No. 696,021. Patented Mar. 25, 1902.

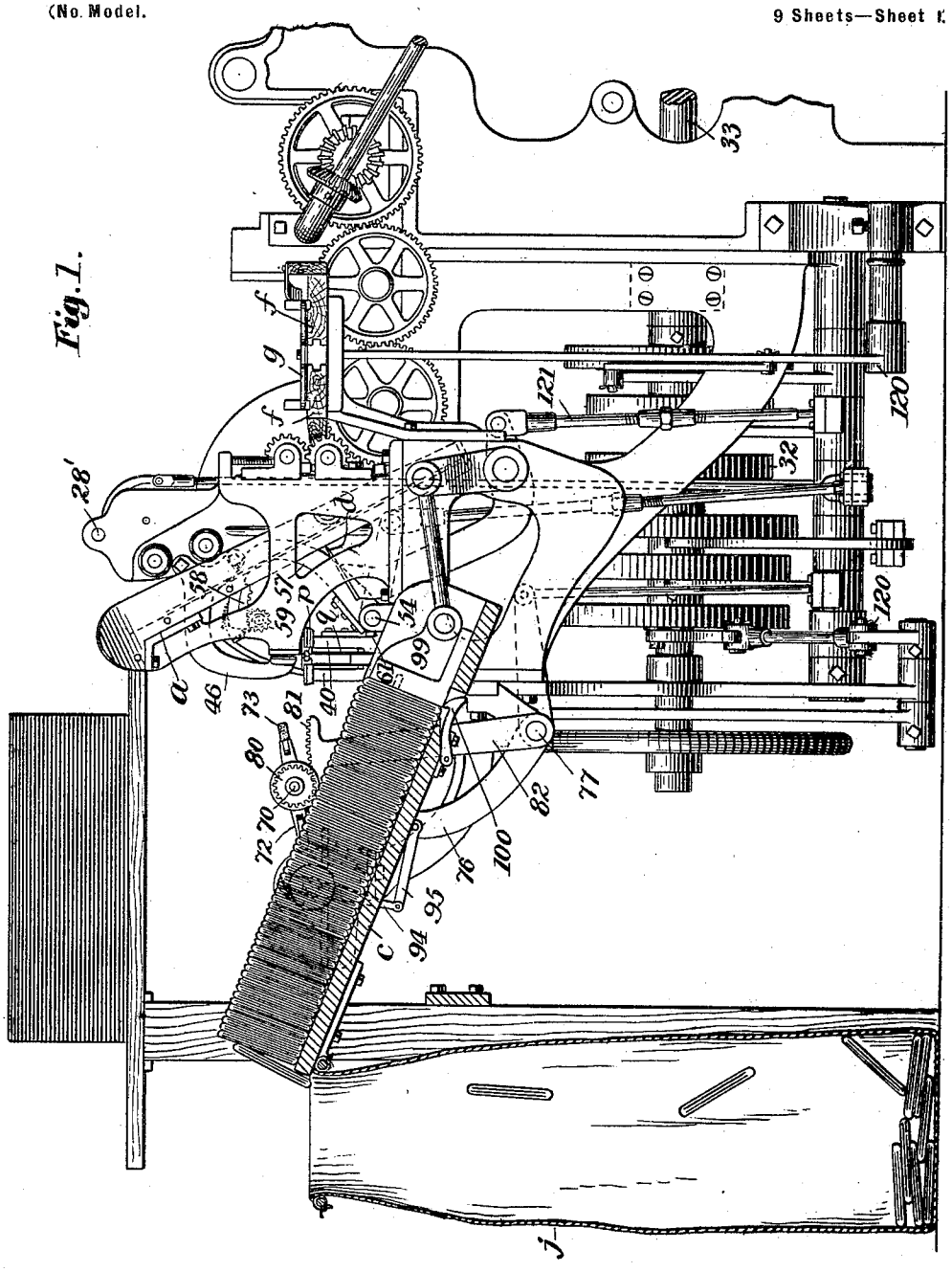
S. ELLIOTT.

MACHINE FOR FOLDING AND WRAPPING.

(Application filed June 7, 1901.)

(No. Model.) 9 Sheets—Sheet 1.

Fig. 1.



Witnesses:

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(No Model.) 9 Sheets—Sheet 2.

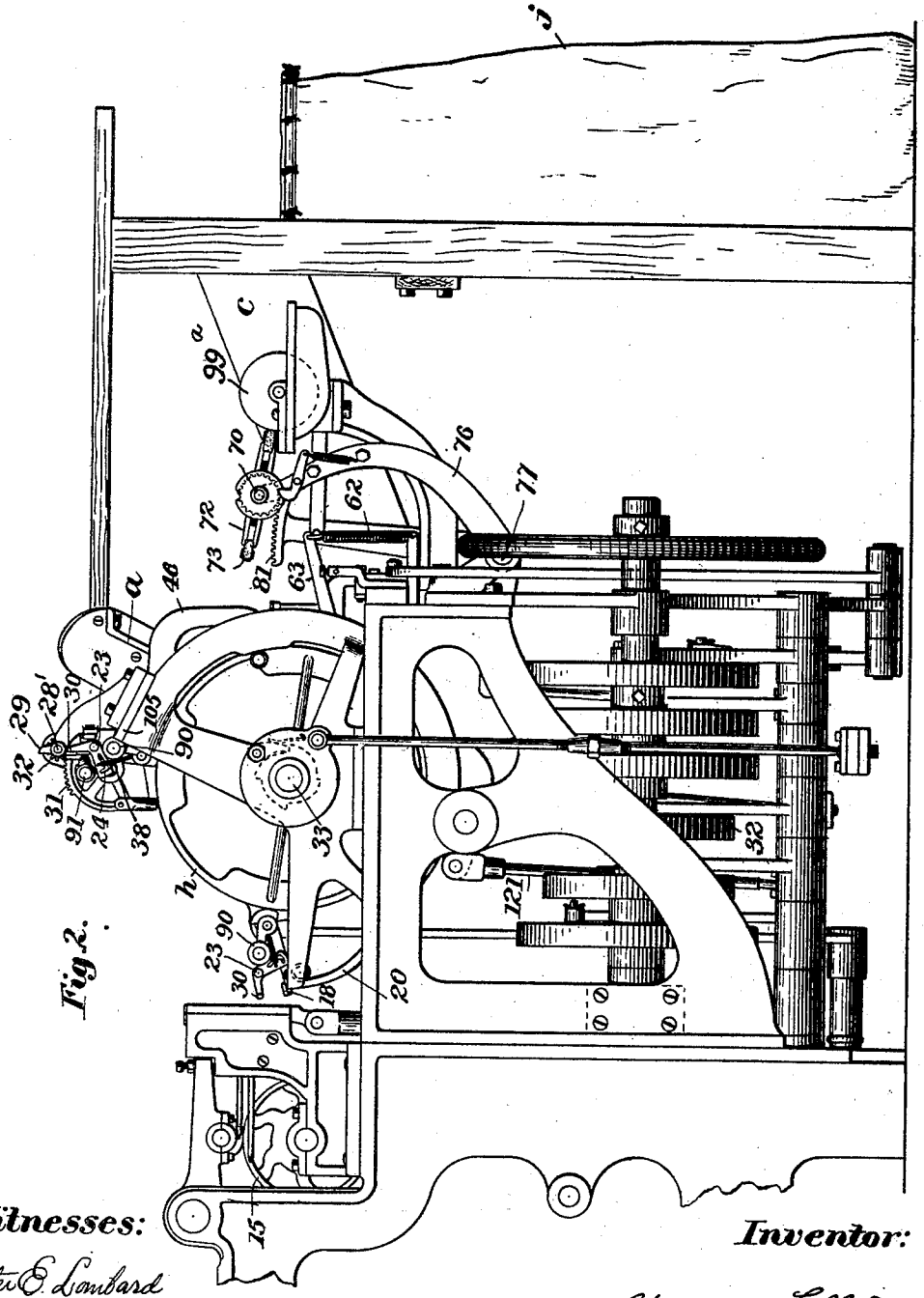


Fig. 2.

Witnesses:
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(No Model.) 9 Sheets—Sheet 3.

Fig. 3.

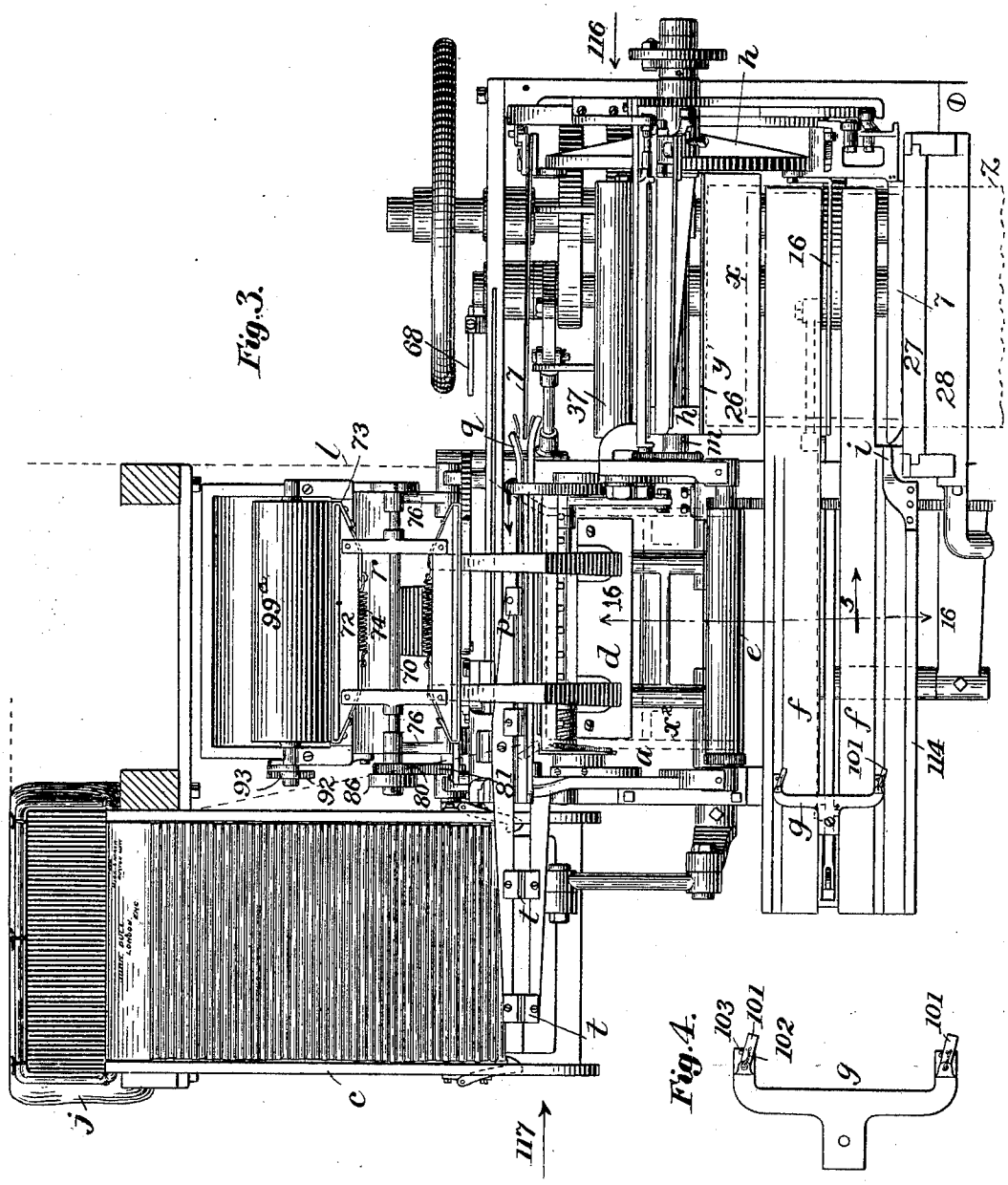


Fig. 4.

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No. 696,021. Patented Mar. 25, 1902.

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(No Model.) 9 Sheets—Sheet 4.

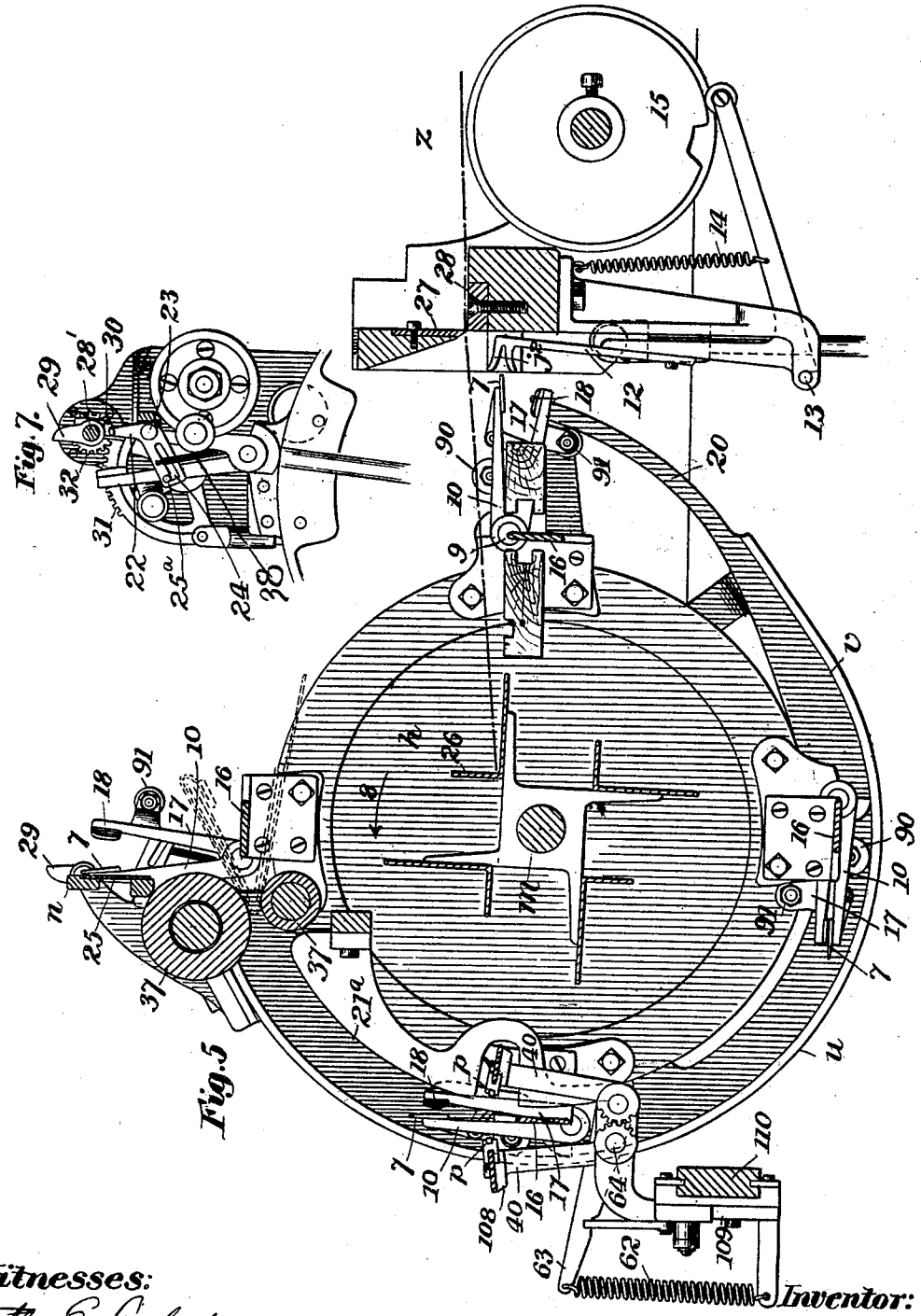


Fig. 7.

Fig. 5

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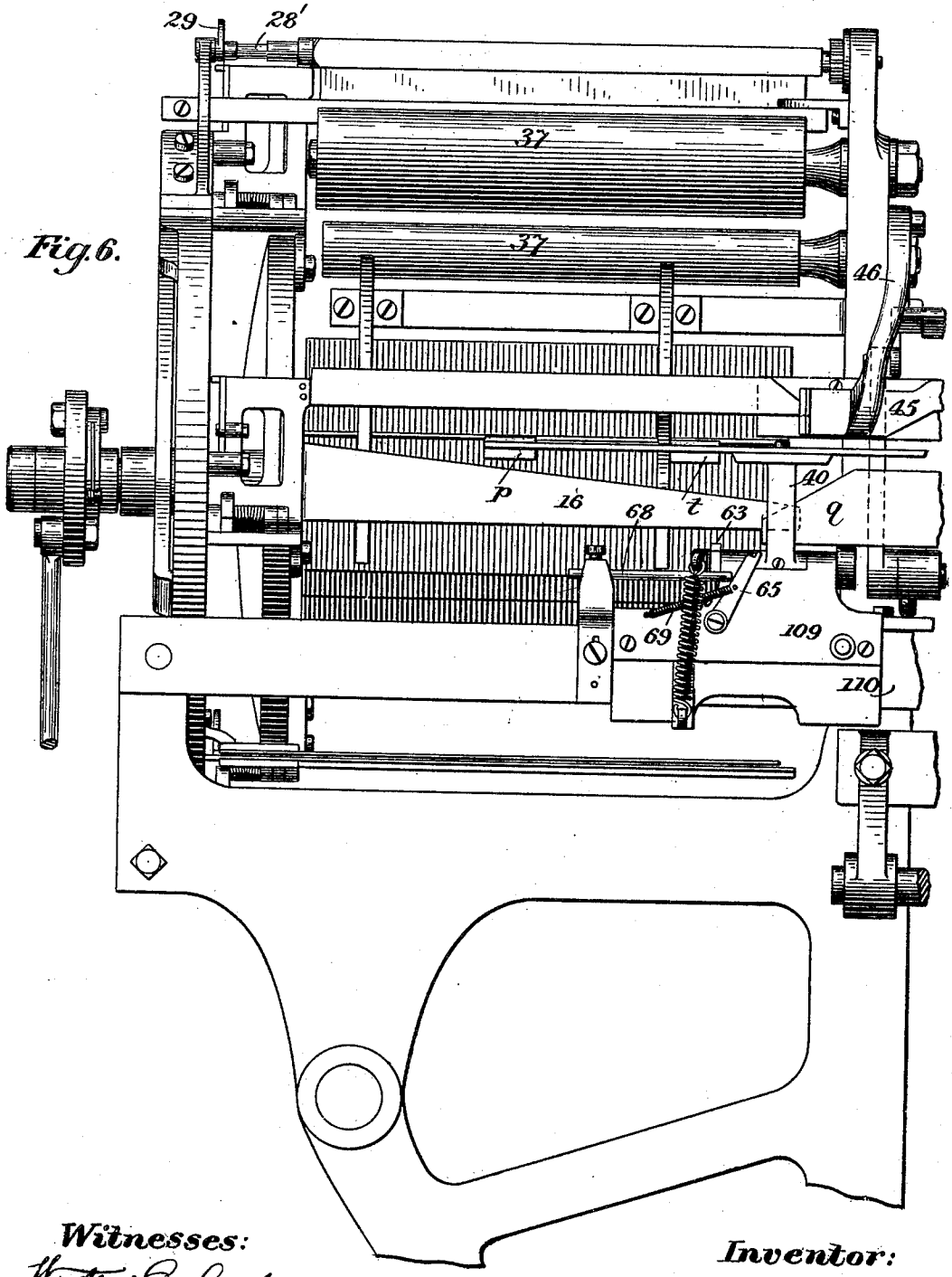
S. ELLIOTT.

MACHINE FOR FOLDING AND WRAPPING.

(Application filed June 7, 1901.)

(No Model.) 9 Sheets—Sheet 5.

Fig. 6.



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MACHINE FOR FOLDING AND WRAPPING.

(Application filed June 7, 1901.)

(No Model.) 9 Sheets—Sheet 6.

Fig. 8.

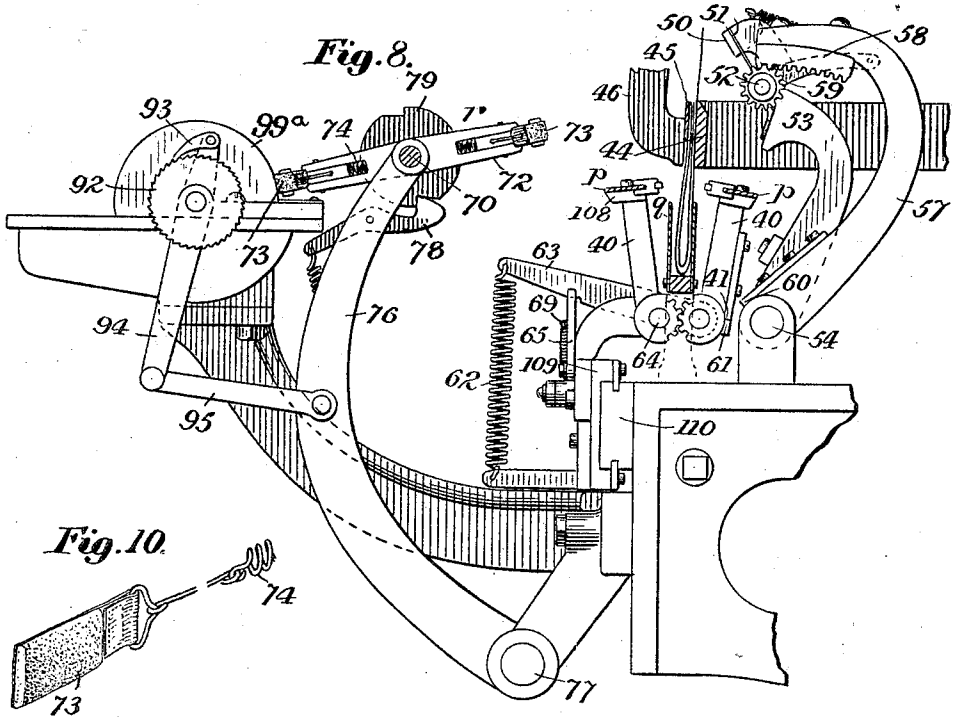


Fig. 10.

Fig. 9.

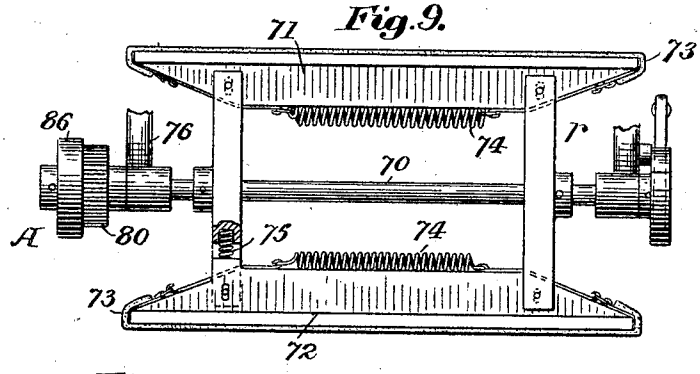


Fig. 11.

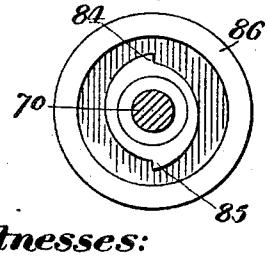


Fig. 13.

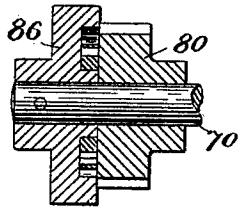
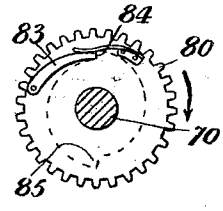


Fig. 12.



Witnesses:

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(Application filed June 7, 1901.)

(No Model.) 9 Sheets—Sheet 7.

Fig. 15.

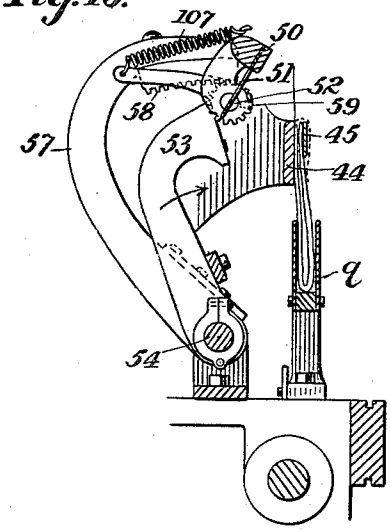


Fig. 14.

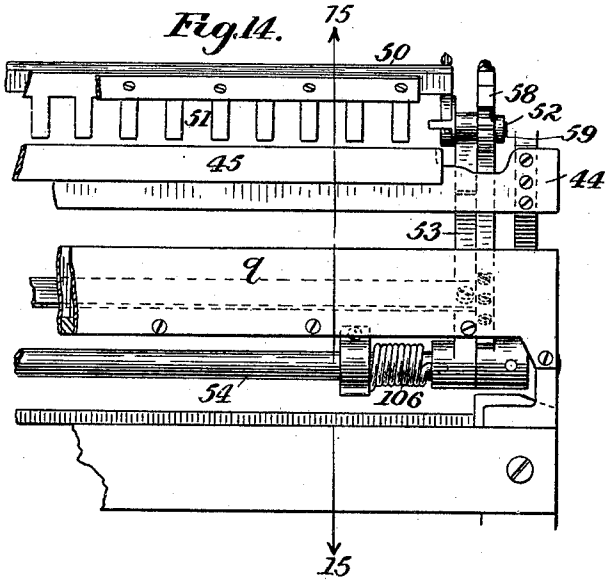
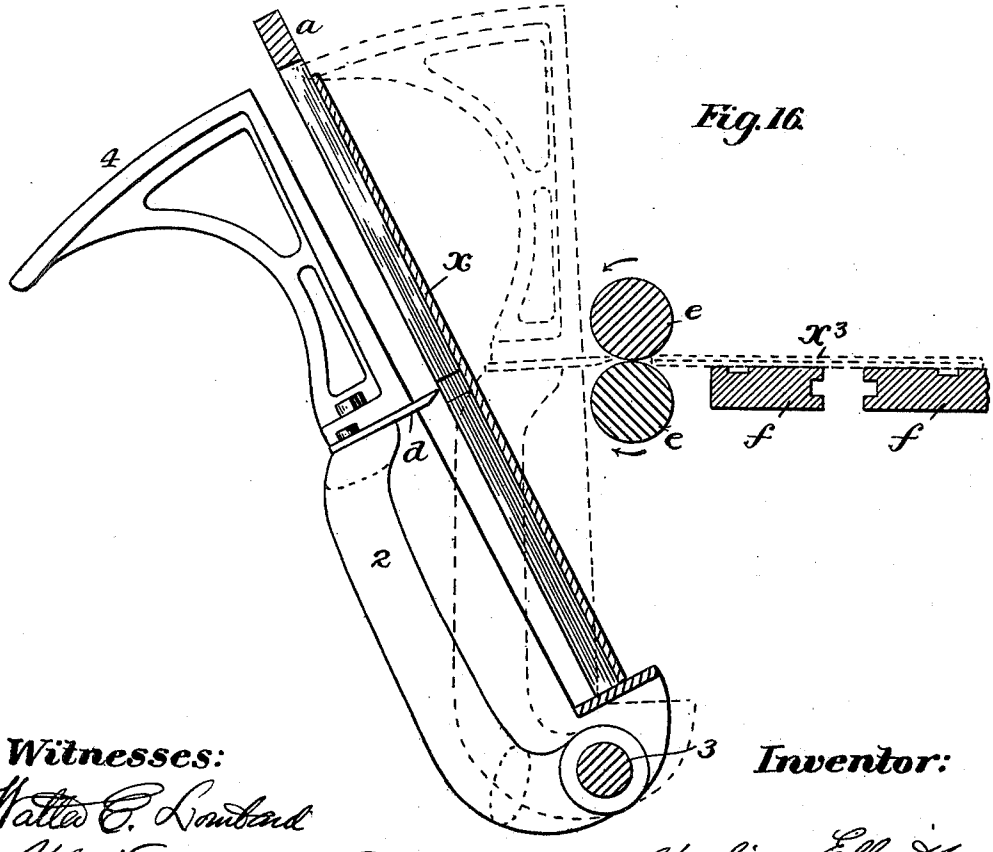


Fig. 16.



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(No Model.) 9 Sheets—Sheet 8.

Fig. 17.

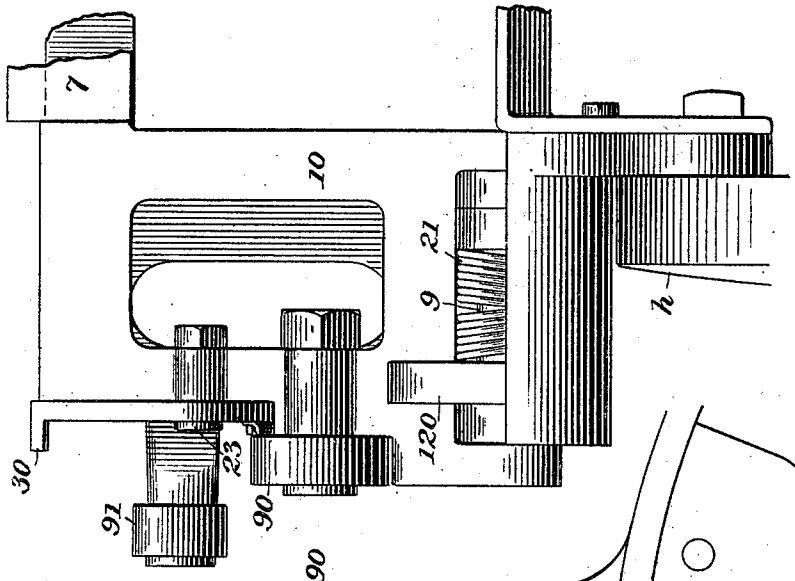


Fig. 19.

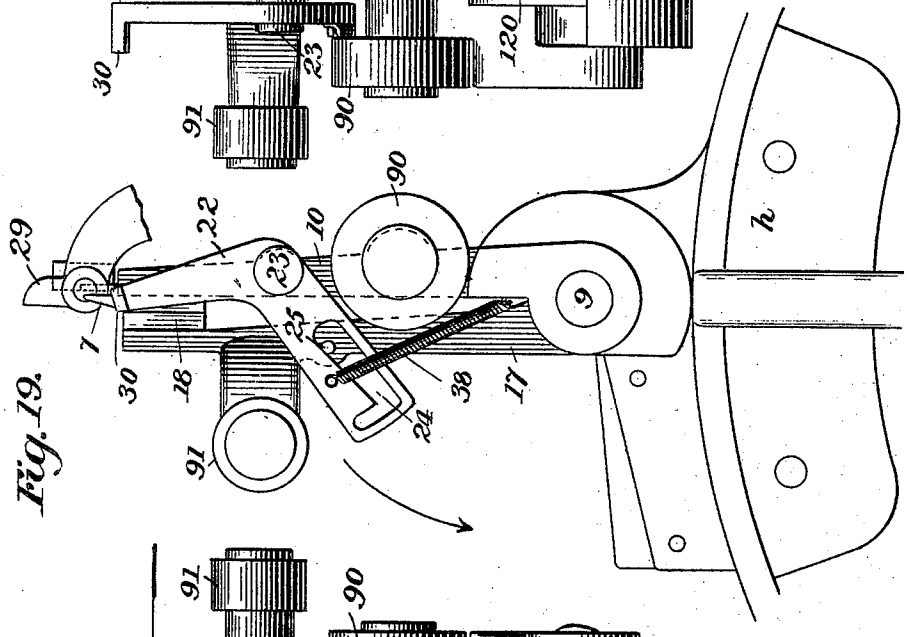
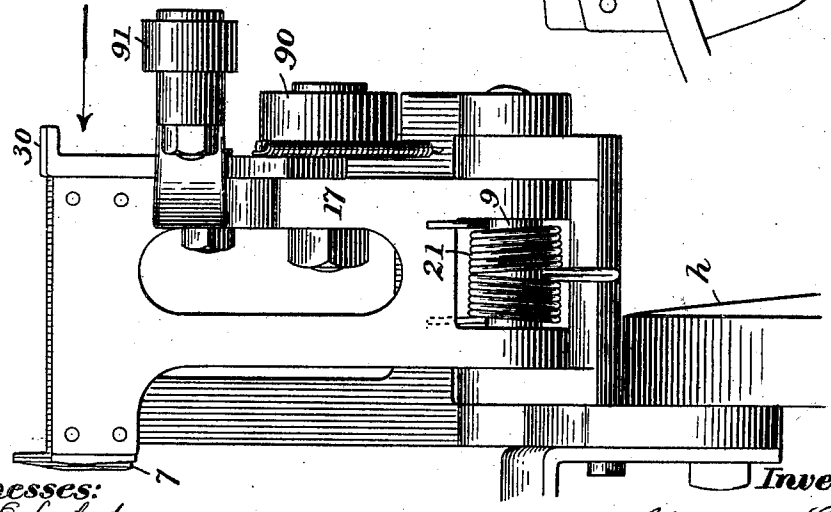


Fig. 18.



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S. ELLIOTT.

MACHINE FOR FOLDING AND WRAPPING.

(Application filed June 7, 1901.)

(No Model.) 9 Sheets—Sheet 9.

Fig. 20.

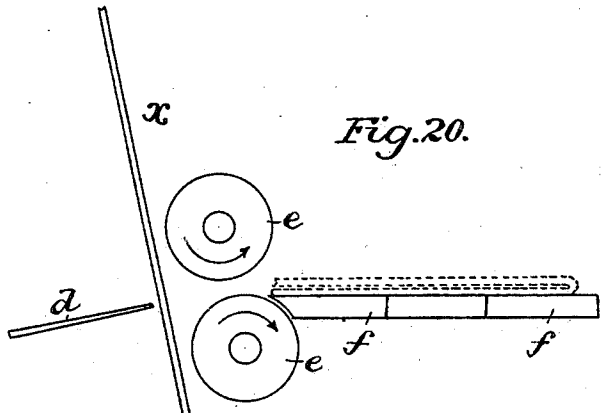


Fig. 21.

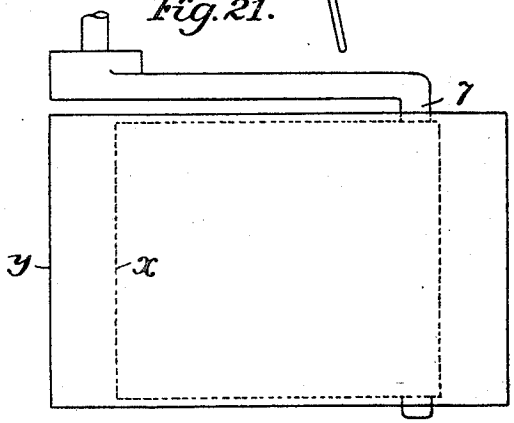


Fig. 22.

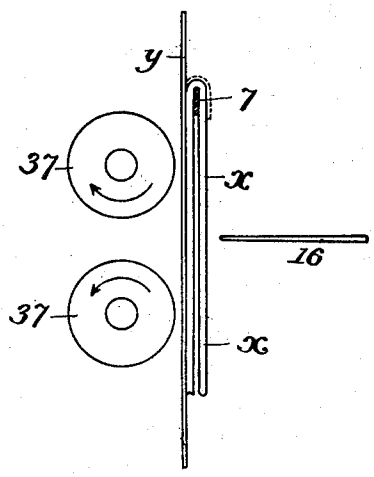


Fig. 23.

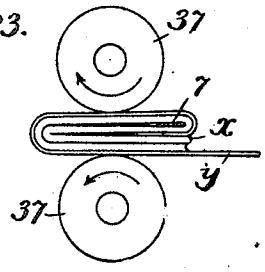


Fig. 24.

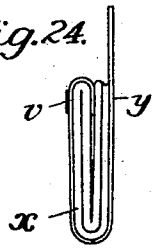
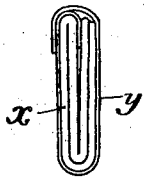


Fig. 25.



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UNITED STATES PATENT OFFICE.

STERLING ELLIOTT, OF BOSTON, MASSACHUSETTS.

MACHINE FOR FOLDING AND WRAPPING.

SPECIFICATION forming part of Letters Patent No. 696,021, dated March 25, 1902.

Application filed June 7, 1901. Serial No. 63,650. (No model.)

To all whom it may concern:

Be it known that I, STERLING ELLIOTT, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Machines for Folding and Wrapping, of which the following is a specification.

My invention relates to apparatus for folding papers, magazines, &c., and when required for applying wrappers thereto and pasting the same; and it consists of apparatus for this purpose, as fully set forth hereinafter, and as illustrated in the accompanying drawings, in which—

Figure 1 is an end elevation of the apparatus in part section; Fig. 2, an elevation of the opposite end; Fig. 3, a plan view; Fig. 4, a detached enlarged plan of the pusher; Fig. 5, a transverse sectional elevation of the rotating head and coöperating parts; Fig. 6, a rear elevation of the parts shown mainly in Fig. 5; Fig. 7, a side view of the parts connected with the upper folder-bar looking in the direction of the arrow 116, Fig. 3; Fig. 8, a side elevation looking in the direction of the arrow 117, Fig. 3, showing the carrying-clamps, pasting devices, and adjuncts; Fig. 9, a plan in part section of the paster; Figs. 10 to 13, detached views of parts of the paster mechanism; Fig. 14, an elevation of part of the devices for folding over the standing edge of the wrapper prior to pasting; Fig. 15, a section on the line 15 15, Fig. 14; Fig. 16, a sectional elevation of the parts connected with the first folding of the paper, taken on the line 16 16 of Fig. 3; Figs. 17 and 18, elevations at opposite ends of the revolving head of the arms connected with the carrier and clamping-blades; Fig. 19, an edge view looking in the direction of the arrow, Fig. 18, and showing additional parts; Figs. 20 to 25, diagrammatic views illustrating successive operations in folding, wrapping, and pasting and sealing the paper.

The machine constituting the subject of this invention has for its object to fold pamphlets, magazines, circulars, papers, &c., hereinafter termed the "paper" or "papers," and, if required, to wrap them in paper wrappers and paste or cement the latter, so that each paper will be mechanically folded, wrapped, and pasted without any other act of the operator than is necessary to feed the machine.

In folding the paper and applying and pasting the wrapper the paper and wrapper are moved and acted on, as indicated in the diagrams, Figs. 20 to 25. The paper x is first folded upon itself in the center by bending it with a blade d and forcing it between rolls e e, which feed it to a table f, Fig. 20. It is then pushed along the table onto a blade 7, as in Fig. 21, and while in this position a wrapper-sheet y, cut from a strip z, is placed on the folded paper, as indicated by dotted lines, Fig. 21. The folded paper and wrapper are then carried to a vertical position, as shown in Fig. 22, the upper edge of the wrapper is turned down, and a folder-blade 16 bends the sheets centrally and carries the fold between two rolls 37 37, Fig. 23, (the blade 7 swinging down to a horizontal position, but remaining in the fold.) The folded sheets are then brought to a vertical position and are slipped longitudinally off, the blades 7 and 16 are withdrawn, as in Fig. 24, and paste is applied at v to the body of the wrapper, after which the end of the latter is turned down onto the pasted part, and thus secured, as shown in Fig. 25. The papers are placed in succession by the attendant upon an inclined rest a, Figs. 1 and 16, and indicated by dotted lines x^2, Fig. 3, opposite a folder-blade d, which is carried by arms 2, secured to a rock-shaft 3, and as this blade moves forward it strikes the paper midway between its ends and bends and carries it between the folding-rolls e e, which fold it on itself and discharge it onto a table or support f f in the folded position shown by dotted lines x^3, Fig. 16. To prevent the attendant from putting a second paper upon the rest during the time the blade d is moving forward, the arms 2 are extended upward and each provided with a curved guard 4, extending backward, so as to cover the space between the arms and the rest a when the arms are in the forward position, as shown in dotted lines, Fig. 16. As shown in the plan, Fig. 3, this fold of the paper is effected at the left of the line l. The folded paper when on the table f is pushed to the position shown by dotted lines x, a wrapper is placed above the paper and above the blade 7 in the position

shown by dotted lines y, the strip z is cut by the cutters 27 28, and the paper and wrapper are carried by the blade 7 to a vertical position. The edge of the wrapper is folded over and the two are again folded in the center by a blade 16 and carried down into line with the trough q and then pushed off the blades 16 7 to the left into position opposite the paster r, which applies a line of paste. The edge of the wrapper is then folded down and pasted and the wrapped paper then pushed farther to the left to the bottom of a pile on a chute c, and as the papers are added at the bottom of the pile those at the top fall successively into a receptacle j. A pusher g, Figs. 3 and 4, moves over the table f to carry the folded paper in the direction of the arrow 5, Fig. 3, and in so doing the fold of the paper is carried onto the horizontal blade 7, which, as shown, is one of a series of four blades secured each at one end to and carried by a revolving head or support h, Fig. 5. The folded paper is guided on the table between guides thereon, and to hold its folded edge closely in contact with the adjacent guide 114 and to prevent it tilting to one side when under the action of the pusher g the latter is provided with two pivoted fingers 101 101, Fig. 4, each held normally at an angle to the line of movement by a stop-pin 103 and spring 102, and when the ends of these fingers meet the paper they tend to swing to the side to which they are inclined, and thus to maintain the folded edge closely against its guide 114, so that it moves forward without canting. Each blade 7 is secured to an arm 10, swinging on a pivot 9, jointing it to the head h. (See Figs. 5, 17, 18.) That the end of the blade 7 may certainly enter the fold of the paper the latter just as it is presented to the blade 7 passes under a stationary finger i, Fig. 3, and the outer end of the blade is then brought into its exact position by means of the centering-fork j^2, having two diverging fingers, secured to one arm 12 of a bell-crank lever pivoted at 13 and carried momentarily inward by a spring 14 when a notch in a cam 15 comes opposite a roll at the end of the other arm of the lever 12, the cam immediately retracting the centering-fork after the end of the blade has entered the folded paper. Before the blade 7 leaves its horizontal position (shown at the right in Fig. 5) a sheet of wrapping-paper, Figs. 3 and 5, is placed over the folded paper, its inner edge in contact with the side of a gage 26, secured to the hub of the shaft m, carrying the head h. This sheet may be a continuous sheet z, which is then cut to form the wrapper y, by means of the cutters 27 28, the former being a reciprocating knife. If not a continuous sheet, each wrapper-sheet may be fed mechanically to position or may be put in place by hand. The wrapper-sheet y is of such length that it projects beyond the folded edge of the paper, as shown by dotted lines, Fig. 3, and in diagram Fig. 21. Secured to the head h, adjacent to and in line with the center of each pivot 9, is a folder-blade 16, which is at right angles to the adjacent blade 7 when the latter is horizontal, as shown in Fig. 5, and pivoted to the pivot 9 is a second arm 17, carrying a clamp-blade 18, and at the side of said arm is a roll 91, which runs upon a curved rib 20, which brings the blade 18 into its open position, (shown at the right, Fig. 5,) while the paper passes onto the adjacent blade 7. After the wrapper-sheet is put in place the head h turns a quarter of a rotation, bringing the blades 7 and 18 to the position shown at the top in Fig. 5, in which position the blade 7 holds the paper and wrapper against a spring-plate 25, supported by the frame and adjacent to a rock-bar or folding-bar n, secured eccentrically to rock-shaft 28′, Fig. 7, turning in bearings of the frame. Said folding-bar n rocks over the edge of the plate and over the edge of the blade 7 and down outside of the latter, thus turning down, as in dotted lines, Fig. 22, and momentarily holding said standing edge of the wrapper. The two arms 10 17, with their blades 7 18, are locked in their open position by means of a dog 22, pivoted at 23 to the arm 10 and having an L-shaped slot 24, receiving a pin 25^a, projecting from the arm 17, and the spring 38 tends to swing the dog inward when the pin 25^a is brought opposite to the outer end of the slot 24, the two arms being thus held separated. A finger 29 on the end of the rock-shaft 28′, Figs. 5 and 7, comes in contact with the lug 30 on the arm 22 just as the bar n folds down the edge of the wrapper, and thus swings the lever 22 until the pin 25^a is brought opposite the longer portion of the slot 24, when the action of the spring 21 brings the blades 7 and 18 together, thus clamping the end of the wrapper. As the head further rotates after the edge of the wrapper has been clamped by the bar n and blade 18 a roller 90 on the arm 10, Figs. 2, 17, 18, 19, makes contact with a part 105, Fig. 2, of the frame, and the arms 10 and 17 are thus swung down to a plane tangential with the head, the paper and wrapper being folded across the edge of the adjacent blade 16, which then moves forward, bending the fold between the folding-rolls 37 37, as indicated by the dotted lines, Fig. 5. It will be noted that the blade 18 makes contact with the wrapper below the point where the bar n clamps the wrapper, and the bar n continues to hold the wrapper until the blade 18 has firmly gripped it. The bar n then goes back to its first position. The movements of the bar n are effected by means of a toothed segment 31, Fig. 7, meshing with the pinion 32 on the shaft 28′, said segment being oscillated at the proper time by the action of suitable operating parts. As the blades 7, 18, 16 reach the position shown at the left, Fig. 5, the blade 18, by contact of the roll 91 with a curved bearing 21^a on the framework, is slightly opened to relieve the pressure upon the paper. After the paper is removed the two blades are carried together

toward the position at the right in Fig. 5 and opened. Any suitable devices may be employed for imparting these movements to the blades. As shown, a spring 21, coiled about the pivot 9, bears with its ends on the arms 10 and 17 and tends to carry them both to the radial position shown at the right in Figs. 5 and 18. As shown at the left, Fig. 5 and in Fig. 3, the blade 7 is in the same vertical plane as blade 16, the paper and wrapper being both folded around the blades 7 and 16, with one edge of the wrapper projecting upward above the upper edge of the blade 7, and it is now necessary to carry the folded and wrapped paper from its position opposite the head *h* to a position to coöperate with the pasting device, and this is done by the jaws *p p*, Figs. 3, 5, 8, which are carried by arms 40 on a carriage 109, sliding on a guide 110, Fig. 8. The arms have toothed hubs meshing with each other, so that the arms swing outward and inward simultaneously. These jaws *p p* are brought together on opposite sides of the folded article between the blades 7 and 16 to grip the wrapped and folded article and then move to the right, Fig. 3, carrying the folded paper with its lower edge into a trough *q*, Figs. 3, 6, 15, which supports the paper in its folded and wrapped position opposite the paster during the pasting operations.

To hold down the edge of the wrapper during the time when the paste is applied, there is a stationary plate 44, Figs. 8, 14, 15, supported by the frame of the machine, and a spring-strip 45, carried by an arm 46, and thus supported opposite the strip 44. The paste is applied below the edge of the strip 45, after which the upper standing edge of the wrapper is folded over and down and pressed against the pasted part of the wrapper when another pair of jaws *t*, Fig. 3, carried by the same arms 40 will grip the now folded, wrapped, and pasted paper and as the carriage 109 moves outward will carry the article longitudinally to the end of the chute *c* as the first pair of jaws *p p* grip the second folded paper and wrapper and carry the latter to a position opposite the paster.

The means for folding over the standing edge of the wrapper after the wrapper and paper have been introduced between the blades 44 and 45 consist of a folder-bar 50, Figs. 14 and 15, provided with spring-fingers 51 and carried by two rock-shafts 52, supported by arms 53 and swinging on a rock-shaft 54, turning in the frame of the machine. The fingers 51 are so set that as the arms 53 swing in the direction of the arrow, Fig. 15, their faces will cross the axis of the shafts 52, so that as the fingers are brought in contact with the wrapper with a wiping action and fold it down onto the paper, said fingers bear firmly upon the edge of the paper and prevent any slack between the wrapper and the edge of the paper, after which the bar 50 is brought down to clamp the paper firmly against the pasted portion and hold it there for a sufficient time to insure its adhesion to the body of the wrapper.

In order to rotate the shafts 52 and swing the arms 53, Fig. 15, an arm 57, secured to the shaft 54, carries a curved rack-bar 58, which engages the pinion 59 upon one of the shafts 52. The arms 53, supported by the shaft 54, are held forward by means of a spring 106, Fig. 14, and a spring 107, Fig. 15, tends to prevent the rotation of bar 50 and its fingers; but when the ends of the arms 53 strike the strip 44, the spring 107 will yield, permitting the arms 53 to stop, while the arm 57 moves onward and revolves the pinion 59. As the arm 57 thus moves forward, the end of an adjustable bar 60 on the said arm, Fig. 8, makes contact with the shoulder 61 upon one of the pinions 41, and thus turns the latter and opens the jaws against the tension of the spring 62.

The jaws *p p t t* are carried by bars 108, secured to the arms 40, and the rock-shafts 64 of said arms turn in bearings on the carriage 109, and from one of the shafts 64 extends an arm 63, connected with a spring 62, which tends to draw it down and close the jaws. A dog 65, Figs. 6 and 8, is carried beneath the arm 63 by a spring 69 and holds the latter in its upper position, locking the jaws in open position, for the jaws *p p* clamp when the carriage and jaws move inward to a position to take the paper. The dog 65 makes contact with an adjustable stop-pin 68, and is carried away from the arm 63, which then descends and brings the jaws together. When the carriage and jaws reach the position shown in Fig. 3, the jaws are opened to permit the first paper to fall into the chute *c*, while the second is left in the trough *q* ready for pasting. When the jaws are thus opened, the dog 65 moves into place under the arms 63 and holds them open.

The paster-head *r*, mounted upon a shaft 70, Figs. 2, 3, 8, 9, is provided with two parallel bars 71 72, and along the outer face of each is a paster-strip of felt 73, sewed or otherwise attached to a tape, the ends of which are connected by a spring 74, which tends to hold the strip taut upon the bar. Each bar 71 72 is supported in slots in the cross-pieces of the frame and is pressed outward by springs 75, which yield as the bar is pressed against the wrapper or paste-roll. The shaft 70 revolves in arms 76 and is held in position by a spring-dog 78, which drops into either of two notches in the disk 79, Fig. 8, and thus holds the paste-head in position to properly locate the paste on the wrapper and until sufficient force is applied to turn it. As the arms 76 swing forward the head is turned so that the other strip 73 is next applied to the paste-roll. By this means the strip which has last been coated is immediately carried against the wrapper. The revolution of the shaft 70 as the arms 76 swing with the shaft 77 is effected, Fig. 1, by car-

rying a pinion 80 upon the shaft 70 over a stationary toothed segment 81 upon an arm 82. The paster-frame is turned only as it moves toward the wrapper and not on its return movement. This is effected by means of the parts shown in Figs. 9 to 12, in which the pinion 80 is shown as loose on the shaft 70 and carrying a spring-pawl 83, engaging two shoulders 84 85 upon the hub of a disk 86, secured to the shaft 70. As the pinion 80 turns in the direction of its arrow, Fig. 12, the pawl 83 will engage one of the shoulders 84 and turn the paster-frame half a revolution. As the pinion 80 turns back the paster-frame remains stationary and on the next movement the pawl 83 engages the other shoulder 85.

The wrapped paper after being carried out laterally by jaws, as described, is dropped into the inclined chute *c* in front of the reciprocating pusher 99, which then moves upward and carries the paper past a series of hooks 100, Fig. 1, which hold it in place while the pusher moves back for the reception of another paper.

The paste-roller 99ª is mounted and operated in any suitable manner.

While I have illustrated and described the first and second folder means as consisting of feed-rolls and blades for folding and introducing the sheets between the rolls, I do not limit myself to such devices, as any suitable folding means may be employed. It will also be evident that different means may be employed for carrying the folder-blades 7 and for operating the clamping-blades 18, and various different arrangements may be used for supporting and moving the different elements of the structure before described—for instance, any suitable movable support may be employed for supporting the carrier-blades and clamping-blades, and the latter may be of any desired number, one or more, and where a paper is only to be folded and not wrapped or wrapped by other means than those described the clamping-blades may be omitted. Where there is but a single carrier-blade, the support therefor may be rocked instead of rotated, and it will be evident that the folder-blade 16 may be separate from the movable support and may be reciprocated in any suitable manner.

The various parts hereinbefore described have their movements imparted to them by cams 32 upon a shaft 33 through the medium of any suitable levers 120 121 and connecting-rods, all timed to move the different parts at the proper times.

Without limiting myself to the precise construction and arrangement shown, I claim—

1. The combination with a table and with means for folding a sheet and conveying it to the table, of a carrier-blade 7 adapted to receive the folded sheet when carried longitudinally thereon, a movable support for the carrier-blade, and means for shifting the latter to convey the sheet to a second folder device, substantially as set forth.

2. The combination with a table and with means for presenting the folded paper thereto, of a conveyer-blade 7 for receiving and conveying the folded paper, and means for moving the folded paper upon the table and onto said blade, substantially as set forth.

3. The combination with the table *f* and with means for presenting a folded paper thereto and with a conveyer-blade 7 and movable support therefor, of a pusher *g* for carrying the paper along the table and onto the blade, substantially as set forth.

4. The combination with the table and with means for presenting a folded paper thereto and with a conveyer-blade and movable support therefor, of a pusher for carrying the paper along the table and onto the blade, and a presser-finger *i*, substantially as set forth.

5. The combination of the table, carrier-blade and pusher, of a guide-rib 114 on the table, yielding fingers on the pusher, and means for supporting them at an angle to the direction in which the pusher travels, substantially as set forth.

6. The combination with the table, pusher and carrier-blade, of a movable device for bringing the blade to position at the end to receive the paper pushed from the table, substantially as set forth.

7. The combination with the table and means for carrying the paper thereto and folding it and means for carrying the paper along the table, of a blade and a support therefor, and means for moving said support to bring the blade into position to receive the folded paper and to carry the blade to a position adjacent to a second folding device, substantially as set forth.

8. The combination of a support carrying a series of blades 7, means for presenting folded papers endwise to and placing them upon the blades, and a folding device to which the blades with the papers hanging thereon are successively carried substantially as set forth.

9. The combination with the table, means for presenting a folded paper thereto and means for carrying the paper along and from the same, of a rotating head carrying a series of blades, means for turning the head intermittently to present each blade in position to receive the folded paper from the table, and a folding device to which the papers are successively carried by the blade, substantially as set forth.

10. The combination of a carrier-blade and movable support therefor, means for presenting a folded paper to and carrying it onto said blade, means for depositing a wrapper-sheet upon the folded paper, means for carrying the blade with the paper and wrapper to a position adjacent a folder device, and means for bending the edge of the wrapper over the edge of the folded paper, substantially as set forth.

11. The combination with the carrier-blade 7 and means for conveying a folded paper thereto, of a device j^2 for bringing the end of the blade in position to enter the fold of the paper, substantially as set forth.

12. The combination with the carrier-blade and means for presenting a folded paper thereto, of means for feeding a wrapper-sheet above the paper, substantially as set forth.

13. The combination with the blade 7 and means for placing a folded paper thereon, of means for feeding a wrapper-strip across said paper, a gage 26 and cutters for severing the strip, substantially as set forth.

14. The combination with the carrier-blade 7 and movable support therefor, of a bar n and means for rocking the latter over the edge of the blade, substantially as set forth.

15. The combination of the carrier-blade 7, its movable support, rocking bar n, and means for clamping the edge of the wrapper folded over the blade by the rocking of said bar, substantially as set forth.

16. The combination of the table for receiving the folded paper, carrier-blade and movable support therefor, a stationary plate 25 against which the blade is brought, bar n rocking over the edge of the blade and clamping-blade 18, and means for actuating the latter, substantially as set forth.

17. The combination with the movable support turning about an axis, of a carrier-blade, an arm supporting the blade and pivoted to said support, and means whereby said arm is carried to different positions on its pivot, substantially as set forth.

18. The combination with the movable support or head h, of arms pivoted thereto which support a carrier and clamping blades, and means for moving the arms on their pivot to different positions, substantially as set forth.

19. The combination of the movable support, carrying-blade connected therewith, means for applying a folded paper thereto, folding-rolls, and a blade for folding the paper and wrapper and passing the same between the rolls while carried by the blade, substantially as set forth.

20. The combination with the intermittently-revolving head carrying pivoted arms which support carrier and clamping blades, of means for swinging said blades to different positions, substantially as set forth.

21. The combination of the intermittently-rotating head, arms pivoted thereto and supporting carrying and clamping blades, means for bending the edges of wrapper-strips successively over the carrier-blades, folding-rolls, and means for bending the paper and wrapper and introducing the same between the rolls while supported by the carrier-blades, substantially as set forth.

22. The combination of the intermittently-rotating head, arms pivoted thereto and supporting carrier and clamping blades, folding-rolls in position to permit the said blades to pass between the same, and means for turning the pivoted arms to a position tangential to the head prior to passing between said folding-rolls, substantially as set forth.

23. The combination of the intermittently-rotating head, arms pivoted thereto and supporting carrying and clamping blades, means for locking the blades in their separated position, and devices for actuating the locking means to permit the blades to come together, substantially as set forth.

24. The combination of the intermittently-rotating head, arms pivoted thereto and supporting carrying and clamping blades, folding-rolls, and folding-blades 16 carried by the head in position to pass between the folding-rolls, substantially as set forth.

25. The combination with the movable support, pivoted arms and carrier-blade supported thereby, of means for carrying the said arms to radial and tangential positions, means for folding the paper supported by said blade, means for passing the folded paper onto said blade, and means for carrying the paper away from said blade longitudinally after being folded, substantially as set forth.

26. The combination of the intermittently-rotating head, pivoted arms carrying clamping and folding blades, means for introducing the folded papers to the carrying-blade, and means for carrying the papers longitudinally from the carrying and folding blades, substantially as set forth.

27. The combination of the movable support, carrying and folding blades connected therewith, means for bending paper supported on the carrying-blade around the folding-blade, jaws, means for operating them to clamp the paper, and means for moving the jaws to carry the paper longitudinally from its supporting-blade, substantially as set forth.

28. The combination with the devices for folding and wrapping the paper, of jaws for gripping the folded paper, and a trough arranged to receive the paper carried by the jaws and to hold it in its folded position, substantially as set forth.

29. The combination with the means for folding and applying a wrapper to the paper, of a sliding carriage, a pair of gripper-jaws supported thereby, means for locking the jaws in an open position, and means for unlocking the jaws to grip the paper, substantially as set forth.

30. The combination of the sliding carriage and arms supporting two pairs of gripper-jaws, a paster device and a receptacle for the folded and pasted paper, all arranged to enable one pair of gripper-jaws to convey a paper and wrapper to the paster while the other conveys the wrapped paper from the paster to the receptacle, substantially as set forth.

31. The combination with means for folding a paper and applying a wrapper thereto with one edge projecting beyond the paper, of a folder-bar, jaws for gripping and carrying the folded and wrapped paper to a position opposite the folder-bar, and means for

rocking the latter to turn the edge of the wrapper over the edge of the paper, substantially as set forth.

32. The combination with the plate 44 and means for bringing the paper with the wrapper standing above the same opposite said plate, of a clamping-blade 45 and actuating means, and folder-bar 50 carrying fingers for folding down the edge of the wrapper, substantially as set forth.

33. The combination with the bar 50 and fingers 51, of rock-shafts connected with the bar, vibrating arms 53 having bearings for the rock-shafts, and means for turning said rock-shafts, substantially as set forth.

34. The combination of the arms 53, rock-shaft, bar 50 and fingers 51, one or more pinions on the rock-shaft, a rack engaging each pinion, and vibrating arms supporting the racks, substantially as set forth.

35. The combination with the means for supporting the wrapped paper, of a paster device consisting of a frame carrying paster-strips on the edges, arms carrying said frame, a paste-roll, and means for carrying the frame to and from the wrapped paper and paste-roll and for turning it a half-revolution at alternate movements of said arms, substantially as set forth.

36. The combination of arms carrying the paster-frame, means for turning the frame a part revolution at alternate movements of the arms, and a device for locking the frame in place substantially as set forth.

37. The combination in the paster-frame of a rock-shaft, spring-supported bars parallel to and carried by cross-bars on said shaft, and removable paster-strips at the edges of the said bars, substantially as set forth.

38. The combination of the devices for folding and wrapping a paper, jaws for carrying the same to one side after pasting, a receptacle for the wrapped and pasted paper, a reciprocating pusher, and hooks for holding the articles as the pusher moves away, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

STERLING ELLIOTT.

Witnesses:
H. G. OGDEN, Jr.,
FRED. P. HINKEL.