^{12} . A sprocket-wheel b^4 on the same shaft with one of the chain of gears b^3 conveys motion to the press-roll C by means of a sprocket-chain c^9 . The press-roll C is mounted on a shaft s , the shaft being journaled in the end of the lever s^2 , pivoted in the side of the machine and having an extension which rests on a cam on the shaft c^{12} (shown by dotted lines in Fig. 2,) by which a slight vertical motion is given to the press-roll, the end of the lever being pressed against the cam by a spiral spring s^3 .

The wrapping-paper is mounted in the end of the machine in the form of a roll a^5 , and thence the web a^3 passes over the rolls a^4 and under the roll a^7 , and thence between the ink-roll and the press-roll in contact with the stencil-card.

A' is the receptacle into which the stencil-cards drop after passing between the rolls, and it has a follower d , which is raised by a cord d' , having a counterweight d^{10} , and it is lowered by a cord d^2 , which passes over pulleys d^3 . Means are provided for lowering the follower at the same rate at which the cards accumulate on top of it. For the purpose of illustration I have here shown, Fig. 1, the cord d^2 as wound on a small pulley d^4 on a shaft connected with the large gear d^5 , which engages a pinion d^6 on the main shaft of the wrapping portion of the machine.

Friction is applied to the roll of paper by means of a strap a^{10} , having on its end a weight a^{11} .

The portion of the machine already described being in its substantial features well known, a detailed description of its mode of operation is not necessary to make clear the present invention.

The wrapping portion of the machine is mounted on a suitable frame B, and it has feed-rolls E E, mounted in suitable bearings e , through which the web of paper as it comes from the ink-roll passes to the cutting-off knife h , which is pivoted to a suitable bearing by a spring-pivot h' . The knife is lifted by a spring h^2 , connected with the standard e' , and depressed to cut the paper by a cam C^2 , Fig. 8, on the cam-shaft B', which has a short groove t^2 on one portion of its face adapted to receive the antifriction-roll on the lower end of the arm t , the upper end of the arm being pivoted to the knife. The groove is so located that the knife is depressed to cut off the wrapper from the end of the web of the paper after the paste-roll has pasted the edge of the wrapper, as hereinafter set forth.

Means are provided for imparting an intermittent motion to the addressing mechanism, so that the wrapping-paper-feed mech-

anism shall feed forward just the length of a wrapper each time the wrapping mechanism operates. The cam C^7 is fixed on the cam-shaft B', (see Fig. 7,) and it has secured to it an arm having an antifriction-roll, which is adapted to enter the peripheral recesses n^2 in the star-gear n' , mounted on a shaft n^8 . As here shown, there are eight of the recesses n^2 in the gear n' , and each time the cam C^7 rotates the roll catches in one of the recesses n^2 and moves the gear one-eighth of a revolution. On the same shaft with the gear n' is a common spur-gear j^3 , which engages the pinion e^{16} on the same shaft as the lower feed-roll E. The gear j^3 also engages a pinion j^2 on the same shaft j' as the sprocket-wheel j , Fig. 9, by which the intermittent motion of the gear n' is conveyed to the sprocket-wheel b^4 on the main shaft C^{12} of the addressing mechanism by means of the chain c^8 . Thus when the cam-shaft R' turns once the web of paper is fed the length of a wrapper by a quick movement, after which it pauses until it is time for another wrapper to be fed in.

Means are provided for applying paste to the edge of the web of paper which is to form the flap of the wrapper—that is to say, that edge which is opposite the several plungers which do the folding—and the paste is applied, preferably, before it is cut off by the knife to form the wrapper. As here shown, I make use of a pasting-roll f , which is pivoted on the end of a horizontal arm f^3 and which is normally in contact with a paste-roll f' , by which the paste is conveyed from the pan f^2 to the roll f . The roll f' is rotated within the pan by the cord f^{10} , which runs over the cam-shaft, thence over guide-pulleys f^{11} , and thence over a small pulley on the journal of the roll f' . The pasting-roll f is moved along the edge of the paper by means of a lever f^4 , which is pivoted to a standard f^6 , connecting, by means of a pitman f^5 , with the cam-lever f^9 , Fig. 2. The cam-lever f^9 is operated by the cam C^6 , which has on it a projection adapted to throw the lever f^9 out to move the paste-roll across the edge of the paper just before the knife operates, the lever and roll being returned by the spiral spring f^{16} , Fig. 2. Means are provided for lifting the paste-roll off of the table at each end of the stroke and for holding it normally in a raised position. At the inner side of the table I provide a projection m^5 , onto which the pasting-roll runs, and at the opposite side of the table is a projection m^6 , against which an inclined edge m^7 , formed on the rod f^3 , strikes, lifting the roll and holding it in a raised position.

The newspapers are wrapped and folded on a platen P, which is fixed on the upper end of a standard i , mounted in a suitable bearing i' , so as to permit a vertical motion. (See Fig. 9.) Means are provided for moving the platen into various positions which it takes during the operations of folding the paper,

and, as here shown, I secure these motions by means of a cam-lever i^2 , (see Fig. 10,) pivoted by one end to the lower end of the standard i and by the other to the machine, the cam-roll being intermediate the ends and running in the groove of the cam C^4 on the cam-shaft B' . The grooves of this cam and of the other cams mentioned are of such form as to give the motions hereinafter set forth.

The newspaper and wrapper are held on the platen during the first part of the folding operation by a plunger e^5 , supported vertically above the platen on the lower end of a standard e^3 , which is mounted in a suitable guide e^2 in such a manner as to have a vertical movement. The guide e^2 is fixed on the end of a horizontal arm which extends out from the fixed standard e' . Means are employed to impart a vertical movement to the plunger, by which it is forced into a substantial contact with the platen and made to perform the several movements hereinafter described. As here shown, I pivot to the upper end of the standard a lever e^4 , said lever being also pivoted to a fixed standard e^8 and to a connecting-rod e^6 . The connecting-rod is pivoted to a cam-lever e^7 , operated by the cam C^5 , Fig. 9, and pivoted to the lower end of the guide i' .

The newspaper is fed to the machine by being laid on the feed-table g^5 , made up of two plates p and p' , separated by a small space, and it is then pushed partially onto the platen by the follower g , which moves in a guide formed by a slot in the upper plate p . The follower is operated from a cam C' on the cam-shaft B' , Fig. 11, the roll of the cam-lever g^3 running in the groove 2 of the cam C' . The end of the cam-lever is connected by a connecting-rod g^{14} with a lever g' , pivoted at g^2 , Fig. 1, the movable free end of which is connected by a connecting-rod g^7 with the follower g . The cam-groove 2 is so formed as to feed a newspaper in onto the wrapper as soon as the latter is in position on the platen. The first right-angled fold is formed in the newspaper by catching it, preferably, at its central point between the edge of the plunger and a ledge or angle formed at some portion of the machine near the path of the plunger, so that as it passes downward a portion of the paper will be turned up over the edge of the plunger.

As here shown, I form in the bed of the machine a recess in which the platen and the plunger move up and down, one edge of the recess being formed by the inner end of the feed-table g^5 , Fig. 11. There is a space between the edge of the plunger and the end of the feed-table sufficiently large to admit of the newspaper being pulled down through as the plunger descends, carrying it down. The other edge of the recess is formed by the pasting-table m , Fig. 11, beneath which are rolls m' , connected by bands m^2 , and beneath which the folded paper is pushed after being wrapped and folded and by which the pasted

flap is pressed down. These rolls are not positively driven, but are turned by the friction of the folded paper on the bands m^2 . 70

The two complete folds of the newspaper are made by two sliding plates or "rams," as I shall term them, R' and R^2 , located beneath the feed-table and mounted in guides g^6 , which also serve to support the feed-table, and a third sliding plate or follower R^3 is located beneath the other two and is held like them in grooves formed in the inner side of the guides g^6 . Each of the three sliding plates R' , R^2 , and R^3 , Fig. 11, is operated or thrown forward and back by cam-levers, which are pivoted below to the frame of the machine, their upper ends playing in openings in the plates, slots being left in the several plates and in the bed of the machine to allow them to vibrate. The cam-rolls on these levers run in peripheral grooves 4, 3, and 1, respectively, in the edges of the cams C^3 , C^2 , and C' . The two rams are thin plates for forming the folds of the newspaper, while the follower has an enlarged end for forcing the folded package under the rolls and out of the machine. 75 80 85 90

The operation of the folding mechanism will now be described in order to give an intelligent idea of the construction of the various parts hereinafter referred to and their function. 95

The newspaper, folded as it comes from the press, is, as already explained, fed in by the follower g to a position on top of the wrapper with preferably one-half of its surface beyond the edge of the plunger. (See Fig. 12.) The latter comes down into the platen and clamps the paper and wrapper firmly in place between the two, at the same time continuing its course downward with the plunger, the motion of the two being simultaneous at this point, and by so doing doubling the newspaper over the edge of the plunger and between that and the end of the feed-table, so that it forms a right-angled fold, the free edge extending upward. The newspaper having reached this position, as shown in Fig. 13, means are provided for holding the angle in position while the end is being turned over by the ram R' . As here shown, I make use for that purpose of a retaining-finger k^2 , pivoted adjacent to the side of the recess in which the plunger and the platen move and so held that it will automatically swing in and hold the angle when the half-fold is completed and the plunger is down. The fingers k^2 are secured to the upper ends of the vertical rods k^{21} , journaled in the bed of the machine, so as to have a vertical movement. A spiral spring k^{20} surrounds the rod below the bed and has a torsional action tending to swing the finger inward to catch the fold of the newspaper and a downward action tending to hold it down. There is one of the fingers k^2 on each side of the platen, and that on the front side is held in its normal position out of line with the plunger by bearing 100 105 110 115 120 125 130

against the side of the platen, Fig. 3, which has a downward extension p^3 for this purpose, Fig. 9. On the back side, however, where there is no room for this extension on account of the position of the cam underneath, the finger is held back by a pivoted latch k^{24} , Fig. 11, which is pivoted to the frame of the machine at the side of the recess in which the platen moves, the main portion of the catch being adjacent to the edge of the platen and out of line therewith. It is kept pressed normally upward against the stop k^{22} by means of the spring k^{25} , the catch being provided with a ledge k^{16} , which projects into the path of the edge of the platen. The finger bears against the outer end of the surface of the catch in such a position that when the platen at the lower end of its stroke strikes the ledge k^{16} it will depress the catch just sufficient to let the finger swing around over the top of the platen. The finger is swung back into its original position in the same manner as that on the other side of the platen. After the finger has come into place to hold the fold of the newspaper the plunger rises out of the way to its normal position, as in Fig. 1, and the upper ram R' comes out and, taking the upturned edge of the paper, folds it over to form a complete single fold with the wrapper outside. It will be noted that the outer edge of the ram R' is dropped down as low as possible in order to insure a tight fold to the paper. The next operation after making the single fold is to fold the newspaper again and to return the finger to its place and release it from the fold already formed. While the ram is going out, the platen slowly rises, carrying the finger with it until it comes on a level and in line with the sliding tripper o , which as the platen rises moves out and swings the finger around to its normal position, freeing it from its bearing on the platen and allowing it to snap back onto the bed of the machine into its original position. The tripper by which this is done is mounted in a block o^2 so that it has a longitudinal motion. Means are provided for moving the tripper out and in at the proper time to release the finger when the latter rises to the level of the finger and just before the second fold is to be formed. As here shown, I secure the necessary movement of the tripper by means of a lever o' , which lies between the rams and has its outer end pivoted to the tripper by means of a pin on its under side, (not shown,) while its inner end, which contains the longitudinal slot o^4 , is loosely pivoted to the ram R' by the pin o^3 , Fig. 3, which passes through the slot o^4 . The lever is fulcrumed at o^8 by a pin passing through the guide g^6 . Thus as the ram R' moves out the tripper o is withdrawn, so that its outer end allows the finger k^2 to be lifted to the level of the bolt without striking it, and when the ram R' returns after completing the single fold the tripper pushes the finger around to its normal position and it snaps down onto the bed

of the machine, retained in place by its bearing against the side of the platen on one side and against the latch k^{24} on the other side. (See Fig. 15.) Means are provided for holding the two thicknesses formed by the single fold, and this is done by means of a clamp r^7 , having an arm r^9 at its end, which is thrown in about when the ram R' reaches its outer position and which presses down on the folded newspaper approximately at its central point; one clamp on each side. A plurality of clamps r^7 is used, one on each side of the machine. The motion of the clamp is also governed by the movement of the ram R' , and it is so constructed that it has a certain amount of vertical spring, and means are provided by which the arm r^9 shall descend onto the folded paper from a comparatively-high point, so as to avoid catching between any of the layers of paper as it comes in from the side. As here shown, Fig. 3, the clamp r^7 is made in the form of a comparatively-long arm, of spring-steel, with the arm r^9 projecting inward at right angles at the end and a projection r^{10} , substantially in line of its length, for the purpose hereinafter set forth. The clamp is pivoted at r^{12} , and it has an extension r^6 , to which is pivoted a sliding plate r^3 , extending inward at right angles to the clamp and resting on the ram R' . It has a sliding motion in and out and is guided on one edge by a recess in the guide g^6 , through which it passes, and on the other edge by a pin r^4 , located in said recess. It is pushed outward to throw in the clamp to the position shown in Fig. 15 by a pin r' on the ram R' , which impinges when the plate is thrown forward on the inclined end of the plate r^3 . The clamp is steadied and held in place on the newspaper, after it has been forced in, by means of the spring r^{16} . The clamp is withdrawn by a projection r^2 , which extends at right angles to the clamp, between the rams R' and R^2 , and which is in position to be hit by a pin r on the ram R^2 when the latter is thrown in. In order to bring the clamp down on the top of the folded newspaper and in such a way as to avoid tearing or mutilating the same, I provide an inclined guide r^{11} , pivoted at its upper end to a stud r^{12} and extending outward and resting on the bed of the machine immediately in front of the projection r^{10} of the clamp r^7 , so that as the clamp is thrown inward the projection r^{10} will travel up on the guide and enable the arm r^9 to drop on the outer end of the ram when the latter is at its outer point, and when the ram starts on its return the clamp is dropped onto the surface of the paper. By bringing the clamp down first onto the ram and then allowing it to descend onto the paper it is more gentle in its action than if it fell directly on the paper and at the same time acts as firmly. When the clamp is withdrawn, it passes under and lifts the guide, which latter is kept in its normal position by a spring r^{13} , which is connected with the spindle on the end of which the guide is secured and by

which it is pivoted. As already stated, the clamp is thrown in and holds the paper firmly when the ram R' reaches its outer stroke and completes the fold, and during its return stroke the finger k^2 is released from the fold of the paper, leaving it free for the second fold. During the return of the ram R' the platen has risen, bringing the finger in front of the releasing-tripper and also bringing the edge of the paper slightly above the lower ram R^2 , as here shown in Fig. 15, and as the latter moves out the platen descends to the level of the bed of the machine, allowing the ram to catch under the edge of the paper and as the platen drops to fold it over the clamp, as here shown in Fig. 16. When the ram R^2 has completed the fold and has the folded paper firmly held between itself and the platen, the pin r strikes the arm r^2 and throws out the clamp, as explained, and the follower R^3 comes out and pushes the folded paper underneath the rolls m' and presses down the flap w of the wrapper and delivers the folded and wrapped papers. The space beneath the paste-table under which the folded papers pass is long enough to retain several papers, and in the process of operating the machine the papers are held long enough under the rolls to allow the paste to thoroughly stick down the flap. In the diagrams Figs. 12 to 16 I have indicated the wrapper by W and the paper by U . As soon as the folded paper has been pushed out by the follower the ram R^2 and the follower start to return, the platen slowly rises to the level of the feed-table, and the wrapping-paper is fed in for a new wrapper, these three operations taking place simultaneously. The paste-roll is now ready to paste the edge of the wrapper, the knife cuts it off, the paper is fed in, and the folding mechanism comes into operation to fold the next paper, as already explained, and so on with each successive paper.

It will thus be seen that my machine automatically addresses the wrappers, feeds them forward, inserts and wraps the papers, and pastes the overlapping edge of the wrapper by a continuous operation.

It is evident that many of the movements of the mechanism may be produced by means different from those herein shown and that many of the details of the machine may be changed while yet keeping within the terms of my invention.

It will be seen that during the many manipulations to which the paper is subjected the pasted flap of the wrapper is left free and comes in contact with no part of the machine, so that when the last fold is made it adheres without difficulty.

While the machine is particularly designed to wrap newspapers which have been partially folded on the press or otherwise, it may be used for pamphlets or any like flexible articles which it is necessary to fold in a wrapper.

The machine may be adapted to fold and

wrap papers of different size by varying the sizes of the several parts, which can be made adjustable within a limited extent.

In making the first right-angled fold I have so constructed the machine as to form a ledge of the end of the feed-table; but it is evident that any ledge over which the paper can be drawn to fold it over the edge of the plunger will accomplish the same purpose.

The machine can be used with a web of plain paper as well as with the addressing mechanism herein shown, or it can be used with single sheets of wrapping-paper, and any sort of printed matter may be impressed on the web as well as the addresses.

I claim—

1. In a machine for wrapping newspapers, &c., the combination of a platen and a plunger between which the wrapper and newspaper are held with a portion projecting, the plunger and the platen having a vertical movement relative to each other and to the machine, a ledge across which the projecting edge of the newspaper is drawn to form a right-angled fold, fingers adapted to enter and hold the paper at the angle and a horizontally-sliding ram for folding the newspaper over said fingers.

2. In a machine for wrapping newspapers, &c., the combination of a platen and a plunger between which the wrapper and paper are held with a portion projecting, the plunger and the platen having a vertical movement relative to each other and to the machine, a ledge across which the projecting edge of the paper is drawn to form a right-angled fold, spring-actuated fingers adapted to enter and hold the paper at the angle and a horizontally-sliding ram for folding the newspaper over said fingers.

3. In a machine for wrapping newspapers, &c., the combination of a platen and a plunger between which the wrapper and paper are held with a portion projecting, the plunger and the platen having a vertical movement relative to each other and to the machine, a ledge across which the projecting edge of the newspaper is drawn to form a right-angled fold, a vertical spindle journaled in the machine adjacent to the said ledge, a retaining-finger on the upper end of said spindle, a torsional spring tending to swing said finger into the angle of said fold, a horizontally-sliding ram for folding the newspaper over said finger and means for releasing said finger from said fold when the same is completed.

4. In a machine for wrapping newspapers, &c., the combination of a platen and a plunger between which the wrapper and the paper are held with a portion projecting, the plunger and the platen having a vertical movement relative to each other and to the machine, a ledge across which the projecting portion of the newspaper is drawn to form a right-angled fold, a vertical spindle journaled in the machine adjacent to the said ledge, a

retaining-finger on the upper end of said spindle, a torsional spring tending to swing said finger into the angle of said fold, a horizontally-sliding ram for folding the newspaper
 5 over said finger, a stop for holding said finger away from the vertical path of the paper, releasing mechanism for releasing said finger when said right-angled fold is made and means for withdrawing said finger from said fold
 10 when the fold is completed.

5. In a machine for wrapping newspapers, &c., the combination of a platen and a plunger between which the wrapper and the newspaper are held with a portion projecting, the
 15 plunger and the platen having a vertical movement relative to each other and to the machine, a ledge across which the projecting portion of the newspaper is drawn to form a right-angled fold, a vertical spindle journaled
 20 in the machine adjacent to the said ledge, a retaining-finger on the upper end of said spindle, a torsional spring tending to swing said finger into the angle of said fold, a horizontally-sliding ram for folding the newspaper
 25 over said finger, a stop for holding said finger away from the vertical path of the paper, a sliding tripper above said finger for returning it to its normal position when lifted by the platen.

30 6. In a machine for wrapping newspapers, &c., the combination of a platen and a plunger between which the wrapper and the paper are held with a portion projecting, said plunger and platen having a vertical movement
 35 relative to each other and to the machine, and both having a downward movement in an opening formed in the bed of the machine for forming a right-angled fold in the newspaper, a vertical spindle journaled adjacent to the
 40 side of the platen having a torsional spring tending to swing said finger into the angle of said fold and on top of said platen which forms a stop to retain said finger in its normal position and a sliding tripper-bolt above said finger
 45 for returning it to its normal position when it is lifted by the platen.

7. In a machine for wrapping papers the combination of a vertically-movable platen and plunger adapted to hold the paper and
 50 wrapper between them with a portion projecting, an opening in the bed of the machine in which said platen and plunger travel and across the edge of which the projecting edge of the paper draws to form a right-angled fold,
 55 retaining-fingers for holding the fold in place, a sliding ram for completing the single fold, clamps for holding down the folded paper on the platen at a point between the ends and means for folding the paper over said clamp
 60 to form the double fold.

8. In a machine for wrapping papers, &c., the combination of a vertically-movable platen and plunger adapted to hold the paper and wrapper between them with a portion projecting, an opening in the bed of the machine
 65 in which said platen and plunger travel and

across the edge of which the projecting edge of the paper draws to form a right-angled fold, retaining-fingers for holding the fold in place, a sliding ram for completing the single
 70 fold, clamps for holding down the folded paper on the platen at a point between the ends and a sliding ram adapted to catch the edge of the folded newspaper as the platen descends and to fold it over said clamps to complete the double fold. 75

9. In a machine for wrapping newspapers the combination of a vertically-movable platen and plunger adapted to hold the paper and the wrapper between them with a portion
 80 projecting, a paste-roll for pasting the edge of the wrapper, an opening in the bed of the machine in which said platen and plunger travel and across the edge of which the projecting edge of the paper draws to form a
 85 right-angled fold, retaining-fingers for holding the fold in place, a sliding ram for completing the single fold, clamps for holding down the folded paper on the platen at a point between the ends, a sliding ram adapted to
 90 catch the edge of the folded newspaper as the platen descends and to fold it over said clamps to complete the double fold, a follower for forcing the folded newspaper from beneath said sliding ram and a roller under which the
 95 folded paper passes for pressing down the pasted edge of the wrapper.

10. In a machine for wrapping newspapers, &c., the combination of a platen mounted in a vertical opening in the bed of the machine,
 100 feed-rolls for feeding the web of wrapping-paper onto said platen with a projecting edge, a paste-roll for pasting said projecting edge, a knife for cutting off the wrappers from said web, a follower for feeding the newspapers
 105 onto said platen above the wrapper with a projecting portion, a plunger adapted to descend and clamp the wrapper and newspaper on the platen and then descend with said platen through said vertical opening where-
 110 by a right-angled fold is formed and finally to rise leaving the newspaper on the platen, fingers adapted to catch and hold the right-angled fold before the plunger rises, an upper sliding ram for completing the single fold,
 115 clamps for holding the newspapers centrally against the platen, a lower sliding ram for catching and turning the edge of the paper over said clamps as the platen descends, means for swinging said fingers back to their
 120 normal position, a follower for forcing the folded newspaper from beneath said lower sliding ram, rolls beneath which said folded newspaper passes to press down the pasted edge of the wrapper. 125

Signed by me at Portland, Maine, this 23d day of May, 1898.

LINGAN C. WING.

Witnesses:

S. W. BATES,
 F. H. COLLEY.