

No. 687,810.

Patented Dec. 3, 1901.

L. B. WRIGHT.
MAIL BAG CATCHER AND DELIVERER.

(Application filed Feb. 23, 1901.)

(No Model.)

4 Sheets—Sheet 1.

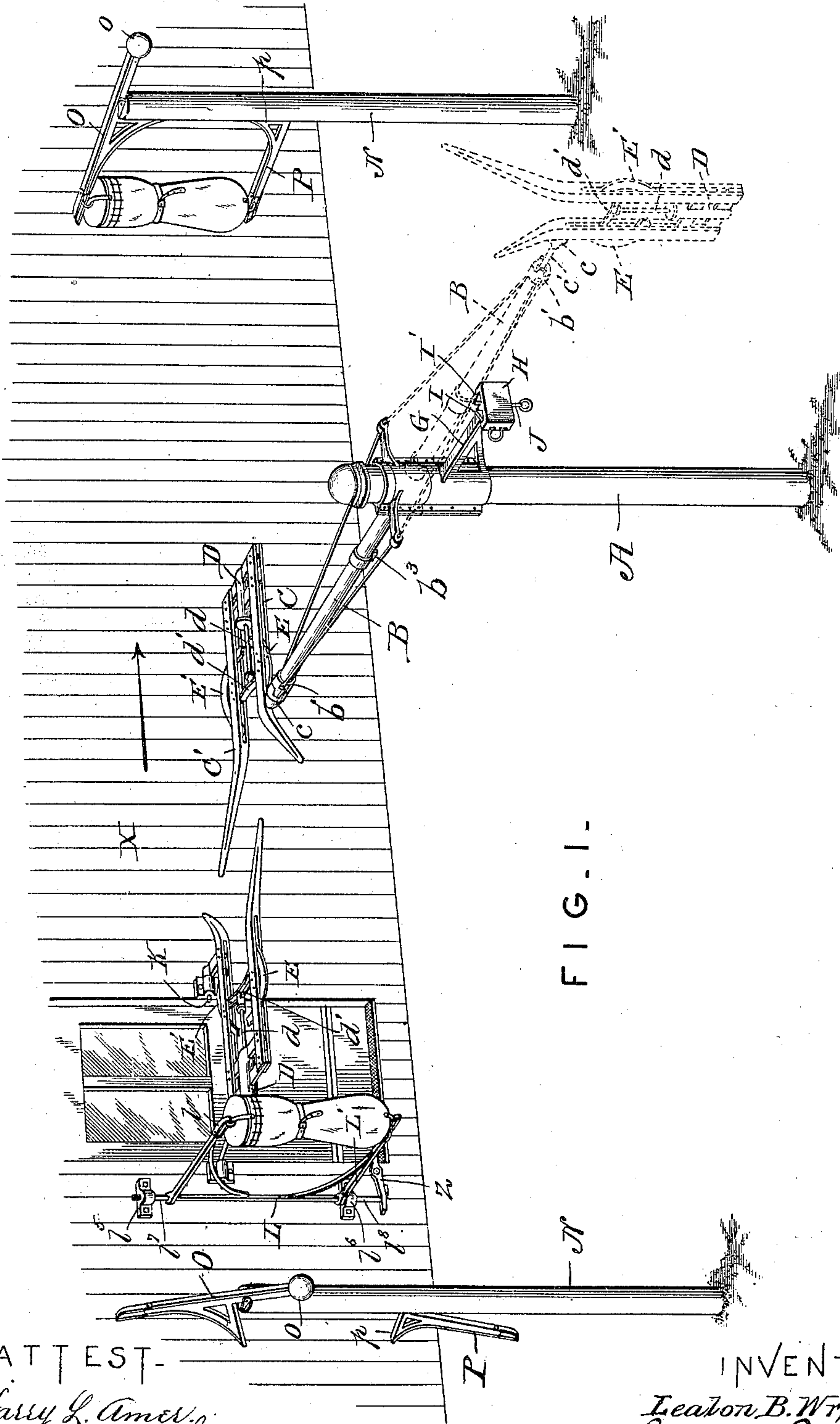


FIG. 1.

ATTEST—
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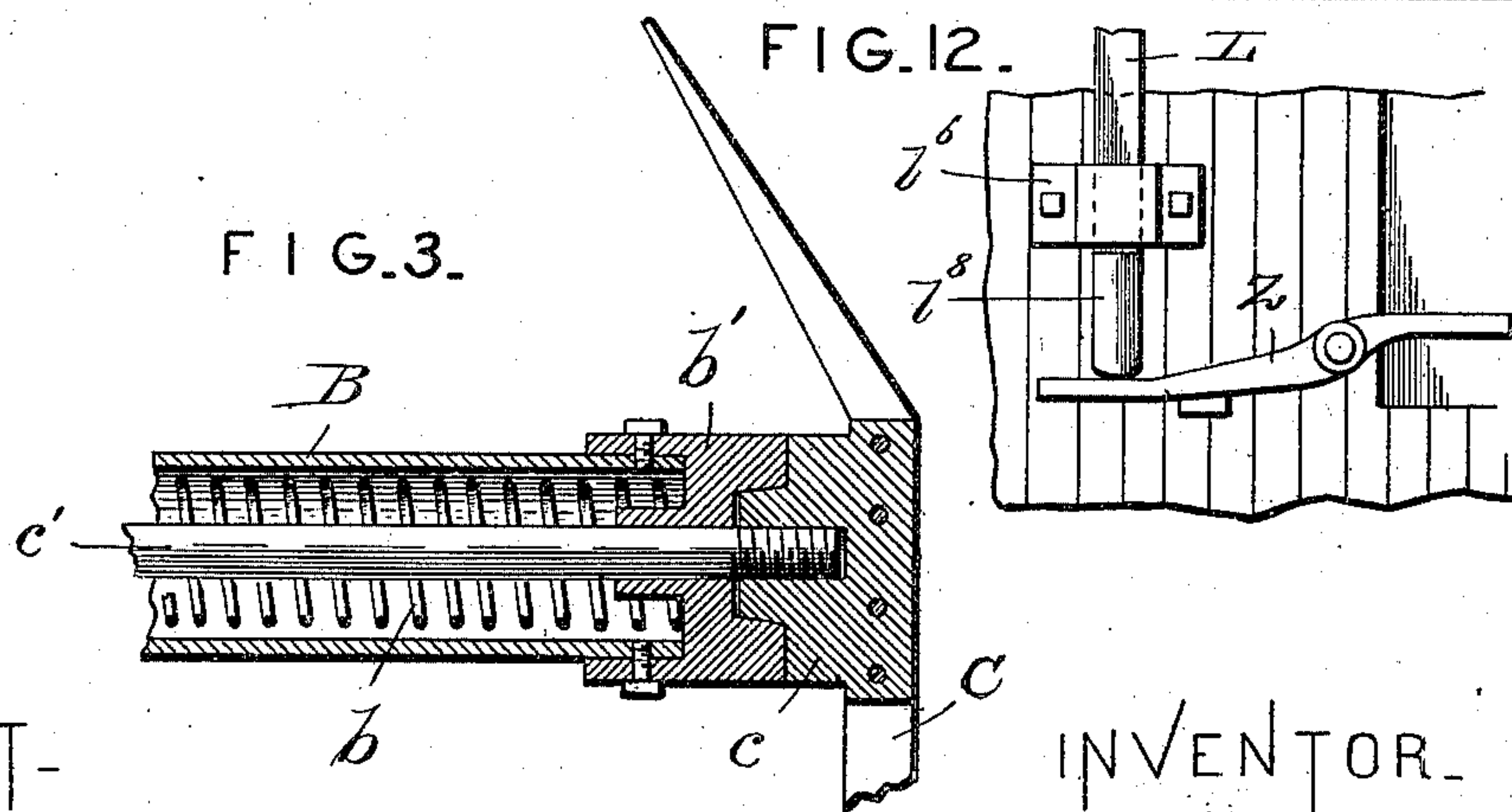
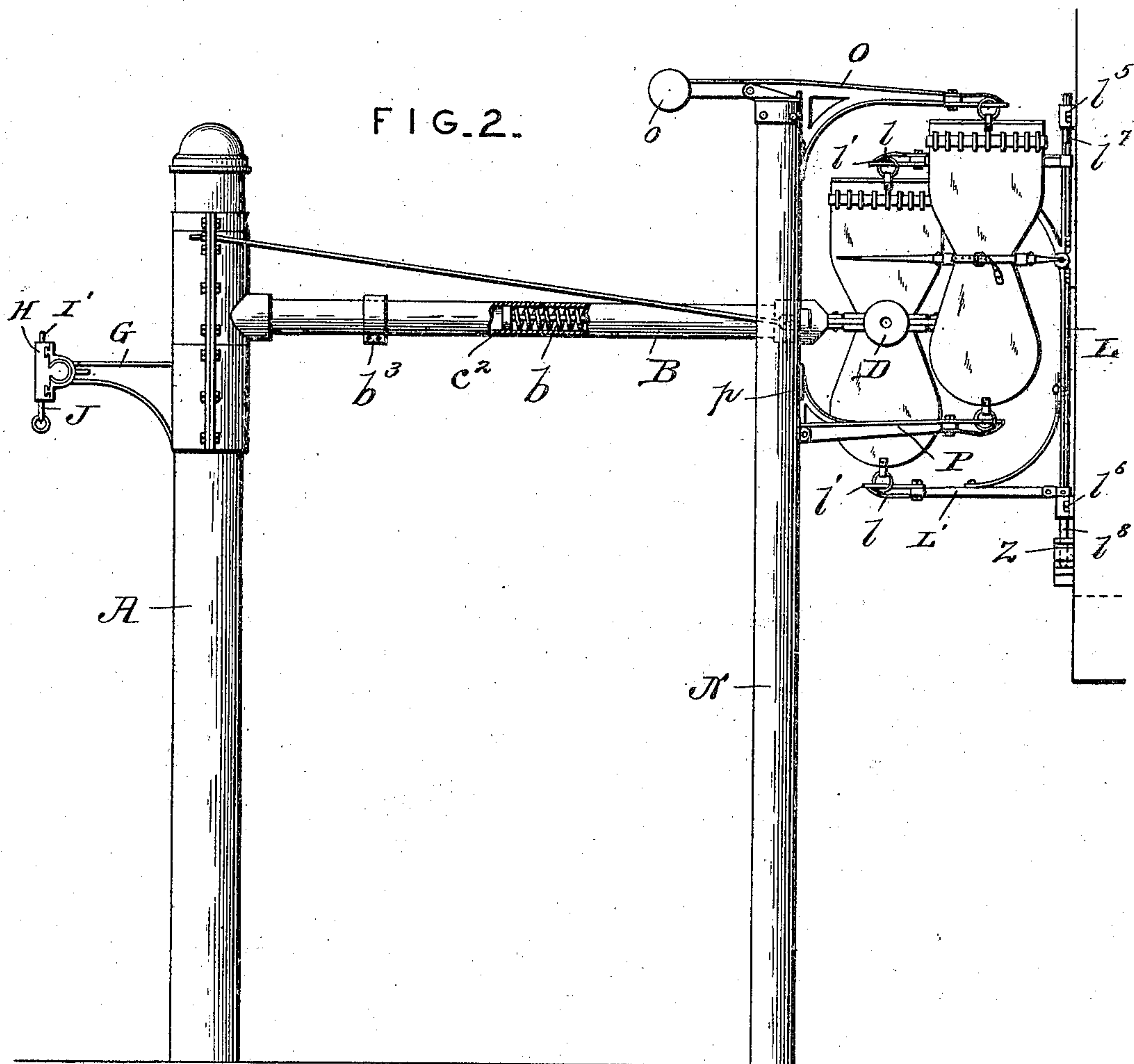
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(Application filed Feb. 23, 1901.)

(No Model.)

4 Sheets—Sheet 2.



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4 Sheets—Sheet 4.

FIG. 9.

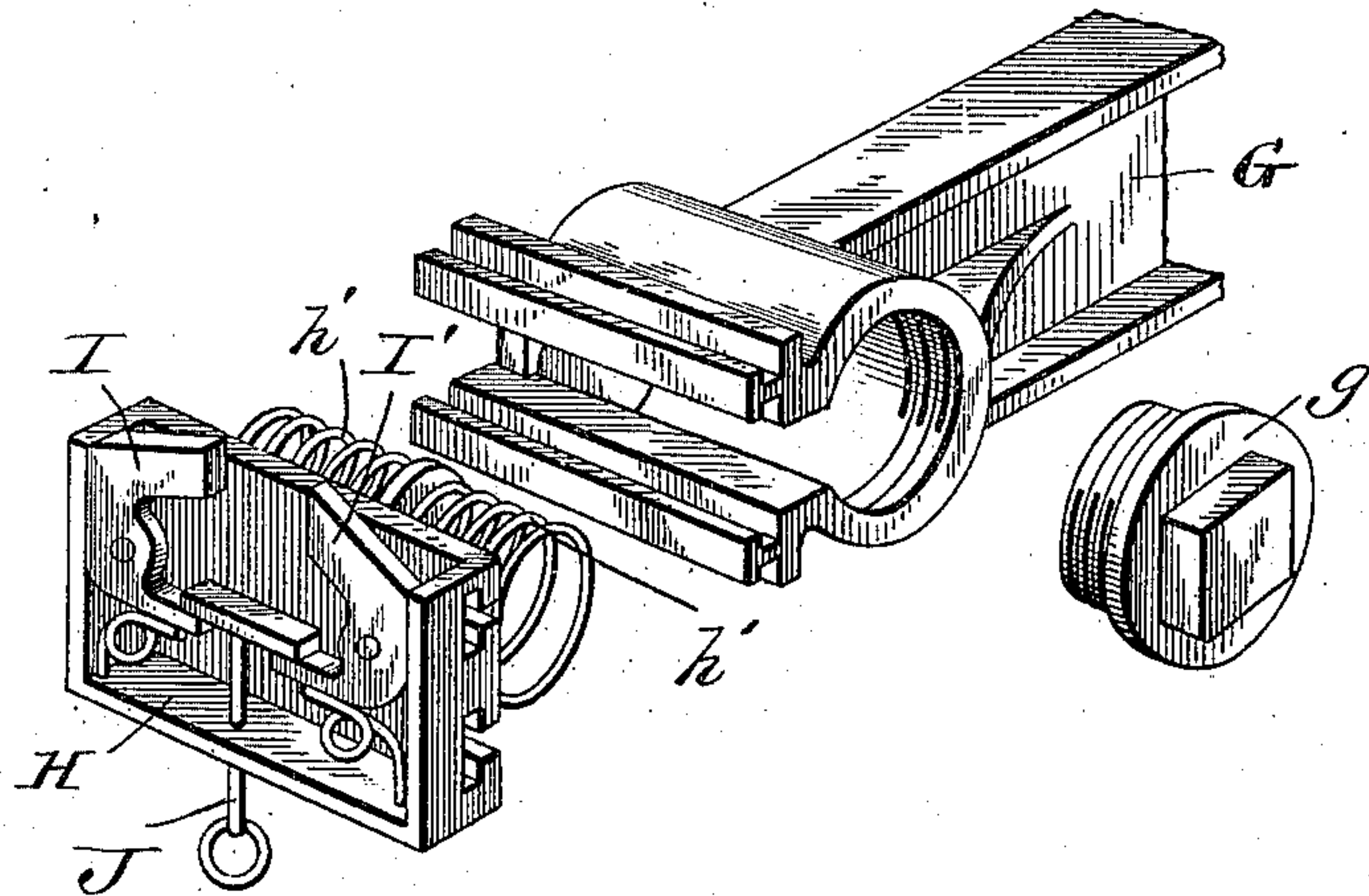
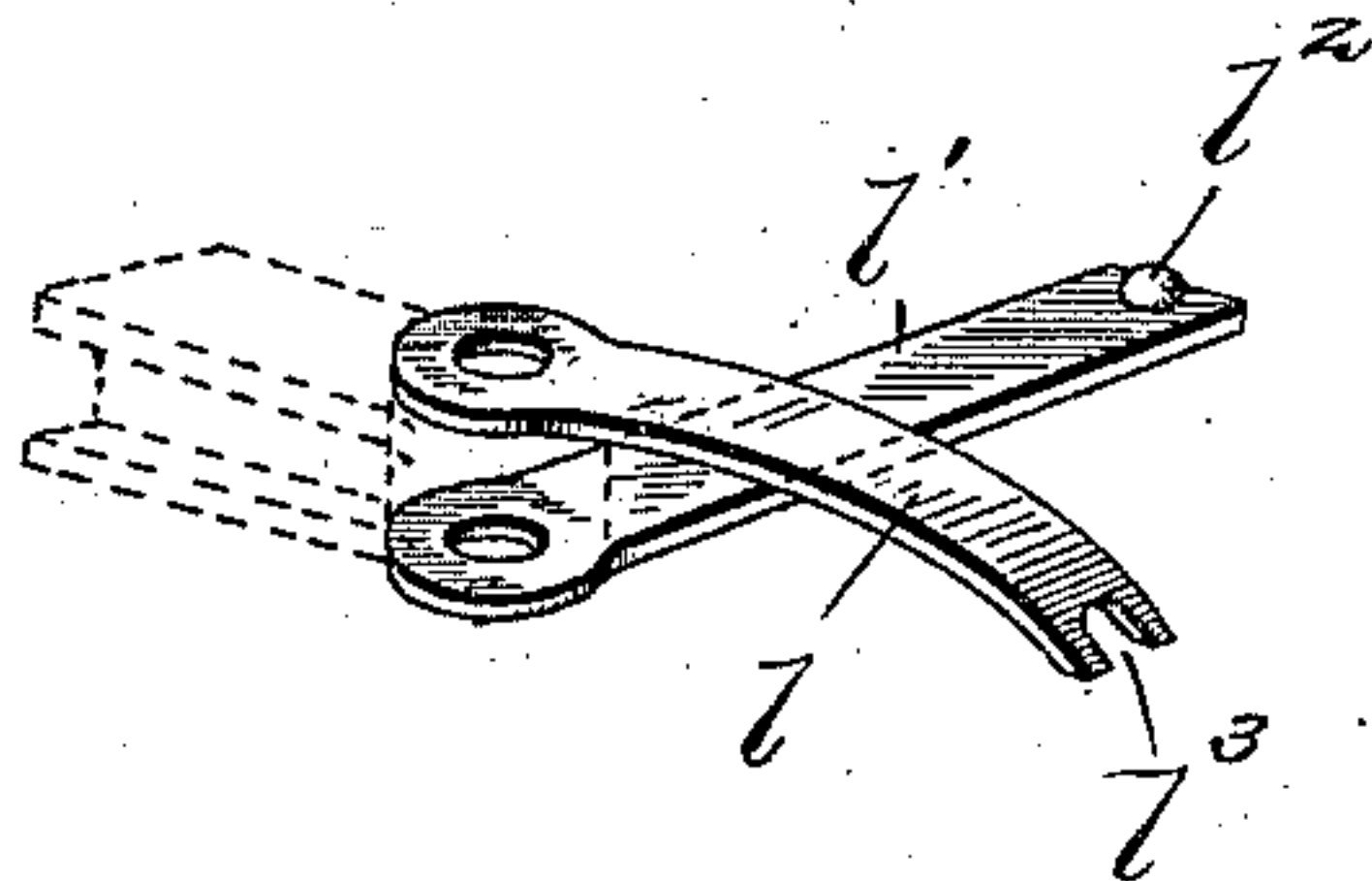


FIG. 10.



ATTEST-

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UNITED STATES PATENT OFFICE.

LEALON B. WRIGHT, OF ST. LOUIS, MISSOURI.

MAIL-BAG CATCHER AND DELIVERER.

SPECIFICATION forming part of Letters Patent No. 687,810, dated December 3, 1901.

Application filed February 23, 1901. Serial No. 48,509. (No model.)

To all whom it may concern:

Be it known that I, LEALON B. WRIGHT, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have
5 invented a certain new and useful Improvement in Mail-Bag Catchers and Deliverers, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and
10 use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of my improved mail-bag catcher and deliverer. Fig.
15 2 is an elevational view of the same. Fig. 3 is a horizontal sectional view of the outer end of the crane. Fig. 4 is a side elevational view of the catcher arranged at the outer extremity of the crane. Fig. 5 is a top plan view of
20 the same. Fig. 6 is a top plan view, partly in section, of the catcher arranged on the side of a car. Fig. 7 is a similar view showing a portion of the side of a car in section with the catcher attached thereto, the arms being
25 in a closed position. Fig. 8 is a detail sectional view of one of the bracket-lugs arranged on a car for receiving the catcher. Fig. 9 is a detail view of the latch for coöperating with the crane. Fig. 10 is a detail
30 view of the spring-catch arranged at the extremity of the delivering-arms. Fig. 11 is a detail sectional view showing the manner of arranging one of the pins in the frame; and Fig. 12 is a detail view of the lower end of
35 the car delivery-bracket and its keeper, together with a lever for raising said delivery-bracket.

This invention relates to a new and useful improvement in mail-bag catchers and deliverers, the object being to construct a device of the character described, so as to enable mail-bags to be taken from and delivered to passing trains without requiring stoppage of said trains.

45 With this object in view the invention consists in the construction, arrangement, and combination of the several parts, all as will hereinafter be described and afterward pointed out in the claims.

50 In the drawings, A indicates a post, upon the upper end of which is mounted an arm B, said arm being designed to swing around

the post, as shown by the dotted lines in Fig.

1. This arm B is preferably braced by guy-
55 rods, said arm being hollow, as shown in Figs. 2 and 3, for the purpose of housing a spring b.

b' indicates a cap-piece arranged on the end of the arm B, which cap-piece is notched or formed with recesses to coöperate with projections on a rotating head c. This head c
60 is arranged upon the outer end of a rod c', which rod carries a spring-follower c² at its inner end for coöperating with the spring b. The construction of the parts above described enables the head c to be rotatably adjusted
65 in the end of the arm, the tension of the spring constantly drawing said head inwardly, so as to lock it in its adjusted position. Whenever the head is pulled outwardly, it is free to rotate. This head carries the mail-bag
70 catcher, which consists, essentially, of a frame composed of two members whose outer ends are bent so as to diverge and center the mail-bag to be received between them. These
75 members, which are lettered C and C', are connected at their inner ends by cross-pieces, which carry a cylinder D. Cylinder D contains a spring-pressed plunger, to which is attached a rod d, the spring tending to hold
80 said rod in an outward position at all times. Rod d carries a cross-head d' on its outer end, which is arrested in its outward movement by pin c³.

E and E' are curved arms pivotally mounted upon the members C and C', said arms
85 normally occupying a position wherein their outer ends are separated, as shown in Fig. 6. The arms are arrested in this position by pins c⁴. A mail-bag being suspended from a moving train is designed to strike against
90 the cross-head d', in which event said cross-head moves rearwardly until it contacts with the rear ends of the levers E and E', such contact forcing said rear ends apart and the front ends together, as shown in Fig. 5, until
95 the rear extremities of the levers E and E' engage with spring-pressed dogs F on the members C and C', when said levers are locked in their closed position. The spring in the cylinder D having a constant tendency to move the cross-head d' outwardly will when the mail-bag is stripped from the
100 car exert itself so as to hold the waist of the bag against the front members and the closed

and locked levers E and E'. The force with which the bag is delivered into the catcher above described causes the arm B to swing on its post, such swinging motion developing sufficient centrifugal force to cause the head *c* to move outwardly, the spring *b* being compressed, so as to disengage the head and permit the catcher to fall from its horizontal position to the vertical position shown by the dotted lines in Fig. 1. The arm B carries a projection *b*³, (see Figs. 1 and 2,) which projection is designed to cooperate with locking-pawls arranged in a suitable box secured to an arm projecting from the post A, whereby when the arm B is swung around, it will be arrested after having traveled approximately half a circle, the point of arrest of said arm being preferably located so that the catcher and its contained mail-bag will occupy a position accessible to a person who takes the mail-bag from the catcher.

As shown in Figs. 1 and 2, G indicates an arm extending from the post A, said arm carrying at its outer end a housing and guideways. (See Fig. 9.) This housing carried by arm G is provided with a bore, preferably cylindrical in shape, closed at one end and screw-threaded at its other end, which screw-threaded end is designed to receive a cap-piece *g*. H indicates a box or housing, the face-plate of which is removed in Fig. 9, said box cooperating with the guideways on the outer extremity of said arm G, whereby lateral movement is permitted. An inwardly-disposed projection *h* is arranged about centrally the box H, the same being designed as an abutment for two coiled springs *h*¹, which are when said head is in its proper position on arm G arranged therebetween and the permanently-closed head and the cap-piece *g* of said housing. This construction permits the box H to be moved laterally with reference to the arm G, the springs tending to restore the box to its central position.

I and I' indicate spring-pressed pawls projecting through the top of the box H and extending toward each other, said pawls being in the path of projection *b*³ on the arm B, so that as the arm B swings around in either direction one of the pawls I or I' will be depressed, the other of said pawls remaining elevated to arrest the motion of the arm, the depressed pawl rising after the arm has passed, so as to lock the projection *b*³ of the arm between them. In order to depress the pawls and release the arm, whereby said arm may be restored to an operative position, a rod J may be pulled, said rod carrying a head at its upper end engaging with the pawls.

The construction of the catcher above described, which catcher has been referred to as being mounted upon the outer end of arm B, is in all essential respects identical with the construction of the catcher used on the car for receiving the mail-bag suspended from the post. The catcher on the car, however, is provided with pintles K, (see Fig. 6,) which

are received in bearings attached to the side of the car, as shown in Figs. 1 and 7. These bearings are notched at each end, as at *k*, for the purpose of receiving lugs *k*¹ and holding the catcher on the car in a horizontal position for well-understood purposes. Both of the bearings referred to are preferably provided with a groove *k*², through which passes a key *k*³ on the extremity of one of the pintles, whereby in introducing the catcher into its bearing-supports the same is held in a position different from that which it occupies when in an operative position, so that it is impossible for said catcher to be displaced with respect to its bearings except when it is intended to remove same. I prefer to construct the parts so that it is necessary to hold the catcher in a vertical position, the pintles being on the under side in introducing or removing the same to or from its bearing-supports, and when the key *k*³ is passed through its bearing the catcher may be swung down to a horizontal position and, if desired to be locked in such position, may be moved horizontally, so that the lugs *k*¹ will fit in the recesses *k*. When the catcher is not in use, the lugs may be disengaged from their respective recesses and the catcher permitted to fall, swinging from its bearings, but prevented by the key from becoming displaced. This construction enables a ready removal of the catcher to and from the bearings on the car, so that the receiving end of the catcher may be changed according to the direction of movement of the car.

The delivering mechanism on the car consists of a bracket-frame L, movably mounted in suitable bearings, the arms of said frame carrying spring-tongues *l*, which are preferably fixed with relation to the arm and swinging members *l*¹, which latter are designed to support the mail-bag. This swinging arm carries a projection *l*², which is designed to cooperate with the notch *l*³ in the end of the spring-finger, whereby when the arm is in line with the spring it is yieldingly held in position. As the bag is caught by the catcher a lateral pull is exerted, which causes the arm *l*¹ to swing on its pivot, it becoming first disengaged from the spring, the bag being then readily stripped from said arm, as will be readily understood.

The delivery-posts are shown in Figs. 1 and 2, being indicated at N. As these posts are similar in construction, I will describe but one of them. O indicates an arm pivoted on the upper end of the post N, said arm having a weight *o* at one end, which is sufficient in the absence of the bag being in position on the arm to elevate said arm, as shown at the left in Fig. 1. P indicates an arm pivotally mounted on the post N and having an extension *p*, which is designed to cooperate with the post when the arm is in an elevated position, the weight of the arm causing it to drop when its outer end is not sustained by the mail-bag. Each of the arms O and P car-

ries spring-fingers and swinging arms, such as shown in Fig. 10 and hereinbefore described. When the bag is suspended from arm O, the lower ring of the bag sustaining the arm P, as shown at the right in Fig. 1, the bag is in readiness to be caught by the apparatus on the car, said bag being of course arranged in the path of movement of the catcher on the car.

I prefer to have two delivery-posts, one on each side of the catching apparatus herein described, one catching apparatus being arranged on the car as well as one delivery apparatus. Assuming that the car marked X in Fig. 1 is going in the direction of the arrow, the catcher on the swinging arm of the post A would first strip the mail-bag from the delivery apparatus on the car, swinging said catcher-arm until it is arrested by the pawls, as shown by the dotted lines, said catcher dropping to a vertical position in order to render its carried mail-bag accessible. After the car has delivered its mail-bag to the station-catcher the catcher on the car receives the mail-bag from the station delivery-post—in this instance the post at the right shown in Fig. 1, the post at the left being out of service when the car is traveling in this direction. Should the car be traveling in the opposite direction, the station delivery-post at the left would be in service and the one at the right idle.

As the apparatus above described is exposed to inclement weather, the moving parts are liable to be interfered with by the formation of ice, &c., and I therefore prefer to arrange the stop-pins, pivot-pins for the box, &c., as shown in Fig. 11. The frames C and C' are preferably made of parallel members joined together at their forward ends, said parallel members being riveted to the cylinder-lugs at their rear ends, which lugs space the members. If these parallel members were fastened together by rivets or bolts, an accumulation of ice on any of the moving parts operating between them would be detrimental, and therefore I prefer to leave these members free, boring a hole in one, through which passes a screw c^5 , said screw being threaded into the opposite member. This construction permits the members separating in the event of accumulation of ice on any of the moving parts, said moving parts performing their proper function, the carried ice not preventing their operation.

The delivery bracket or frame L is susceptible of being swung to lie flat against the side of the car across the doorway in order that a mail-bag may be attached thereto by a person within said car, and when said bracket is out of service entirely it may be swung in the opposite direction to the side of the doorway. To accomplish the above, I have formed the vertical member of said frame rectangular in cross-section for a greater part of its length, which engages keepers l^5 and l^6 , having corresponding rectangular

recesses formed therein. l^7 and l^8 represent cylindrical portions formed on the rectangular member of frame L, which cylindrical portions are so arranged as to be directly beneath the keepers l^5 and l^6 when said frame is in its lowermost position or a position at right angles to the side of the car.

Z indicates a lever pivoted to the side of the car and so located as to have one of its ends directly beneath the vertical member of frame L and its other member in convenient reach of the door of said car, whereby the same can be depressed by the foot of a person within said car and cause said vertical member of frame L to rise sufficiently far to bring the cylindrical portions l^7 and l^8 wholly within the recesses of the keepers l^5 and l^6 and enable the frame to be swung to one side or the other, as desired. When pressure on lever Z is released, the frame L will descend and cause the rectangular portions of the vertical member to enter the rectangular recesses of the keepers when said frame is in any of its three positive positions; but said frame will not be permitted to descend when in a position other than one of said three positive positions, as will be understood, the same being free to move until one of said positions is reached.

In order to accommodate mail-bags which have become contracted in length by being crowded with mail, I have formed the lower arm L' of the frame L yielding by pivoting or hinging the same to the vertical member of said frame and securing thereto a curved leaf-spring, whose upper end is slotted and rests against said vertical member, and through which slot a screw or pin is passed, as is clearly shown in Figs. 1 and 2.

I am aware that minor changes in the arrangement, construction, and combination of the several parts of my device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a mail-bag catcher the combination with a frame of levers pivoted in the opposite sides thereof, a cross-piece for forcing said levers to close the space in the frame, and means for locking said levers in their closed position; substantially as described.

2. In a mail-bag catcher the combination with a frame open at one end, of levers pivoted on the opposite sides of said frame for closing the open end thereof, a spring-pressed cross-piece extending across the opening near the front end of the frame, said cross-piece co-operating with the levers to force them across the opening in the frame when said cross-piece is moved rearwardly, and means for locking said levers in their closed position; substantially as described.

3. In a mail-bag catcher the combination with a frame having diverging members for

centering the mail-bag; said members being parallel for a portion of their length, curved levers pivoted on opposite sides of the frame, a spring-pressed cross-piece cooperating with
 5 said levers, and pins or projections for limiting the movement of said levers; substantially as described.

4. In a mail-bag catcher, the combination with a frame composed of members C and C',
 10 said members being slotted, curved arms E and E' pivoted in said slots, a housed spring, a rod which is forced outwardly by said spring, and a cross-piece on the rod whose ends are received in the slots of the frames C and C',
 15 the ends of said cross-piece cooperating with the arms E and E'; substantially as described.

5. In a mail-bag catcher the combination with an open-ended frame, of pivoted arms carried thereby, a spring-pressed cross-piece
 20 cooperating with said arms, pintles arranged on one of the frame members, lugs *l'* on the pintle-hubs, a key on one of said pintles, and grooved bearings having notches in their ends for cooperating with the pintles and their as-
 25 sociate parts; substantially as described.

6. In a mail-bag catcher the combination with an open-ended frame, the members thereof being divided, of lever-arms arranged in the slots of the frame, the pivots of said le-
 30 vers being in the form of screws threaded into one member and projecting through an opening in the other member, whereby the frame members may be spread to permit the free operation of the levers therein in the event of
 35 foreign matter accumulating on the levers, and means for operating said lever-arms; substantially as described.

7. In a mail-bag catcher, the combination with a swinging arm, of a notched head on
 40 said arm, a rotatable member having projections for cooperating with the notches in said head, and a spring-pressed plunger for cooperating with said rotatable head, whereby said head may be rotatably adjusted and locked
 45 in its adjusted position; substantially as described.

8. The combination with a swinging arm, of a notched head on the end thereof, a rotatable head interlocking with said notched head, a
 50 mail-bag catcher carried by said rotatable head, and means for yieldingly holding the rotatable head in a locked position, said means permitting centrifugal force to disengage the rotatable head and permit the mail-bag
 55 catcher to turn with its attached rotatable head; substantially as described.

9. The combination with a swinging arm, of a notched head on the outer end thereof, a rotatable head cooperating with said notched
 60 member, a mail-bag catcher carried by said rotatable head, a rod upon which the rotatable head is mounted, a follower on the inner end of said rod, and a spring interposed between said follower and the notched head

on the swinging arm; substantially as de- 65 scribed.

10. The combination with a swinging arm, of a mail-bag catcher arranged on the end thereof, a post upon which said arm is mount-
 ed, oppositely-arranged pawls for cooperating 70 ing with the swinging arm, and means for simultaneously depressing both of said pawls out of the path of said arm, substantially as described.

11. In a mail-bag catcher the combination 75 with a post, of a swinging arm arranged thereon, a projection on said swinging arm, oppositely-arranged pawls in the path of said projection, and a yielding box in which said pawls are mounted; substantially as de- 80 scribed.

12. In a mail-bag catcher, the combination with a post, of a swinging arm carrying a pro-
 jection, oppositely-arranged pawls in the path 85 of said projection, a yielding box in which said pawls are mounted, and means for depressing said pawls to disengage the same from the arm projection; substantially as de- scribed.

13. The combination with a post, of a swing- 90 ing arm carrying a projection, a mail-bag catcher on the end of said arm, oppositely-arranged pawls for cooperating with said projection, a box containing said pawls, a guide-
 way for said box for permitting lateral mo- 95 tion thereof, and springs cooperating with the box for restoring it to a central position after lateral displacement; substantially as de- scribed.

14. The combination with a frame L, com- 100 posed of a vertical member and two members disposed at about right angles thereto, one of which latter members is pivoted, and a leaf-spring secured to said pivoted member and having a slot-and-pin connection with 105 the vertical member; substantially as described.

15. The combination with a frame L com- 110 posed of a vertical member which is provided with cylindrical and rectangular portions and a fixed arm extending outwardly from its up-
 per end, of keepers and supports for said frame, which keepers are provided with re-
 cesses corresponding in shape and designed 115 to receive the rectangular portions of said first-mentioned member, for the purpose specified, a pivoted member in vertical alignment with said fixed member, and a leaf-
 spring for holding said pivoted member in 120 position; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 20th day of February, 1901.

LEALON B. WRIGHT.

Witnesses:

WM. H. SCOTT,
 A. S. GRAY.