

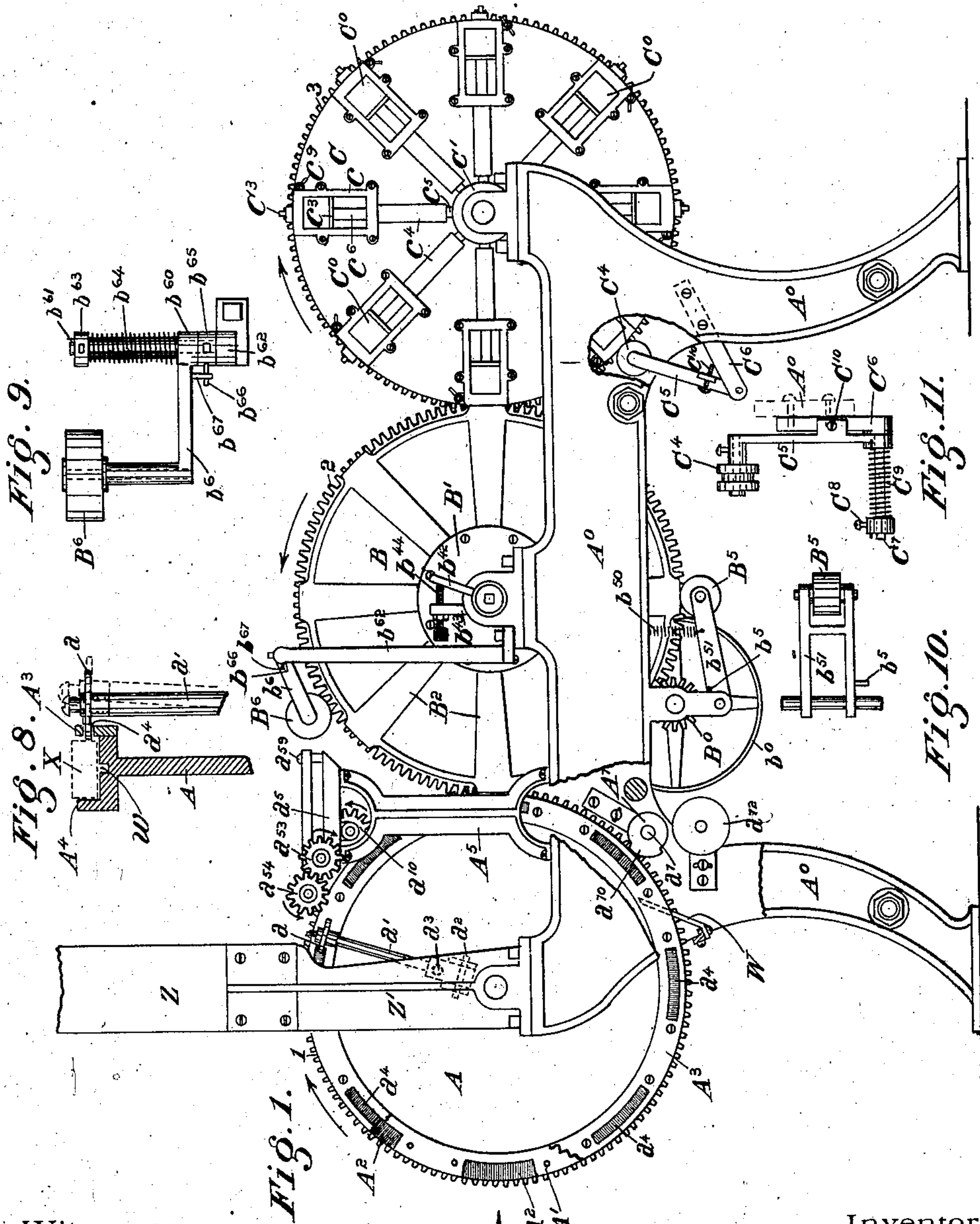
(No Model.)

4 Sheets—Sheet 1.

A. B. COWLES & F. S. REYNOLDS.
LABEL AFFIXING MACHINE.

No. 604,855.

Patented May 31, 1898.



Witnesses:

A. R. Selden
S. P. Moore

Inventors:
Arthur B. Cowles
Frank S. Reynolds
by Howard L. Coyne
Attorney.

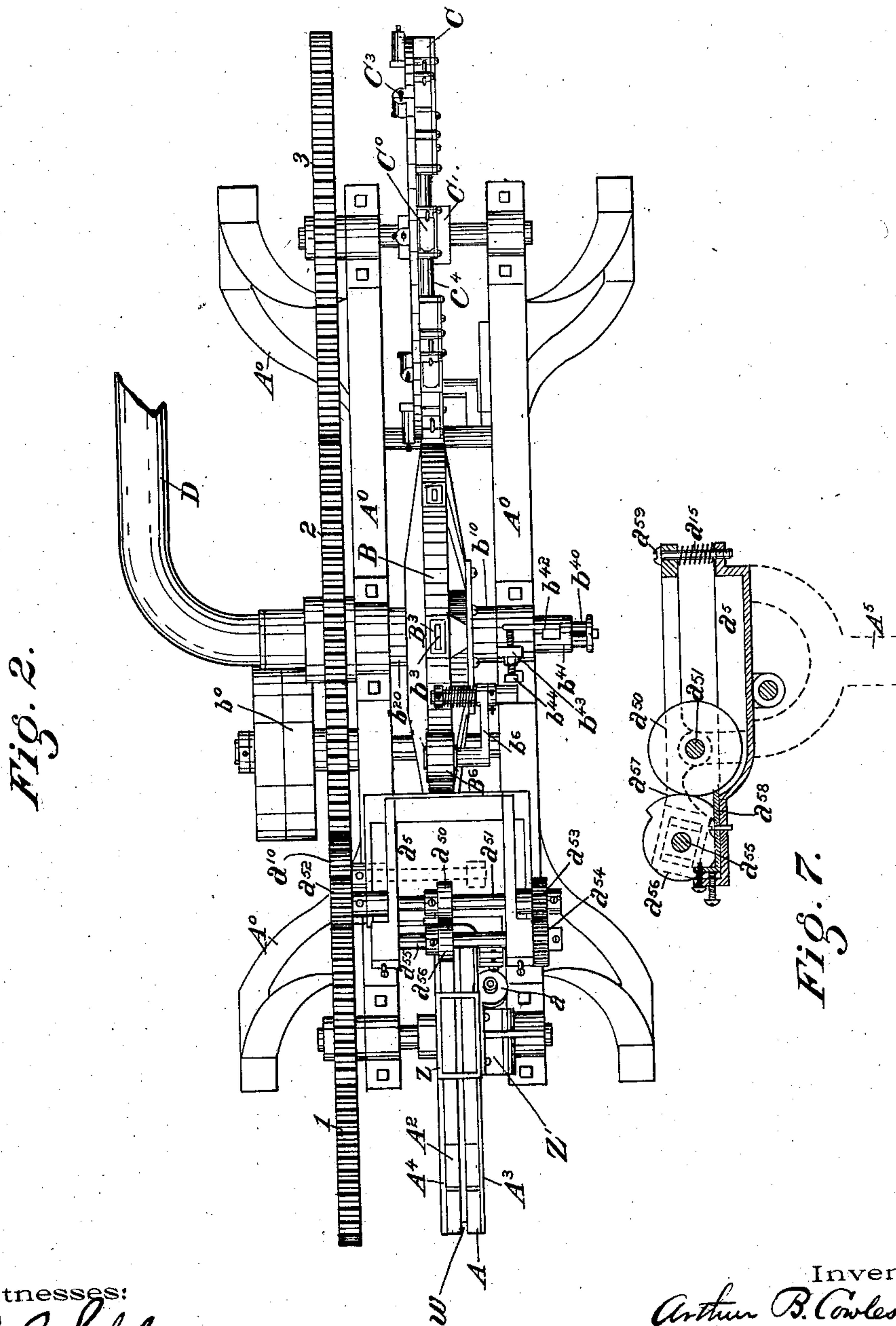
(No Model.)

4 Sheets—Sheet 2.

A. B. COWLES & F. S. REYNOLDS.
LABEL AFFIXING MACHINE.

No. 604,855.

Patented May 31, 1898.



Witnesses:

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Attorney

(No Model.)

4 Sheets—Sheet 3.

A. B. COWLES & F. S. REYNOLDS.
LABEL AFFIXING MACHINE.

No. 604,855.

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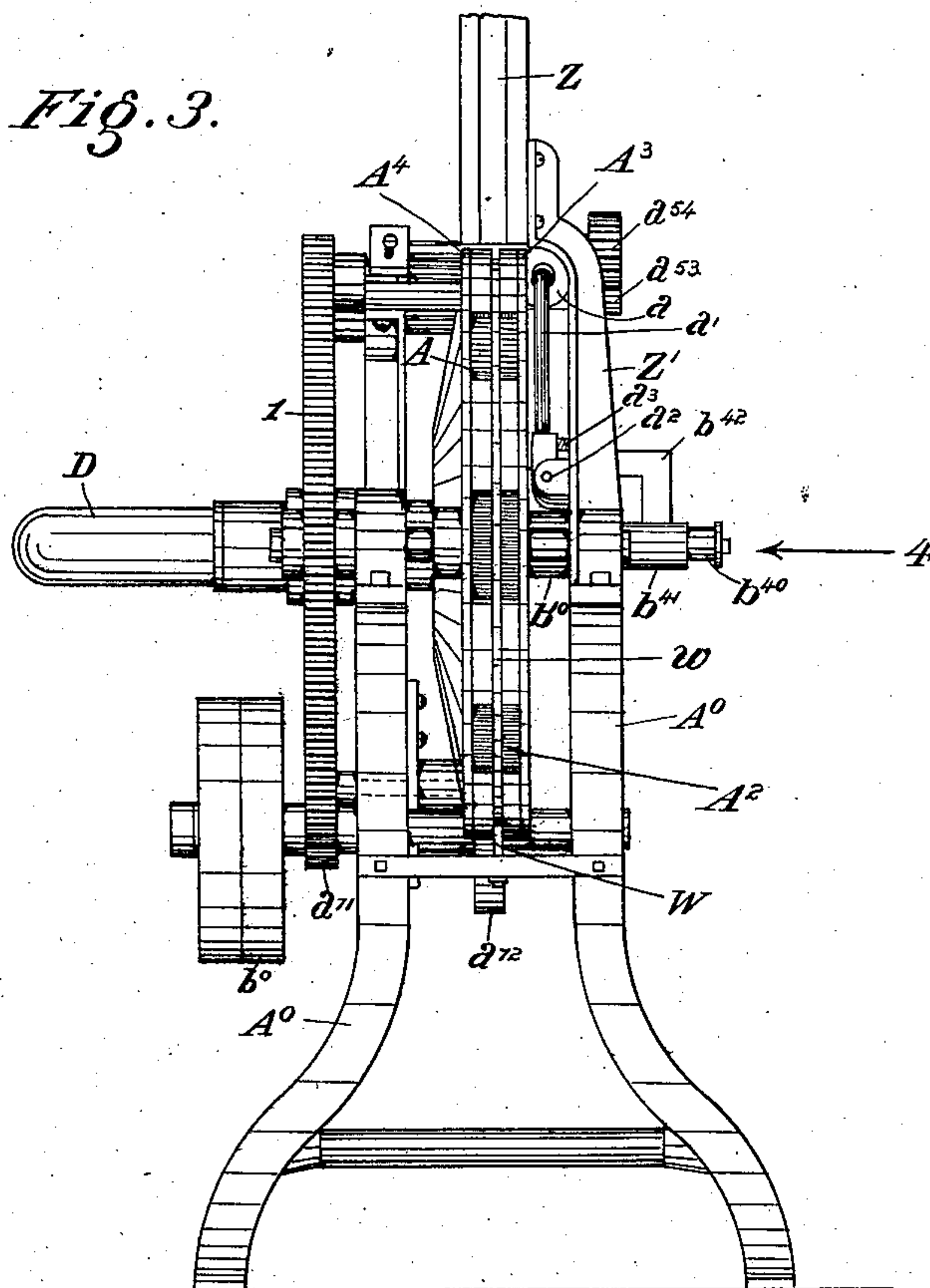


Fig. 12.

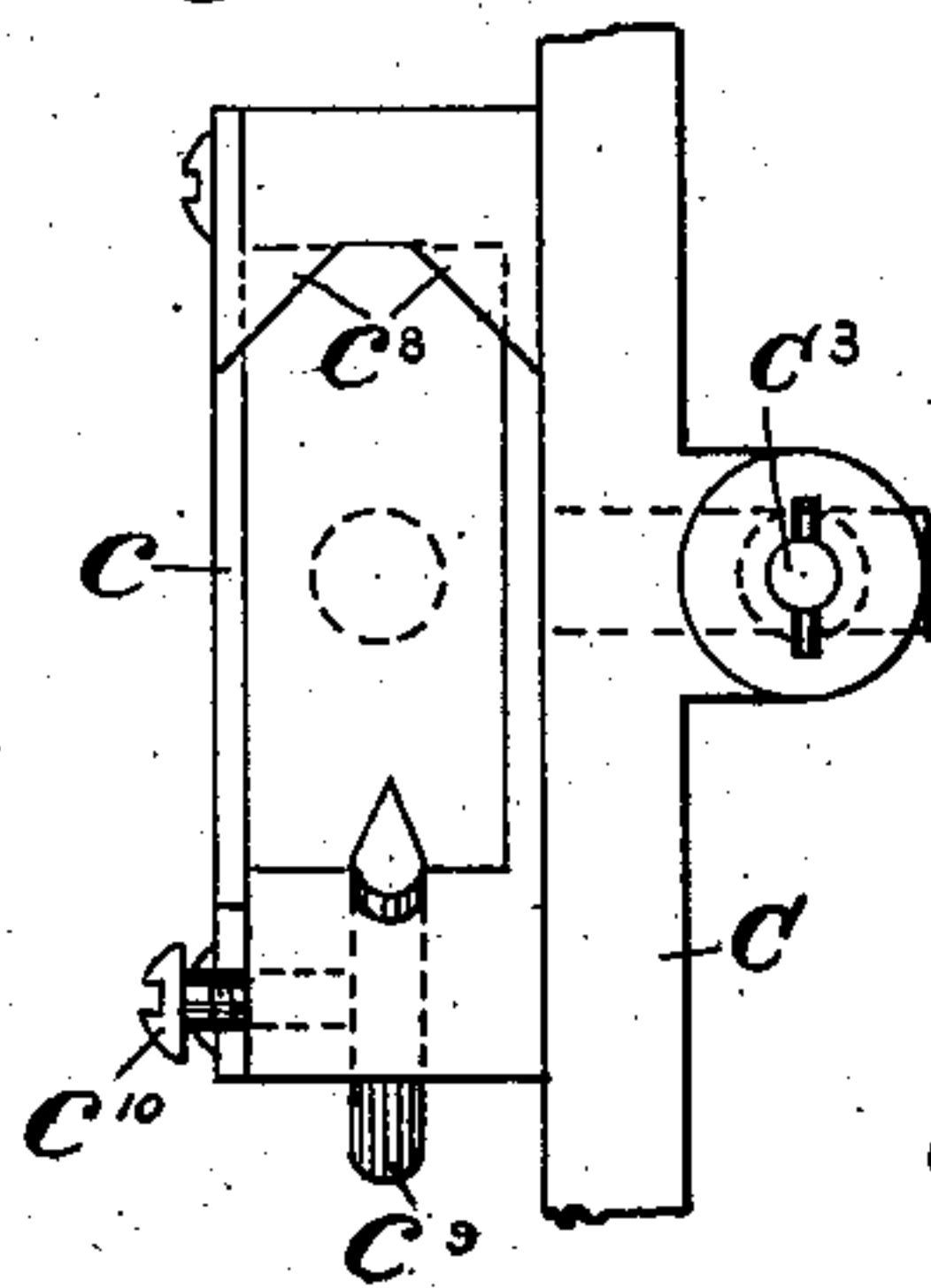


Fig. 14.

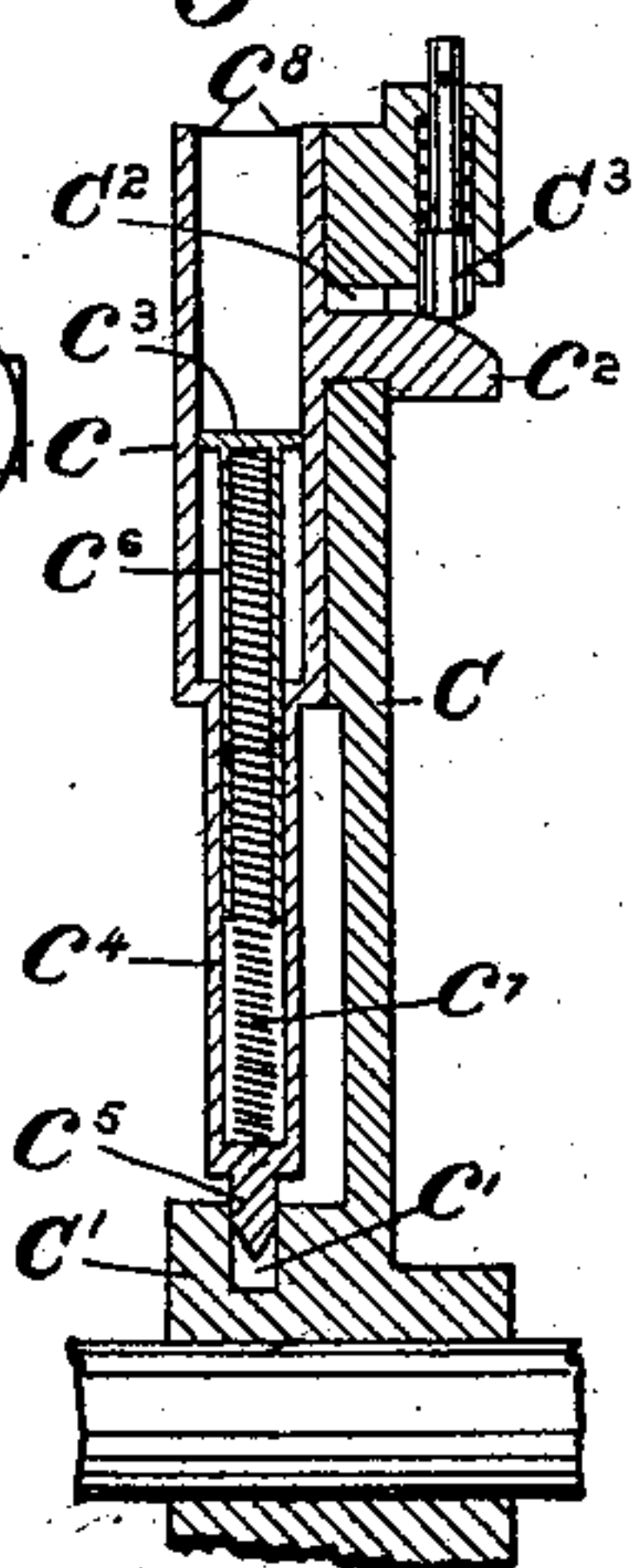
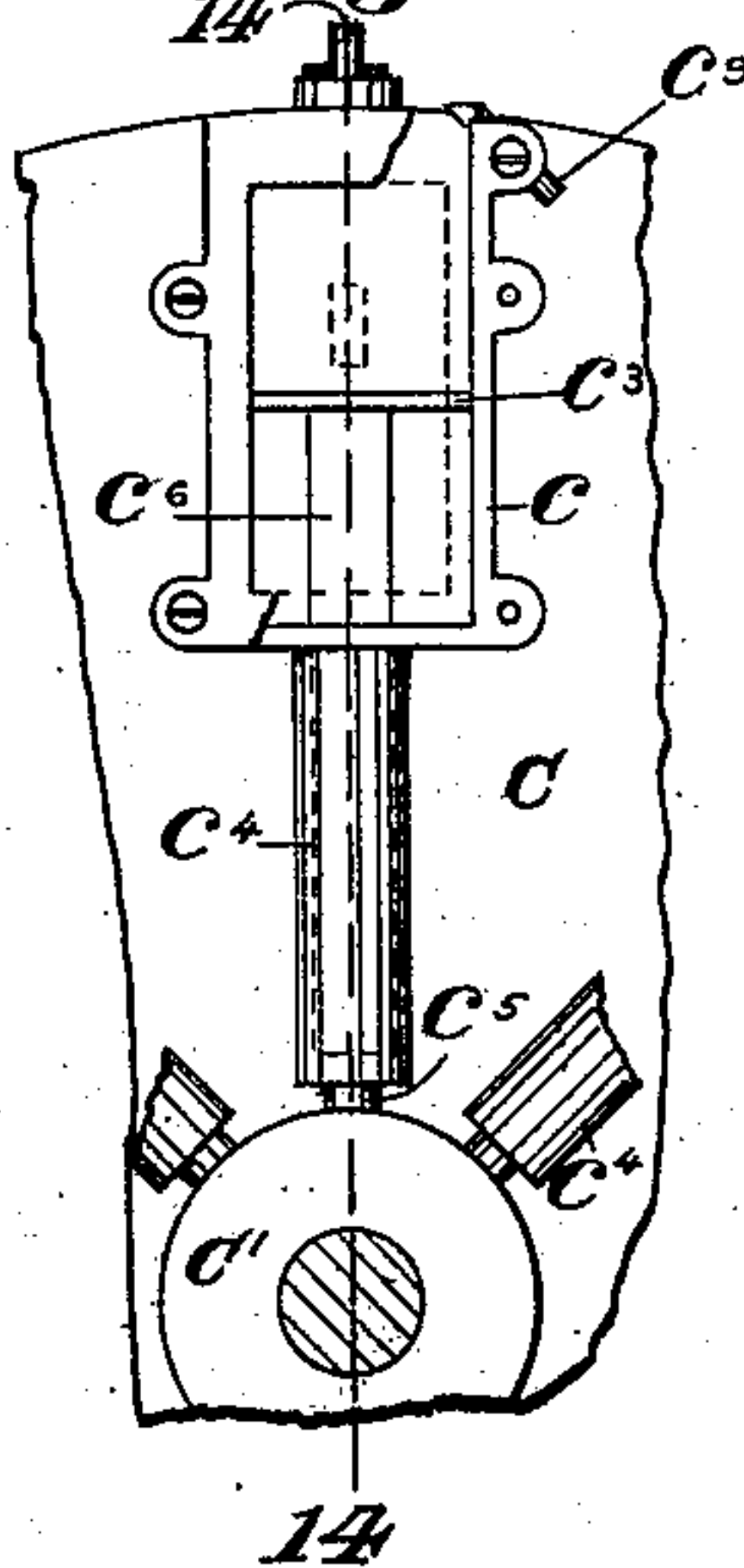


Fig. 13.



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S. P. Moore

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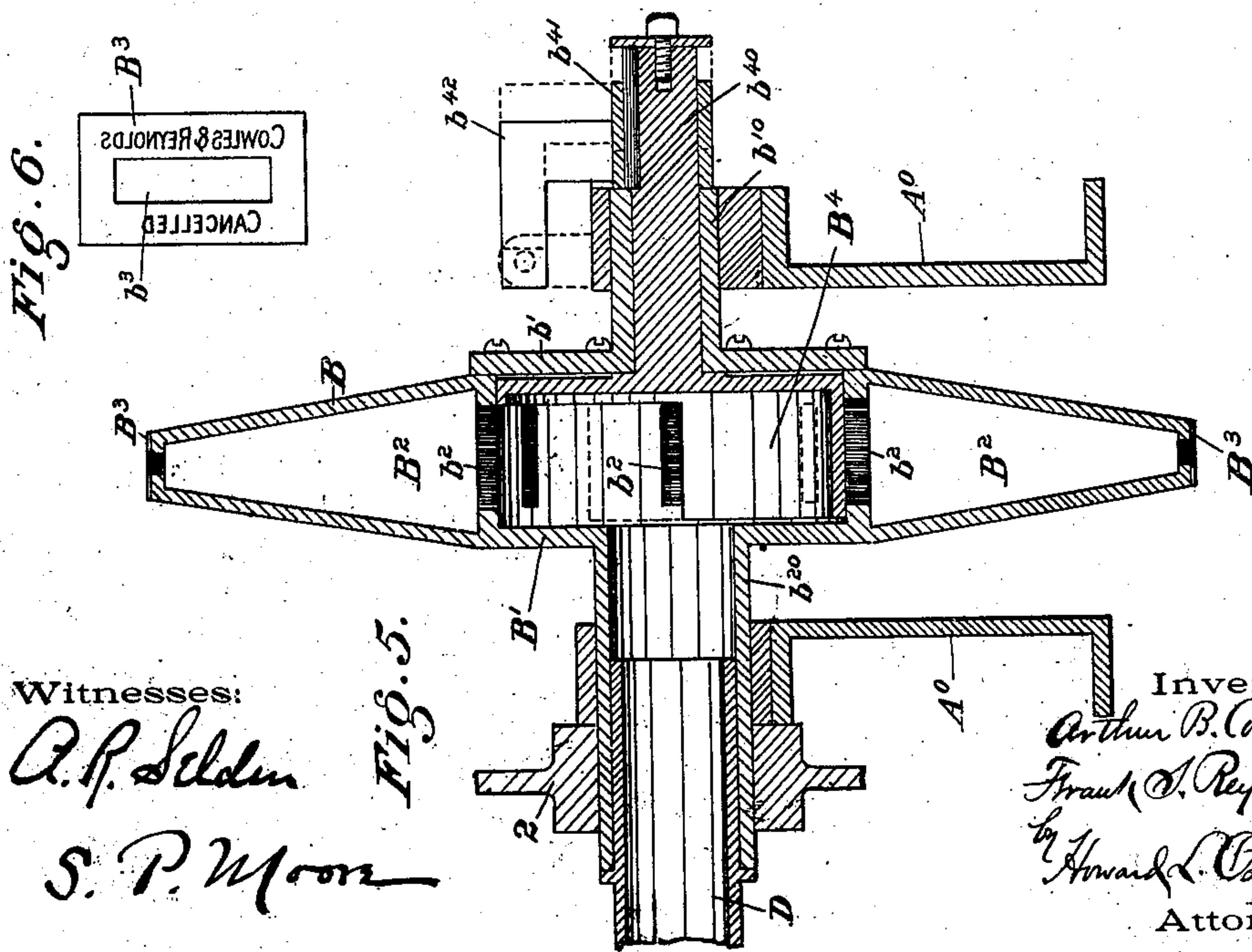
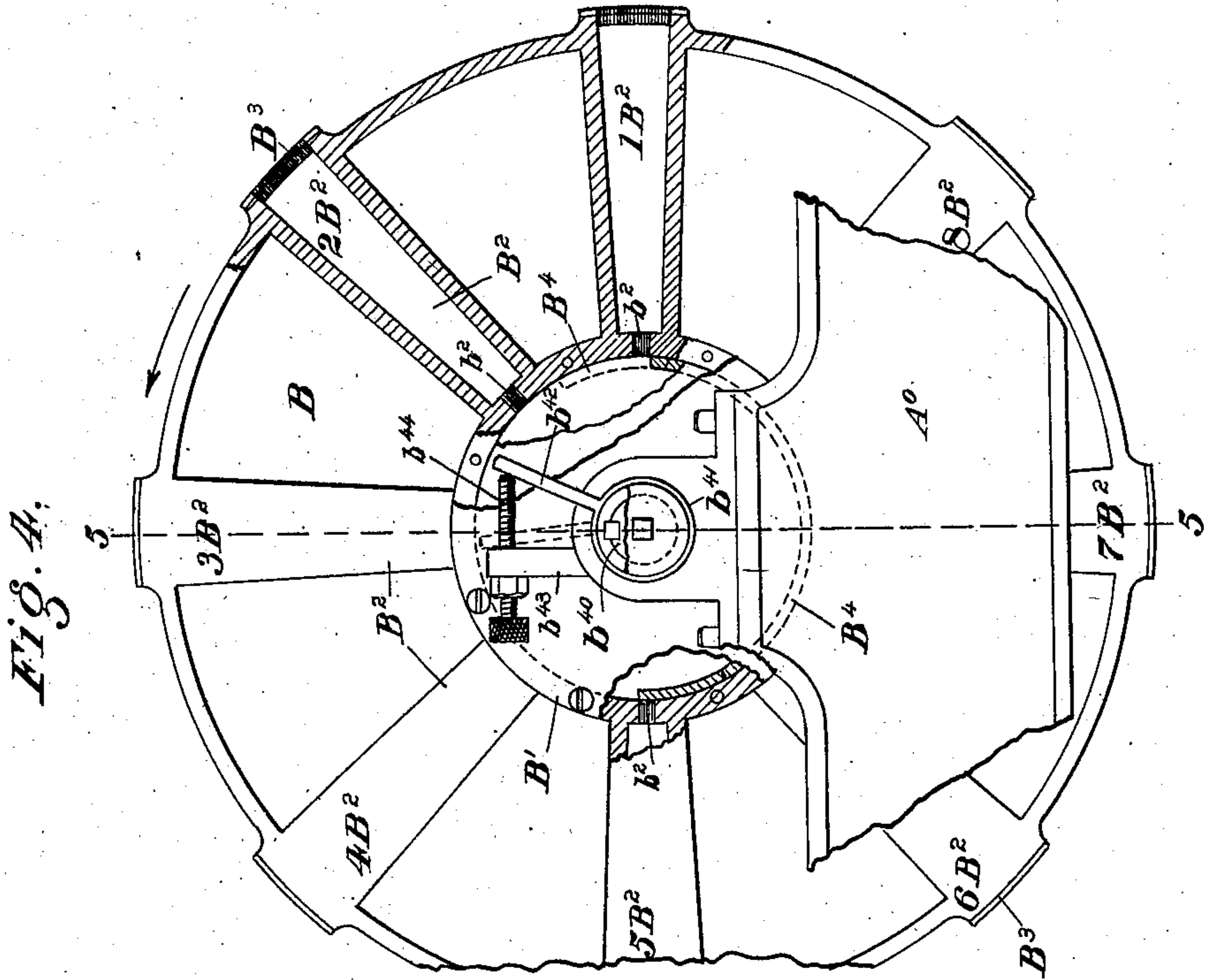
(No Model.)

4 Sheets—Sheet 4.

A. B. COWLES & F. S. REYNOLDS.
LABEL AFFIXING MACHINE.

No. 604,855.

Patented May 31, 1898.



Witnesses:

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Fig. 5.

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UNITED STATES PATENT OFFICE.

ARTHUR B. COWLES AND FRANK S. REYNOLDS, OF ROCHESTER, NEW YORK.

LABEL-AFFIXING MACHINE.

SPECIFICATION forming part of Letters Patent No. 604,855, dated May 31, 1898.

Application filed August 7, 1896. Renewed September 29, 1897. Serial No. 653,519. (No model.)

To all whom it may concern:

Be it known that we, ARTHUR B. COWLES and FRANK S. REYNOLDS, citizens of the United States, and residents of the city of Rochester, county of Monroe, and State of New York, have invented a certain new and useful Label-Affixing Machine, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of our machine, parts being removed to exhibit construction. Fig. 2 is a plan view thereof. Fig. 3 is an end elevation thereof, looking in the direction of the arrow marked 3 in Fig. 1. Fig. 4 is an enlarged view of the label-carrier, looking in the direction of the arrow marked 4 in Fig. 3, parts of said label-carrier being shown in section to exhibit construction. Fig. 5 is a cross-section on the line 5 5 of Fig. 4. Fig. 6 is a plan view of one of the printing-beds upon said label-carrier. Fig. 7 is a vertical longitudinal section through the paste-applying mechanism. Figs. 8, 9, 10, and 11 are detail views. Fig. 12 is a top plan of one of the label-holders and a part of its support. Fig. 13 is a side elevation of one of said label-holders and part of its support on a smaller scale. Fig. 14 is a vertical transverse section on the line 14 14 of Fig. 13.

Our invention is illustrated in the accompanying drawings in a machine for gumming revenue-stamps and for affixing them to boxes of cigarettes; but it is obvious that the scope of the invention is not limited to the particular mechanism shown, nor to any particular form of label, nor to any particular form or character of package; and our invention consists in the mechanism hereinafter described and claimed.

Label-affixing machines may be divided into two pairs or classes—first, those supplying labels from a continuous web and those for which the labels are separated from each other prior to their insertion into the magazine of the machine, and, second, those machines operating by step-by-step movements and those which operate continuously. The step-by-step machines perhaps without exception perform the operations of removal from the web or from the magazine during an interval of rest of the label-carrier or packet-carrier and perform other functions during

the same or a like interval. On the other hand, a continuously-operating machine removes the packet or the label, or both, from the respective magazines without any interval of rest and is thus enabled to save wear and tear of the machine and also the time of the sum of the periods of rest mentioned in connection with the step-by-step machines. Our invention uses cut labels and thus avoids many of the difficulties and complications incident to combining the feeding and cutting operations with the other operations of the machine, particularly because with labels as small as revenue-stamps continuously accurate registry of the printed lines with the cutter is an absolute necessity and a great difficulty. Our machine operates continuously, and so far as we have been able to discover after careful and exhaustive searches it is the first machine in this art of the truly continuous type.

This mechanism consists, essentially, in a movable packet-carrier adapted to carry a packet preferably from a magazine, a movable label-magazine adapted to present a label at a proper position for delivery therefrom, and a removable label-carrier adapted to take the label from the label-magazine and deliver the label to the packet on the packet-carrier, in combination with means for holding the label on the label-carrier and for releasing it therefrom, and means for causing the label to adhere to the packet on the packet-carrier. Each of the carriers and the label-magazine may be single or multiple. The label is delivered from the label-magazine to the label-carrier while they are moving at substantially the same speed, and the label is placed upon the packet while the label and the packet move on their respective carriers at substantially the same speed.

In the drawings, A⁰ is the frame of the machine, which may be of any suitable form to sustain the working parts and to provide suitable bearings therefor. Upon the frame in transverse bearings are journaled three rotary supports, which in the form shown are disks or wheels A, B, and C, arranged in the order of these letters. These wheels are geared together by spur-wheels 1, 2, and 3, of equal diameter and pitch, fixed on the shafts of the wheels A, B, and C, so that the latter

move with equal peripheral speeds in the directions of the arrows in Fig. 1. A driving-pinion B^0 , provided with a pulley b^0 for a driving-belt, meshes with one of the wheels 1, 2, or 3 and drives the series. In the drawings this driving-pinion is shown as meshing with the wheel 2.

The movable packet-carrier is provided with one or more packet-holders, according to the desired speed of the operations, which take packets from a magazine and bring them successively to the point of presentation of a label for each packet.

The wheel A at one end of the machine is the packet-carrier and has in its periphery A' a series of packet-holders or pockets A^2 , each of which is of suitable size and form to receive a packet (in this case a box X of cigarettes) from a packet-hopper Z, arranged above the wheel A upon a standard Z' . The sides of the periphery or rim A' of the wheel A are provided with flanges A^3 and A^4 , which assist in retaining the cigarette-boxes X in position in the pockets A^2 . As each packet-holder A^2 comes under the hopper Z a box drops freely out from that hopper into the holder, and the remaining boxes in the hopper are sustained therein by the periphery or rim A' until another holder comes under the hopper, whereupon the next box in the hopper drops thereinto.

The packet-holders A^2 are made larger than the outer contour of the packets which they are to contain in order that the packets may drop freely into them; and in order that each packet shall have a definite position in the packet-holder for accurate placing of the stamp or label upon it a wheel a , whose plane of revolution is at right angles to the plane of revolution of the wheel A, is set upon an arm a' , transversely journaled at a^2 to the standard Z' , and is constantly pressed toward the wheel A by means of a spring a^3 . The flange A^3 has a series of slots a^4 cut through it, one opposite each pocket A^2 , of sufficient width for the rim of the wheel a to pass through the slot and partly into the pocket A^2 , whereby the packet is pressed by said wheel a against the flange A^4 . (See Fig. 8.) The slots a^4 are of sufficient length to permit the wheel a to roll along the side of the packet through the whole or a sufficient part of the length of the pocket A^2 . The pressure of the wheel a forces the packet against the flange A^4 , and thus gives the packet a definite position in the pocket. The solid portions of the flange A^3 between the slots a^4 are a series of cams, both in effect and in fact, to move the wheel a out of the slots.

The support for the label-magazine is movable in order to present the label to a movable label-carrier, while the label-magazine and the label-holder on the carrier are relatively stationary. The wheel C, at the other end of the machine, carries a series of label-magazines C^0 equal in number to the number of packet-holders A^2 upon the wheel A,

and is therefore a multiple label-magazine. Each of the label-magazines C^0 is removable from the wheel C for the purpose of repair or refilling. Extra label-magazines may be kept on hand for insertion into the machine to supply the places of those magazines needing repair or those needing refilling.

The wheel C is a circular disk having a hub C' , in which are a series of radial sockets c' , one for each label-magazine C^0 . Each magazine consists of a rectangular box c , having a notched lug c^2 extending from one side thereof. One side of the box is preferably open in order that the labels therein may be watched by the attendant and be accessible to him. The lug c^2 is adapted to pass through a perforation C^2 in the disk C, and the notch of the lug c^2 fits over the edge of the perforation. (See Fig. 14.) On the outer portion of the disk C are a series of sockets in radial line with the lugs c^2 , wherein are set a series of catches or spring-actuated plungers C^3 , adapted to press the lugs c^2 inwardly toward the axis of the wheel C, and thereby to hold the lugs in position in the perforation C^2 . The rectangular box c contains a spring-pressed piston c^3 , adapted to move longitudinally in said box and radially with reference to said wheel in order to press the pile of labels upon the piston outwardly to the delivery end of the magazine. The box c is provided with a hollow supporting-rod c^4 , which ends in a pin c^5 , which latter fits and rests in one of the sockets c' in the hub. The hollow supporting-rod c^4 contains and guides a rod c^6 , which carries the piston c^3 , and a spring c^7 within the supporting-rod c^4 normally presses the rod c^6 and piston c^3 toward the outer end of the box c . In order to release a magazine from the wheel C, the operator lifts the box c or rod c^4 , so as to press the catch or spring-pin C^3 outwardly, and thereby releases the notch of the lug c^2 from the edge of the perforation C^2 . The lug may then be pulled through the perforation C^2 , and then the pin c^5 may be lifted from the socket c' , and the magazine is released from the wheel. In order to insert the same or another magazine, the pin c^5 is set in the socket c' , and the lug c^2 is pushed through the perforation C^2 until it is fully seated therein, when the spring-plug C^3 , assisted, if necessary, by manual pressure, seats the notch of the lug c^2 firmly over the edge of the perforation C^2 , and the operation is complete.

Each label-magazine has an interior cross-section equal to the area of a label, and thus the outermost label lies flat at the open outer end of the magazine. In order that the outermost label shall be held in this position and yet be capable of easy removal from the magazine, thin lips c^8 , Fig. 12, cross the corners of one end of the open delivery end of the magazine. At the other end of the open delivery end of the magazine a knife c^9 is set in a diagonal perforation, so that the edge of the knife extends diagonally over one edge

of the topmost label. The knife is adjustably held in place by a suitable clamping device, such as the set-screw c^{10} . The topmost label is held in the magazine by the lips c^8 and by the edge of the knife. When the topmost label is removed from the magazine, it bends slightly to pass the lips c^8 , and the point of the knife passes over an edge thereof; but still the knife creates a friction and a pressure upon the next label, which keeps it within the magazine even if it should cohere slightly to said topmost label.

In order that the labels shall be loose and not stick in the magazines, a wheel C^4 (see Figs. 1 and 11) is journaled to revolve freely upon an arm C^5 , which is pivoted to a bracket C^6 , fastened to the frame A^0 . The arm C^5 is pivoted upon a long pin C^7 , fixed to the bracket C^6 . This pin bears a collar C^8 , securely but adjustably fastened thereon, and to the collar is attached one end of a coiled spring C^9 , the other end of which is attached to the arm C^5 and tends to press the arm C^5 and wheel C^4 toward the periphery of the wheel C and in such position as to press into the open ends of the label-magazines as they successively pass said wheel. An adjustable stop C^{10} upon the arm C^5 and abutting against the bracket C^6 serves to adjust the position of the periphery of the wheel C^4 with reference to the ends of the label-magazines. The wheel C^4 is grooved, as shown in Fig. 11, in order to permit the wheel to roll over the projecting ends of the knives c^9 without touching them. As any label-magazine C^0 passes the wheel C^4 the pile of labels in that magazine is pressed inward and is moved, thus keeping them free for easy and quick delivery.

In the machine shown in the drawings the number of packet-holders on the wheel or packet-carrier A equals the number of magazines C^0 on the wheel C , and between these two wheels is a label-carrier having a number of label-holders equal to the number of packet-holders on the wheel A ; but it is obvious that by using unequal gears instead of the equal spur-wheels 1, 2, and 3 the packet holders or magazines or label-holders may be unequal in number, or even if equal in number there may be one or more of each upon the respective wheels without departing from this invention. The machine shown and described herein has eight packet-holders, the same number of label-holders, and the same number of label-magazines.

The middle wheel B is a label-carrier for transferring a label from a magazine to a packet upon the packet-carrier. This wheel B is composed of a hollow central portion B' , Fig. 1, and a series of tubes B^2 , extending radially from the central chamber B' . Each tube B^2 has a port b^2 connecting it with the interior of the hollow portion B' , and on the outer end of each tube B^2 , when the machine is adapted to print upon the label or revenue-stamp, is preferably arranged a soft-rubber printing-plate B^3 . Where no printing is re-

quired upon the label or stamp, the rubber plate B^3 may still be used in order to create a yielding pressure on the label as it is applied to the packet and in order to force the label by reason of the yielding quality of the rubber into close contact with the packet notwithstanding irregularities of the surface of the latter. The plate B^3 is provided with a slot b^3 , registering with a corresponding slot or opening in the outer end of the tube B^2 . The central hollow portion B' of the wheel B contains a stationary valve B^4 , controlling the series of ports b^2 . This valve is shown in dotted lines in Fig. 4 as extending part way around the inner periphery of said portion B' , so as to leave the connection of said central portion with the tubes in the positions 2 B^2 , 3 B^2 , and 4 B^2 constantly connected with said central portion, and so as to leave the tubes in the positions 6 B^2 , 7 B^2 , and 8 B^2 constantly disconnected from said central portion, and so as by shifting the valve B^4 to make connection or disconnection of the tubes in the positions 1 B^2 and 5 B^2 and the central portion B' . As shown in Figs. 4 and 5, the valve extends through a little over one-half of a circle.

The hollow central portion B' of the wheel B has one side closed by a plate b' , which is screwed to the wheel to close that side. The plate b' is extended in a tubular arbor b^{10} , which turns in a suitable bearing on the frame A^0 . The hollow portion of the tubular arbor b^{10} is filled by a stem b^{40} , which is rigidly connected to the valve B^4 and projects outwardly from the end of the arbor. Upon the stem b^{40} is keyed a sleeve b^{41} , upon which is an L-shaped lever b^{42} . Upon the frame A^0 is a standard b^{43} , which carries a set-screw b^{44} , adapted to press against the free end of the lever b^{42} . When the lever b^{42} is rocked, it also rocks the valve B^4 , and the adjustment of the set-screw b^{44} determines the exact position of the valve with reference to the connection and disconnection of the hollow tubes B^2 with the hollow portion B' of the wheel B . When the wheel B revolves in the direction of the arrows in Figs. 1 and 4, the friction of the arbor b^{10} upon the stem b^{40} turns the collar b^{41} and the lever b^{42} until the lever strikes the set-screw b^{44} , and said revolutions then keep the lever, and consequently the valve B^4 , in a constant position. The sleeve b^{41} is capable of sufficient longitudinal movement upon the stem b^{40} (see dotted lines, Fig. 5) to disengage the end of the lever b^{42} from the end of the set-screw b^{44} , and when this disengagement is effected the lever b^{42} may swing toward the standard b^{43} into the position shown in dotted lines in Fig. 4, and thus shut off the connection of a port b^2 when in the position 1 B^2 from the hollow portion B' . This mechanism is provided in order to stop the removal of labels from the label-magazines whenever this becomes necessary.

In line with the hollow arbor b^{10} and on the other side of the axis of the wheel B is a simi-

lar hollow arbor b^{20} . This hollow arbor rests in suitable bearings on the frame A^0 and carries the spur-wheel 2. To this hollow arbor b^{20} is attached a pipe D, connected with an exhaust apparatus of any suitable form, such as an exhaust-pump or a blower connected for exhaust. Diminution of pressure in the pipe D is communicated to the hollow portion B' of the wheel B and to those of the hollow tubes B^2 which by the adjustment of the valve B^4 have open connection with said hollow portion B' .

When the valve B^4 is set, as shown in full lines in Fig. 4, a strong suction occurs through each pipe B^2 in the positions from 1 B^2 to 5 B^2 ; but at 5 B^2 the position of the valve B^4 , adjusted by the set-screw b^{44} , cuts off said exhaust when it reaches the exact position desired, and the exhaust remains disconnected until the pipe again reaches the position 1 B^2 . When a pipe B^2 is in the position 1 B^2 , Fig. 4, a magazine C^0 registers with the end of said pipe and the adjustment of the valve makes a connection of the exhaust, so that as the end of the pipe and the magazine register a quick suction occurs at the end of the pipe and the adjacent topmost label is sucked off from the end of the pile of labels in the magazine, and inasmuch as the connection of the pipe is continuous from the position 1 B^2 to the position 5 B^2 the exhaust is continuous and the label is held upon the end of the pipe with precision and firmness. When the pipe bearing the label reaches the position 5 B^2 , the label is exactly opposite one of the pockets or packet-holders A^2 on the wheel A, and if an adhesive substance has been interposed between the label and the packet they will be in condition to adhere to each other, and on disconnection of the exhaust, as above described, the label is quickly freed from the label-carrier and sticks to the packet.

When the plate B^3 is a printing-plate, it must be inked before a label is sucked against it, and therefore an inking-roller B^5 , Figs. 1 and 10, is journaled below the wheel B in a suitable frame b^{51} , connected to the main frame A^0 and having a stop b^5 , adapted to strike a stationary abutment in order to adjust the position of the roller and to limit its motion toward the periphery of the wheel B. The frame of this roller is also provided with a spring b^{50} , attached to the frame b^{51} and to the main frame A^0 , for pressing the roller B^5 against the raised beds or plates B^3 as they successively pass the same. The inking-roller B^5 may be of an absorbent substance, such as felt, saturated with a sufficient quantity of ink to supply the machine through many operations; but it is obvious that the roller may be of any material suitable for supplying the ink and may be provided with ink-feeding devices such as are well known in connection with printing mechanisms in order to have a constant feed of ink to the roll. Of course when the label is thus applied to the packet a certain amount of pressure oc-

curs upon the face of the label and a printing impression will then be made; but as the packets often have irregular surfaces it is preferable, in order to obtain a good imprint, to press the label against the face of the printing-bed B^3 by still other and independent means, and for this purpose a freely-revoluble roller B^6 is journaled upon a frame b^6 , attached to a sleeve b^{60} , which rotates upon a pin b^{61} , parallel to the roller-axle and to the axis of the wheel B, which pin is supported by a standard b^{62} , attached to the frame A^0 . To a collar b^{63} upon the end of the pin b^{61} is attached one end of a coiled spring b^{64} , the other end of which is attached to the frame b^6 or to the sleeve b^{60} and constantly tends to press the arm b^6 and the wheel B^6 toward the periphery of the wheel B. A collar b^{65} is set upon the pin b^{61} between the end of the sleeve b^{60} and the standard b^{62} . This collar bears a pin b^{66} , the position of which is variable by clamping the collar in different positions around the stationary pin b^{61} . Another pin b^{67} upon the arm b^6 is arranged to strike against the pin b^{66} , and thereby to limit the motion of the arm b^6 , and hence the position of the wheel B^6 with reference to the periphery of the wheel B. The wheel B^6 is thus permitted to move toward the wheel B only so far as to press upon and roll over the successive labels upon the printing-beds B^3 as they successively pass under said wheel, and the tension of the spring b^{64} is adjustable by rotating the collar B^{63} upon the pin b^{61} until a proper tension is reached and the pressure of the wheel B^6 is sufficient to give a proper printing pressure of the label against the bed B^3 .

It is obvious that any well-known gumming device may be applied in the position of the wheel B^6 in order to gum the labels, or that a moistening-wheel may be placed in the like position to moisten labels which are already gummed before introduction into the magazine; but in case the exhaust is variable a label will occasionally be removed by such an apparatus from the end of a pipe B^2 if the labels are gummed or moistened directly, and it is therefore found preferable to apply the gum to the packets. In the claims, forming part of this specification, either arrangement of gumming or moistening device is to be understood as described unless the claims set forth a specific arrangement. Adjacent to the periphery of the wheel A and over the path of movement of a packet-holder as it proceeds from under the magazine Z to the position where it meets a label on the label-carrier is set a gumming or moistening device. Upon a standard A^5 , attached to the frame A^0 , is a tank a^5 to contain the gum or paste. In this tank runs a feed-roller a^{50} , which dips into the gum or paste. The roller a^{50} runs upon a shaft a^{51} , bearing a pinion on each end, one of which, a^{52} , meshes with a gear a^{10} , meshing with the gear l of the wheel A. The gear a^{53} on the other end of said shaft

meshes with a gear a^{54} on a parallel shaft a^{55} , and the gears l , a^{52} , a^{53} , and a^{54} are so proportioned that the shaft a^{55} , which carries the gear a^{54} , shall revolve once for the passage of each packet-holder A^2 . Upon this shaft a^{55} is a roller a^{56} , having a raised bed a^{57} with a surface equal to or a little less than the superficial area of one of the labels to be affixed to a packet and also adapted to come in contact with the surface of the feed-roller a^{50} , so that the raised bed a^{57} is thoroughly supplied with gum.

In the operation of the machine as each packet in its holder passes under the position of the roller a^{56} gum is applied to the surface of the packet in a position which will register with the position of the label upon the label-carrier when the two come together. An adjustable scraper a^{58} serves to clear the surface of the feed-roller a^{50} of superfluous gum. The tank a^5 is hung at one end on bearings having the same axis as the shaft a^{55} , and the standards A^5 are provided with depending bolts a^{59} , passing through perforations in the rim of the tank a^5 , whereby the nuts upon the bolts may adjust the vertical position of the tank with reference to the feed-wheel a^{50} and the depth to which said feed-wheel may be kept in the paste or gum in the tank. A spring a^{15} , Fig. 7, is arranged to keep the tank and nut in contact and make the position of the tank definite.

Unless the covers or packets are hard, as when of wood or glass, they generally vary as to compressibility, and the packets themselves are, as before stated, often irregular on the surface. Sometimes, therefore, it happens that the label or stamp is not brought into contact with the packet at all points, and it has been found advantageous to provide an independent device for pressing the label a second time against the packet after the two have adhered together, as above described. After a packet has met its label it passes downward by the revolution of the wheel A , still retained in the packet-holder A^2 , by means of a suitable guide concentric with the rim of the wheel A and close to its periphery, and at a suitable point below the position where the label and packet come together is placed a pressing-wheel A^7 , set on a transverse shaft a^7 . The guide just mentioned may consist of a slotted metallic strap or a pair of parallel wires fastened to the frame of the machine and extending downward from just below the point where a packet and label come together to a point a little lower than the wheel A^7 . The arrangement of this guide is so obvious that it is not shown in the drawings. The shaft a^7 and the pressing-wheel A^7 are driven by a pinion a^{71} , (shown in Fig. 3,) which pinion meshes with the wheel l . The pinion a^{71} is so proportioned with reference to the wheel l as to revolve the wheel A^7 once for each packet-holder on the packet-carrier A . The pressing-wheel A^7 has a projecting cam-like portion a^{70} , which is adjusted upon the shaft

so as to press upon the surface of each label as it passes and to crowd the label thoroughly against the packet. It is often desirable, as in the case of cancellation of revenue-stamps, to print a date upon the label, in which case the cam-like portion a^{70} may be provided with removable and changeable type for this purpose, and the type may be fed by an inking-roller a^{72} in proper relative position thereto.

The operations of details of this machine have been already described.

The general operation of the machine is as follows: The paste-tank is properly filled and the inking-roller is supplied with ink. The exhaust apparatus is set in motion, producing a pressure less than the ordinary atmospheric pressure within the hollow portion B^1 of the wheel B and therefore producing a suction through the tubes B^2 . A set of magazines C^0 , containing proper numbers of labels, are placed in the wheel C . The magazine Z is provided with a number of packets, and the driving-pinion B^0 is set in motion. The three wheels A , B , and C revolve together. A packet drops into one of the packet-holders A^2 , is carried under the gumming-wheel a^{56} , and gum is applied to that portion of the packet upon which a label is to be affixed. A series of labels have already been withdrawn from successive magazines by suction through the pipes B^2 when in the position $1 B^2$, and a label has been carried upon an inked printing-bed B^3 around to meet the packet above mentioned. In the course of the passage of a label from the point of its delivery to one of the suction devices around to the point of its presentation to a packet the printing-bed B^3 has impressed its lettering upon the face of the label. When a packet-holder A^2 and the end of a tube B^2 , bearing a label, come opposite each other, the label is placed upon the gummed surface of the packet, the suction which holds the label on the printing-bed is relieved, and the label sticks to the packet. From the foregoing description it is seen that the exact registry of the gummed portion of the packet with the position of a label upon the label-carrier has been fully provided for. After the label has adhered to the packet the revolution of the wheel A carries the packet with the label upon it until it passes the presser-wheel a^{70} and the label is again pressed upon the packet and, if desired, additional matter is printed upon the face of the label. After passing this last-mentioned position the packet drops from the packet-holder, having been relieved from the guide hereinbefore mentioned.

A stripper W is used to secure the removal of the packets from the packet-carrier, and its point extends into a groove w in the wheel A below the bottoms of the series of packet-holders. Of course in suitable cases the printing devices may be used to indent or impress the labels, and then the ink-supplying devices may be omitted.

In the form of this invention shown in the

drawings the magazines, the label-holders, and the packet-holders move in three circles, two of which are tangent to the third, and each of these three elements moves continuously. The label is stripped from a top-delivery magazine either by first lifting the leading edge of the label in extracting it from the magazine or by lifting the label from the center, either of which methods may be applied to the extracting mechanism by suitable adjusting of the label-carrier and the magazine-support with reference to each other and the valve controlling the exhaust.

In the following claims reference letters and numerals are not used for the purpose of limitation, but merely as means of designating the character of the elements in the machine shown as illustrating the invention.

What we claim is—

1. The combination of a packet-holder, a movable label-carrier, a movable magazine adapted to present successive labels to said label-carrier, means cooperating with said label-carrier for removing a label from said magazine and for carrying it on the label-carrier to the packet-holder, and mechanism for moving the magazine and the label-carrier with substantially the same speed in the same direction when the label is presented to the label-carrier, whereby the label-magazine and the label-holder are both movable but relatively stationary during the delivery of the label from the former to the latter.

2. The combination of a packet-holder, a movable label-carrier, a movable magazine adapted to present successive labels to said label-carrier, means cooperating with said label-carrier for removing a label from said magazine and for carrying it on the label-carrier to the packet-holder, a device for interposing adhesive or moisture between the packet and the label, and mechanism for moving the magazine and the label-carrier with substantially the same speed in the same direction when the label is presented to the label-carrier, whereby the label-magazine and the label-holder are both movable but relatively stationary during the delivery of the label from one to the other.

3. The combination of a movable packet-holder, a movable label-carrier, a movable magazine adapted to present successive labels to said label-carrier, means cooperating with said label-carrier for removing a label from said magazine and for carrying it on the label-carrier to the packet-holder and then releasing it, a device for gumming or moistening the packet while on the packet-carrier and before it meets its label, mechanism for moving the magazine and the label-carrier with substantially the same speed in the same direction when the label is presented to the label-carrier, and mechanism for moving said packet-holder with substantially the same speed as the label-carrier when the label meets its packet, whereby a label is relatively stationary to the label-carrier and to

the packet-holder during its delivery to and from the label-carrier.

4. The combination of a movable packet-holder, a continuously-moving label-carrier, a movable magazine adapted to present successive labels to said label-carrier, means cooperating with said label-carrier for removing labels successively from said magazine and for holding a series of labels upon said label-carrier and carrying them to the packet-holder and then releasing them, mechanism for moving the magazine and the label-carrier with substantially the same speed in the same direction whenever the means for removing a label from said magazine is in operation, and mechanism for moving said packet-holder with substantially the same speed as the label-carrier when the label meets its packet, whereby a label is relatively stationary to the label-carrier and to the packet-holder during delivery of the label to and from the label-carrier.

5. The combination of a movable packet-holder, a continuously-moving label-carrier, a movable magazine adapted to present successive labels to said label-carrier, means cooperating with said label-carrier for removing labels successively from said magazine and for holding a series of labels upon said label-carrier and carrying them to the packet-holder and then releasing them, a device for interposing adhesive or moisture between the packet and the label, mechanism for moving the magazine and the label-carrier with substantially the same speed in the same direction whenever the means for removing a label from said magazine is in operation, and mechanism for moving said packet-holder with substantially the same speed as the label-carrier when the label meets its packet, whereby a label is relatively stationary to the label-carrier and to the packet-holder during delivery of the label to and from the label-carrier.

6. The combination of a movable packet-holder, a continuously-moving label-carrier, a movable magazine adapted to present successive labels to said label-carrier, means cooperating with said label-carrier for removing labels successively from said magazine and for holding a series of labels upon said label-carrier and carrying them to the packet-holder and then releasing them, a device for gumming or moistening the packet while on the packet-holder and before it meets its packet, mechanism for moving the magazine and the label-carrier with substantially the same speed and in the same direction whenever the means for removing a label from said magazine is in operation, and mechanism for moving said packet-holder with substantially the same speed as the label-carrier when the label meets its packet, whereby a label is relatively stationary to the label-carrier and to the packet-holder during delivery of the label to and from the label-carrier.

7. The combination of a movable packet-holder, a continuously-moving label-carrier,

a movable magazine adapted to present successive labels to said label-carrier, means co-operating with said label-carrier for removing labels successively from said magazine and for holding a series of labels upon said label-carrier and for carrying them to the packet-holder and then releasing them, a gumming device having a raised portion supplied with adhesive, mechanism for moving said gumming device to press said raised portion upon a portion of a packet, means for moving said packet-holder with substantially the same speed and in the same direction as the label-carrier when the packet meets its label, whereby the label is placed upon the gummed portion of the packet, and mechanism for moving the magazine with substantially the same speed as the label-carrier and in the same direction whenever the means for removing a label from said magazine is in operation, whereby a label is relatively stationary to the label-carrier and to the packet-holder during the delivery of the label to and from the label-carrier.

8. The combination of a packet-hopper, a continuously-moving packet-carrier having a series of packet-holders, a moving label-magazine, a continuously-moving label-carrier provided with means for taking a series of labels from said label-magazine, one for each packet, and for carrying them to said packet-holders, mechanism for moving said label-magazine and said label-carrier in the same direction and with substantially the same speed when the label is presented to the label-carrier, and a gumming or moistening device for supplying adhesive or moisture between the label and the packet.

9. The combination of a packet-hopper, a continuously-moving packet-carrier having a series of packet-holders, a continuously-moving label-magazine, a continuously-moving label-carrier provided with means for taking a series of labels from said magazine, one for each packet-holder, and for carrying them to said packet-holders, mechanism for moving said label-magazine and said label-carrier in the same direction and with substantially the same speed when the label is presented to the label-carrier, and a gumming or moistening device for operating on each packet in a packet-holder.

10. The combination of a packet-hopper, a moving packet-carrier, a moving label-magazine, a pneumatic label-carrier, movable from said magazine to said packet-carrier, and moving with substantially the same speed and in the same direction as the label-magazine when a label is presented to the label-carrier, an air-exhausting device, means for connecting the exhausting device with said label-carrier when it registers with said magazine whereby a single label is taken thereout, and for disconnecting the exhaust from said label-carrier when the label is carried to said packet-carrier, and a gumming or moistening device

for supplying adhesive or moisture between the label and the packet.

11. The combination of a packet-hopper, a continuously-moving packet-carrier having a series of packet-holders, a continuously-moving label-magazine, a continuously-moving label-carrier provided with a series of pneumatic suction devices and movable from said magazine to said packet-carrier, mechanism for moving the label-magazine and the label-carrier with substantially the same speed and in the same direction, when the label is presented to the label-carrier, an air-exhausting apparatus, connections therefrom to each of said suction devices, means for connecting said exhausting apparatus with each suction device when it registers with said magazine, whereby a single label is withdrawn from said magazine and is carried to said packet-carrier upon said label-carrier, and for disconnecting said exhaust from said suction device when the label meets a packet, and a gumming or moistening device for supplying adhesive or moisture between the label and the packet.

12. The combination of a packet-hopper, a movable packet-carrier, a movable label-magazine, a label-carrier movable from said magazine to said packet-carrier, a perforated label-holder thereon, an air-exhausting apparatus, means for connecting said label-holder with said exhaust apparatus when the holder registers with said magazine, whereby a label is withdrawn from said magazine and is carried to said packet-carrier, and for disconnecting said exhaust from said label-holder when the same meets a packet, mechanism for moving said label-carrier and said magazine with substantially the same speed and in the same direction when a label is presented to the label-carrier, and a gumming or moistening device for operating on the packet before it reaches the label and while on said packet-carrier.

13. The combination of a packet-hopper, a continuously-moving packet-carrier having a series of packet-holders, a continuously-moving multiple label-magazine, a continuously-operating label-carrier movable from a magazine to a packet-carrier and having a series of pneumatic label-holders thereon consisting of perforated elastic plates, an air-exhaust apparatus, means for connecting said exhausting apparatus with said label-holder when it registers with said magazine to carry a label therefrom to said packet-carrier, and for disconnecting said exhausting apparatus from said label-holder when the same meets a packet, mechanism for moving said label-carrier and said magazine with substantially the same speed and in the same direction when a label is presented to the label-carrier, and a gumming or moistening device for operating on each packet while on said packet-carrier before it meets its label.

14. The combination of a packet-holder, a movable label-magazine, a label-carrier mov-

able from said magazine to said packet-carrier and having a label-holder thereon, provided with a printing-plate, means for inking said printing-plate, means cooperating with said label-carrier for removing a label from said magazine and for delivering it to the packet-holder upon said printing-plate, mechanism for moving said magazine and said label-carrier with substantially the same speed and in the same direction when a label is presented to the label-carrier, means for pressing the label against the printing-plate during its movement toward the packet-carrier, and a device for interposing adhesive or moisture between the packet and the label, whereby the label is printed and affixed to the packet.

15. The combination of a packet-holder, a movable label-magazine, a label-carrier movable from said magazine to said packet-carrier and having a label-holder thereon, provided with a printing-plate, means for inking said printing-plate, means cooperating with said label-carrier for removing a label from said magazine and for delivering it to the packet-holder upon said printing-plate, mechanism for moving said magazine and said label-carrier with substantially the same speed and in the same direction when a label is presented to the label-carrier, means for pressing the label against the printing-plate during its movement toward the packet-carrier, and a device for gumming or moistening the packet while in the packet-holder and before it meets its label.

16. The combination of a packet-hopper, a packet-carrier having a series of packet-holders, a label-magazine, a label-carrier movable from said magazine to said packet-carrier and having a series of label-holders thereon, each being a perforated printing-plate, means for inking said printing-plate, an air-exhaust apparatus, means for connecting said exhaust apparatus with each label-holder when it registers with said magazine and until the label meets its packet, and for disconnecting said exhaust when the label meets its packet, whereby the label is carried upon said printing-plate to said packet-carrier and is pressed against a packet, whereby the label is printed and affixed to the packet, and a gumming or moistening device for operating on each packet while on said packet-carrier and before it meets its label.

17. The combination of a packet-carrier, a label-magazine, a label-carrier, and an exhaust apparatus, said label-carrier moving from the delivery end of the label-magazine to said packet-carrier and having a cavity therein connecting with said exhaust apparatus, a perforated printing-plate on said cavity, a valve controlling the connection of the exhaust with said cavity and adapted to connect the cavity with the exhaust when the printing-plate registers with the delivery end of the magazine and to disconnect said cavity from the exhaust when the label meets its

packet, and an inking device for inking said printing-plate before the label is carried thereon.

18. The combination of a packet-carrier, a label-magazine, a rotary label-carrier, said label-carrier revolving from the delivery end of the label-magazine to the packet-carrier and having a cavity in its outer portion, a perforated printing-plate on said cavity, a hollow axle for the label-carrier, said cavity connecting with the hollow axle, an exhaust apparatus connecting with said hollow axle, a valve controlling the connection of the exhaust with the cavity adapted to connect the cavity with the exhaust when the printing-plate registers with the delivery end of the magazine and to disconnect from the exhaust when the label meets its packet, and an inking device for inking said printing-plate before the label is carried thereon.

19. The combination of a packet-carrier, a label-magazine, a label-carrier, and an exhaust apparatus, said label-carrier moving from the delivery end of the label-magazine to the packet-carrier and having a series of cavities, a perforated printing-plate on each cavity, a common chamber connected with said exhaust apparatus and a separate connection between said chamber and each cavity, and a valve controlling the connections of the exhaust with the cavity adapted to connect each cavity with the exhaust when the printing-plate registers with the delivery end of the magazine, to sustain the connection with the exhaust until the label meets its packet, and then to disconnect the cavity from the exhaust, and an inking device for inking said printing-plates before the labels are carried thereon.

20. The combination of a packet-carrier having a series of packet-holders thereon and side flanges for said packet-holders provided with a slot on one side opposite each packet-holder, an arm pivoted to the frame to move to and from the packet-holders, a device for normally pressing said arm toward the packet-holders, a surface on said packet-holder between each two slots for engaging and moving said arm from said packet-holders, and a wheel freely revoluble on said arm and adapted to enter said slots to press upon the packets in said holders.

21. A magazine mechanism for cut sheets consisting of a series of magazines for such cut sheets, a moving support adapted to carry said magazines successively to a delivery-point, mechanism for removing said cut sheets from said magazines successively, said support having a socket for each magazine and a catch for engaging a lug upon each magazine, whereby said magazines are removable and replaceable at will.

22. The combination of a revoluble wheel A having a series of packet-holders on the periphery thereof, a revoluble wheel B having a series of label-holders thereon, a revoluble wheel C having a series of label-magazines

thereon, gearing for moving said three wheels with equal peripheral speed, mechanism co-operating with said wheel B for removing labels successively from said label-magazines 5 and for retaining the same upon the successive label-holders and for releasing the labels successively from said label-holders when a label meets its packet, and a device for interposing gum or moisture between said label 10 and its packet.

23. The combination of a revoluble wheel A having a series of packet-holders on the periphery thereof, a revoluble wheel B having a series of label-holders thereon, a revoluble wheel C having a series of label-magazines 15 thereon, gearing for moving said three wheels with equal peripheral speeds, mechanism co-operating with said wheel B for removing labels successively from said label-magazines 20 and for retaining the same upon the successive label-holders and for releasing the labels successively from said label-holders when a label meets its packet, and a device for interposing gum or moisture between said label and 25 its packet, and a wheel A⁷ for pressing the label against the packet after it had adhered thereto.

24. A label-magazine and a support therefor, consisting of the label-box c provided 30 with the notched lug c² and the pin c⁵ upon

the stem c⁴ in combination with a socket c' on said support for the pin c⁵ and a perforation C² on said support for the lug c² and a spring-pressed pin C³ for pressing said lug to cause its notch to engage with the perforation 35 C² and the pin c⁵ to engage the socket c'.

25. A top delivery for cut sheets consisting of a box open at the delivery end, mechanism for constantly pressing the sheets transversely toward said delivery end, means on 40 said delivery end for holding one edge of the topmost sheet, and a knife attached to said delivery end and projecting over another edge of said sheet, in combination with apparatus for extracting a label transversely from the 45 magazine.

26. A label-magazine for top delivery consisting of the label-box c, the spring-pressed piston c³ tending to move the labels thereon toward the delivery end of said box, plates c⁸ 50 extending over corners of the open end of said box and an adjustable knife c⁹ extending diagonally over a portion of the open end of said box opposite to said plates.

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Witnesses:

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ARTHUR R. SELDEN.