

E. P. SHELDON.

MACHINE FOR WRAPPING PAMPHLETS OR SIMILAR ARTICLES.

(Application filed Sept. 9, 1901.)

(No Model.)

8 Sheets—Sheet 1.

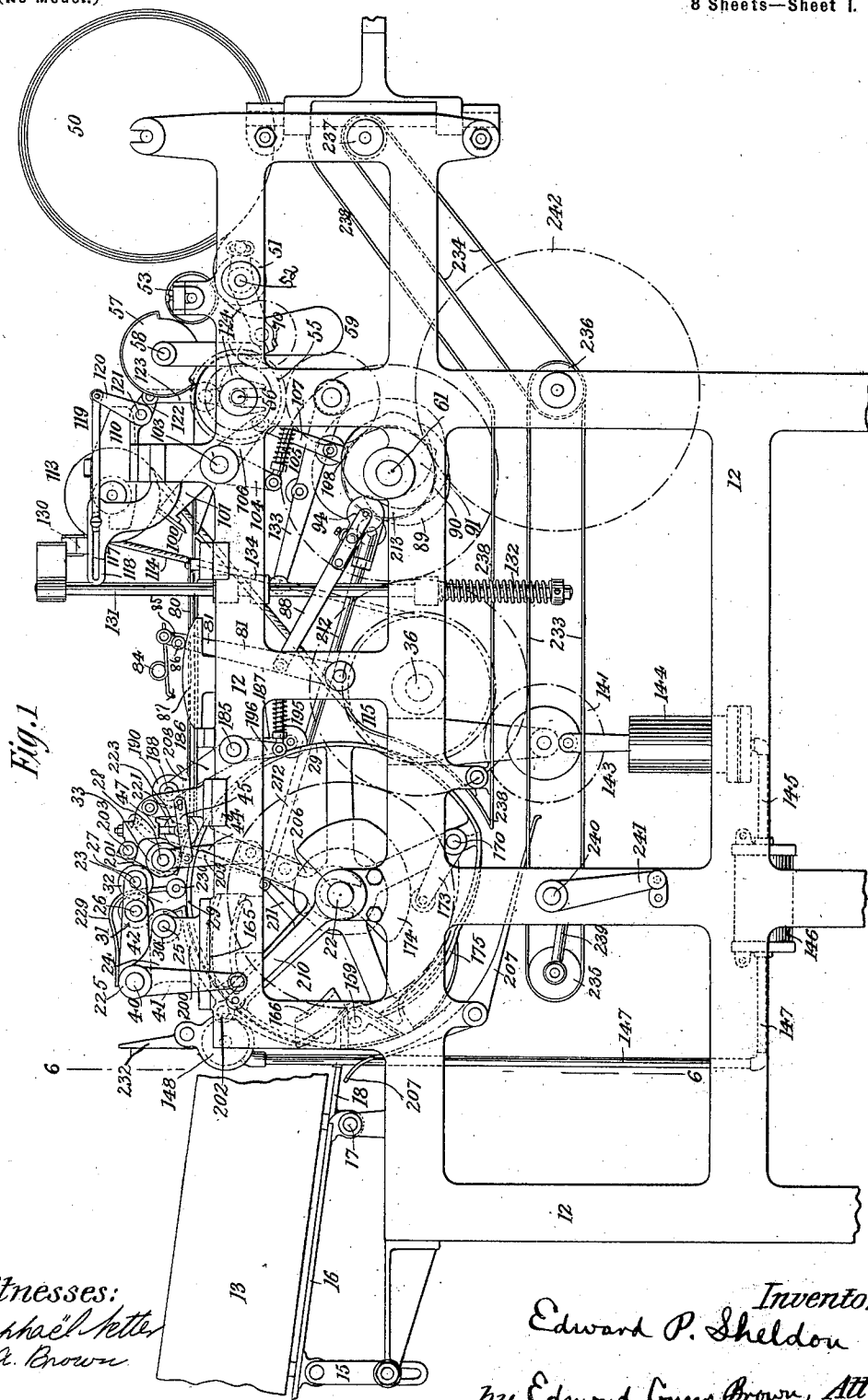


Fig. 1

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Inventor:
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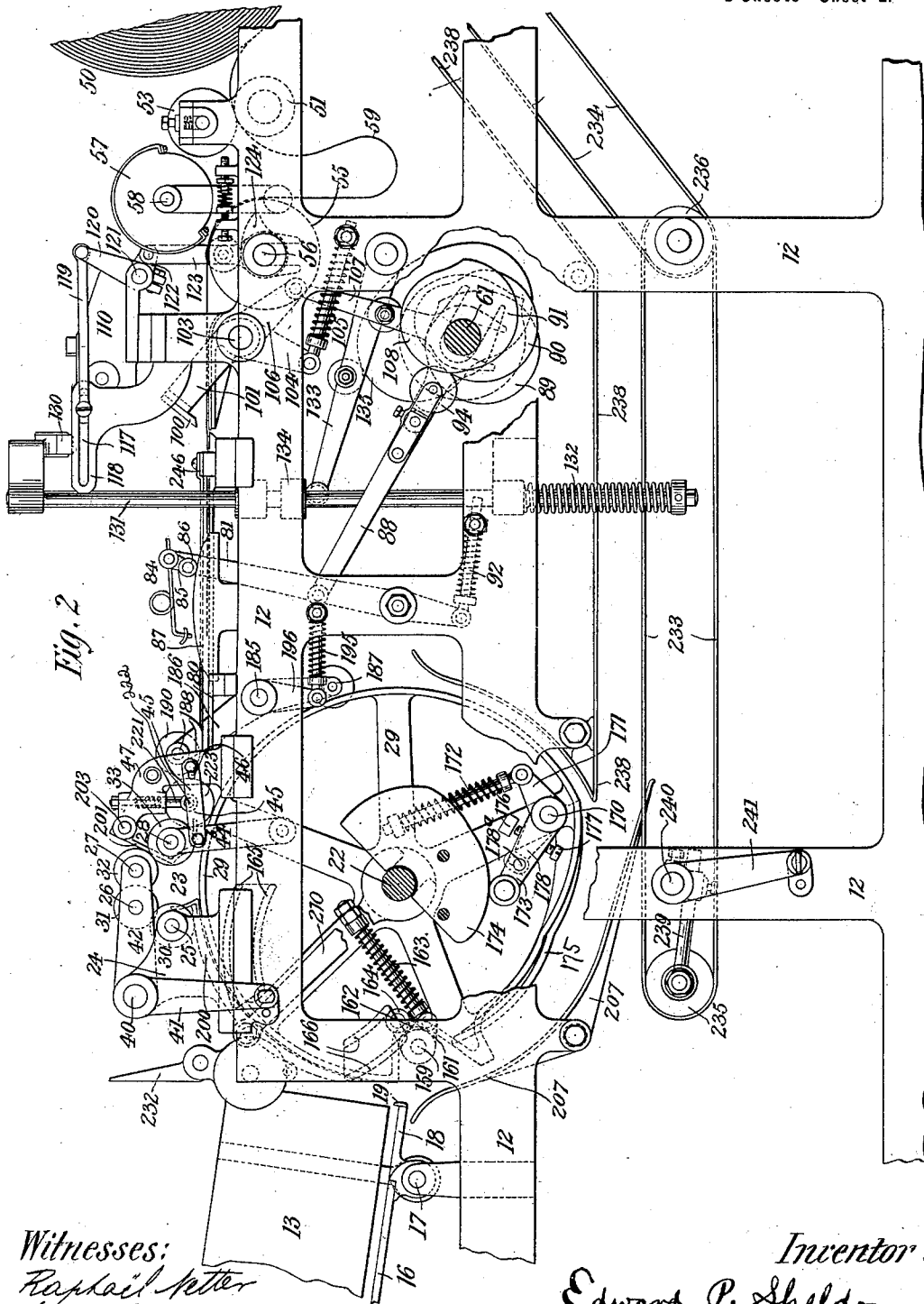


Fig. 2

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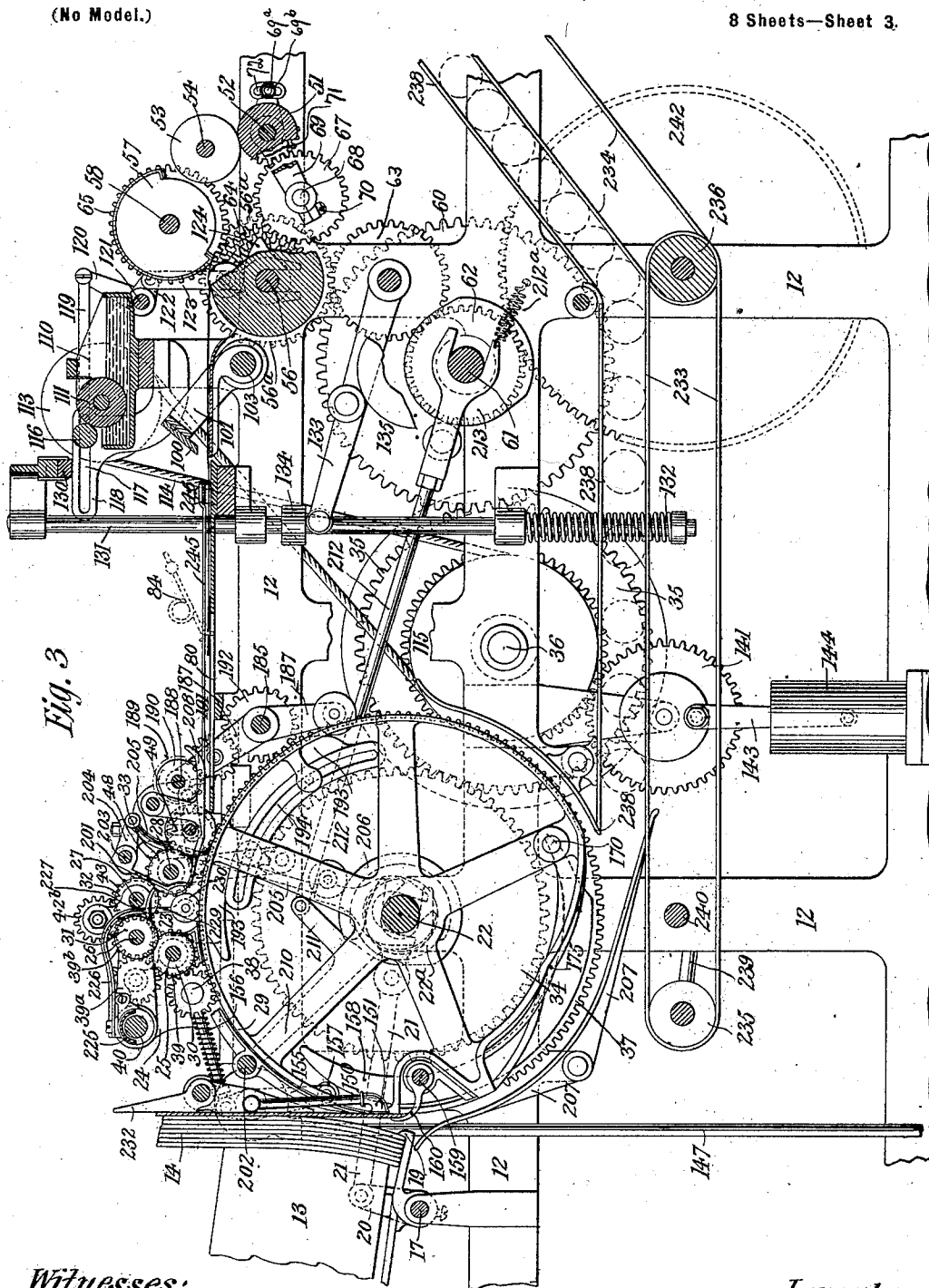


Fig. 3

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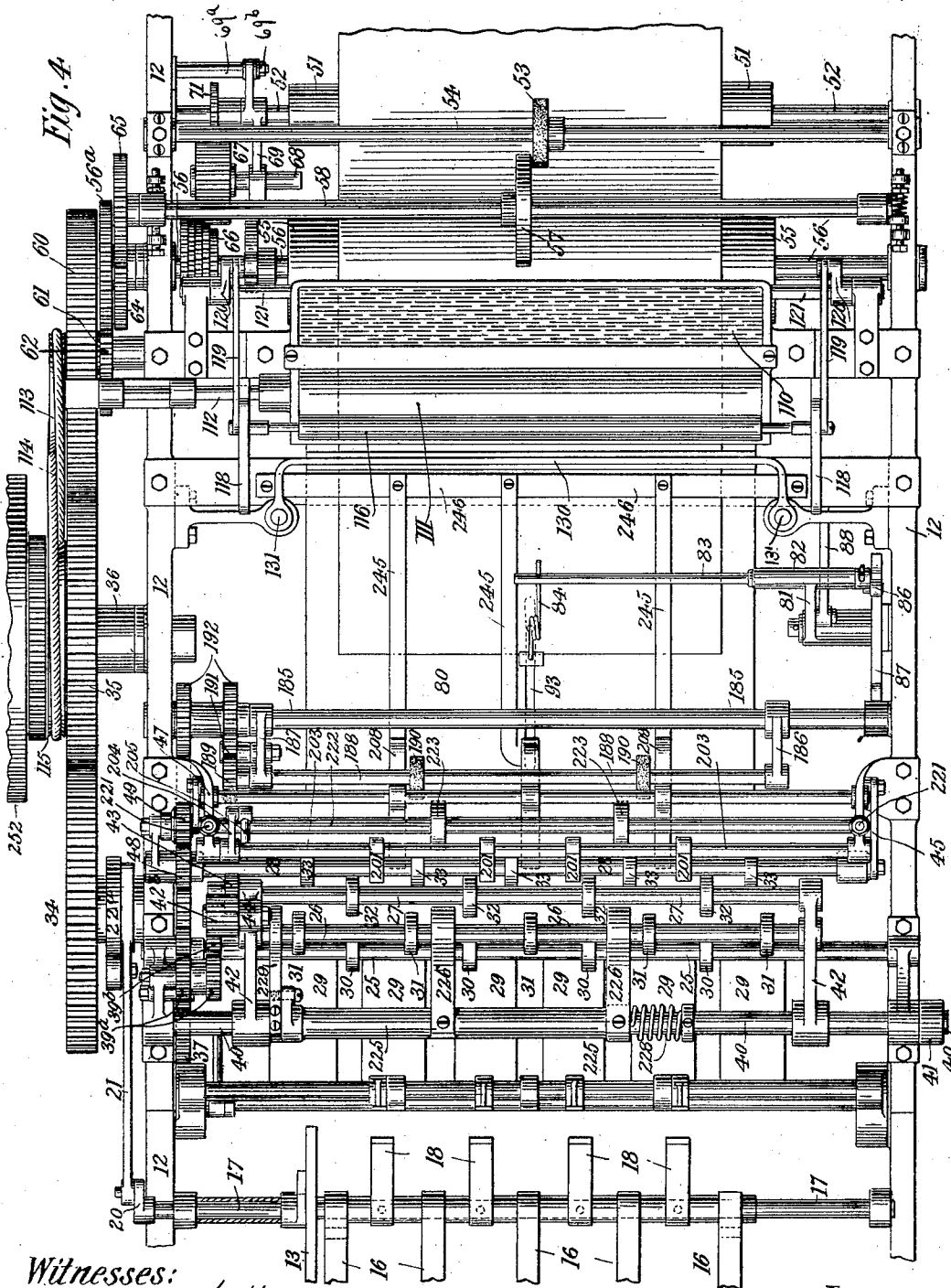
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8 Sheets—Sheet 4.



Witnesses:

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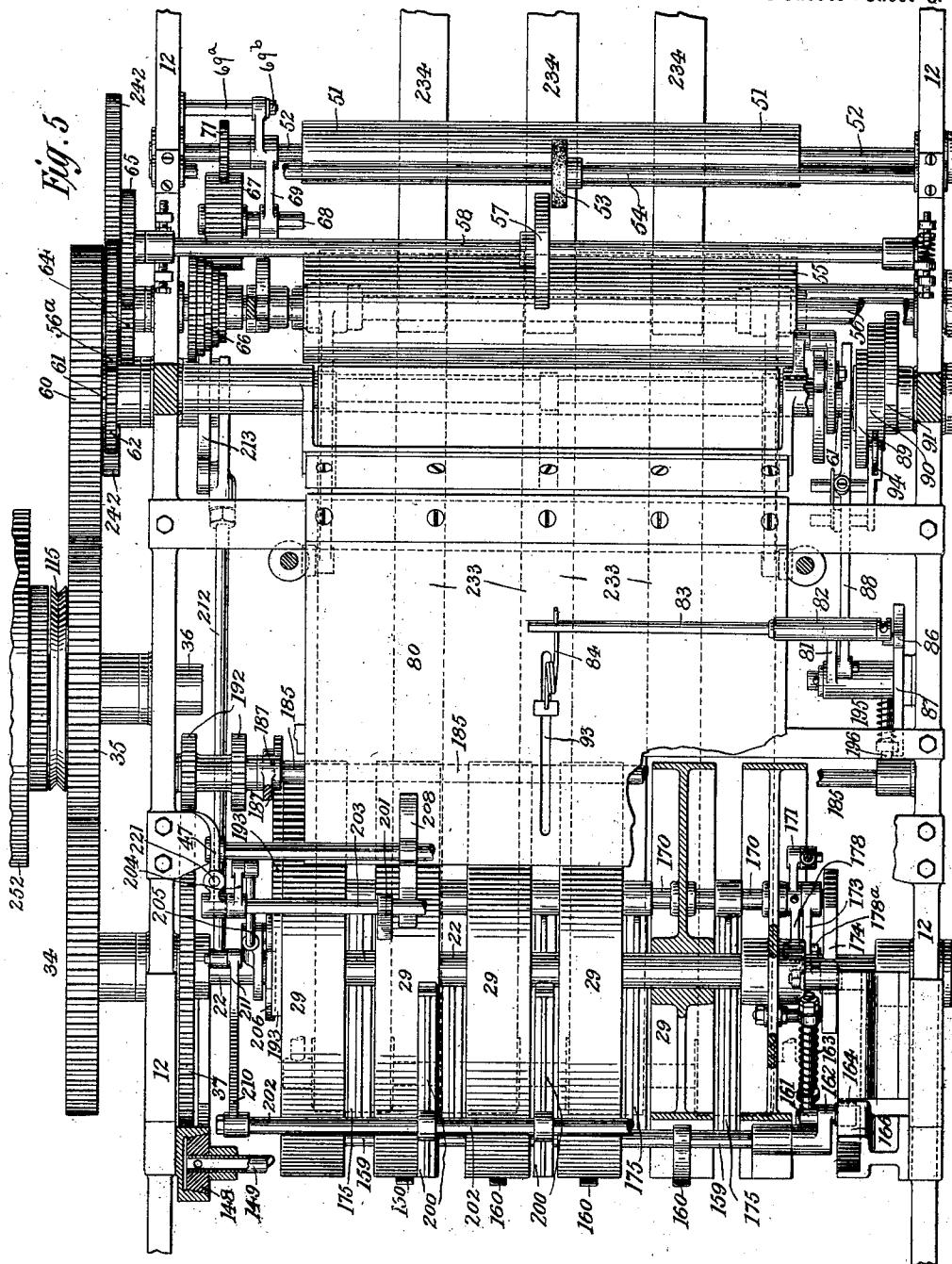
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(No Model.)

8 Sheets—Sheet 5.



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8 Sheets—Sheet 6.

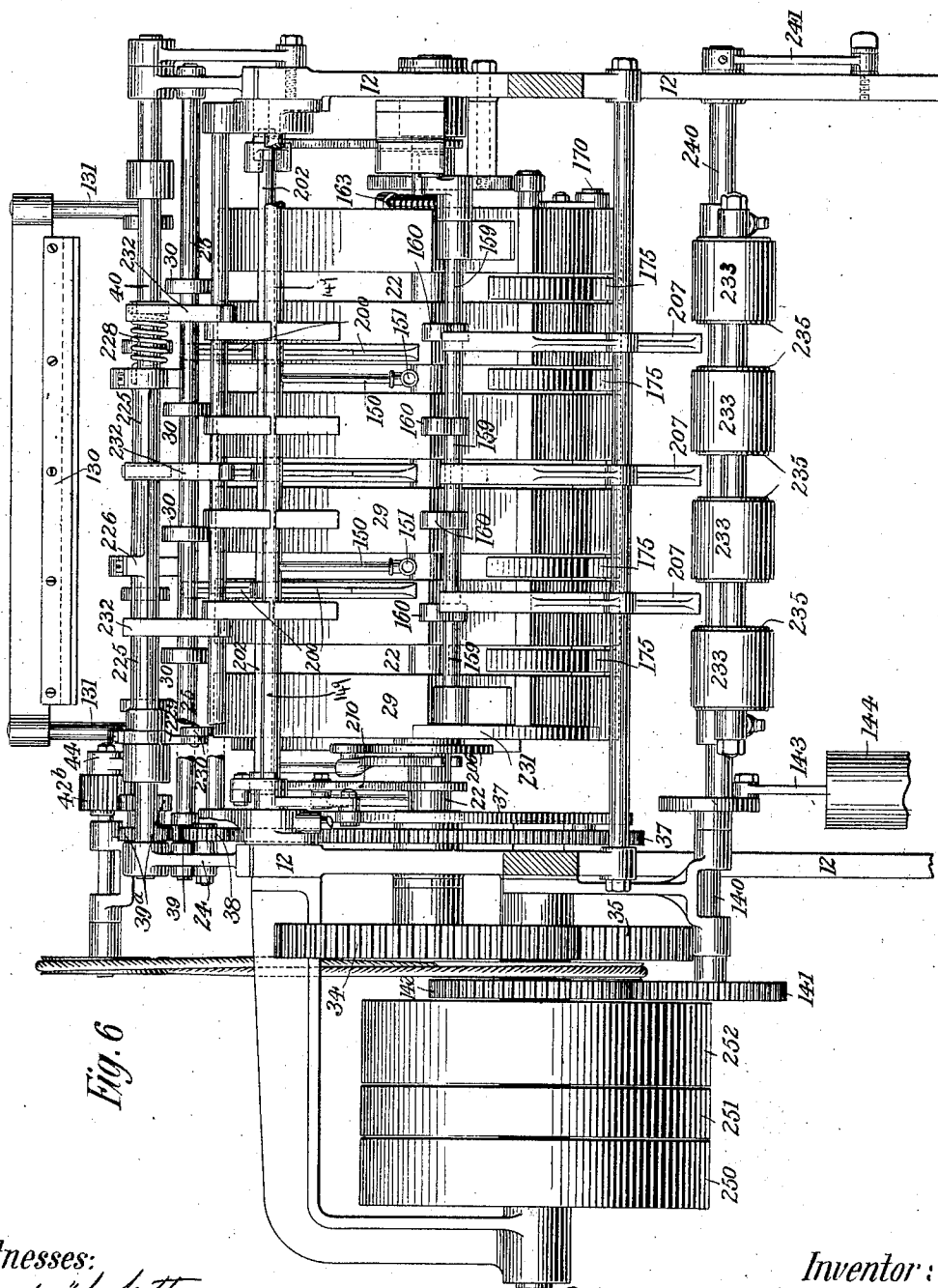


Fig. 6

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8 Sheets—Sheet 7.

Fig. 8

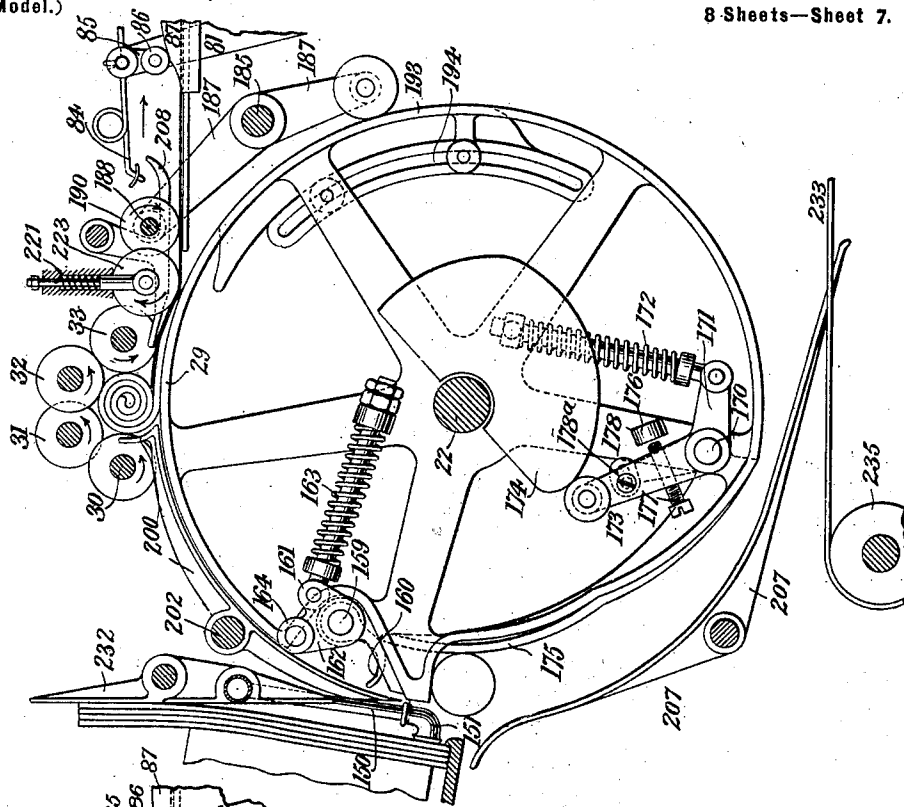
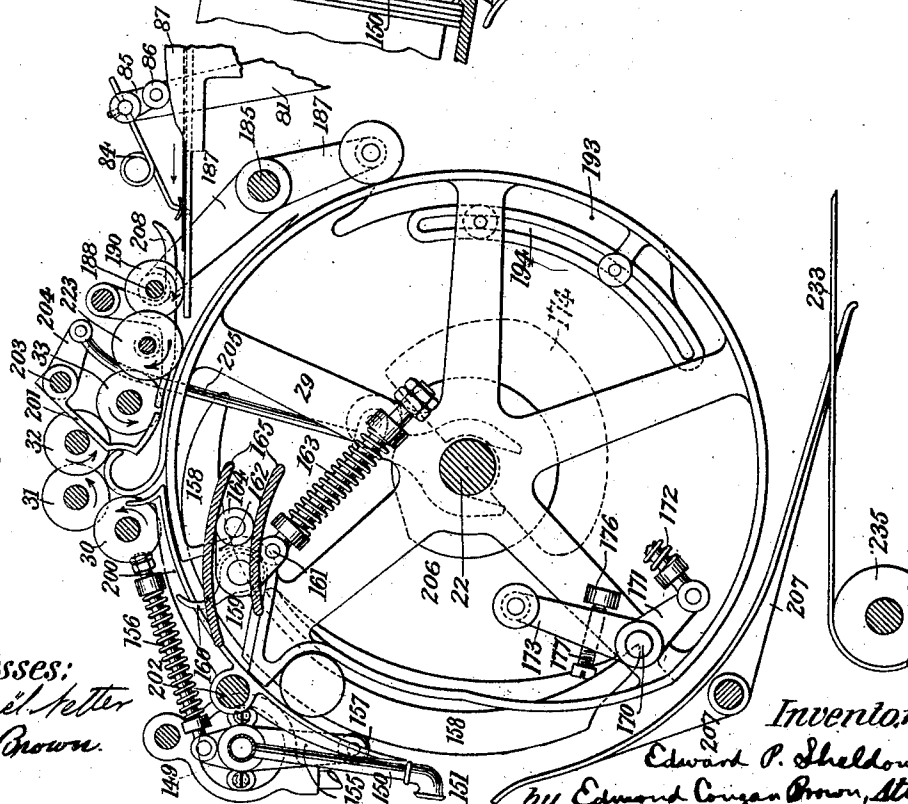


Fig. 7



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Fig. 9.

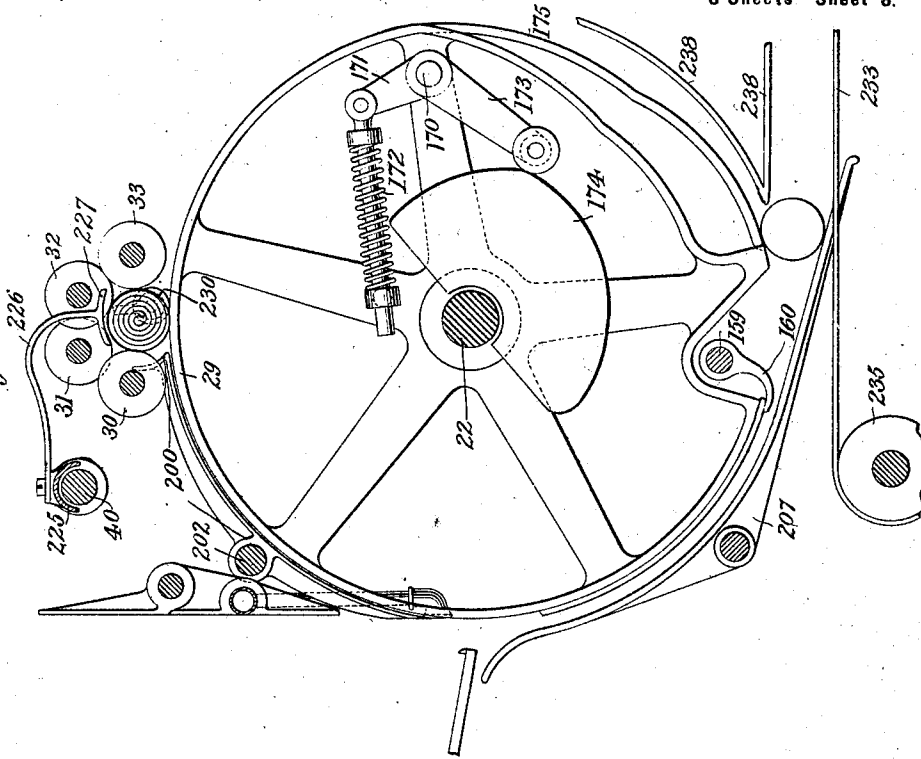
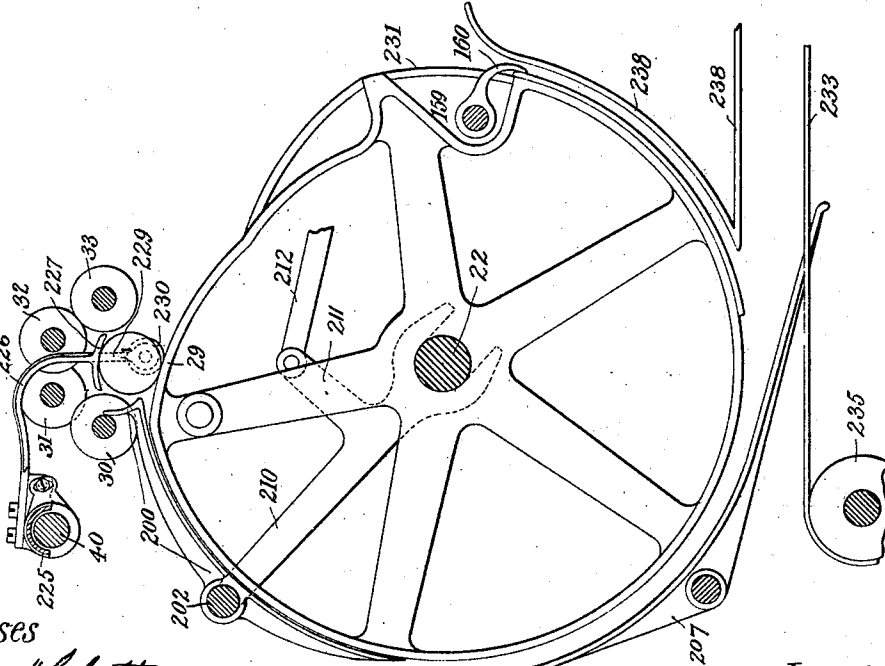


Fig. 10.



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UNITED STATES PATENT OFFICE.

EDWARD P. SHELDON, OF BROOKLYN, NEW YORK.

MACHINE FOR WRAPPING PAMPHLETS OR SIMILAR ARTICLES.

SPECIFICATION forming part of Letters Patent No. 699,419, dated May 6, 1902.

Application filed September 9, 1901. Serial No. 74,845. (No model.)

To all whom it may concern:

Be it known that I, EDWARD P. SHELDON, a citizen of the United States, and a resident of borough of Brooklyn, New York city, in the county of Kings and State of New York, have invented certain new and useful Improvements in Machines for Wrapping Pamphlets or Similar Articles, of which the following is a specification.

My invention relates to devices for wrapping newspapers, pamphlets, and like articles, its object being to provide a machine capable of rapidly and automatically rolling such articles, applying a wrapper thereto, and pasting or otherwise securing the same.

The invention consists in the novel construction, combination, and arrangement of various devices, elements, and parts whereby the object of my invention is attained, all as fully and specifically set forth in this specification and in the accompanying drawings, which form a part hereof.

In the said drawings, Figure 1 is a side elevation of a machine constructed according to my invention. Fig. 2 is a side elevation, on a larger scale, of a portion of Fig. 1, certain parts of the frame being broken away. Fig. 3 is a vertical longitudinal section about midway between the sides. Fig. 4 is a plan view. Fig. 5 is a plan view with certain parts removed. Fig. 6 is a transverse vertical section on the line 6 6 of Fig. 1; and Figs. 7, 8, 9, and 10 are enlarged diagrammatic views showing the rolling mechanism proper and successive steps of the rolling operation.

Before describing in detail the construction and operation of my invention it may be well to state the general plan or mode of operation, which is as follows: A single newspaper, pamphlet, or other article to be rolled and wrapped is taken into the machine by devices provided for that purpose and is conducted to an approximately cylindrical wrapping-space formed inside of and bounded by a series of rollers, which rollers progressively bend the article and form it into a cylindrical roll. Before the process of rolling is completed the previously-pasted wrapper is led into the wrapping-space and rolled around the article, which is then ejected from the wrapping-space. I am aware that it is already known to the art that articles may be rolled and

wrapped in a wrapping-space composed of a series of rolls, the rolled and wrapped article being ejected endwise from the wrapping-space or being ejected sidewise between two adjacent rolls, which are at the proper time separated for the purpose; but both of the said methods of ejection are objectionable, and in my machine a different method of ejecting the rolled article is made use of, constituting one of the points of novelty of my invention.

Referring now to said drawings, it will be seen that side frames 12 12 are provided, in which are journaled the various shafts and by which other portions of the machine are supported. These frames may be of any suitable form and shape. At the front of the machine, being at the left in the side elevations and plan views of the drawings, is located the wrapping mechanism and toward the rear end the wrapper feeding and cutting mechanism.

At the front end of the machine is suitably supported a trough or slide 13, holding, standing on edge, the pamphlets or articles to be wrapped, (shown at 14, Fig. 3.) The slide 13 is inclined, and the degree of inclination may be varied by the adjustable support 15 at its front end. (See Fig. 1.) The bottom of the greater portion of the slide or trough 13 consists of longitudinal slats or bars 16, which extend as far as the rod or shaft 17 and are pivotally supported thereby. The remainder of the bottom of said slide is formed by short slats or bars 18, rigidly attached to said shaft 17 alternate with the slats 16 and having at their rear ends upwardly-projecting hooks or stops 19 for preventing the pamphlets from prematurely passing off the end of the slide. At one end of the shaft 17 is a crank 20, to which is operatively connected one end of a rod 21, the other end of which is supported by the shaft 22 outside the frame of the machine. The cam 22^a, borne and operated by said shaft 22, imparts motion to the rod 21, and thereby operates the shaft 17 and the slats 18, giving the rear ends of the latter a slight vertical motion, as hereinafter more particularly described.

The wrapping-space into which the pamphlets to be wrapped are drawn and in which they are rolled is indicated at 23. (See Figs. 1, 2, and 3.) This wrapping-space is formed

and bounded by a group or series of rollers, all revolving in the same direction and co-operating to bend and roll a suitable article introduced into said wrapping-space. While the said rollers may be continuous or solid, each one preferably consists of a series of wheels or pulleys with spaces between. As shown in the accompanying drawings, the said rollers consist of wheels or rollers at some distance from each other laterally, rigidly attached to shafts which are journaled in the side frames. The said shafts are designated, respectively, by the numbers 22, 25, 26, 27, and 28 and the wheels or rollers thereon, respectively, by the numbers 29, 30, 31, 32, and 33. It will be observed that the roller-wheels 29 are much larger in diameter than the others. The separate wheels on the respective shafts are not arranged exactly opposite to the wheels on the next adjacent shaft, but they are staggered, so as to alternate or overlap somewhat. By this construction less space is left between the surfaces of successive rollers, so that the article to be rolled is when introduced into the rolling-chamber engaged throughout a greater portion of its length and a better feed secured. The wheels or pulleys on each shaft, respectively, practically constitute a single roller, so far as their effect on the article to be wrapped is concerned. Their peripheries may be rubber-faced, roughened, or corrugated, so as to give them better adhesion to the article being rolled.

The construction and arrangement of the roller-shafts 22, 25, 26, 27, and 28, which bear the rollers which form the rolling-chamber, will now be described, reference being had particularly to Figs. 3, 4, and 6.

One end of the shaft 22, which projects through the frame, as heretofore explained, bears gear-wheel 34, rigidly attached thereto, which gears with the wheel 35 on the driving or power shaft 36. On the shaft 22 just inside the frame is a gear-wheel 37 of approximately the same diameter as the roller-wheels 29. This wheel 37 gears with a comparatively small gear-wheel 38, (see Figs. 3 and 6,) pivotally secured inside of one of two upward projections 24 of the frame, which wheel 38 in its turn gears with a wheel 39 on the end of the roller-shaft 25, which is journaled at each end in said projections 24. Journaled in one of said projections 24 is a double gear-wheel 39^a, one part of which gears with and is driven by the wheel 39 and the other part of which gears with and drives the wheel 39^b on the end of shaft 26. Journaled in said upward projections 24 is a shaft 40, one end of which extends outside and bears a crank 41. Rigidly secured to the shaft 40 and projecting laterally therefrom toward the back of the machine are arms 42. In these arms are journaled the roller-shafts 26 and 27 and on one arm is located an upwardly-projecting lug 44, on which is pivotally secured an intermediate gear-wheel 42^b, which gears with and is driven

by the wheel 39^b and which drives a wheel 43 on the end of shaft 27. The lower end of the crank 41 is secured to the frame by a bolt, as shown in Figs. 1 and 2, a plurality of holes for the bolt being provided in the frame to permit horizontal adjustability of the end of crank, and consequently vertical adjustability of the arms 42, and consequently of the rollers carried thereby, thus allowing the size of the wrapping-space to be varied.

Pivotally secured to the upper members of the side frames near the front of the machine are arms or levers 44^b, projecting upward, in the upper ends of which are journaled the ends of the shaft 28. To each of the arms 44^b is pivotally attached one end of a link 45, the other end of which is adjustably secured by means of a set-screw or bolt and nut passing through a slot 46 in the end of the link 45 and into a perforation in a bracket 47, extending upwardly from the side frame of the machine. It will of course be understood that there is a link 45 and a bracket 47 on each side of the machine. The arrangement just described permits an adjustment of the shaft 28 with its roller-wheels forward or backward with reference to the machine within certain limits, and to that extent coöperates in the varying of the size of the wrapping-space. The shaft 28 has at one end a gear-wheel 48, which gears with and is driven by a wheel 49, journaled on a lug extending rearwardly from the arm 44^b, and in its turn gears with and is driven by the gear-wheel 37 on the shaft 22.

It will be seen that the motion of all the shafts 22, 25, 26, 27, and 28 and the corresponding rollers 29, 30, 31, 32, and 33, forming the wrapping-space, is in the same direction as indicated by the arrows in the diagrammatic views Figs. 7, 8, 9, and 10, and that the rollers are accordingly adapted to bend over and roll up a flat pamphlet or like article introduced edgewise into the wrapping-space between the rollers 29 and 33, as shown in said diagrammatic views.

The wrappers for the rolled article are cut, as hereinafter described, from a roll of paper wound upon the reel 50, which is supported by upwardly-projecting portions of the frame at the rear of the machine. The paper is led over a roller 51, borne on a shaft 52, journaled in the side frames, the paper being pressed down upon said roller by a wheel 53, borne by a shaft 54. The paper next passes over the roller 55, which is borne on a shaft 56, journaled in the side frames, the paper being pressed down thereon intermittently by the broken wheel 57, which is borne by the shaft 58. In threading in the paper a loop 59 is formed intermediate of the two sets of feeding-rollers and wheels just described. The object of the loop 59 is to provide a quantity of slack or loose paper, which can be quickly taken up when required by the intermittently-feeding rollers 55 and 57, which are thereby prevented from pulling at the paper to directly unwind it from the reel 50. On

account of the inertia of the reel and the mass of paper wound thereon it would be impracticable to unwind the paper therefrom by the intermittent feed of said rollers without breaking the paper; but by forming at the beginning of the operations the loop 59, which is maintained by the continuous feed of the rollers 51 and 53, all intermittent strain and undue tension upon the paper are avoided.

The feed-rollers are driven as follows: The gear-wheel 35 on the driving-shaft 36 gears with and drives a wheel 60 on the end of the shaft 61. This shaft 61 also bears just inside of its end a smaller gear-wheel 62, which drives a wheel 63, which in its turn drives the wheel 56^a on the end of the roller-shaft 56. This shaft also bears another gear-wheel 64 inside of the wheel 56^a, which drives a wheel 65 on the end of the shaft 58. The shaft 56 also bears a differential gear-wheel 66. A gear-wheel 67 is pivotally borne on a shaft 68, which is held between the bifurcated ends of a lever 69 and secured by a screw 70, which presses the bifurcated ends together. The lever 69 is pivotally borne on the shaft 52 and the rear end is adjustably secured to the side frame. The wheel 67 may be driven by any one of the steps of the wheel 66 and in its turn drives a wheel 71 on the end of the shaft 52. When it is desired to change the speed at which the feed-roller 51 is driven, the screw 70 is loosened and the shaft 68 moved longitudinally between the bifurcated ends of the lever 69, the said lever being at the same time suitably moved on its pivot until the wheel 67 gears with the desired step of the wheel 66, whereupon the screw 70 is again tightened and the rear end of the lever 69 secured in position. This adjustment of the rear end of said lever 69 is accomplished by means of a slot 72 in the rear end thereof, which passes over the end of a stud 69^a and is secured by screwing a nut 69^b tightly thereon.

In front of the roller 55 is a table 80, upon which the paper passes toward the wrapping-space, being fed along by mechanism presently to be described. While the paper is passing over this table two operations are performed upon it—namely, the cutting into separate pieces to form the individual wrappers and the application of paste or gum to an edge of the separated piece. These operations are performed simultaneously. I will first describe the mechanism for continuing the feeding of the paper after it leaves the feed-rollers and will then describe the cutting and pasting mechanisms.

Pivotally attached to one of the side frames is a lever 81, bearing at its upper end a horizontal sleeve 82. In this sleeve is placed a rod 83, which extends to about the middle of the machine and at its further end bears a finger 84. At one end of the rod 83 is a short arm 85, (see Fig. 2,) extending downward, having a limited amount of pivotal motion upon said rod and bearing at its lower end a wheel or roller 86. Attached to the frame of

the machine is a bridge-piece 87, over which said roller 86 runs in its passage to and fro. Pivotally attached to the lever 81 is a rod 88, which is reciprocatingly operated by one or the other of a series of cams 89, 90, and 91 on the shaft 61 and which tend to move the upper end of the lever 81 forward, the spring 92 (see Fig. 2) tending to return the lever 81 to its former position when permitted to do so by the rod 88. By the above-described means there is imparted to the finger 84 a horizontally-reciprocating motion and also a vertically-oscillating motion, the finger being raised as it is drawn backward and lowered as it is pushed forward. The cams 89, 90, and 91 do not, however, produce an uninterrupted forward movement of the rod 88 and the attached mechanism; but each of said cams is so shaped as to provide at the proper portion of its periphery a radial resting-place over which when the cam-roller of the rod 88 passes no motion of said rod is produced, and consequently the paper remains stationary. This rest of the paper takes place while the operations of cutting and pasting are being performed, as hereinafter described, and after such operations are completed the motion of the paper is resumed. The said finger 84 is adapted to engage with a perforation in the paper, and thereby to feed the same forward as it moves in that direction. The hooked end of the finger 84, which passes through the perforation in the paper, slides in a groove 93 in the table 80. The attachment to the rod 88 of the cam-roller 94, which engages with the cams 89, 90, and 91, is laterally adjustable, as shown particularly in Fig. 5, in order that the said cam-roller may be placed to engage with either one of said cams. The reason for the plurality of cams will be explained hereinafter.

The mechanism for cutting the paper into separate wrappers is as follows: A knife 100 is attached at its ends to levers 101, which are rigidly attached to a shaft 103, journaled in the frames. There is also rigidly attached to said shaft 103 a lever 104, to the end of which is secured a spring 105, tending to push it toward the front of the machine. There is also rigidly attached to said shaft 103 another lever 106, to which is pivotally attached a rod 107, which is operated by a cam 108 on the shaft 61, whereby a vertically-reciprocating motion is imparted to the knife.

The mechanism for applying paste or gum to the edge of the separated piece of paper which forms the wrapper is as follows: A trough or tank 110, borne by suitable upward projections of the frame, contains the paste or gum. Into this dips a roller 111, borne upon a suitably-journaled shaft 112 and driven by a pulley 113 upon the end of said shaft, over which passes a cord 114, which also passes over a pulley 115 on the driving-shaft 36, thus revolving the roller 111 in the paste. A second roller 116 has ends journaled in slots 117 in arms 118, so as to press

against the roller 111 when at the rear end of the slots. To the ends of the roller 116 are attached links 119, which are secured to levers 120, rigidly attached to a shaft 121. To this shaft is also rigidly attached a lever 122, to which is pivotally attached a rod 123, which is operatively connected to the cam 124 upon the shaft 56, whereby a longitudinally-reciprocating motion is imparted to the roller 116.

A gummer 130 is borne by rods 131, which slide in suitable sockets in the side frames and are provided with springs 132, which tend to depress the same. Levers 133, pivotally attached at their rear ends to the side frames, bear at their front ends under stops 134 on the rods 131. Cams 135 on the shaft 61 raise and lower the levers 133, thus alternately raising the gummer 130 and holding it in position to have gum applied to its lower face by the roller 116 and allowing it to drop and apply the gum to the edge of the wrapper. The gummer is not continuous, but is provided with transverse channels, so that the strip of gum applied to the wrapper is disconnected; the ungummed spaces corresponding to such rollers and guides as the paper is to subsequently pass under, which are not elevated above the paper at the time the gummed part passes. The operations just described are timed so that the gummer is raised while the roller 116 is passing to and fro under it and is depressed upon the paper at the time the knife 100 descends to sever the same. The paper passes in front of the gumming mechanism under guides 245, which strip the paper from the gummer as the latter rises. They are secured at their forward ends to the guides 203 and at their rear ends to the bar 246.

It is evident that for pamphlets of different sizes wrappers of different lengths will be required, proportioned to the circumference of the roll into which the pamphlet is formed. It is therefore necessary to provide for a variation in the amount of paper drawn under the knife before the same descends and severs the same. This is effected by placing the rod 88 in operative connection with one or the other of the cams 89, 90, or 91, as may be proper. It will be evident that as one or the other of these cams is employed to operate the paper-moving mechanism the amount of paper which is pushed forward by the finger 84 before the knife 100 descends will correspondingly vary, inasmuch as the time with relation to the descent of the knife when the finger 84 reaches the end of its forward stroke is different according to which of the cams operates the mechanism. The variation in the feed of the paper by the finger 84 requires a corresponding variation in the feed by the roller 51 and wheel 53, and this is effected by an adjustment of the differential gear-wheel 66 in an evident manner.

Journaled in the side frames of the machine is a shaft 185, and pivotally borne thereon, a short distance from each end, respectively, of

said shaft, are two levers 186 and 187. A shaft 188 is journaled in the upper ends of the levers 186 and 187 and bears, rigidly attached at one end, a gear-wheel 189 and between its ends roller-wheels 190. The lever 187 bears on its upper arm a gear-wheel 191, which drives the wheel 189 and is driven by one part of the double gear-wheel 192, which revolves on the shaft 185, and the other part of which gears with the gear-wheel 37 and is driven thereby. The object of this mechanism is to continue the feeding of the wrapper, which is effected directly by the rollers 190. These rollers are alternately applied to and lifted from the wrapper by the action of the cam 193 upon the lower end of the lever 187 and the spring 195, attached to the lower end of a lever 196 at one end of said shaft 185, being depressed upon the wrapper to lead it into the rolling-chamber at the proper time, and being elevated, so as to clear the wrapper as the gummed portion approaches, so as to avoid gumming the rollers. The cam 193 is provided with a slot 194, through which bolts pass to secure it to the adjacent wheel 29. By this means the cam is rendered adjustable, so as to provide for the proper manipulation of wrappers of different lengths.

I will now describe the means whereby the pamphlets to be rolled are taken from the receptacle 13 and conducted to the rolling-chamber.

Journaled in the frame at one side of the machine is a shaft 140, (see Fig. 6,) bearing at one end a gear-wheel 141, which is driven by the gear-wheel 142, which is rigidly attached to a pulley 252. To the other end of the shaft 140 is attached the pump-rod 143 of a vacuum-pump 144, which is connected by means of a pipe 145 to a vacuum-chamber 146. (See Fig. 1.) From this chamber a pipe 147 leads toward the front of the machine and then upward, terminating in a valve-box 148. (See Fig. 5.) This valve-box is provided with two ports, one opening downward and communicating with the pipe 147 and the other opening upward and communicating with the open air. A horizontal pipe 149 (see Fig. 6) has one end inserted into the valve-box 148, so as to freely turn therein, and the other end journaled in the side frame. From the pipe 149 pass branch pipes 150, which extend downward and which have their open ends bent forward, forming sucking-mouths 151, Figs. 3 and 6. The end of the pipe 149 which enters the valve-box 148 is provided with an upper and a lower perforation, so arranged that when the pipes 150 are moved somewhat forward, so as to bring the mouths 151 in contact with the pamphlets, the lower perforation in the end of the pipe 149 communicates with the pipe 147, and the upper perforation is closed; but when the pipes 150 are moved backward into the position shown in Fig. 3 the lower perforation is shut off from communication with the pipe 147, and the upper perforation communicates

through the upper opening in the valve-box 148 with the outer air. The mechanism for operating the pipes 150 backward and forward is as follows: Attached rigidly to the pipe 149 is a lever 155, (see Fig. 3,) to the upper end of which is attached a spring 156, tending to push said end forward, and the lower end of which bears a roller 157, which is operated by a cam 158, which revolves with the roller-wheels 29.

Pivottally attached to the rollers 29 is a shaft 159, upon which is a series of fingers or grippers 160, which are adapted to seize hold of the lower edge of one of the pamphlets when the same is withdrawn from the receptacle 13 by means of the suckers 151, as shown in Fig. 3. This shaft 159 bears two short arms or levers 161 and 162, (see Fig. 2,) rigidly attached thereto. To the arm 161 is attached one end of a spring 163, the other end of which is attached to the adjacent roller-wheel 29, and the arm 162 bears a cam-roller 164. (See Figs. 2 and 5.) Attached to the side frame are two pairs of stationary guides 165 and 166, Figs. 1, 2, and 5, through which the roller 163 passes as the wheels 29 revolve. The action of the upper guide 165 is to throw the grippers 160 open or into the position shown in Figs. 7 and 8, and the action of the lower guide 166 is to throw the grippers 160 into the closed position, as shown in Figs. 9 and 10. The spring 163, pushing outward toward the circumference of the wheel to which it is attached, tends to hold the grippers in either the open or closed position in which they are placed by the action of the mechanism just described.

Journalled in the roller-wheels 29 and passing through the entire series of said wheels is a shaft 170, having rigidly attached a lever having one arm 171, to which one end of a spring 172 is attached, the other end of which spring is attached to the adjacent wheel 29, the other arm 178 having a transverse slot near its end. The shaft 170 also bears a loose arm 173, which is operated by passing over the stationary cam 174, which is suitably rigidly attached to the frame of the machine. The arms 173 and 178 are adjustably secured together by a bolt 178^a, passing through a perforation in the arm 173 and the slot in the arm 178. The shaft 170 bears fingers 175, which are moved outward by the action of the cam 174 and drawn back by the action of the spring 172. The extent of the motion caused by the spring 172 is regulated by the stop 176 and screw 177.

Coöperating with the rollers forming the wrapping-space to roll up the pamphlet introduced therein are two sets of guides, one series 200 being in front of the rolling-chamber and the other series 201 being in the rear. The guides 200 are rigidly attached to a shaft 202, which is borne by rods 210, the forked ends of which rest upon the shaft 22, and one of which rods is provided with an arm 211, to the end of which one end of a rod 212 is se-

cured, the other end of which rod 212 being borne upon the shaft 61 and being reciprocatingly operated by the cam 213 upon said shaft and a spring 212^a. (See Fig. 3.) By these means the guides 200 are caused to reciprocatingly move in a line concentric with the surface of the rollers 29. The guides 201 are rigidly secured to the shaft 203, which is journaled in the upward brackets 47 of the frame. From said shaft extends rearwardly an arm 204, to which is attached a rod 205, which is vertically reciprocated by a cam 206 on the shaft 22. The object of these movements will be pointed out when the operation of the respective parts is treated of. Stationary guides are also provided, one series 207 being placed in front of and below the roller-wheels 29 and another series 208, intended to guide the pamphlet and also the wrapper into the wrapping-space, being located just above the table 80 at the entrance to the rolling-chamber.

The brackets 47 are provided with vertical channels, through which pass rods 221, which are pressed downward by springs. In the lower ends of these rods is journaled a shaft 222, which bears roller-wheels 223. These are not driven, but press upon the pamphlet as the same is passing into the wrapping-space and smooth out any wrinkles or inequalities therein.

Upon the shaft 40 is a half-sleeve 225, the ends of which are complete sleeves surrounding the said shaft. Rigidly attached to said half-sleeve 225 and extending rearwardly therefrom and then downwardly are rods 226, which bear at their lower ends a guide or presser 227, (see Figs. 9 and 10,) adapted to press on the top of the rolled article. These rods and pressers are lowered by the spring 228, which tends to revolve said sleeve 225 on the shaft 40. Rearwardly extending from one end of said sleeve is a rod 229, curved similarly to the rods 226, but which bears a wheel 230 at its lower end, which runs on the edge of one of the wheels 29. The wheel 29, upon which the wheel 230 runs, bears a bridge-piece 231 (see Figs. 6 and 10) over the depression where the shaft 159 is journaled, the wheel 230 rolling over said bridge-piece 231 when passing that point, thus preventing the presser 227 from being forced down into the recess in the wheels 29, in which the grippers 160 are located.

Attached to the frame in any suitable manner at the front end of the machine supports 232 are provided to prevent the upper edges of the pamphlets standing on edge in the receptacle 13 from falling over on the machine.

Belts or carriers 233 and 234 are provided for carrying the rolled and wrapped product after it leaves the guides 207 to the rear of the machine and discharging it there. These belts pass over rollers 235, 236, and 237, and above them are stationary guides 238. The rollers 235 are adjustable, so as to accommodate different sizes of rolls between the belts

233 and the guide 238 by means of the rods 239, shaft 240, and lever 241, extending downward from the same, the lower end of which is adjustably secured to the frame. The belts are driven by the rollers 236, the end of the shaft of which bears a gear-wheel 242, which gears with the wheel 62. The shaft 36 bears three pulleys 250, 251, and 252, (see Fig. 6,) adapted to receive a belt running from the source of power and to be revolved thereby. The pulley 250 is loose on the shaft, the pulley 251 fast to the shaft, and the pulley 252 loose on the shaft, but fast to the wheel 142. The power-belt is wider than the pulley 251, so that it is enabled to cover same and also partly overlap onto the pulley 252, and when in this position it operates the entire machine, including the wheel 142; but when the belt is on the pulley 252 only the wheel 142 is revolved and the vacuum-pump operated, but the shaft 36 is not operated, and consequently the parts of the machine other than the air-pump are still. This arrangement is made use of when it is desired to suspend the operation of wrapping for a short interval only, but to meanwhile maintain the partial vacuum in the vacuum-chamber 146 ready for use upon again starting up; but when the operation is to be suspended for a considerable time the belt is shifted to the idle pulley 251. Suitable belt-shifting means are of course provided; but as such devices are well understood I do not show or describe same.

The operation of my invention has been necessarily to some extent and in a general way indicated in the foregoing description of the machine; but the mode of operation will now be described in detail. The views shown in Figs. 7 to 10, inclusive, represent diagrammatically the operation of the rolling mechanism, and to these figures especially, but also to the general views, reference may now be had. The pamphlets to be rolled and wrapped are placed, standing on edge, in the receptacle 13, which is adjusted or tilted to a sufficient degree to cause such pamphlets to slide by gravity to the rear end of the same, where their lower edges are caught by the hooks 19, and their upper edges rest against the supports 232. (See Fig. 3.) The machine now being set in motion, the pipes 150 are advanced by the action of the cam 158 upon the lever 155, and just as the sucking-mouths 151 come into contact with one of the pamphlets communication is opened, through the valve system 148, with the vacuum-chamber 146, and the pamphlet is held by atmospheric pressure firmly against said mouths.

At the same time the short levers 18 are lowered by the action of the cam 22^a upon the rod 21, crank 20, and shaft 17, permitting the pamphlet to be drawn back over the hooks 19; but the levers 18 immediately rise again, so that the hooks 19 hold the next pamphlet. The pipes 150 then move backward, bringing the lower edge of the pamphlet, which adheres

to them, close to the rollers 29, and the grippers 160 seize the same and hold it firmly between their ends and the said rollers 29. The said rollers revolve and carry the pamphlet with them, as shown in the lower portions of Figs. 9 and 10, and finally introduce the pamphlet under the rollers 223 and into the wrapping-space, whereupon the grippers 160 release their hold. The pamphlet is then carried forward by the rollers 29 and 223 and its edge comes in contact with the curved end of the guides 200 and then successively with the rollers 30 and 31 and the guide 201, the lower end of which has meanwhile been advanced to meet said edge, and the rolling is performed to the extent shown in the upper part of Fig. 7. The pamphlet continues to advance and roll up, as shown in Fig. 8, the guide 201 gradually receding and the roller 33 coming into operation. While the above-described operations are taking place the paper which is to form the wrapper has been reeled off, carried forward over the table 80, and gummed and cut, as has already been sufficiently explained in the descriptive part of this specification. After the cutting which severs the individual wrapper the finger 84 feeds the same forward under the rollers 190, which continue the feeding, and the end of the wrapper is introduced into the nearly-completed roll, as shown in Fig. 8, so that the end of the wrapper may be caught in the roll and firmly held. The rolling still continues, the wrapper being completely fed in, the rollers 190 rising by the action of the spring 195 when the cam 193 permits as the rear gummed end of the wrapper passes under said rollers, and the gummed end is finally firmly pressed down and caused to adhere. (See Fig. 9.) The rolled and wrapped pamphlet continues to revolve, being pressed down by the guide 227, as shown in Figs. 9 and 10, in order that no strain may come upon the not-yet-dry gummed edge, and the rollers 29 finally come into the position shown in Fig. 10, where the depressions or recesses in their peripheries approach the top and the rolled pamphlet begins to pass thereinto, being still pressed down by the guide 227. The guides 200 have been by this time moved forward by the action of the cam 213 on the rod 212 and connected mechanism, so that the roll clears the said guides 200. This continues until the pamphlet reaches the end of the recess, and it is then carried forward by the wheels 29 under the guides 200, as shown in the left-hand part of Fig. 7. It then continues on, as shown in the left-hand part of Fig. 8, where the roll is shown about to come into contact with the guides 207. At this point the fingers 175 are moved outward by the action of the cam 174, lever 173, and cooperating parts, so that the roll is pressed against the guides 207 and rolled along thereon, so as to prevent any loosening of the still-damp wrapper, and is finally passed out, as shown in the lower part of Fig. 9, onto the belts 233, which transfer the

roll to the belts 234, the same being meanwhile continually pressed up against the guides 238 and being finally ejected at the rear end of the machine. (See Fig. 9.)

5 It will be understood that I am not to be limited to any of the specific arrangements shown and described, as variations of the same can readily be made by those skilled in the art without departing from my invention.

10 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows:

1. In a machine for wrapping pamphlets or similar articles, the combination with revolving devices adapted to form a wrapping-space 15 between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; of means adapted to deliver the wrapped pamphlet 20 from the wrapping-space, comprising a depression or recess in one of said revolving devices, adapted to receive the wrapped pamphlet and to convey the same away from the wrapping-space.

2. In a machine for wrapping pamphlets or similar articles, the combination with revolving devices adapted to form a wrapping-space 25 between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; and means adapted to move said rolling devices or some 30 of them so as to vary the size of said wrapping-space; of means for delivering the wrapped pamphlet from the wrapping-space 35 comprising a depression or recess in one of said revolving devices, adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space.

3. In a machine for wrapping pamphlets or similar articles, the combination with revolving devices adapted to form a wrapping-space 40 between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; non-revolving guides adapted to cooperate with said revolving devices in acting upon said pamphlet and wrapper; and means adapted to 45 move said guides to enlarge the wrapping-space as the roll being formed therein enlarges and is about to leave the wrapping-space; of means adapted to deliver the wrapped pamphlet from the wrapping-space, 50 comprising a depression or recess in one of said revolving devices, adapted to receive the wrapped pamphlet and convey the same away 55 from the wrapping-space.

4. In a machine for wrapping pamphlets or similar articles, the combination with revolving devices adapted to form a wrapping-space 60 between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising a de- 65 pression or recess in one of said revolving devices adapted to receive the wrapped pamphlet and convey the same away from the

wrapping-space, devices adapted to eject the wrapped pamphlet from the wrapping-space into the said depression or recess and means 70 for operating the same.

5. In a machine for wrapping pamphlets or similar articles, the combination with revolving devices adapted to form a wrapping-space 75 between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising a de- 80 pression or recess in one of said revolving devices adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space, and devices adapted to eject the wrapped pamphlet from the said depression or recess and means for operating the 85 same.

6. In a machine for wrapping pamphlets or similar articles the combination with revolving devices adapted to form a wrapping-space 90 between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; and devices adapted to introduce a pamphlet edge- 95 wise into said wrapping-space; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising a depression or recess in one of said revolving devices adapted to receive the wrapped pamphlet and convey the same away from the 100 wrapping-space.

7. In a machine for wrapping pamphlets or similar articles the combination with revolving devices adapted to form a wrapping-space 105 between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; and devices adapted to introduce a pamphlet edge- 110 wise into said wrapping-space; and devices adapted to feed a wrapper into said wrapping-space; of means adapted to deliver the wrapped pamphlet from the wrapping-space, 115 comprising a depression or recess in one of said revolving devices adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space.

8. In a machine for wrapping pamphlets or similar articles the combination with revolving devices adapted to form a wrapping-space 120 between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; and devices adapted to introduce a pamphlet edge- 125 wise into said wrapping-space; devices adapted to separate a wrapper for said pamphlet from a sheet of paper; and devices adapted to feed said severed wrapper into the wrap- 130 ping-space; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising a depression or recess in one of said revolving devices adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space.

9. In a machine for wrapping pamphlets or similar articles the combination with revol-

ing devices adapted to form a wrapping-space between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; and devices adapted to introduce a pamphlet edge-
 5 wise into said wrapping-space; devices adapted to separate a wrapper for said pamphlet from a sheet of paper; devices adapted to gum an edge of said severed wrapper; and
 10 devices adapted to feed said severed wrapper into said wrapping-space; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising a depression or recess in one of said revolving devices adapted
 15 to receive the wrapped pamphlet and convey the same away from the wrapping-space.

10. In a machine for wrapping pamphlets or similar articles, the combination with devices adapted to form a wrapping-space be-
 20 tween them, and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper, said devices comprising a series of rollers; of means adapted to deliver the wrapped pamphlet
 25 from the wrapping-space, comprising a depression or recess in the periphery of one of said rollers, adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space.

30 11. In a machine for wrapping pamphlets or similar articles, the combination with devices adapted to form a wrapping-space between them, and to coact to roll a pamphlet and its wrapper together within said wrap-
 35 ping-space and secure the wrapper, said devices comprising a series of rollers, and guides coöperating with said rollers; of means for delivering the wrapped pamphlet from the wrapping-space, comprising a depression or
 40 recess in the periphery of one of said rollers, adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space.

12. In a machine for wrapping pamphlets
 45 or similar articles, the combination with devices adapted to form a wrapping-space between them, and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper, said de-
 50 vices comprising a series of rollers; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising a depression or recess in the periphery of one of said rollers, adapted to receive the wrapped
 55 pamphlet and convey the same away from the wrapping-space, devices adapted to eject said wrapped pamphlet from said wrapping-space into said depression or recess and means for operating the same.

60 13. In a machine for wrapping pamphlets or similar articles, the combination with devices adapted to form a wrapping-space between them, and to coact to roll a pamphlet and its wrapper together within said wrap-
 65 ping-space and secure the wrapper, said devices comprising a series of rollers; of means adapted to deliver the wrapped pamphlet

from the wrapping-space, comprising a depression or recess in the periphery of one of said rollers, adapted to receive the wrapped
 70 pamphlet and convey the same away from the wrapping-space, devices adapted to eject the wrapped pamphlet from said depression or recess and means for operating the same.

14. In a machine for wrapping pamphlets
 75 or similar articles, the combination with devices adapted to form a wrapping-space between them, and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper, said de-
 80 vices comprising a series of rollers; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising a depression or recess in the periphery of one of said rollers, adapted to receive the wrapped
 85 pamphlet and convey the same away from the wrapping-space, devices adapted to eject the wrapped pamphlet from said wrapping-space into said depression or recess, devices adapted to eject said wrapped pamphlet from
 90 said depression or recess, and means for operating both sets of ejecting devices.

15. In a machine for wrapping pamphlets or similar articles, the combination with a series of rollers adapted to form a wrapping-
 95 space between them and to roll a pamphlet and its wrapper within said wrapping-space and secure the wrapper; guides adapted to coact with said rollers to form said wrapping-space and to roll the pamphlet and wrapper
 100 and secure the wrapper; and means adapted to move said guides so as to enlarge the wrapping-space as the roll being formed therein enlarges and is about to leave the wrapping-space; of means adapted to deliver the
 105 wrapped pamphlet from the wrapping-space comprising a depression or recess in the periphery of one of said rollers adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space.

16. In a machine for wrapping pamphlets or similar articles, the combination with devices adapted to form a wrapping-space be-
 110 tween them, and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper, said devices comprising a series of rollers; and means adapted to move said rollers or some of them so as to vary the size of the wrapping-space; of means adapted to deliver the wrapped
 120 pamphlet from the wrapping-space comprising a depression or recess in the periphery of one of said rollers adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space.

17. In a machine for wrapping pamphlets or similar articles, the combination with a series of shafts each of which bears a plurality of wheels or rollers adapted to form a wrap-
 130 ping-space between them and to roll a pamphlet and its wrapper within said wrapping-space and secure the wrapper, the wheels or rollers of each shaft being staggered or having their edges placed alternately with the

edges of the wheels or rollers of the adjacent shafts; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising depressions or recesses in the peripheries of the wheels or rollers on one of said shafts, adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space.

18. In a machine for wrapping pamphlets or similar articles, the combination with a series of shafts each of which bears a plurality of wheels or rollers adapted to form a wrapping-space between them and to roll up a pamphlet and its wrapper within said wrapping-space and secure the wrapper, the wheels or rollers of each shaft being staggered or having their edges placed between the edges of the wheels or rollers of the adjacent shafts; and guides adapted to cooperate with said rollers; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising depressions or recesses in the peripheries of the wheels or rollers on one of said shafts, adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space.

19. In a machine for wrapping pamphlets or similar articles, the combination with a series of shafts each of which bears a plurality of wheels or rollers adapted to form a wrapping-space between them and to roll a pamphlet and its wrapper within said wrapping-space and secure the wrapper, the wheels or rollers of each shaft being staggered or having their edges placed alternately with the edges of the wheels or rollers of the adjacent shafts; and means adapted to move said rollers or some of them so as to vary the size of the wrapping-space; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising depressions or recesses in the peripheries of the wheels or rollers of one of said shafts, adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space.

20. In a machine for wrapping pamphlets or similar articles, the combination with a series of shafts each of which bears a plurality of wheels or rollers adapted to form a wrapping-space between them and to roll a pamphlet and its wrapper within said wrapping-space and secure the wrapper, the wheels or rollers of each shaft being staggered or having their edges placed between the edges of the wheels or rollers of the adjacent shafts; guides adapted to coact with said rollers to form said wrapping-space and to roll the pamphlet and wrapper and secure the wrapper; and means adapted to move said guides so as to enlarge the wrapping-space as the roll being formed therein enlarges and is about to leave the wrapping-space; of means adapted to deliver the said wrapped pamphlet from the wrapping-space comprising depressions or recesses in the peripheries of the wheels or rollers on one of said shafts, adapted to

receive the wrapped pamphlet and convey the same away from the wrapping-space.

21. In a machine for wrapping pamphlets or similar articles, the combination with a series of shafts each of which bears a plurality of wheels or rollers adapted to form a wrapping-space between them and to roll a pamphlet and its wrapper within said wrapping-space and secure the wrapper, the wheels or rollers of each shaft being staggered or having their edges placed alternately with the edges of the wheels or rollers of the adjacent shafts; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising depressions or recesses in the peripheries of the wheels or rollers on one of said shafts, adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space, devices adapted to eject said wrapped pamphlet from said wrapping-space into said depressions or recesses and means for operating the same.

22. In a machine for wrapping pamphlets or similar articles, the combination with a series of shafts each of which bears a plurality of wheels or rollers adapted to form a wrapping-space between them and to roll a pamphlet and its wrapper within said wrapping-space and secure the wrapper, the wheels or rollers of each shaft being staggered or having their edges placed alternately with the edges of the wheels or rollers of the adjacent shafts; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising depressions or recesses in the peripheries of the wheels or rollers on one of said shafts, adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space, devices adapted to eject the wrapped pamphlet from said depressions or recesses and means for operating the same.

23. In a machine for wrapping pamphlets or similar articles, the combination with a series of shafts each of which bears a plurality of wheels or rollers adapted to form a wrapping-space between them and to roll a pamphlet and its wrapper within said wrapping-space and secure the wrapper, the wheels or rollers of each shaft being staggered or having their edges placed alternately with the edges of the wheels or rollers of the adjacent shafts; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising depressions or recesses in the peripheries of the wheels or rollers on one of said shafts, adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space, devices adapted to eject the wrapped pamphlet from said wrapping-space into said depressions or recesses, devices adapted to eject said wrapped pamphlet from said depressions or recesses, and means for operating both sets of ejecting devices.

24. In a machine for wrapping pamphlets or similar articles, the combination with a series of shafts each of which bears a plurality

of wheels or rollers adapted to form a wrapping-space between them and to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper, the
 5 wheels or rollers of each shaft being staggered, or having their edges placed alternately with the edges of the wheels or rollers of the adjacent shafts; devices adapted to introduce a pamphlet edgewise into said wrapping-space;
 10 of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising depressions or recesses in the peripheries of the wheels or rollers of one of said shafts, adapted to receive the wrapped pamphlet and
 15 convey the same away from the wrapping-space.

25. In a machine for wrapping pamphlets or similar articles, the combination with a series of shafts each of which bears a plurality
 20 of wheels or rollers adapted to form a wrapping-space between them and to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper, the wheels or rollers of each shaft being staggered or having their edges placed alternately
 25 with the edges of the wheels or rollers of the adjacent shafts; devices adapted to introduce a pamphlet edgewise into said wrapping-space; and devices adapted to feed a wrapper into said wrapping-space; of
 30 means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising depressions or recesses in the peripheries of the wheels or rollers of one of said shafts,
 35 adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space.

26. In a machine for wrapping pamphlets or similar articles, the combination with a series
 40 of shafts each of which bears a plurality of wheels or rollers adapted to form a wrapping-space between them and to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper, the
 45 wheels or rollers of each shaft being staggered or having their edges placed alternately with the edges of the wheels or rollers of the adjacent shafts; devices adapted to introduce a pamphlet edgewise into said wrapping-space;
 50 devices adapted to separate a wrapper for said pamphlet from a sheet of paper; and devices adapted to feed said severed wrapper into the wrapping-space; of means adapted to deliver the wrapped pamphlet from the
 55 wrapping-space, comprising depressions or recesses in the peripheries of the wheels or rollers of one of said shafts, adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space.

60 27. In a machine for wrapping pamphlets or similar articles, the combination with a series of shafts each of which bears a plurality of wheels or rollers adapted to form a wrapping-space between them and to roll a pamphlet
 65 and its wrapper together within said wrapping-space and secure the wrapper, the wheels or rollers of each shaft being staggered or hav-

ing their edges placed alternately with the edges of the wheels or rollers of the adjacent shafts; devices adapted to introduce a pamphlet edgewise into said wrapping-space; devices adapted to separate a wrapper for said pamphlet from a sheet of paper; devices adapted to gum an edge of said severed wrapper; and devices adapted to feed said severed
 75 wrapper into said wrapping-space; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising depressions or recesses in the peripheries of the wheels or rollers of one of said shafts, adapted to receive the wrapped pamphlet and convey the
 80 same away from the wrapping-space.

28. In a machine for wrapping pamphlets or similar articles, the combination with a series of revolving devices, adapted to form a
 85 wrapping-space between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; of grippers secured to one or more of said revolving devices and adapted to convey a
 90 pamphlet to said wrapping-space, and means for operating said grippers, comprising a shaft upon which said grippers are rigidly borne, an arm attached to said shaft, and stationary guides adapted to operate said arm as the
 95 shaft and the grippers are carried around.

29. In a machine for wrapping pamphlets or similar articles, the combination with a series of revolving devices, adapted to form a
 100 wrapping-space between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; of grippers secured to one or more of said revolving devices and adapted to convey a
 105 pamphlet to said wrapping-space, and means for operating said grippers comprising a shaft upon which said grippers are rigidly borne, arms attached to said shaft, and stationary guides adapted to operate one of said arms as the shaft and the grippers are carried around
 110 and a spring engaging with the other of said arms.

30. In a machine for wrapping pamphlets or similar articles, the combination with a series of revolving devices, adapted to form a
 115 wrapping-space between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; of grippers secured to one or more of said revolving devices and adapted to convey a
 120 pamphlet to said wrapping-space, and means for operating said grippers comprising a shaft 159, arms 161 and 162, guides 165 and 166, and a spring 163.

31. In a machine for wrapping pamphlets
 125 or similar articles, the combination with a series of revolving devices, adapted to form a wrapping-space between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; of a receptacle for holding the pamphlets
 130 to be wrapped, having a floor the end of which adjacent to the said revolving devices is adapted to be moved vertically and is provided

with a stop adapted to check said pamphlets; means for holding one of said pamphlets momentarily stationary as regards vertical movement and then drawing it toward said revolving devices; means for lowering the said stop while said pamphlet is so being held stationary as regards vertical movement, whereby the lower edge of said pamphlet is permitted to pass over said stop; and means for conveying said pamphlet to said wrapping-space.

32. In a machine for wrapping pamphlets or similar articles, the combination with a series of revolving devices, adapted to form a wrapping-space between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; of a receptacle for holding the pamphlets to be wrapped, the end of which adjacent to the said revolving devices is adapted to be moved vertically and is provided with a check adapted to hold said pamphlets; means for holding one of said pamphlets momentarily stationary as regards vertical movement and then drawing it toward said revolving devices, comprising a vacuum-pump, pipes connected therewith, sucking-openings at the ends thereof, and means for moving said pipes; means for lowering said stop while said pamphlet is so being held stationary as regards vertical movement, whereby the lower edge of said pamphlet is permitted to pass over said stop; and means for conveying said pamphlet to said wrapping-space.

33. In a machine for wrapping pamphlets or similar articles, the combination with a series of revolving devices, adapted to form a wrapping-space between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; of a receptacle for holding the pamphlets to be wrapped, the end of which adjacent to the said revolving devices is adapted to be moved vertically and is provided with a check adapted to hold said pamphlets; means for holding one of said pamphlets momentarily stationary as regards vertical movement and then drawing it toward said revolving devices, comprising a vacuum-pump, pipes having sucking-openings at the ends thereof, means for moving the sucking ends of said pipes backward and forward and means for placing said pipes in communication with said pump when their sucking ends are forward and in communication with the open air when said ends are backward; means for lowering said stop while said pamphlet is so being held stationary as regards vertical movement, whereby the lower end of said pamphlet is permitted to pass over said stop; and means for conveying said pamphlet to said wrapping-space.

34. In a machine for wrapping pamphlets or similar articles, the combination with a series of revolving devices, adapted to form a wrapping-space between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrap-

per; of a receptacle for holding the pamphlet to be wrapped, the end of which adjacent to the said revolving devices is adapted to be moved vertically and is provided with a check adapted to hold said pamphlets; means for holding one of said pamphlets momentarily stationary as regards vertical movement and then drawing it toward said revolving devices, comprising a vacuum-pump, pipes having sucking-openings at the ends thereof, means for moving the sucking ends of said pipes backward and forward and means for placing said pipes in communication with said pump when their sucking ends are forward and in communication with the open air when said ends are backward; means for lowering said stop while said pamphlet is so being held stationary as regards vertical movement, whereby the lower end of said pamphlet is permitted to pass over said stop; and means for conveying said pamphlet to said wrapping-space, comprising grippers borne by one or more of said revolving devices and means for operating the same.

35. In a machine for wrapping pamphlets or similar articles the combination with revolving devices adapted to form a wrapping-space between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; and devices adapted to introduce a pamphlet edge-wise into said wrapping-space; devices adapted to separate a wrapper for said pamphlet from a sheet of paper; devices adapted to gum an edge of said severed wrapper; and devices adapted to feed said severed wrapper into said wrapping-space; the said feeding devices being adapted to pause momentarily and permit the wrapper to remain stationary while the gum is being applied thereto; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising a depression or recess in one of said revolving devices adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space.

36. In a machine for wrapping pamphlets or similar articles the combination with revolving devices adapted to form a wrapping-space between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; and devices adapted to introduce a pamphlet edge-wise into said wrapping-space; devices adapted to separate a wrapper for said pamphlet from a sheet of paper; devices adapted to gum an edge of said severed wrapper; and devices adapted to feed said severed wrapper into said wrapping-space, pausing momentarily while the wrapper is being severed and its edge gummed, and then continuing said feeding; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising a depression or recess in one of said revolving devices adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space.

37. In a machine for wrapping pamphlets or similar articles, the combination with revolving devices adapted to form a wrapping-space between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; and devices adapted to introduce a pamphlet edge-wise into said wrapping-space; devices adapted to separate a wrapper for said pamphlet from a sheet of paper; devices adapted to feed said wrapper into the wrapping-space; and adjustable means adapted to control the operation of the wrapper-feeding devices with relation to the severing devices so that a variable amount of paper may be fed before same is severed; of means adapted to deliver the wrapped pamphlet from the wrapping-space.

38. In a machine for wrapping pamphlets or similar articles, the combination with shafts 22, 25, 26, 27, and 28 bearing respectively gear-wheels 37, 39, 39^b, 43, and 48 and rollers 29, 30, 31, 32, and 33; and intermediate gear-wheels adapted to cause said shafts to all revolve in the same direction; said rollers forming a wrapping-space adapted to wrap a pamphlet and its wrapper between them and secure the wrapper; of grippers 160 borne by said rollers 29 adapted to convey a pamphlet into said wrapping-space, and means for operating the same comprising a shaft 159, an arm 162, and guides 165 and 166.

39. In a machine for wrapping pamphlets or similar articles, the combination with shafts 22, 25, 26, 27, and 28 bearing respectively gear-wheels 37, 39, 39^b, 43, and 48 and rollers 29, 30, 31, 32, and 33; and intermediate gear-wheels adapted to cause said shafts to all revolve in the same direction; said rollers forming a wrapping-space adapted to wrap a pamphlet and its wrapper between them and secure the wrapper; of grippers 160 borne by said rollers 29 adapted to convey a pamphlet into said wrapping-space, and means for operating the same comprising a shaft 159, arms 161 and 162, guides 165 and 166, and a spring 163.

40. In a machine for wrapping pamphlets or similar articles, the combination with rollers 29, 30, 31, 32, and 33, and guides 200 and 201, of means for moving said rollers and said guides to vary the size of the wrapping-space formed between the same so as to accommodate rolled pamphlets of different diameters.

41. In a machine for wrapping pamphlets or similar articles, the combination with revolving devices adapted to form a wrapping-space between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising a depression or recess in one of said revolving devices adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space, and devices adapted to eject the wrapped pamphlet from the wrapping-

space, comprising a presser 227, arm 229, sleeve 225 and spring 228.

42. In a machine for wrapping pamphlets or similar articles, the combination with revolving devices adapted to form a wrapping-space between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising a depression or recess in one of said revolving devices adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space, and devices adapted to eject the wrapped pamphlet from the said depression or recess, comprising fingers 175, a shaft 170, arms 171, 173 and 178, a spring 172 and a cam 178^a.

43. In a machine for wrapping pamphlets or similar articles the combination with revolving devices adapted to form a wrapping-space between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; and devices adapted to introduce a pamphlet edge-wise into said wrapping-space; and devices adapted to feed a wrapper into said wrapping-space, comprising a finger 84, lever 81, rod 88, and a cam on the shaft 61; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising a depression or recess in one of said revolving devices adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space.

44. In a machine for wrapping pamphlets or similar articles the combination with revolving devices adapted to form a wrapping-space between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; and devices adapted to introduce a pamphlet edge-wise into said wrapping-space; and devices adapted to feed a wrapper into said wrapping-space, comprising rollers 51, 53, 55, and 57, a finger 84, lever 81, rod 88, and a cam on the shaft 61; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising a depression or recess in one of said revolving devices adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space.

45. In a machine for wrapping pamphlets or similar articles the combination with revolving devices adapted to form a wrapping-space between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; and devices adapted to introduce a pamphlet edge-wise into said wrapping-space; devices adapted to separate a wrapper for said pamphlet from a sheet of paper, comprising a knife 100, arms 101, 104 and 106, a spring 105, rod 107, and cam 108; and devices adapted to feed said severed wrapper into the wrapping-space, comprising rollers 51, 53, 55, and

57, a finger 84, lever 81, rod 88, and a cam on the shaft 61; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising a depression or recess in one of
5 said revolving devices adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space.

46. In a machine for wrapping pamphlets or similar articles the combination with revolving devices adapted to form a wrapping-space between them and to coact to roll a pamphlet and its wrapper together within said wrapping-space and secure the wrapper; and devices adapted to introduce a pamphlet edge-
10 wise into said wrapping-space; devices adapted to separate a wrapper for said pamphlet from a sheet of paper, comprising a knife 100, arms 101, 104 and 106, a spring 105, rod 107 and cam 108; devices adapted to gum
15 an edge of said severed wrapper, comprising a gummer 130, and means for operating the

same, a roller for applying gum thereto, and means for reciprocating said roller between a source of gum-supply and said gummer 130; and devices adapted to feed said severed
25 wrapper into the wrapping-space, comprising rollers 51, 53, 55, and 57, a finger 84, lever 81, rod 88, and a cam on the shaft 61; of means adapted to deliver the wrapped pamphlet from the wrapping-space, comprising a de-
30 pression or recess in one of said revolving devices adapted to receive the wrapped pamphlet and convey the same away from the wrapping-space.

Signed at New York city, in the county of
New York and State of New York, this 28th
55 lay of August, A. D. 1901.

EDWARD P. SHELDON.

Witnesses:

EDMOND COUGAR BROWN,
PETER A. ROSS.