

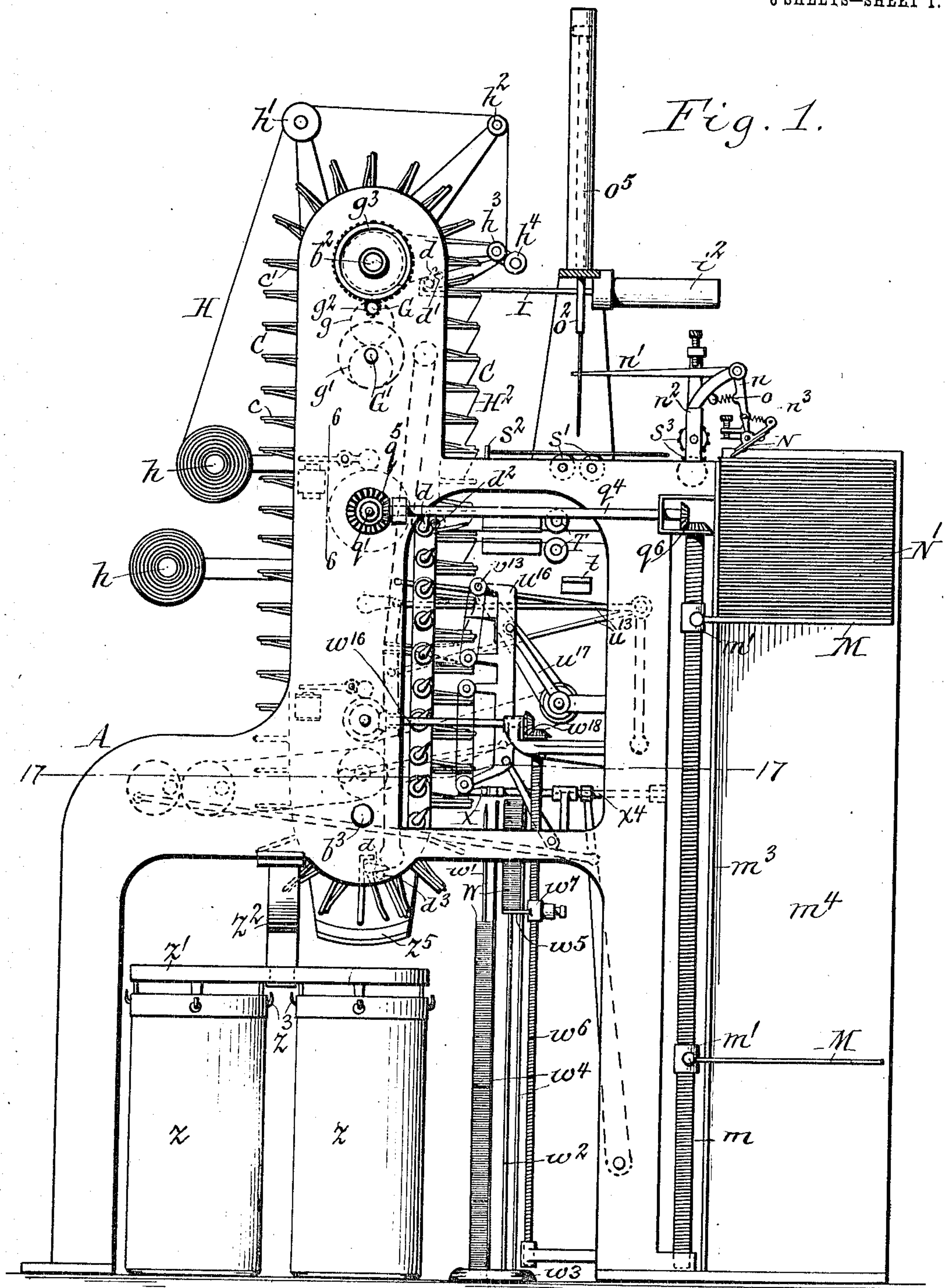
No. 871,133.

PATENTED NOV. 19, 1907.

B. S. MOLYNEUX.
AUTOMATIC MAILING MACHINE.

APPLICATION FILED JAN. 22, 1903. RENEWED MAR. 30, 1907.

6 SHEETS—SHEET 1.



Robert Weiknecht
Emm M. Graham.

Witnesses.

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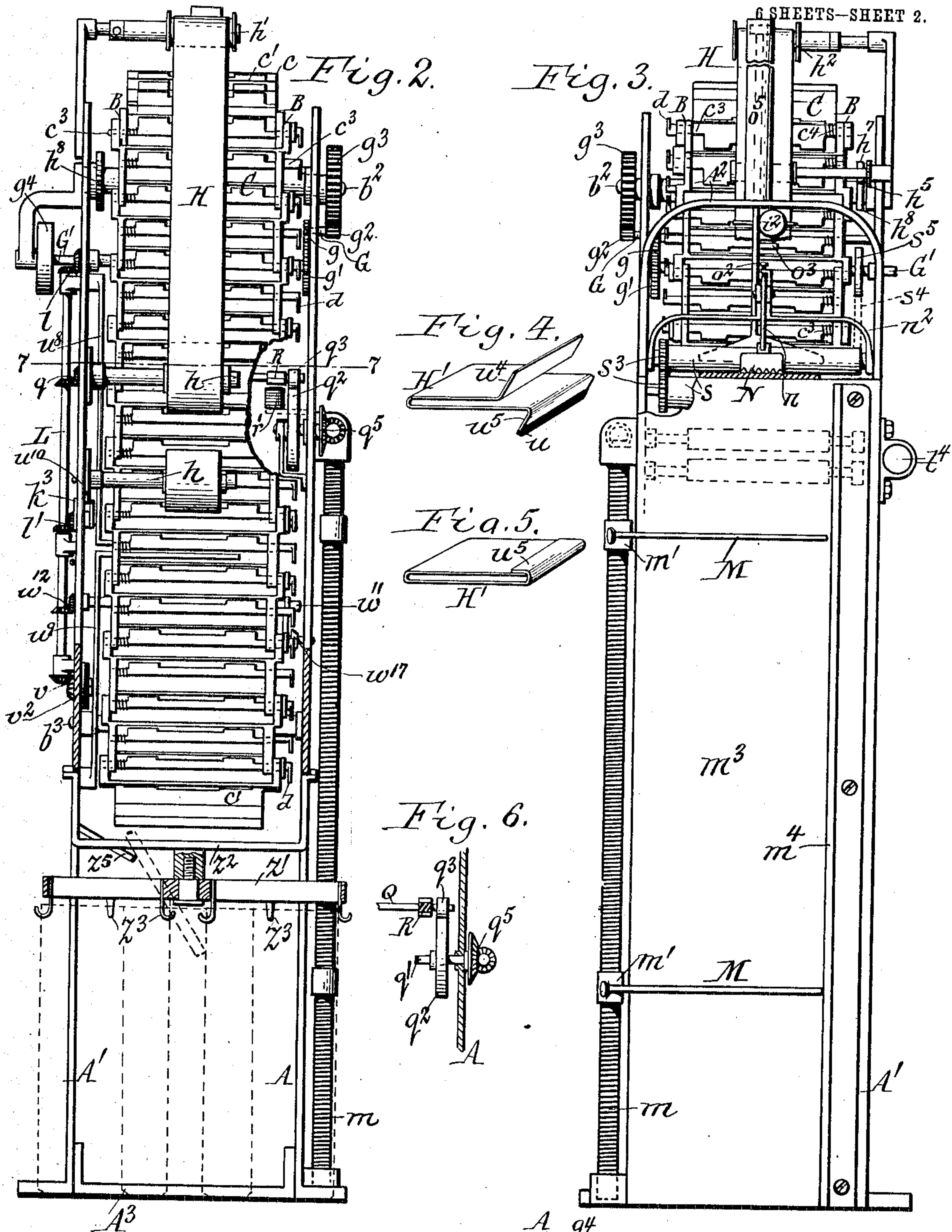
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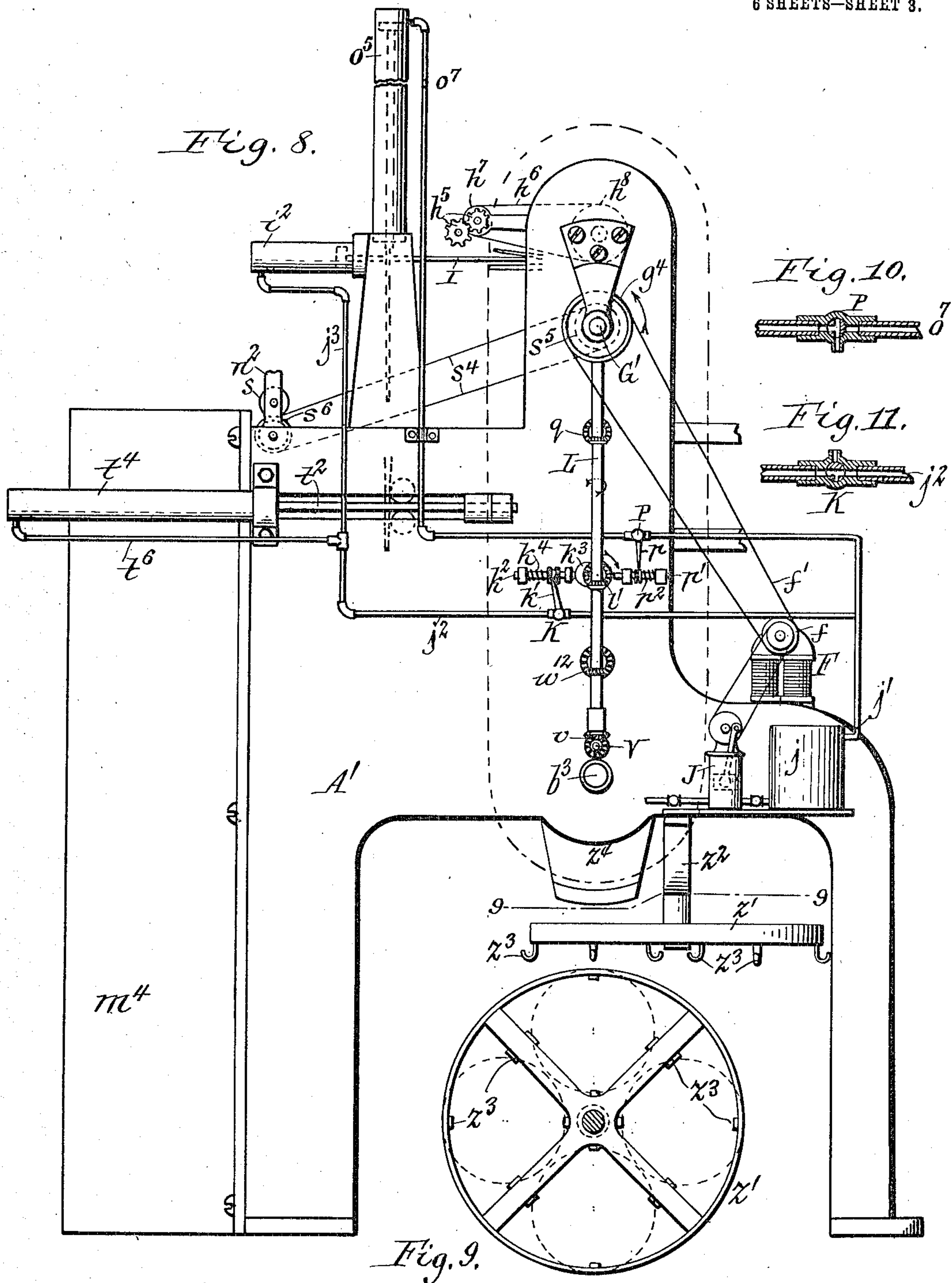
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6 SHEETS—SHEET 3.



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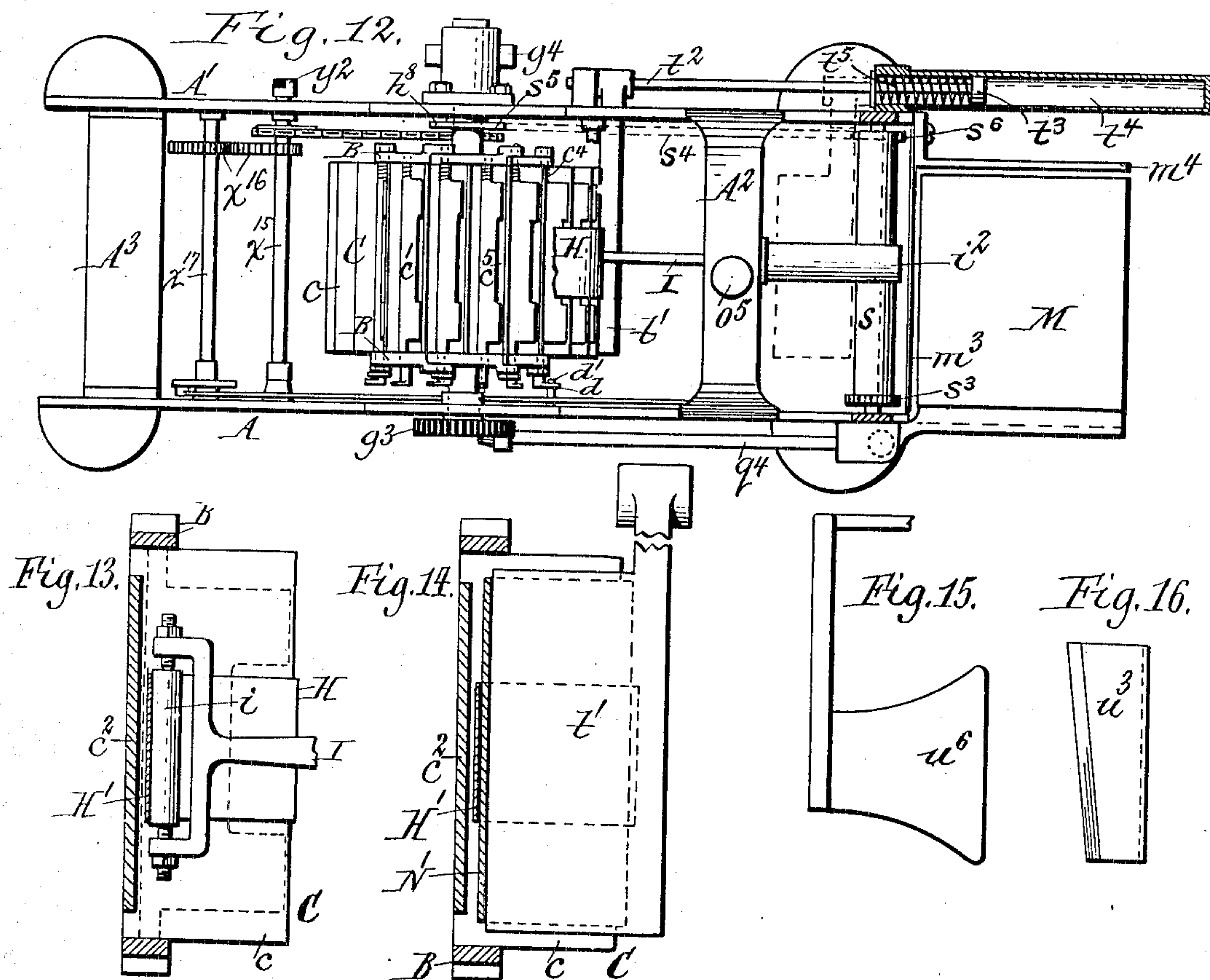
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6 SHEETS—SHEET 5.

Fig. 17.

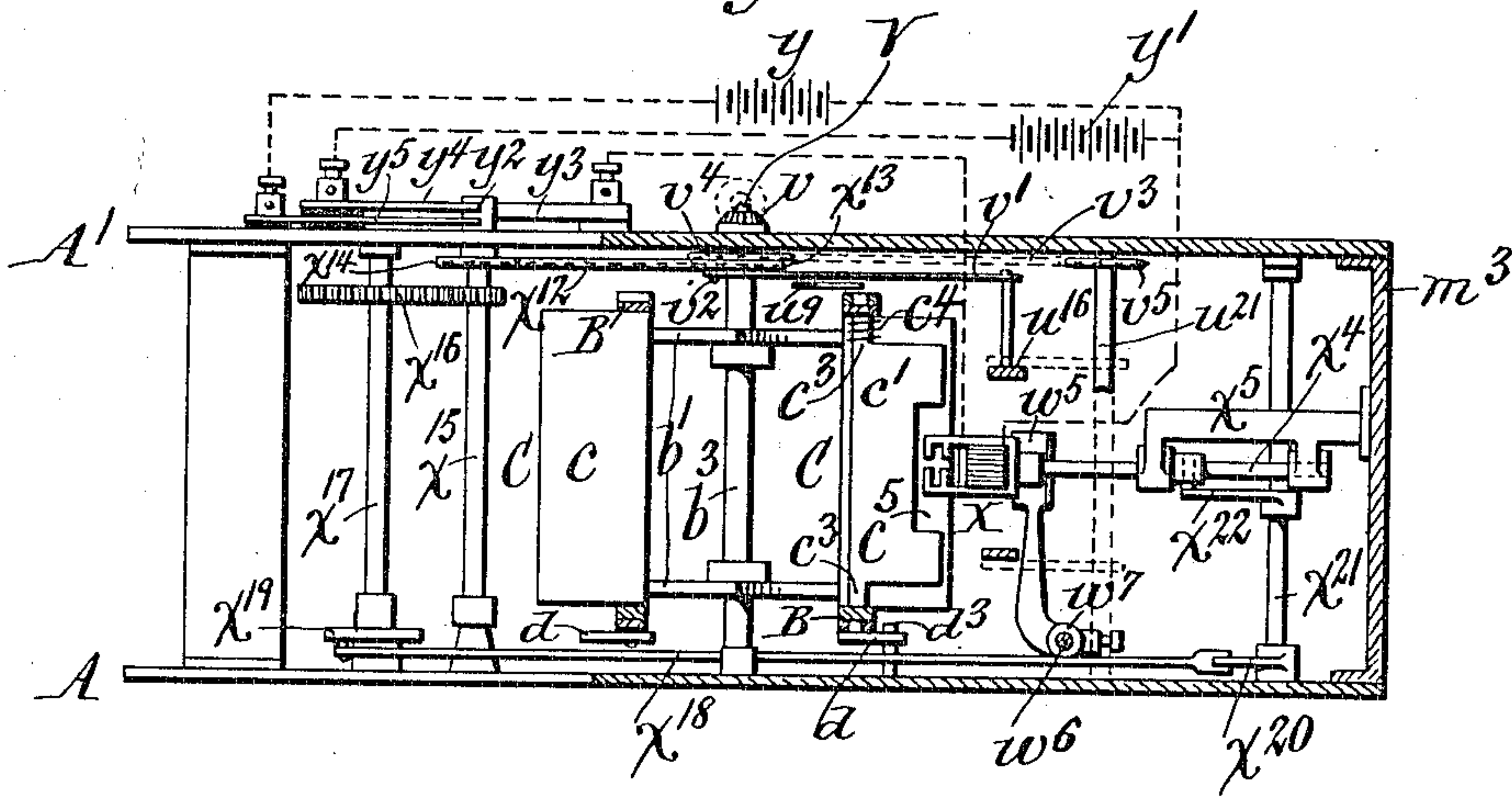
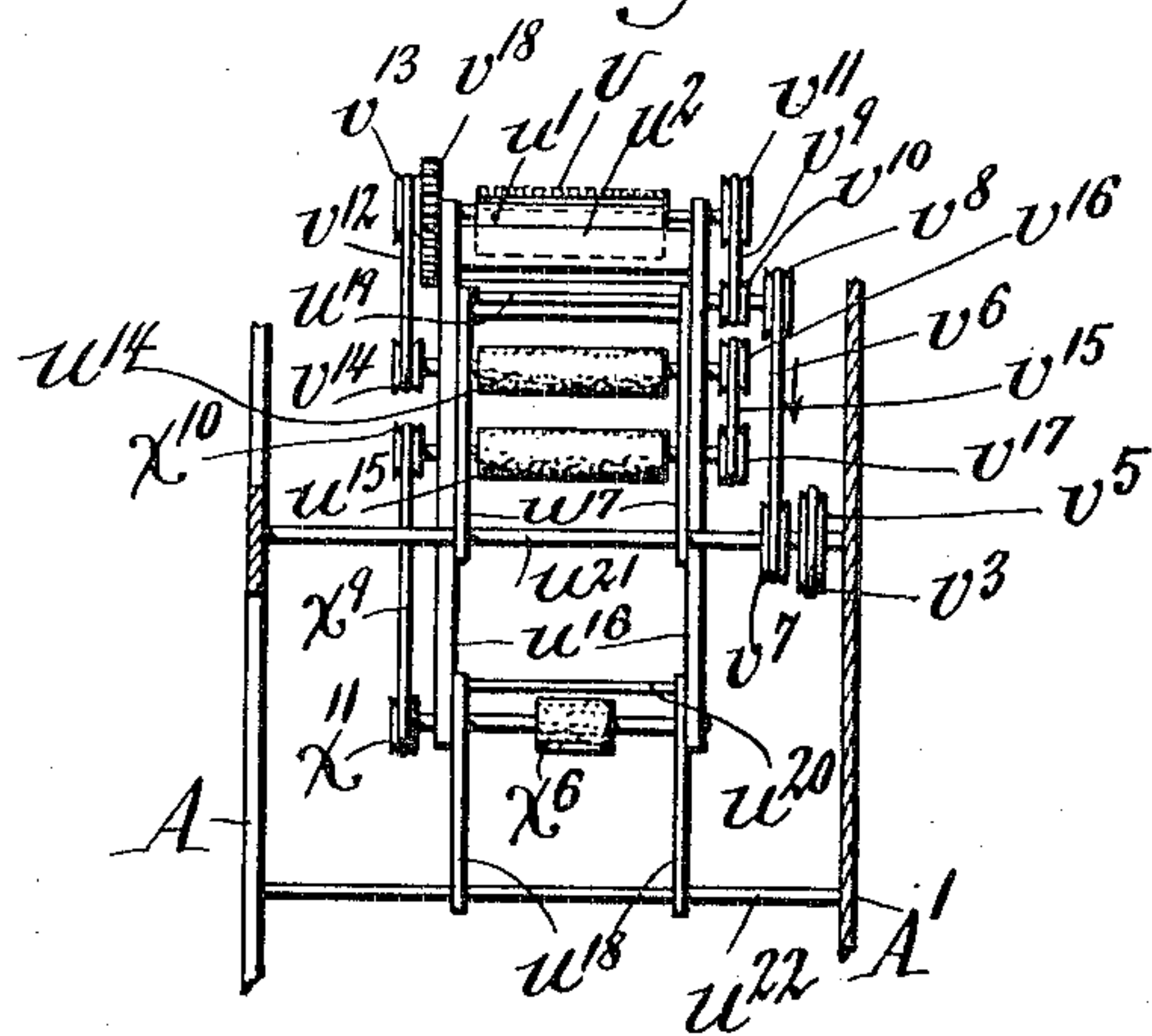


Fig. 18.



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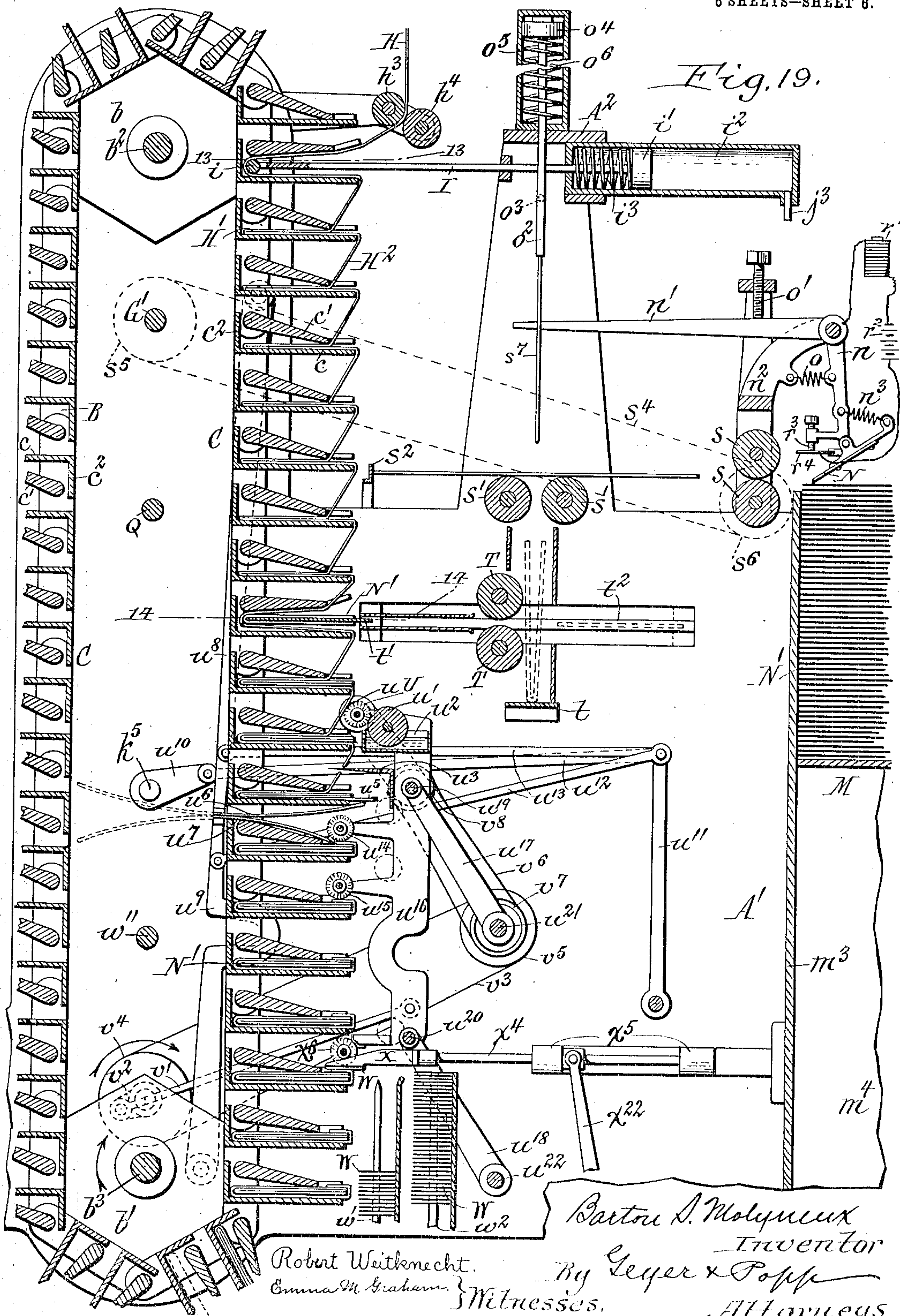
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6 SHEETS—SHEET 6.



UNITED STATES PATENT OFFICE.

BARTON S. MOLYNEUX, OF BUFFALO, NEW YORK, ASSIGNOR TO MOLYNEUX AUTO-MAILING MACHINE COMPANY; OF BUFFALO, NEW YORK, AND PIERRE, SOUTH DAKOTA, A CORPORATION OF SOUTH DAKOTA.

AUTOMATIC MAILING-MACHINE.

No. 871,133.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed January 22, 1903, Serial No. 140,172. Renewed March 30, 1907. Serial No. 365,604.

To all whom it may concern:

Be it known that I, BARTON S. MOLYNEUX, a citizen of the United States, and resident of Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Automatic Mailing-Machines, of which the following is a specification.

This invention relates to an automatic machine for wrapping newspapers, magazines, pamphlets, blanks, sheets and other articles, and has the object to produce a machine for this purpose whereby the wrapping of such articles may be effected expeditiously and economically.

In its general organization, this machine consists of an endless carrier upon which are mounted a plurality of grippers, clamps or holders which receive the wrappers and articles and present the same to the various devices which operate thereon. As the carrier moves forward the holders are first presented in succession to a wrapper feeding device which places wrappers into the holders in the shape of loops. The paper or other material from which the loops are produced is supplied in the form of a continuous band or sheet and as the holders are successively supplied with wrapper loops each loop is connected with adjacent loops by webs forming a series of connected loops. The articles to be wrapped and mailed are fed from a pile and delivered successively into the holders containing the loops of wrapping material. After receiving the articles, the loops are presented successively to a sealing device, whereby the webs of the same are severed, and the ends of each loop thus separated are united for confining the article within the wrapper. During the continued forward movement of the carrier the holders containing the wrapped articles are presented successively to an addressing device, whereby the addresses of different subscribers or persons are marked on the wrappers. After the wrappers have been thus marked, the same are discharged successively from the holders into a mail bag or other receptacle and then the empty holders are again presented to the wrapper feed device for beginning another cycle of operations. When the machine is in full running order the several operations of placing wrapper loops into holders, feeding articles into loops, sealing

loops into complete wrappers, addressing wrappers, and discharging wrapped and addressed articles are taking place simultaneously in different parts of the machine and each holder coöperates in regular order with each of the devices performing these operations.

In the accompanying drawings consisting of 6 sheets: Figure 1 is a front elevation of my improved automatic mailing machine. Fig. 2 is a left-hand end view, partly in section, of the same. Fig. 3 is a right-hand end view of the same. Figs. 4 and 5 are perspective views showing the condition of the wrapper before and after being closed upon an article. Fig. 6 is a fragmentary vertical section in line 6—6, Fig. 1. Fig. 7 is a fragmentary horizontal section in line 7—7, Fig. 2. Fig. 8 is a rear elevation of the machine. Fig. 9 is a horizontal section in line 9—9, Fig. 8, showing the means for supporting a plurality of mail bags. Figs. 10 and 11 are longitudinal sections of the valves and connecting pipes which control the air for operating the article folding and feeding mechanisms. Fig. 12 is a top plan view of the machine, partly in section. Figs. 13 and 14 are fragmentary horizontal sections in lines 13—13 and 14—14, Fig. 19. Fig. 15 is a detached plan view of one of the flap straightening blades. Fig. 16 is a plan view of the cutter blade for severing the wrapper band into sections. Fig. 17 is a horizontal section in line 17—17, Fig. 1. Fig. 18 is a fragmentary sectional elevation of the wrapper cutting, sealing and stenciling mechanism. Fig. 19 is a fragmentary vertical longitudinal section, on an enlarged scale, showing the essential parts of the machine.

Similar letters of reference indicate corresponding parts throughout the several views.

The main frame of the machine may be of any suitable construction for supporting the various parts of the machine. As shown in the drawings, this frame consists essentially of front and rear standards A, A¹ and cross pieces A², A³ connecting the upper and lower parts of the standards.

B represents the carrier upon which are mounted the wrapper and article holders C and whereby the latter are moved successively to the wrapper and article feeding devices and to the wrapper sealing and addressing devices. This carrier may be variously

constructed but consists preferably of two endless chain belts which are arranged side by side and support the holders between them. The belts pass around upper and lower supporting wheels b , b^1 so that the general direction of the belts is in a vertical plane. The wheels supporting opposite ends of the carrying belt are mounted upon transverse shafts b^2 , b^3 which are journaled in the standards of the main frame. These shafts are turned in the direction for moving the left-hand or inoperative part of the endless carrier upwardly while the right-hand or operative part of the carrier is moved downwardly. Each of the holders consists preferably of a fixed lower or advancing jaw c and a movable upper or trailing jaw c^1 which projects outwardly from the belt substantially at right angles thereto. At its inner end the fixed jaw is rigidly connected with the adjacent links of the carrying-belts and provided on its upper side with a transverse flange c^2 . The movable jaw in each holder is pivoted at its inner end to the links of the carrying-belts so that its front end is movable toward and from the front end of the fixed jaw in a vertical plane. This pivot preferably consists of two laterally-projecting pintles c^3 arranged at opposite ends of the movable jaw and journaled in the adjacent links of both carrying belts. Each of the movable jaws is yieldingly held in its closed position by means of a spring c^4 surrounding one of its pintles and secured at opposite ends to the jaw and to the adjacent part of the carrying-belt, as shown in Figs. 2, 3, 12 and 17. The opening of the jaws for permitting the introduction of the wrapping paper and magazine or other article into the same and also for discharging the wrapped and addressed magazine therefrom is effected by means of tappets or arms d arranged on the opposite pintles of the movable jaws and adapted to engage with trip pins or projections d^1 , d^2 , d^3 arranged on the adjacent standard of the main frame in the path of said tappets. When the tappets d are disengaged from the trip pins the movable clamping jaws are closed by the springs c^4 . As the holder in its closed position passes a trip pin its tappet engages the same and is deflected, thereby opening the movable jaw of the respective holder against the resistance of its spring. As the tappet during the continued forward movement of the holder clears the pin, the resilience of the spring again quickly closes the movable jaw against its companion fixed jaw and also moves its tappet into position for engaging the next trip pin. As shown in Figs. 1, 3, 12 and 17, these trip pins are so arranged that the movable jaw of each holder is first opened by the pin d^1 when it reaches the upper end of the descending or operative front portion of the carrier at which point the same receives a

loop of the wrapping paper. When the holder reaches the central front part of the carrier its movable jaw is again opened by the pin d^2 to permit of introducing one of the articles to be mailed into the loop of wrapping paper within the holder. As the holder passes around the lower supporting wheels the movable jaw of the holder is again opened by the pin d^3 to permit the wrapped and addressed article to be discharged downwardly therefrom by gravity.

As shown in the drawings, the corresponding links of both endless belts carry two holders and the pintles of every alternate movable jaw serve to pivotally connect the adjacent links of the belts, thereby simplifying the construction, enabling the holders to be arranged closer together and maintaining them reliably in position for receiving and holding the wrapper and the articles to be wrapped. For permitting the introduction of the wrapper and articles into the holders and the subsequent operation thereon of the cutting, sealing and addressing mechanisms, the carrier is moved forward intermittently. This motion may be imparted to the same by any suitable mechanism, that shown in the drawings consisting of two intermeshing eccentric gears g , g^1 one of which is connected by a short shaft G with a pinion g^2 meshing with a gear wheel g^3 on the upper supporting wheel shaft b^2 while the other is mounted on the main driving shaft G^1 , as shown in Figs. 1, 2 and 3. The shaft G which connects the upper eccentric gear wheel g and pinion g^2 is journaled on the upper part of the front standard while the driving shaft G^1 is journaled transversely in both the front and the rear standard and is provided at its rear end with a driving pulley g^4 to which power may be applied from any suitable source in any well known manner. The preferred means of driving this shaft consists of an electric motor F mounted on the rear standard and having its pulley f connected by a belt f^1 with the pulley on the driving shaft, as shown in Fig. 8. By the use of these eccentric gear wheels g , g^1 in the driving mechanism of the endless carrier B the latter is moved forward intermittently, each step of this movement gradually increasing in speed from the beginning of the step to the middle thereof and then decreasing to the end of the step, so that the carrier is momentarily at rest between the end of each step and the beginning of the next following step. During these periods of rest the wrappers and articles to be mailed are successively placed in the holders by suitable feeding devices, and the sealing and addressing devices operate successively upon the wrapped article. After these devices have performed their operations and have been withdrawn from the path of the holders, the carrier moves each holder from one of said devices to that in ad-

vance of the same, these operations taking place progressively in their proper order and all of the operations taking place simultaneously relatively to the different holder or its contents when the machine is in full running order.

The wrapper is supplied in the form of a band, web or continuous sheet H from a roll which is mounted on a mandrel h preferably supported from the main frame on the left-hand side of the carrier. Two of such mandrels are preferably provided adjacent to each other so that while the band is unwound from the roll on one mandrel, another roll may be placed on the other mandrel and held in reserve for use when the first mentioned roll is consumed, thereby enabling the machine to run without interruption. When the band of one roll is wholly unwound it is only necessary to connect the tail end of the same with the advancing end of the other roll by pasting or otherwise, which operation can be done without delaying the operation of the machine. The band of the roll which is in use passes from the latter upwardly and toward the right over a guide roller h^1 arranged above the rear part of the carrier, thence downwardly around another guide roller h^2 arranged above the front part of the carrier and thence downwardly between two driven feed rollers h^3 , h^4 arranged transversely in front of the upper end of the operative portion of the carrier. The feed rollers may be driven in any suitable manner, for instance, by means of intermeshing gear wheels h^5 secured to the shafts of these rollers and a belt h^6 passing around pulleys h^7 , h^8 on one of the feed roller shafts and the upper carrier shaft b^2 , as shown in Figs. 1, 2 and 8. In starting the machine, the front end of the paper band is secured between the jaws of that holder which is next below the one in which the first wrapper loop will be formed.

When the holders come to rest just below the feed rollers h^3 , h^4 they are opened by the trip pin d^1 and sections of the wrapper band are placed successively in the same by the wrapper feeding device. This feeding device preferably consists of a horizontally reciprocating push rod I arranged lengthwise opposite the upper front part of the carrier and in line with the space between the jaws of the holders where the same come to rest for receiving the wrapper. The front end of this push rod is preferably provided with a transverse roller i which is journaled in the bifurcated front end of this rod. While the carrier is in motion this rod is moved backwardly sufficiently so that its roller is outside of the path of the holders. When the carrier comes to rest the push rod moves forwardly and engages by means of its roller with the wrapper band in front of the same and deflects the band in the form of a loop H^1 into the space between the opposing jaws of

the holder which are open at this time. After the loop has been thus formed the push rod is retracted into its inoperative position and the carrier moved forward another step. As the holder which has just received a wrapping loop moves forward it grips the loop within the same, thereby preventing the loop from being pulled out while the next following holder is moved in position opposite the looping device and opened preparatory to receiving the next loop of wrapping band. The wrapper rollers h^3 , h^4 feed a sufficient length of wrapper band during each forward step of the carrier to permit of forming a loop in the holder which comes to rest at the looping device. As the several holders are successively supplied with a loop of wrapping paper or similar material in this manner, the loop in each holder has its upper side connected with the lower side of the loop in the next following holder by a web H^2 which extends from one holder to the next following holder, thus producing in the continuous wrapper band a succession of connected loops. The push rod may be reciprocated by various means. As shown in the drawings, Figs. 1, 8 and 19, this is effected by a piston i^1 , connected with the push rod and moved forwardly in a cylinder i^2 by compressed air admitted to the rear end of the same and a spring i^3 arranged in the front end of the cylinder. The compressed air for moving the looper push rod forwardly is supplied by a pump J which discharges into a storage tank j and the latter in turn discharges into the rear end of the cylinder i^2 by means of pipes j^1 , j^2 , j^3 , as shown in Fig. 8. The admission of air into the cylinder and the exhaust therefrom is controlled by a valve K arranged in the pipe j^2 . The plug of this valve has a three-way port whereby the air from the reservoir may be admitted to the cylinder i^2 upon turning the plug into one position or the cylinder may be cut off from this reservoir and connected with the atmosphere. This plug is provided with a rock arm k^1 connected with a slide rod k^2 which is moved in one direction by a cam k^3 and in the opposite direction by a spring k^4 . When the salient part of this cam engages the rod k^2 and pushes the same in one direction, the plug of the valve K is turned to admit air into the cylinder and as the cam presents its receding side to the rod the latter is shifted in the opposite direction by the spring k^4 , thereby turning the plug of said valve in the opposite direction for cutting the cylinder off from the reservoir and venting the same into the atmosphere. The shifting rod k^2 is guided on the outer side of the rear standard and the cam k^3 is mounted on the rear end of a short shaft k^5 which is journaled on the rear standard. This shaft is turned continuously from the main shaft by an upright shaft L journaled on the rear standard of the main frame, intermeshing bevel gears l connecting the up-

per end of the vertical shaft and main shaft and a pair of intermeshing bevel gear wheels l^1 mounted respectively on the vertical shaft and the cam shaft k^5 .

5 As each holder during its intermittent downward movement reaches the central part of the operative portion of the carrier, the same is opened by the trip pin d^2 and one of the articles to be wrapped and addressed
10 is inserted within the loop of wrapping paper contained in this holder. These articles may be placed in the holder either by hand or by automatic mechanism. When the latter is employed the same is constructed to
15 suit the character of the article to be wrapped and mailed. The mechanism shown in the drawings is designed for feeding into the holders a pamphlet, magazine, newspaper or like article which requires two folds
20 or impositions at right angles to each other after leaving the pile and before being placed into the holders, this mechanism being constructed as follows:

M represents a vertically-movable platform upon which the pile of articles to be wrapped and addressed is placed. This platform is raised by means of a vertical screw shaft m journaled on the front standard and working in a screw nut m^1 arranged on the
30 outer side of the platform. This screw nut is preferably detachably connected with the screw shaft so as to permit the platform to be removed when the same is empty or nearly so and replaced by another platform
35 supporting another pile. Arranged on the inner and rear sides of the platform are two vertical guides m^3 , m^4 which retain the pile in the proper position on the platform.

Above the front end of the pile is arranged
40 the feeding blade N of the device whereby the articles N^1 are separated and fed off successively from the top of the pile. This blade inclines from its rear end inwardly toward the top of the pile and has a backward
45 and forward movement lengthwise of the same. On its upper side the feeding blade is pivoted centrally on the lower depending arm n of a rock lever said blade and lever both turning in a vertical plane. The latter is pivoted on a bracket n^2 arranged on the
50 upper part of the main frame and its upper arm n^1 projects horizontally toward the holder carrier. The feeding blade is yieldingly held in contact with the top of the pile
55 and adapts itself to any variations in the height of the same by means of a spring n^3 connecting the rear end of the blade with the depending arm n of the lever.

Upon turning the rock lever n , n^1 so that its
60 lower arm moves backwardly, the feeding blade carried thereby is moved backwardly over the top of the pile without disturbing the position of the uppermost article, while upon moving the same in the direction for
65 moving its lower arm forwardly the feeding

blade grips the uppermost article and moves the same forwardly on the pile. The forward movement of the rock lever is produced by a spring o connecting its lower arm with the bracket n^2 . The extent of this forward movement of the rock lever is limited but may be adjusted by means of a stop screw o^1 which is arranged on the bracket n^2 in position to be engaged by the upper arm n^1 of the lever, as shown in Figs. 1, 3 and 19.
75 The backward movement of the rock lever is effected by means of a vertically-reciprocated rod o^2 provided with a pin or shoulder o^3 arranged to engage with the upper side of the front arm n^1 of the lever during the downward movement of said rod. This rod is reciprocated by means of a piston o^4 arranged at its upper end and movable in a cylinder o^5 mounted on the upper cross piece of the main frame, as shown in Fig. 19. The vertical
85 actuating rod o^3 is moved downwardly by admitting compressed air into the upper end of the cylinder and upwardly by a spring o^6 arranged in the lower end of the cylinder, the air in the upper end of the cylinder during the upward movement of the piston being exhausted therefrom. The air for forcing the piston and actuating rod downwardly is supplied to the cylinder from the reservoir by a pipe o^7 connecting the upper end of the
95 cylinder with the pipe j^1 of the reservoir.

P represents a three-way valve which is arranged in the pipe o^7 and whereby the cylinder o^5 may be connected either with the reservoir for moving the actuating rod downwardly or cutting the same off from this reservoir and connecting the same with the atmosphere for permitting the spring o^6 to raise the piston and the actuating rod connected therewith. The arm p of the plug of the
105 valve P is connected with a sliding rod p^1 which is moved back and forth by the cam k^3 and a spring p^2 . As the cam k^3 rotates and its salient part moves the rod p^1 forwardly, the valve P is shifted for connecting the
110 cylinder o^5 with the reservoir, thereby supplying air thereto for moving the actuating rod o^2 downwardly. As this cam presents its receding face to the rod p^1 the spring p^2 moves the latter in the opposite direction,
115 thereby turning the valve so as to cut off the air supply from the reservoir to the cylinder o^5 and venting the latter into the atmosphere. The sliding rods k^2 and p^1 are arranged on opposite sides of the cam k^3 whereby the latter shifts the valves K, P, alternately, thereby causing the pusher rod I and the actuating rod o^2 to be moved forward alternately.

Motion is transmitted from the main driving shaft to the vertical screw shaft m for raising the pile supporting platform by a transverse shaft Q journaled on the main frame and geared at its rear end with the vertical shaft L by a pair of intermeshing
125
130

bevel gears q , a short transverse shaft q^1 journaled in the front standard and provided at its inner end with a friction wheel q^2 , a friction pinion q^3 engaging with the upper side of the friction wheel and secured to the front end of the transverse shaft Q , and a longitudinal shaft q^4 journaled on the main frame and geared at opposite ends by two pairs of bevel gear wheels q^5 , q^6 with the front end of the short shaft q^1 and the upper end of the screw shaft m .

In order to regulate the upward movement of the platform and retain the top of the pile always in the proper position for feeding the uppermost article from the same, means are provided whereby the upward movement of the pile supporting platform is governed by the position of the top of the pile. The means employed serve to uncouple the pile elevating mechanism from the driving mechanism when the top of the pile is in the normal position, whereas if the top of the pile is below the normal position the pile elevating mechanism is automatically connected with the driving mechanism and the pile is elevated until the top thereof is again in the normal position when the upward movement of the pile is again arrested. This automatic regulation of the upward feed of the pile supporting platform is preferably effected by an electric controlling device which is constructed as follows: R, Figs. 2, 6, and 7, represents a shifting lever pivoted on the inner side of the front standard so as to turn in a vertical plane and provided on its inner arm with a bearing in which the front end of the shaft Q is journaled. By turning this lever the front end of the transverse shaft Q may be moved up or down for moving the friction pinion q^3 into or out of engagement with the friction wheel q^2 , this movement of the shaft being permitted by journaling its rear end sufficiently loose in the rear standard of the main frame. The friction pinion q^3 rotates continuously so that upon engaging the same with the friction wheel the latter will be turned and the pile supporting platform which is geared therewith through the medium of the intermediate mechanism will be raised, while upon disengaging the friction pinion from the friction wheel the rotary movement of the latter and the upward movement of the platform will be arrested. The friction pinion is yieldingly held in contact with the friction wheel by a spring (not shown) supported on the main frame and pressing upwardly against the outer arm of the shifting lever. r^1 represents an electromagnet having the pole at its upper end arranged below the outer arm of the shifting lever which arm serves as an armature for this magnet. Upon energizing this magnet the same attracts the outer arm of the shifting lever and draws the same downwardly

thereby raising its inner arm and disengaging the friction pinion from the friction wheel. As shown in Fig. 19, the coil of this electromagnet is arranged in an electric circuit containing a battery r^2 and two switch contacts r^3 , r^4 which are moved toward and from each other by the variations in the height of the top of the pile of articles. One of the contacts preferably consists of a vertically adjustable screw arranged in a lug on the lower arm n of the actuating lever while the other contact consists of a spring tongue secured by means of an insulated connection to the blank feeding blade N in such position that it moves toward and from the adjustable contact as the feeding blade rocks on said lever. When the top of the pile of articles is below the normal the feeding blade upon engaging its front end therewith is inclined forwardly a greater extent or at such an angle that the lower contact r^4 is moved away from the upper contact r^3 , thereby breaking the electric circuit containing the magnet r^1 whereby the before mentioned spring is permitted to engage the friction pinion and wheel q^3 , q^2 for producing an upward feed of the pile of articles. As the pile is raised and the top thereof reaches a normal position, the feeding blade is turned so that it inclines forwardly at a lesser angle and the lower contact r^4 is moved into engagement with the upper contact r^3 , thereby energizing the magnet and causing the same to separate the friction pinion and wheel for arresting the further upward movement of the pile of articles.

As the topmost article is fed off from the pile it passes between two delivery rollers s , s which are arranged transversely in front of the pile and which feed the articles forwardly over a pair of folding rollers s^1 , s^1 and against a front stop s^2 which arrests the forward movement of the article when the same rests with its central portion upon the primary folding rollers. These delivery rollers s , s are journaled on the bracket n^2 and are rotated by means of a pair of intermeshing gear wheels s^3 secured to the shafts of these rollers, respectively, and a belt s^4 passing around pulleys s^5 , s^6 secured to the shaft of one of these rollers and to the main driving shaft G' , as represented in Figs. 2, 6, 12 and 19. The primary folding rollers are arranged horizontally side by side and the space between the same is vertically in line with the actuating rod o^2 . The lower end of the latter carries a primary folding blade s^7 which coöperates with the rollers s^1 for producing the first fold or imposition in the article. While the article is being fed from the top of the pile over the primary folding rollers, the primary folding blade is raised by the actuating rod o^2 above the path of the article. After the article has been thus delivered upon the primary rollers, the folding

blade descends. During this movement of the latter the same engages with the central part of the article and carries the same downwardly between the primary folding rollers, whereby the article is folded midway. The downward movement of the article after leaving the primary folding rollers is arrested by a stop or a gage t which latter is so located that the article comes to rest with its central part opposite two secondary folding rollers T which are arranged horizontally one above the other in front of the path of the article as the latter passes from the primary folding rollers to the stop t . The space between the secondary folding rollers is horizontally in line with the space between the jaws of the holders where the same come to rest for receiving the article to be wrapped and addressed.

t^1 represents the second folding blade which coöperates with the secondary folding rollers in a plane at right angles to the plane of the first folding blade to produce a second fold in the article and which second folding blade also deposits the articles into the loops of wrapping paper. This folding blade reciprocates horizontally between the secondary folding rollers and the jaws of the respective holder which at that time is in position to receive the same. While the blank is being fed from the first pair of folding rollers in front of the second pair, the secondary blade is arranged in rear of the vertical path of the articles, as shown by dotted lines in Fig. 19. After the article has been fed downwardly between the secondary folding rollers and blade, the latter advances into engagement with the central part of the article and carries the same between the second pair of folding rollers, thereby producing the second fold in the article. After the second fold has been thus produced, the second folding blade continues its forward movement until the article has been deposited in the loop of wrapping paper contained in the holder in front of the same, after which this blade is retracted into its rearmost position leaving the article in the wrapper. The secondary folding blade is connected at one side with a longitudinally reciprocating rod t^2 which is provided with a piston t^3 arranged in the horizontal cylinder t^4 mounted on the main frame, as shown in Figs. 8 and 12. The forward movement of the second folding blade is produced by admitting compressed air into the rear end of this cylinder and the backward movement thereof is produced by a spring t^5 in the front end of the cylinder, the air during the backward movement thereof being exhausted from the rear end of the cylinder. The compressed air for actuating the secondary folding blade is supplied by a branch pipe t^6 connecting the pipe j^2 of the reservoir with the rear end of the cylinder. Inasmuch as the forward movement of

the wrapper looping device and the article depositing device both occur at the same time when the holder carrier is at rest, the pneumatic cylinders of both of these devices are connected by the same supply pipe j^2 with the reservoir and the automatically operated valve K in this pipe serves to simultaneously connect both cylinders i^2 , t^4 with the reservoir for moving the pistons therein and connecting parts forwardly and to connect the same with the atmosphere for permitting them to be retracted into their inoperative positions. By arranging the slide rods k^2 , p^1 on opposite sides of the cam k^3 the valves K , P are opened and closed alternately, whereby the wrapper looping device and article depositing device are moved forwardly while the primary folding blade is retracted and vice versa.

After the blank has been deposited in the loop of wrapping paper the web which connects the latter with the next preceding loop of wrapping paper receives a coat of gum or adhesive material which is applied to the front side of this web in a narrow transverse streak about midway of the web, as shown at u , Fig. 19. The means for applying the adhesive material may be variously constructed but I prefer to employ for this purpose a rotary horizontal brush U which is movable toward and from the connecting webs successively. The rear side of this brush engages with a gum supply roller u^1 which turns in a reservoir or tank u^2 containing a supply of adhesive material such as paste or mucilage. While the holder carrier is in motion the gumming device is retracted so that the brush is in front of the path of the holders. When the carrier comes to rest the gumming device moves forwardly so that its rotating brush engages with the web in front of the same and deposits a transverse streak of gum thereon. After retracting the gumming device the holder carrier moves forward and presents the gummed web to a cutting device which severs the web. This cutting device preferably consists of a horizontal cutter blade u^3 which is arranged transversely in front of the holders when the same are in motion and moves into and out of the space between two adjacent holders when the carrier is at rest thereby severing the connecting web of the adjacent wrapper loops. In order to enable the blade to cut the web easily and also avoid displacing the loops connected with the same, the cutting edge of the blade is arranged obliquely, as shown in Fig. 16, whereby a shearing action of the cutting blade is produced. After the web has been thus severed the cutter is retracted into its inoperative position in front of the path of the holder. Each of the webs is severed below the streak of gum on the same, whereby each loop after it is severed

from the adjacent loops is provided on its upper side with an ungummed flap u^4 and on its lower side with a gummed flap u^5 , as shown in Fig. 4. After both flaps have been thus formed on the loop of wrapping paper the carrier again advances and presents the same to a straightening device whereby the flaps are straightened out relatively to the sides of the loop preparatory to securing the gummed flap over the ungummed flap. This straightening device preferably consists of two curved blades u^6 , u^7 which are arranged one above the other and are supported by upper and lower rock arms u^8 , u^9 on the main frame in such manner that the blades may be moved forward into the space between two holders when the carrier is at rest and retracted into the space between the two sides of the carrier when the same is in motion. During the forward movement of the upper straightening blade u^6 its front edge engages with the lower or gummed flap u^5 of the wrapper loop and moves the same from the depending severing position forwardly into line with the lower side of its loop, as shown in Fig. 19. As the lower straightening blade u^7 moves into its foremost position its front edge engages with the upper flap of the wrapping loop and moves the same from its upwardly projecting severing position forwardly into line with the upper side of its loop, as shown in Fig. 19. The straightening blades are simultaneously moved back and forth by means of a crank u^{10} connected to the inner end of the short shaft k^5 , an intermediate rock arm u^{11} pivoted at its lower end on the frame and connected at its upper end by a link u^{12} with the crank u^{10} and two connecting rods u^{13} which connect said intermediate arm with the arms carrying the upper and lower straightening blades, respectively. After the flaps of the loop have been straightened out the carrier moves forward and presents the same to a closing device whereby the gummed flap is turned upwardly over the outer edge of the article and secured upon the upper flap of the loop. This closing device preferably consists of a rotary brush u^{14} which is arranged transversely of the holders. The movement of the carrier, straightening blades and closing brush is so timed relatively that when the carrier comes to rest the upper straightening blade first moves the lower flap into line with the lower side of the wrapper loop. When the carrier again comes to rest, the lower straightening blade moves the upper flap into line with the upper side of the loop. As the carrier moves downward the closing brush recedes from one holder and then advances toward the next following holder, during which movement this brush engages with the rear side of the gummed flap and by its rotary

motion turns or folds this flap upwardly around the front edge of the article and presses the same downwardly upon the upper flap, whereby the gum which is still in an adhesive condition at this time, secures or unites the flaps, as shown in Figs. 5 and 19, so that the article is completely inclosed thereby. In order to effectually smooth out the joint between the two flaps of the loop after the same have been united by the initial closing and pressing brush the carrier during its continued forward movement thereafter presents the flaps to a secondary pressing or calendering brush u^{15} which operates upon the gummed joint between the flaps in the same manner as the first brush u^{14} . This secondary brush is arranged below the closing brush and is moved into and out of its operative position at the same time.

The gumming, closing and pressing brushes which constitute the sealing mechanism, and the cutter may be moved forwardly and backwardly by any suitable means but I prefer to operate these parts so that the same are moved back and forth simultaneously. The means for this purpose consists essentially of two upright side bars u^{16} which support the gum reservoir and cutter and are provided with suitable bearings in which the shafts of the gum transferring roller u^1 , the gum depositing and flap closing and pressing brushes are journaled. Each of the upright bars is pivoted on the upper ends of a pair of rock arms u^{17} , u^{18} by transverse shafts or pivots u^{19} , u^{20} . The lower ends of these arms are pivoted by means of transverse shafts or rods u^{21} , u^{22} on the main frame. By means of these upright bars—the parts carried thereby are always retained in parallelism with the holder carrier in all positions of these parts. The forward and backward movement of the upright bar and the parts mounted thereon is produced by a short transverse shaft V journaled in the rear standard of the frame and connected at its rear end by a pair of intermeshing gears v with the upright shaft L, and a connecting rod v^1 connected at its opposite ends to a crank v^2 on the inner end of the transverse shaft V and the lower end of one of the upright bars u^{16} . Motion is transmitted from the driving mechanism to the gumming, closing and pressing brushes by means of a belt v^3 and pulleys v^4 , v^5 connecting the shafts V, u^{21} , a belt v^6 and pulleys v^7 , v^8 connecting the shafts u^{21} , u^{19} , a belt v^9 and pulleys v^{10} , v^{11} connecting the shaft u^{19} with the shaft of the gumming brush, a belt v^{12} and pulleys v^{13} , v^{14} connecting the shafts of the gumming roller and closing brush, and a belt v^{15} and pulleys v^{16} , v^{17} connecting the shafts of the closing and pressing brushes, as shown in Figs. 18 and 19. The gum transferring roller u^1 may be driven by frictional contact

with the gum delivery brush or by intermeshing gear wheels v^{18} , as shown in Fig. 18.

After the paper loops have been applied to the articles the same are advanced downward and presented to the mechanism which places the addresses of the subscribers successively upon the same. This addressing mechanism may be of any suitable construction the essential parts of that shown in the drawings for this purpose being as follows: W represents stencils of soft iron each of which is perforated with the name of one of the subscribers to which one of the wrapped articles is to be mailed. Each of these stencils is provided with a central opening whereby the same may be slipped over vertical guide rods w^1 , w^2 , arranged one behind the other in front of the path of the holders and secured at their lower ends to a base w^3 while their upper ends are free. One of the guide rods is adapted to support the stack of stencils which have been used while the other supports a stack of stencils which are ready to be used. The stencils are prevented from turning on the guide rods by means of retaining plates w^4 and are successively carried by an electro-magnet X from the top of the supply stack to the wrapper of the article and then discharged upon the receiving stack. The stack of unused stencils rests upon a vertically movable table or follower w^5 which latter is moved upwardly in the same measure as the stencils are fed off from the top of the pile for the purpose of maintaining the same always in the proper relative position to the electro-magnet. The upward movement of the table is preferably effected by means of a vertical screw shaft w^6 which receives a sleeve w^7 on the table containing a laterally-movable screw nut which engages with the thread of the screw shaft. Motion is transmitted from the driving mechanism to the screw shaft which elevates the pile of unused stencils by means of a transverse shaft w^{11} connected at its rear end by a pair of intermeshing bevel wheels w^{12} with the upright shaft L, and a longitudinal shaft w^{16} connected at one end by friction gearing with the shaft w^{11} and at its opposite end by a pair of bevel gear wheels w^{18} with the upper end of the stencil elevating shaft w^6 , as shown in Figs. 1 and 2.

The shifting magnet X is mounted on the front end of a horizontal reciprocating rod x^4 which is guided at its rear end in ways x^5 on the main frame. In its rearmost position the shifting magnet stands with its poles over the top of the stack of unused stencils, and the uppermost of these stencils is sufficiently close to the poles of the magnet that the latter upon being energized attracts the uppermost stencil and lifts the same from the stack. After a stencil has been thus attracted by the magnet, the latter moves for-

wardly to the end of its forward stroke, whereby the stencil is carried over the top of the article wrapper at the front end thereof. In order to form a clear space above the upperside of the wrapper for permitting the lower flap to be folded over the upper flap and also enabling the stencil to be placed on the wrapper, the front edge of each movable clamping jaw is provided centrally with a recess c^5 sufficiently large to accommodate the sealing flap and stencil. After the stencil has been applied to the wrapper, an inking device wipes over the exposed central part of the stencil and marks the address on the wrapper. The shifting magnet is then moved rearwardly and when the same has fully cleared the path of the holders, the electric circuit of the magnet is broken, thereby releasing the stencil. The movement of the magnet and the breaking of its circuit is so timed that the stencil is released just at the moment when the stencil is arranged with its central opening over the receiving rod w^1 , whereby the stencil is caused to engage its opening over this rod and stack itself properly on the pile of used stencils. The stencil inking device preferably consists of a cylindrical brush x^6 which rotates in contact with the upper side of the wrapper and the stencil. This stencil brush is movable into and out of the path of the holders and is preferably mounted on the lower end of the upright bars u^{16} which carries the cutter and brushes of the wrapper sealing mechanism so as to move simultaneously therewith. The inking of the stenciling brush may be effected in any suitable way. The rotary movement of the brush is produced by a belt x^9 passing around pulleys x^{10} , x^{11} on the shaft of the lower sealing brush u^{15} and the shaft of the inking brush.

The reciprocating movement of the stencil carrying magnet is produced by a sprocket chain x^{12} passing around sprocket wheels x^{13} , x^{14} on the short transverse shaft V and a long transverse shaft x^{15} , a pair of intermeshing eccentric gear wheels x^{16} secured respectively to the transverse shaft x^{15} and another transverse shaft x^{17} , a rod x^{18} connecting a crank disk x^{19} on the shaft x^{17} with a rock arm x^{20} on the front end of a transverse rock shaft x^{21} and a rock arm x^{22} arranged on the rear end of the rock shaft x^{21} and connected with the horizontally reciprocating rod x^4 which carries the stencil shifting magnet, as shown in Figs. 1, 12 and 17.

In order to prevent the stencil shifting magnet from lifting more than one stencil at a time but insuring a firm hold of the magnet on the stencil for reliably carrying the same toward and from the wrapped article, a comparatively weak current of electricity is directed through this magnet at the time the same is lifting a stencil and a stronger current is passed through this magnet while the

same is carrying the stencil from the unused stack forward to the wrapped article and backward to the stack of used stencils. This variation of the strength of the magnet is produced by connecting two separate batteries y , y^1 on one side with one end of the coil of the electro-magnet while the other side of these batteries are connected by a switch with the other end of the coil in such manner that only one of these batteries is in circuit with the magnet when the latter is over the stencil supply stack and separates the topmost one from the stack. Then the other battery is also placed in circuit with the magnet as the latter carries the stencil from the supply stack to the wrapped article and backward to the receiving stack, and then both batteries are cut off from the stencil shifting magnet as the same passes backwardly from the receiving stack to the supply stack preparatory to shifting the next stencil. The switch whereby this is effected preferably consists of a rotating commutator y^2 mounted on the shaft x^{15} , a brush y^3 engaging with one side of the body and connected with one end of the coil of the stencil shifting magnet, two brushes y^4 , y^5 bearing side by side against the opposite side of the body and connected respectively with the batteries.

After the address has been stenciled upon the wrapped article, each holder as it turns rearwardly around the lower supporting wheels with the carrier is opened by engagement of its tappet d with the adjacent trip pin d^3 , thereby causing the wrapped and addressed article to be discharged downwardly by gravity from the open holder. In order to avoid the necessity of again handling the addressed articles for mailing the same, a mail bag z is supported below the carrier with its open upper end in the proper position for receiving the wrapped and addressed articles successively from the holder. A plurality of mail bags are preferably suspended on a movable rack z^1 in such manner that when one mail bag is full the same can be moved away and an empty one put in its place without stopping the operation of the machine. As shown in the drawings, this rack is pivoted centrally to a depending hanger z^2 on the underside of the main frame, so as to turn in a horizontal plane and provided with hooks z^3 upon which the upper ends of the mail bags are hung in an open position. The pivot of the rack is arranged at such a distance on one side of the place where the articles are discharged from the holders that the several mail bags supported upon the rack can be successively moved into the receiving position upon turning the rack. In order to facilitate the entrance of the wrapped and addressed articles into the mail bag, a tilting device is provided with

which one end of the articles engage upon being discharged from the holder. This tilting device preferably consists of a hanger z^4 secured to the rear standard of the main frame and provided at its lower end with an inclined shelf or abutment z^5 which projects into the path of one end of the articles. Each article as it drops from its holder strikes at one end against this abutment causing the article to turn and enter the mail bag lengthwise with its free end foremost. By inclining the contact surface of an abutment, tilting of the articles is effected gradually and the same are reliably directed into the mail bag.

I claim as my invention:

1. In a machine of the character described, the combination of a plurality of holders, a wrapper feeder constructed to place a wrapper in said holders so that the same extends continuously from one holder to another, and an article feeder for placing an article in that part of the wrapper within each holder, substantially as set forth.

2. In a machine of the character described, the combination of a movable holder, a wrapper feeder for placing a wrapper in said holder, an article feeder for placing an article in said holder, a sealing mechanism for uniting the ends of the wrapper, and means for moving said holder successively to said wrapper and article feeders and to said sealing mechanism, substantially as set forth.

3. In a machine of the character described, the combination of a movable holder, a wrapper feeder for placing a wrapper in said holder, an article feeder for placing an article in said holder, a sealing mechanism for uniting the ends of the wrapper, an addressing mechanism for applying an address to said wrapper, and means for moving said holder successively to said wrapper and article feeders and to said sealing and addressing mechanisms, substantially as set forth.

4. In a machine of the character described, the combination of a plurality of holders, a pusher arranged opposite the holders, and a wrapper feeder arranged to deliver a continuous wrapper-band between said holders and said pusher, substantially as set forth.

5. In a machine of the character described, the combination of a movable holder, a wrapper feeder for placing a wrapper in said holder, an article feeder for placing an article in said wrapper, a gumming device for applying an adhesive material to said wrapper, and means for moving said holder successively to said wrapper and article feeders and to said gumming device, substantially as set forth.

6. In a machine of the character de-

scribed, the combination of a movable holder, a wrapper feeder mechanism for placing a wrapper in said holder, an article feeder for placing an article in said holder, a gumming device for applying gum to said wrapper, a closing device for folding one end of the wrapper over the other, and means for moving said holder successively to said wrapper and article feeders and to said gumming and sealing devices, substantially as set forth.

7. In a machine of the character described, the combination of a plurality of holders, a wrapper feeder for placing wrappers successively in said holders, an article feeder for placing articles successively in the holders, a sealing device for securing one end of each wrapper to its other end, and a carrier for said holders constructed to move each holder successively to said wrapper and article feeders and to said sealing device, substantially as set forth.

8. In a machine of the character described, the combination of a plurality of holders, means for forming a series of connected wrapping loops and placing the same in said holders, and means for placing articles to be wrapped in said loops, substantially as set forth.

9. In a machine of the character described, the combination of a plurality of holders, means for forming a series of connected wrapper loops and placing the same in said holders, means for placing articles to be wrapped in said loops, and means for severing the loops, substantially as set forth.

10. In a machine of the character described, the combination of a plurality of holders, means for forming a series of connected wrapper loops and placing the same in said holders, means for placing articles to be wrapped in said loops, means for severing the loops, and means for uniting the ends of each loop, substantially as set forth.

11. In a machine of the character described, the combination of a plurality of holders, means for forming a series of connected wrapping loops and placing the same successively in said holders, means for placing articles to be wrapped in said loops, means for severing the loops, means for uniting the ends of each loop, and means for addressing each wrapper, substantially as set forth.

12. In a machine of the character described, the combination of a plurality of holders, means for forming a series of connected wrapping loops and placing same in said holders, means for placing the articles to be wrapped in said loops, means for severing the loops, means for uniting the ends of each loop, means for addressing each wrapper, and an endless carrier for said holders whereby the articles and wrappers in the

same are successively moved to said loop-forming and article-feeding mechanism and to said severing, uniting and addressing means, substantially as set forth.

13. In a machine of the character described, the combination of an endless carrying belt passing around upper and lower supporting wheels and actuated to move downwardly on its operative side, a plurality of holders mounted on said carrier, a looping mechanism arranged opposite the operative part of the carrying belt and constructed to deflect a continuous wrapper into said holders forming a succession of connected wrapping loops, an article feeding mechanism arranged opposite said belt below the looping mechanism and constructed to place articles successively in said loops, severing and sealing mechanisms arranged below the article feeding mechanism for severing the loops and uniting the ends thereof, an addressing mechanism arranged below the severing and sealing mechanisms and operating to mark an address on each wrapper, means for closing said holders, and means for opening the holders to admit the wrappers and articles and to release the same therefrom, substantially as set forth.

14. In a machine of the character described, the combination of a carrier, a plurality of holders mounted on said carrier and each consisting of a fixed jaw and a movable jaw, means for intermittently opening and closing said movable jaw, means for placing wrappers in the form of connected loops in said holders, and means for placing articles successively in said holders, substantially as set forth.

15. In a machine of the character described, the combination of a carrier, a plurality of holders mounted on the carrier and each consisting of a fixed jaw and a pivoted jaw, springs for moving said pivoted jaws toward the fixed jaws, tappets connected with the pivoted jaws and arranged to engage a trip pin for moving the pivoted jaws away from the fixed jaws, means for placing wrappers in the form of connected loops in said holders, and means for placing articles to be wrapped in said loops, substantially as set forth.

16. In a machine of the character described, the combination of a plurality of movable holders, means for opening and closing said holders, and a wrapper feeding mechanism for placing a wrapper in said holders in the form of a connected series of loops, substantially as set forth.

17. In a machine of the character described, the combination of a plurality of movable holders, means for opening and closing said holders, means for supplying a continuous wrapper, and a looping device movable into and out of said holder for plac-

ing the wrapper in said holder in the form of a series of connected loops, substantially as set forth.

18. In a machine of the character described, the combination of a movable holder, means for opening and closing said holder, means for supplying a wrapper, and a reciprocating rod provided with a roller which is movable into and out of said holder for placing the wrapper therein, substantially as set forth.

19. In a machine of the character described, the combination of a movable holder, means for opening and closing said holder, means for supplying a wrapper, and a looping device for placing the wrapper in the holder consisting of a reciprocating rod provided at one end with a roller movable into and out of said holder, a piston arranged at the opposite end of the rod and arranged in a cylinder, a compressed air supply for moving the piston and connecting parts forward, and a spring for moving the same backwardly, substantially as set forth.

20. In a machine of the character described, the combination of a movable holder, means for opening and closing said holder, means for supplying a wrapper, and a looping device for placing the wrapper in the holder consisting of a reciprocating rod provided at one end with a roller which is movable into and out of said holder, a piston arranged at the opposite end of the rod and within a cylinder, a compressed air supply for moving the piston and connecting parts forwardly, a spring for moving the same backwardly, a valve for connecting the cylinder with said air supply or with the atmosphere, and a cam mechanism for operating said valve, substantially as set forth.

21. In a machine of the character described, the combination of a carrier, and a holder for receiving a wrapper and an article mounted on the carrier and consisting of a lower fixed jaw and an upper movable jaw having a recess in its front end for exposing the front part of the wrapper within the holder, substantially as set forth.

22. In a machine of the character described, the combination of a movable holder, means for opening and closing the same, a wrapper feeding mechanism for feeding a wrapper into the holder, and an article feeding mechanism for feeding an article into the wrapper in the holder and consisting of a blade movable into and out of the holder, a reciprocating rod carrying said blade and provided with a piston, a cylinder containing said piston, a compressed air supply connected with the cylinder for moving the piston and connecting parts forwardly, and a spring for moving the same backwardly, substantially as set forth.

23. In a machine of the character described, the combination of a movable

holder, means for opening and closing the same, a wrapper feeding mechanism for feeding a wrapper into the holder, and an article feeding mechanism for feeding an article into the wrapper in the holder and consisting of a blade movable into and out of the holder, a reciprocating rod carrying said blade and provided with a piston, a cylinder containing said piston, a compressed air supply connected with the cylinder for moving the piston and connecting parts forwardly, a spring for moving the same backwardly, a valve for connecting the cylinder with said air supply or with the atmosphere, and a cam mechanism for operating said valve, substantially as set forth.

24. In a machine of the character described, the combination of a carrier, a plurality of holders mounted on the carrier, a wrapper feeding mechanism for placing a continuous wrapper into said holders in the form of a succession of loops connected by webs, means for placing articles into said loops, and a gumming device for applying adhesive material to said webs, substantially as set forth.

25. In a machine of the character described, the combination of a carrier, a plurality of holders mounted on the carrier, a wrapper feeding mechanism for placing a continuous wrapper into said holders in the form of a succession of loops connected by webs, means for placing articles into said loops, a gumming device for applying adhesive material to said webs consisting of a rotary brush which is movable toward and from said webs, and means for supplying adhesive material to said brush, substantially as set forth.

26. In a machine of the character described, the combination of a carrier, a plurality of holders mounted on the carrier, a wrapper feeding mechanism for placing a continuous wrapper into said holders in the form of a succession of loops connected by webs, means for placing articles into said loops, and a cutter movable into and out of the space between adjacent holders for severing the webs, substantially as set forth.

27. In a machine of the character described, the combination of a carrier, a plurality of holders mounted on the carrier, a wrapper feeding mechanism for placing a continuous wrapper into said holders in the form of a succession of loops connected by webs, means for placing articles into said loops, a gumming device for applying a transverse streak of adhesive material to each of said webs, a cutter blade arranged below the gumming device and movable into and out of the space between adjacent holders for severing each web below its adhesive streak, substantially as set forth.

28. In a machine of the character described, the combination of a carrier, a plu-

rality of holders mounted on the carrier, a
 wrapper feeding mechanism for placing a
 continuous wrapper into said holders in the
 form of a succession of loops connected by
 5 webs, means for placing articles into said
 loops, means for severing said webs and
 forming flaps on the loops, means for straight-
 ening said flaps into line with the sides of the
 loops, and means for uniting the flaps of each
 10 loop, substantially as set forth.

29. In a machine of the character de-
 scribed, the combination of a carrier, a plu-
 rality of holders mounted on the carrier, a
 wrapper feeding mechanism for placing a
 15 continuous wrapper into said holders in the
 form of a succession of loops connected by
 webs, means for placing articles into said
 loops, a cutter for severing said webs and
 forming flaps on the loops, straightening
 20 blades movable into and out of the space be-
 tween adjacent holders and adapted to
 straighten said flaps into line with the sides
 of the loops, and means for uniting the flaps
 of each loop, substantially as set forth.

30. In a machine of the character de-
 scribed, the combination of a carrier, a plu-
 rality of holders mounted on the carrier, a
 wrapper feeding mechanism for placing a
 continuous wrapper into said holders in the
 30 form of a succession of loops connected by
 webs, means for placing articles into said
 loops, means for applying adhesive material
 to said webs, means for severing said webs
 and forming flaps on the loops, and a rotary
 35 closing brush for turning one flap of each
 loop over the other, substantially as set forth.

31. In a machine of the character de-
 scribed, the combination of a carrier, a plu-
 rality of holders mounted in the carrier, a
 40 wrapper feeding mechanism for placing a
 continuous wrapper into said holders in the
 form of a succession of loops connected by
 webs, means for placing articles into said
 loops, means for applying adhesive material
 45 to said webs, means for severing said webs
 and forming flaps on the loops, a closing
 brush for turning one flap of each loop over
 the other, and a pressing brush following the
 closing brush and adapted to press the flaps
 50 together, substantially as set forth.

32. In a machine of the character de-
 scribed, the combination of an endless car-
 rier, a plurality of outwardly projecting hold-
 ers mounted on the carrier, a wrapper feeding
 55 mechanism arranged in front of the holders
 and adapted to place a continuous wrapper
 into the same in the form of a succession of
 loops connected by webs extending from one
 holder to another, means for placing articles
 60 in said loops, a movable device arranged in
 front of the holders and adapted to apply ad-
 hesive material to said webs, a cutter ar-
 ranged in front of the holders and construct-
 ed to sever said webs to form flaps on said

loops, two straightening blades normally ar- 65
 ranged within the carrier and movable into
 the spaces between the holders for straight-
 ening said flaps into line with the sides of the
 loops, rock arms carrying said straightening
 blades, and means for closing one flap of each 70
 loop over the other, substantially as set forth.

33. In a machine of the character de-
 scribed, the combination of an endless car-
 rier, a plurality of outwardly projecting hold- 75
 ers mounted on the carrier, a wrapper feeding
 mechanism arranged in front of the holders
 and adapted to place a continuous wrapper
 into the same in the form of a succession of
 loops connected by webs extending from one
 holder to another, means for placing articles 80
 in said loops, a rotary gumming brush ar-
 ranged in front of the holders and adapted to
 apply adhesive material to said webs, a cut-
 ter arranged in front of the holders and adapt-
 ed to sever said webs to form flaps on said 85
 loops, two straightening blades normally ar-
 ranged within the carrier and movable into
 the spaces between the holders for straight-
 ening said flaps into line with the sides of the
 loops, rock arms carrying said straightening 90
 blades, a rotary closing brush for turning one
 flap of each loop over the other, a rotary
 pressing brush following the closing brush
 and adapted to press the flaps together, a
 support carrying said gumming, closing and 95
 pressing brushes and cutter blade, and rock
 arms carrying said support, substantially as
 set forth.

34. In a machine of the character de-
 scribed, the combination of a plurality of 100
 holders for supporting articles to be wrapped,
 means for opening said holders to permit the
 articles to drop out of the same, a receptacle
 arranged below the path of said holders for
 receiving said articles, and an abutment ar- 105
 ranged in the path of one end only of said
 articles so as to be engaged thereby for tilting
 the articles and directing the same length-
 wise into said receptacles, substantially as
 set forth. 110

35. In a machine of the character de-
 scribed, the combination of a plurality of
 holders, a vertically movable platform for
 supporting a pile of articles, a feeding blade
 for removing the articles successively from 115
 the top of the pile, a lever upon one arm of
 which said feeding blade is pivoted, a pair of
 primary folding rollers which receive said ar-
 ticles from the pile, a folding blade for car-
 rying the articles between said rollers, a re- 120
 ciprocating rod carrying said blade and pro-
 vided with a shoulder or projection arranged
 to engage the other arm of said lever for mov-
 ing the feeding blade backwardly, a spring
 for moving the lever and feeding blade for- 125
 wardly, a pair of secondary folding rollers
 which receive the articles from the primary
 folding rollers, and a second folding blade

for carrying the articles between the secondary rollers and into said holders, substantially as set forth.

36. In a machine of the character described, the combination of a carrier having the form of an endless belt, a plurality of grippers mounted on said carrier and constructed to grasp wrappers and articles, means for feeding wrappers successively into said holders, means for feeding articles successively

to the wrappers within the holders, and means for moving said carrier forward intermittently, substantially as set forth.

Witness my hand this 19th day of January, 1903.

BARTON S. MOLYNEUX.

Witnesses:

THEO. L. POPP,

EMMA M. GRAHAM.