

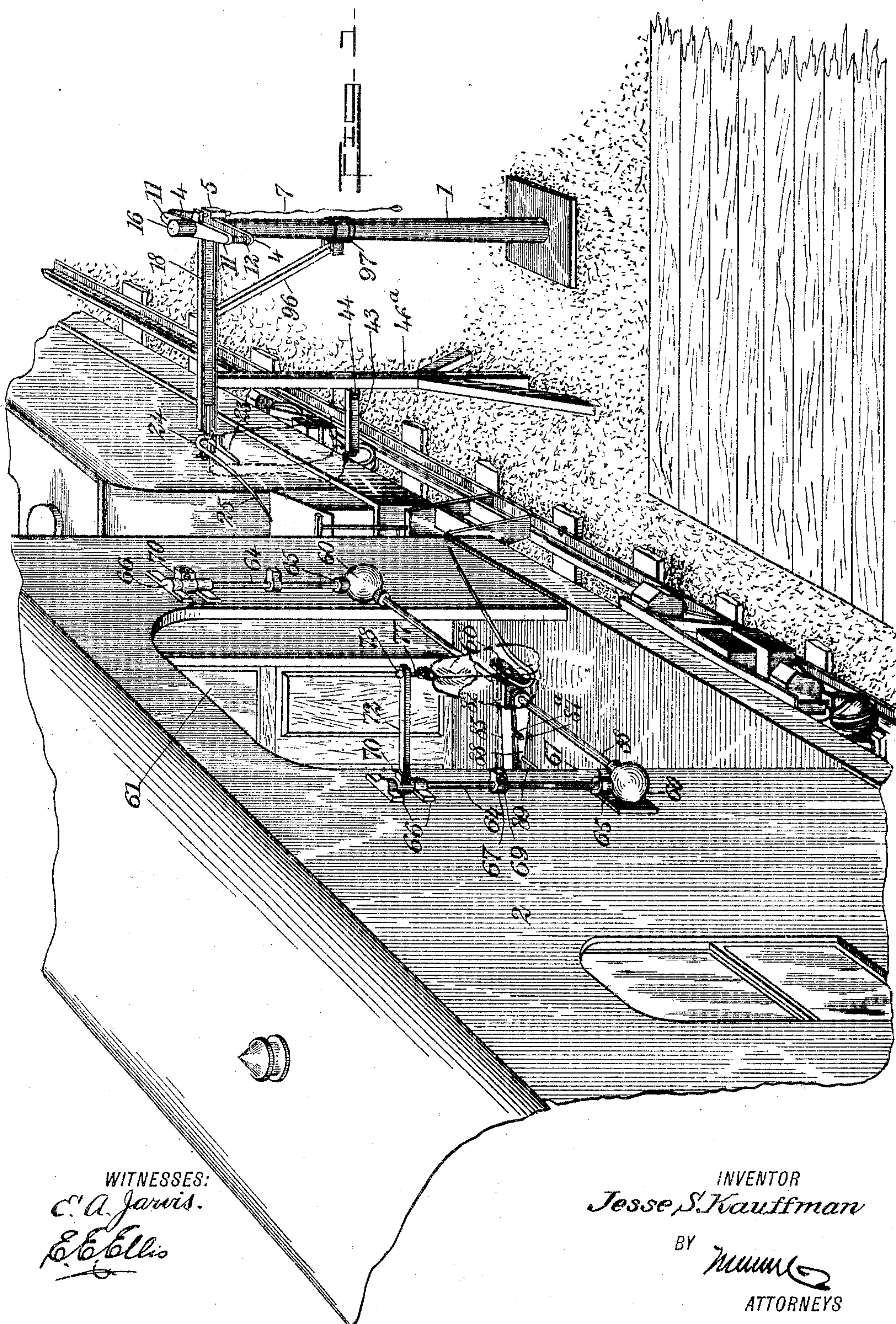
No. 784,053.

PATENTED MAR. 7, 1905.

J. S. KAUFFMAN.
MAIL BAG DELIVERY DEVICE.

APPLICATION FILED MAR. 19, 1904.

3 SHEETS—SHEET 1.



WITNESSES:
C. A. Jarvis.
E. E. Ellis

INVENTOR
Jesse S. Kauffman
BY *Mumford*
ATTORNEYS

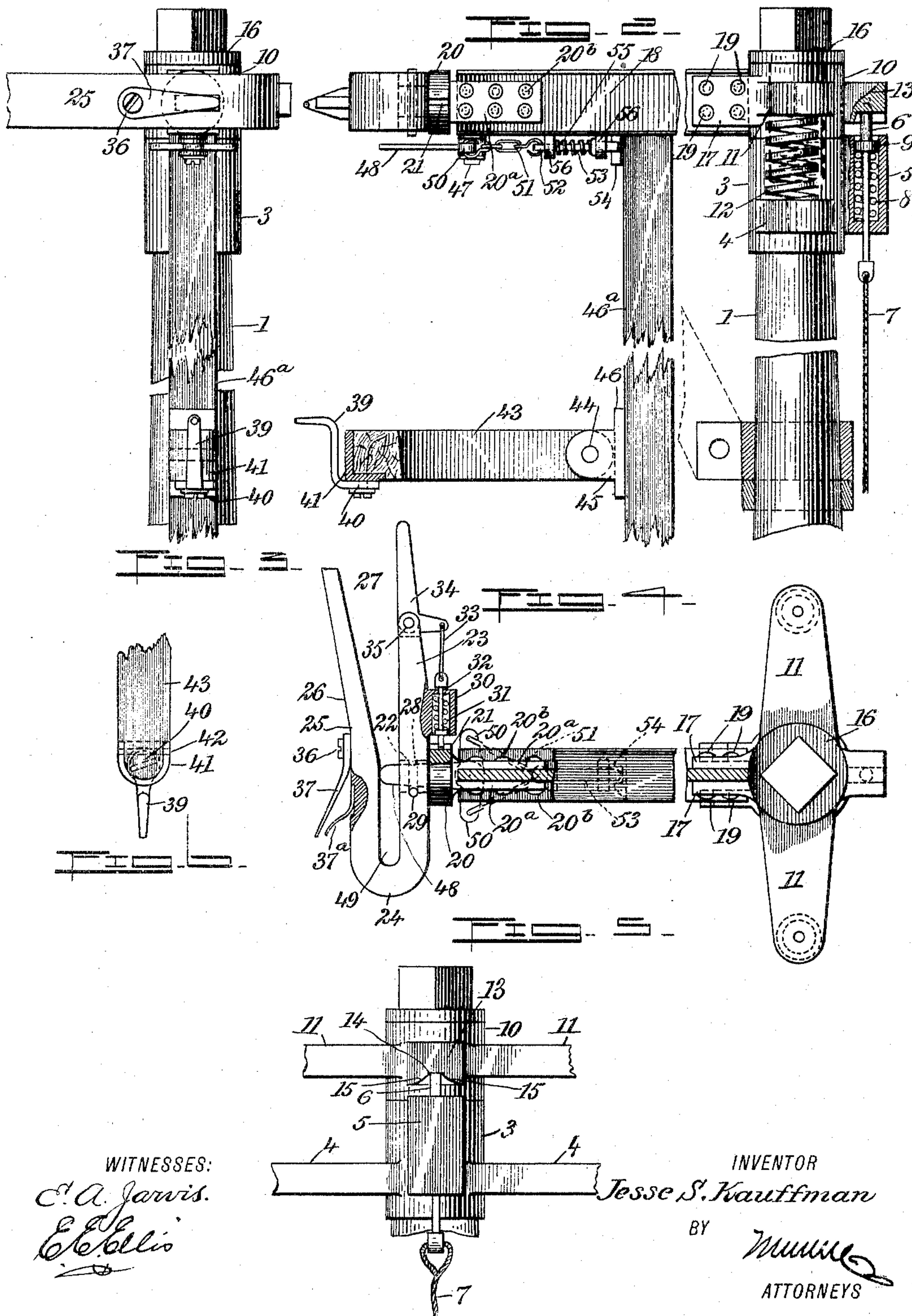
No. 784,053.

PATENTED MAR. 7, 1905.

J. S. KAUFFMAN.
MAIL BAG DELIVERY DEVICE.

APPLICATION FILED MAR. 19, 1904.

3 SHEETS—SHEET 2.



WITNESSES:

C. A. Jarvis.
E. Ellis.

INVENTOR

Jesse S. Kauffman

BY

Mumme
ATTORNEYS

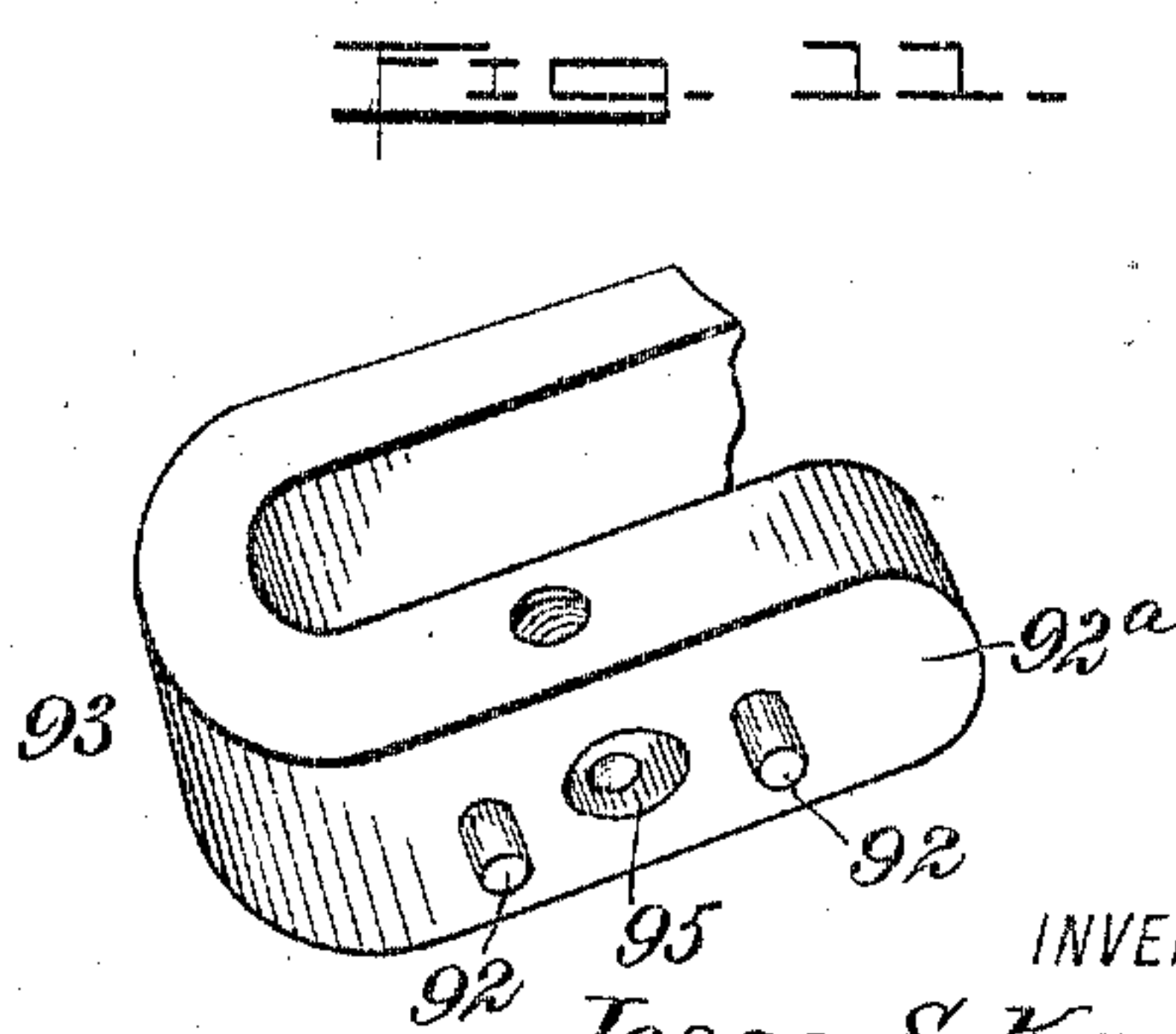
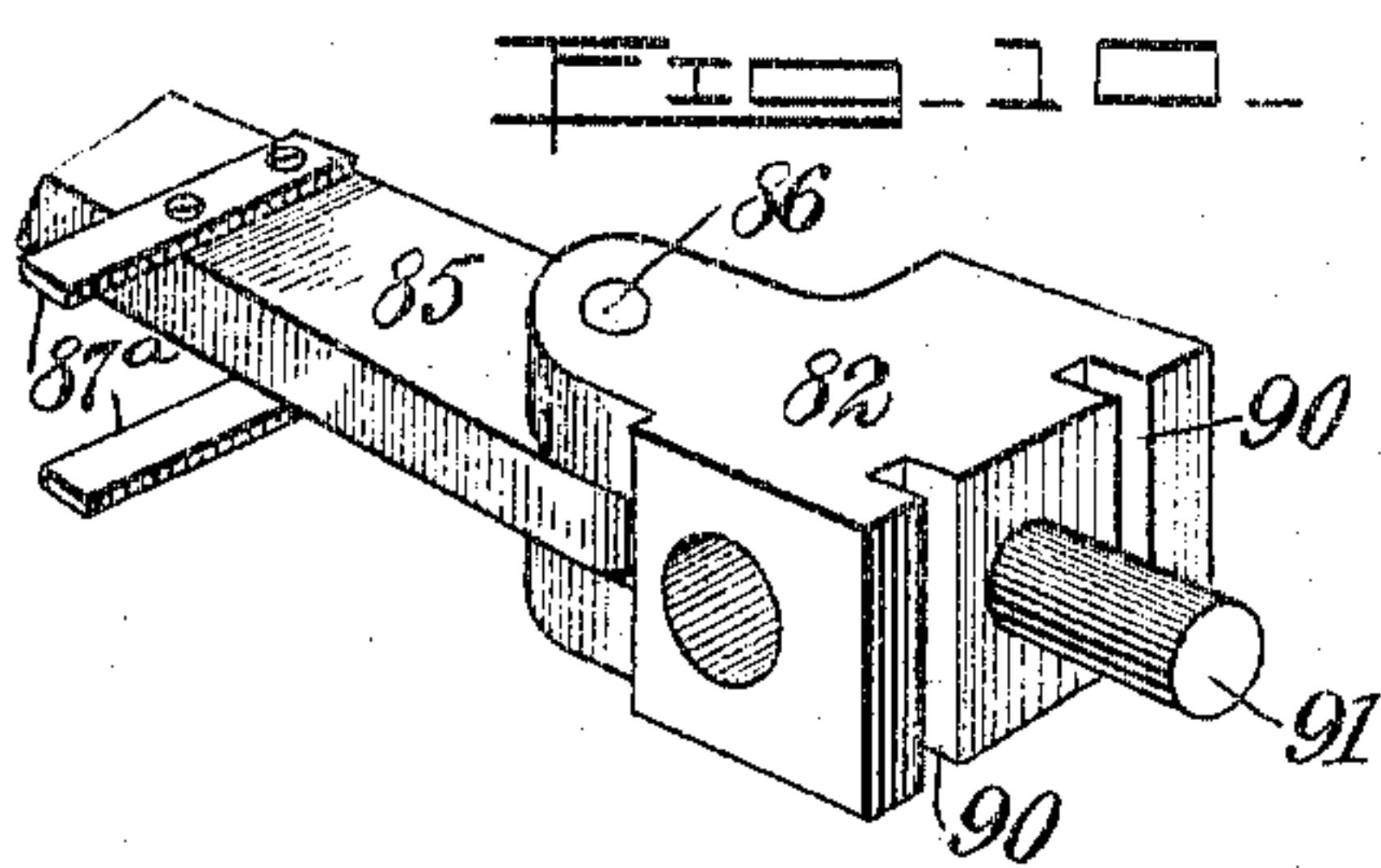
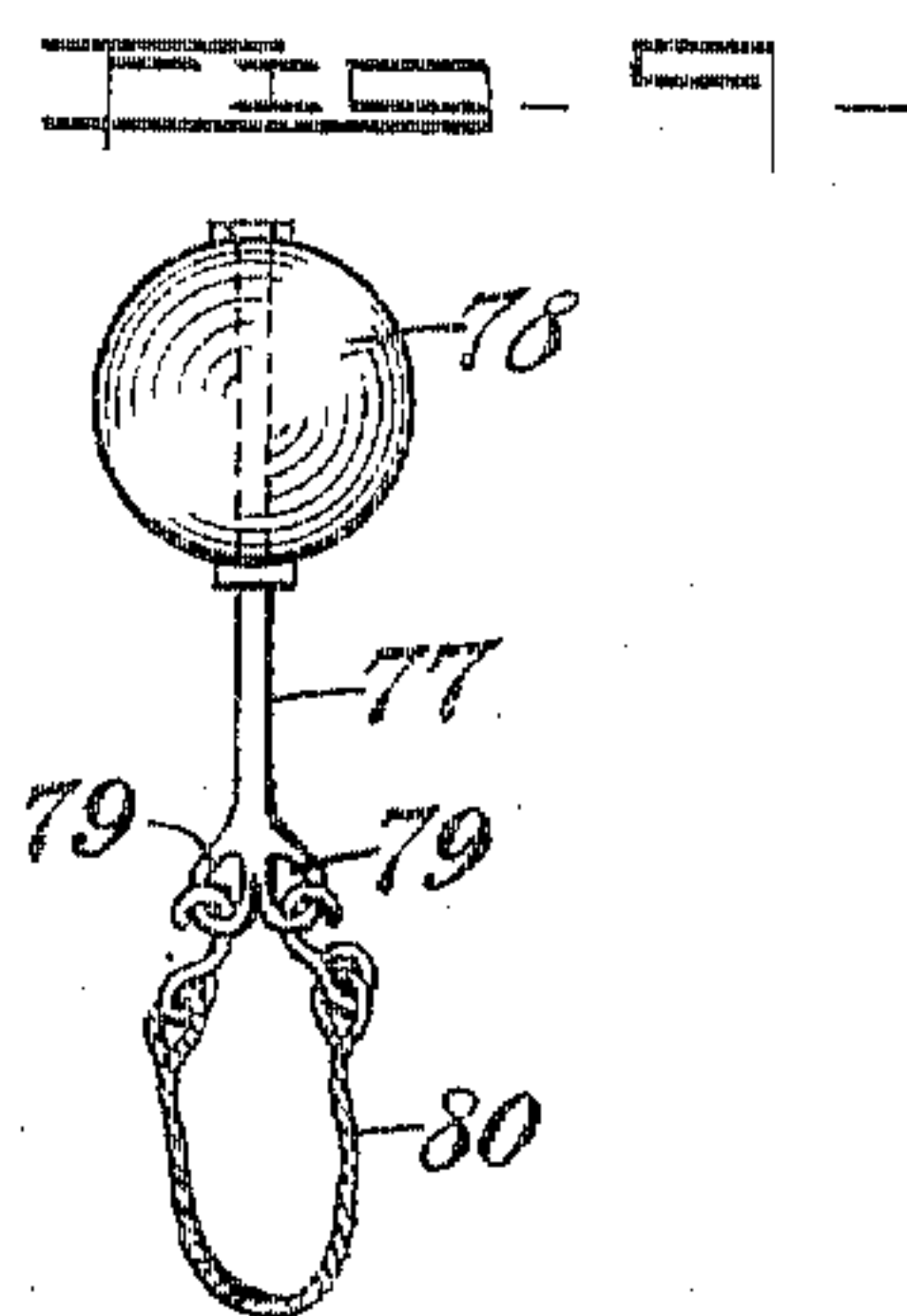
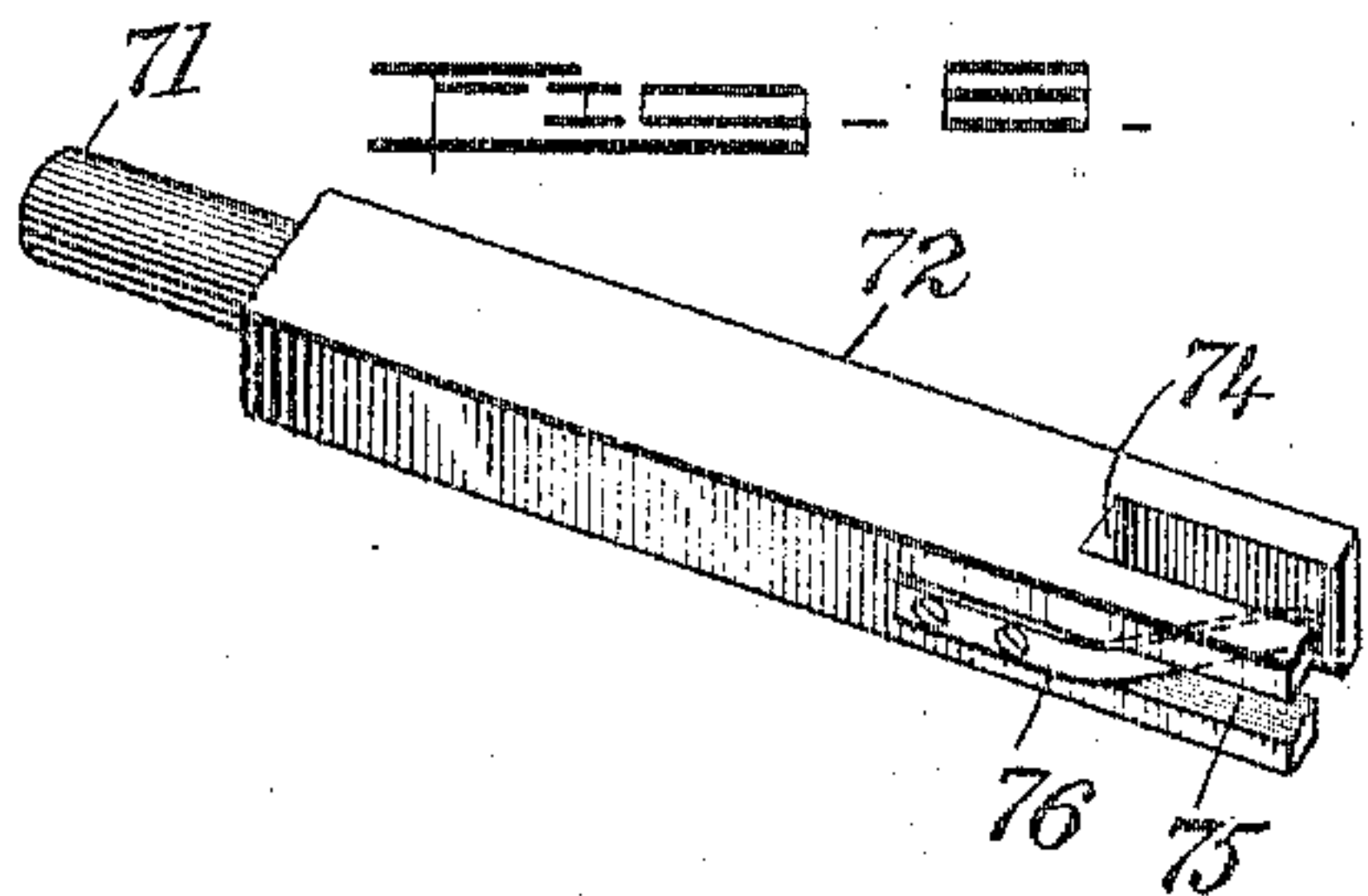
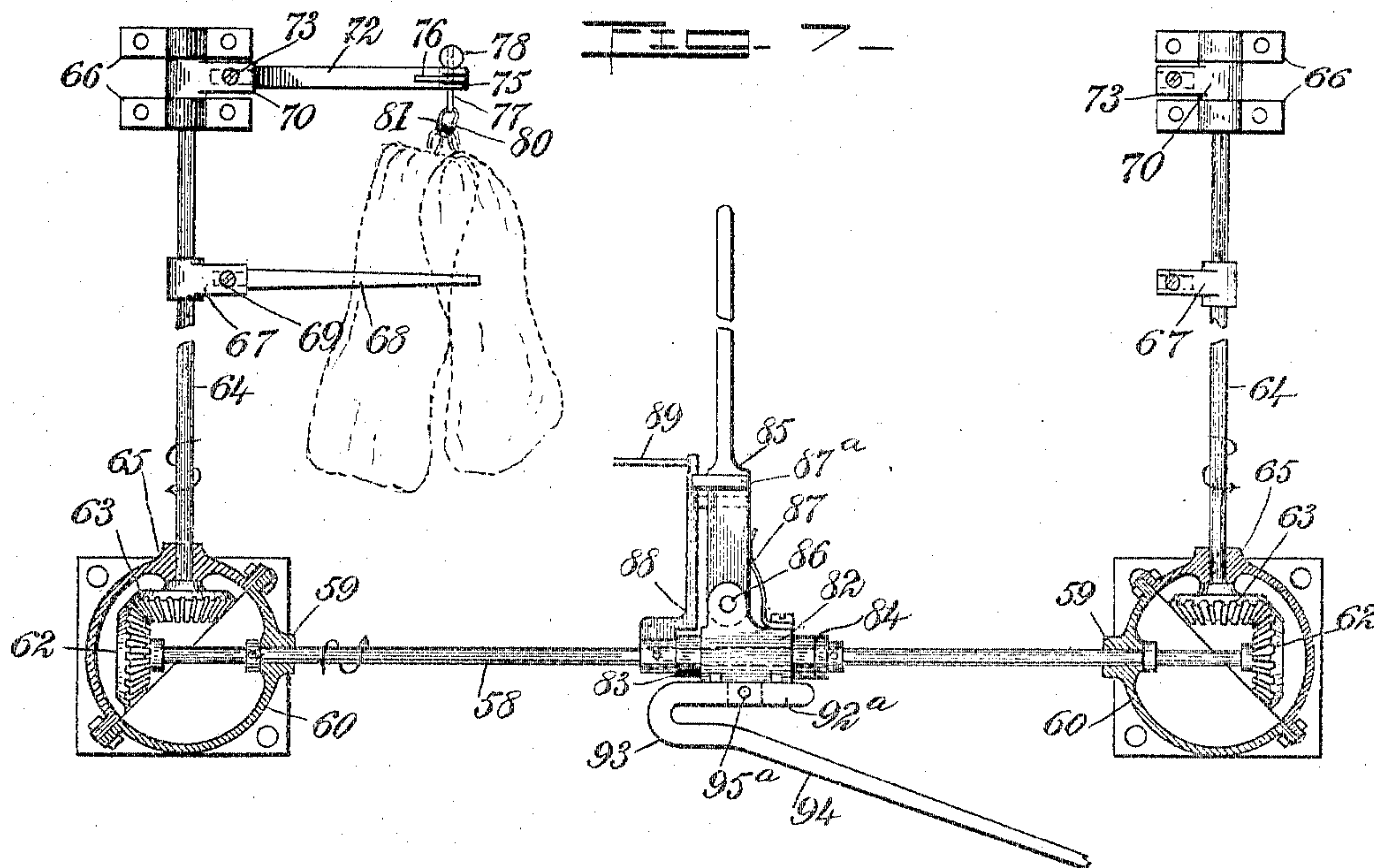
No. 784,053.

PATENTED MAR. 7, 1905.

J. S. KAUFFMAN.
MAIL BAG DELIVERY DEVICE.

APPLICATION FILED MAR. 19, 1904.

3 SHEETS—SHEET 3.



WITNESSES:

C. A. Jarvis.
C. B. Ellis

INVENTOR

Jesse S. Kauffman

BY

Mumford

ATTORNEYS

UNITED STATES PATENT OFFICE.

JESSE S. KAUFFMAN, OF DEGRAFF, OHIO.

MAIL-BAG-DELIVERY DEVICE.

SPECIFICATION forming part of Letters Patent No. 784,053, dated March 7, 1905.

Application filed March 19, 1904. Serial No. 199,016.

To all whom it may concern:

Be it known that I, JESSE S. KAUFFMAN, a citizen of the United States, and a resident of Degraff, in the county of Logan and State of Ohio, have invented a new and Improved Mail-Bag-Delivery Device, of which the following is a full, clear, and exact description.

This invention relates to mail-bag-delivery devices.

The invention has for its principal object to overcome numerous disadvantages and objections common to many other contrivances hitherto devised for similar purposes and to provide devices of this kind which are simple and comparatively inexpensive to construct, besides being thoroughly effective and reliable in operation and possessing the capacity for long and repeated service.

The above and additional objects are attained by means one form of which is illustrated in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a view in perspective representing the organization and operation of my improvements. Fig. 2 is an enlarged view, in side elevation, of the upper part of the crane structure and the several auxiliaries thereto. Fig. 3 is an end elevation looking toward the right. Fig. 4 is a top plan view with parts broken away to more clearly indicate construction, the bag-catcher therein being in reverse position to that shown in Fig. 1. Fig. 5 is an end elevation looking toward the left, parts being broken off. Fig. 6 is a partial plan view of the free end portion of the lower horizontal member of the crane structure, showing the rotatable device thereon for engaging with the lower end of a suspended mail-bag. Fig. 7 is a front elevation, partly in section, of the delivery devices which I employ on the moving mail-car. Fig. 8 is a detail perspective view of the upper suspending-arm for the mail-bag as employed with the delivery devices on the car. Fig. 9 is a detail view of a device for detachably connecting the upper end of a mail-bag with the suspending-arm shown in the preceding figure. Fig. 10 is a detail view in perspective

of a rotatable block mounted on the operating-shaft of the delivery devices of the car for carrying the bag-catcher of these devices into and out of operative position, and Fig. 11 is a detail perspective view of a part of the bag-catcher employed with the delivery devices on the car.

Before proceeding with a more detailed description it may be stated that in the form of my improvements herein shown I employ specially constructed and organized devices at a railroad-station for delivering mail-bags to a catcher therefor on a moving car, as well as other specially constructed and organized devices on the car for similarly delivering mail-bags to a catcher therefor at the station, said sets of devices being adapted to be operated conjointly or practically at the same time and each set being also adapted to be operated independently either to deliver a mail-bag to or receive one from the other, as will hereinafter be explained, and while I have herein illustrated my improvements in a certain selected embodiment it will be understood, of course, that I am not limited to the precise details thereof in practice, since immaterial changes therein may be resorted to coming within the scope of my invention.

Specific reference being had to the accompanying drawings by the designating characters marked thereon, 1 represents the stationary or upright member of a crane structure located in suitable position at a railroad-station or other place for delivering mail-bags to and receiving them from a moving car 2, said member having rigid with the upper portion thereof a sleeve 3, provided with rigid oppositely-disposed horizontal arms 4, the outer or right-hand (Figs. 1, 2, and 5) face of said sleeve being provided with a casing 5, in which works in vertical direction a bolt 6, having a pull cord or chain 7 and provided with an actuating-spring 8, bearing at its lower end upon the bottom of the casing and at its upper end against the under side of a collar 9 on the bolt. Also mounted upon the said upper portion of the member 1, above said rigid sleeve 3, is a rotatable sleeve 10, provided with corresponding rigid and oppositely-disposed horizontal arms 11, a strong spring

12 being seated between each pair of said arms 4 and 11, as shown, the outer or right-hand (Figs. 1, 2, and 5) face of said rotatable sleeve being provided with a projection or rib 13, having in the lower edge thereof a recess 14, engaged by said bolt 6, the opposite sides of said recess being beveled downwardly and outwardly, as indicated at 15 in Fig. 5. The rotatable sleeve 10 is prevented from rising upwardly on the member 1 by means of the head of an ordinary tap-screw 16 inserted in the upper end of said member, and said sleeve has projecting from the inner or left-hand (Figs. 2 and 4) face thereof duplicate rigid cheek-pieces 17, between which is held the inner end portion of preferably an ordinary I-beam constituting the swinging horizontal member 18 of said crane structure, suitable bolts 19 being employed to secure said end portion in place.

Said swinging horizontal member 18 is of any desired length, and the outer end thereof is provided with a head 20, secured to the member by cheek-pieces 20^a and bolts 20^b and having oppositely-disposed notches or grooves 21 therein, the said head having projecting therefrom a neck or spindle 22, on which is rotatably mounted the straight arm 23 of a bag-catcher or yoke 24, having another arm, 25, extending parallel with the first for a suitable distance, thence branching outwardly therefrom at 26 at an angle, forming an open mouth 27 for the entrance of an anchor device, hereinafter described, between the two said arms. The neck or spindle 22 is provided circumferentially with a groove 28, (dotted lines, Fig. 4,) in which enters an end of a pin 29, inserted through an opening therefor in the said arm 23 of the bag-catcher 24, it being in this way that the latter is held in place to receive a mail-bag from a passing car. In Fig. 1 this bag-catcher 24 is in position to receive mail-bags from the car when moving in one direction, and in Fig. 4 the same is in position to similarly receive mail-bags from the car when moving in the opposite direction, it being understood that said catcher is reversible on the said neck or spindle 22 therefor. For the purpose of securing the catcher 24 in either of the positions to which it may be carried or turned I provide the outer edge of the said arm 23 thereof with a casing 30 for an actuating-spring 31 for a bolt 32, the inner end of which is adapted to engage in either one of the notches or grooves 21 in the head 20 and the outer end of which is in movable connection with a link 33, in turn connected to the shorter arm of an operating bell-crank lever 34 for the bolt, pivoted at 35 to the end of the arm 23. (See Fig. 4.)

The outer face of the arm 25 of the catcher 24 has secured thereto at 36, Figs. 3 and 4, an outwardly-turned jaw 37, extending in the direction of travel of the car and to which is suspended the upper end of a mail-bag 38 for delivery to the car, an auxiliary jaw 37^a being

also employed to prevent the bag from accidentally slipping off. For holding the lower end of the bag 38 I employ a hook 39, rotatably supported at 40 on the under side of a cap-piece 41, secured at 42 to the outer end of a lower horizontal member 43 of the crane structure, the inner end of said member being mounted on a horizontal pivot 44, passing through a bracket 45, projecting from a plate 46, rigidly secured to a post 46^a of said structure, it being thus seen that the said member 43 is non-swinging, though capable of being raised and lowered at its outer end in conformity with mail-bags of different heights or lengths, attention being called to the fact that normally the said crane member 18 rests upon the upper end of said post 46^a.

For the purpose of securely retaining a mail-bag on the catcher 24 after being placed thereon by the operating devices on the car I pivot to the under side of the swinging horizontal member 18 at 47 a lever 48, projecting at its outer end across the space 49 between the two arms of said catcher and provided at its inner end with duplicate lateral arms 50, to the ends of which are connected the ends of a chain or cord 51, working in an eye 52 on the outer end of a sliding bolt 53, the inner end of which engages with a keeper 54 on the adjacent surface portion of the post 46^a, said bolt having an actuating-spring 55 and moving in suitable guides 56 therefor on the under side of the crane member 18. As the anchor device hereinafter described passes through the mouth of the catcher 24 from either direction the said outer end of the lever 48 will be struck and the lever turned on its pivot, thereby disengaging the bolt 53 from its keeper, whereupon the crane member 18 and the yoke and bag will be swung accordingly with such force as to cause disengagement of the bolt 6 from the recess 14 of the projection 13 on sleeve 10, said swinging movement also placing the springs 12 under torsional strain and imparting to said springs the tendency to return the member 18 to a position to enable the said bolt 6 to be again engaged with said recess, which is effected by pulling upon the pull cord or chain 7 and allowing the bolt to again slip into its recess. As the mail-bags are thus swung with the crane member 18 and the yoke 24 it is apparent that the hook 39 for the lower end of the bag will be rotated accordingly, and then after the car has passed the bag may be released and detached. At the time of passing of the car the device thereon may also be in readiness to lift from the jaw 37 of the yoke 24 any bag which may be suspended thereon.

The delivery devices on the car 2 consist of a horizontal rotatable shaft 58, supported at the end portions thereof in bearings 59, provided on casings 60, secured to the outer surface of the car on opposite sides of the opening 61 therein, said shaft being provided at its ends

with beveled gear-wheels 62, meshing with corresponding gear-wheels 63, carried at the lower ends of vertical shafts 64, supported in bearings 65, also on said casings, and in additional upper bearings 66, secured to the side of the car, as shown. Secured to the vertical shafts 64, at the lower parts thereof, are sockets 67, adapted to rotate with said shafts and in one or the other of which, according to the direction in which the car is moving, is detachably received the inner end of a horizontal arm 68, held in place by a set-screw 69, the free end of said arm being for the purpose of engaging the mail-bag above its central portion, as shown in Fig. 7. The shafts 64 are also provided at or near their upper ends with similar sockets 70, in one or the other of which is received the reduced and rounded inner end portion 71 of an upper horizontal arm 72, (see Fig. 8,) held in place by set-screws 73, the free end of this arm being formed with a vertical slot 74, extending all the way through the same, and a horizontal slot 75, extending through one wall only of said vertical slot, a bent spring 76 being secured to the side of the arm and working through said horizontal slot and against the opposite wall of the vertical slot. To engage and support the upper end of the mail-bags from said arm 72, I employ an anchor 77, which is slipped into the slot 74 behind said spring 76, said anchor having at its upper end a head 78 for preventing the same slipping through said slot and provided at its lower end with eyes 79, in which are received the ends of a chain or cord 80, which is passed through rings 81 at said upper ends of the bags, as shown. One or any number of bags may be supported in this way.

Mounted centrally of the shaft 58 is a loose block 82, held in position longitudinally thereon by collars 83 and 84 and capable of being turned on the shaft by means of a hand-lever 85, which is pivoted to the block at 86, so as to be capable of being swung or turned to one side in the direction of length of the shaft, a suitable spring 87 being preferably employed to maintain the lever in an upright position and said lever being provided with lateral arms 87^a on its opposite sides. Also mounted on the shaft 58 at one side of the lever 85 is a yoke 88, which is rigid with the shaft and provided, preferably, with a handle 89, said yoke being clamped on opposite sides thereof by the said arms 87^a of lever 85. The block 82 is formed on its under side with grooves 90 and a central pin 91, the said grooves receiving pins 92 on the outer face of an arm 92^a of a reversible bag-catcher 93, the other arm of which is indicated at 94, while said pin 91 is received in an opening 95 therefor in the said arm 92^a, the said catcher being held to the block by means of a set-screw 95^a engaging pin 91.

As shown in Fig. 7, the arms 68 and 72 are

in their inward position with the bags held thereby, and the lever 85 is in its truly vertical position, with the arms of the catcher 93 in practically a vertical plane. Now on the operator in the car turning the lever 85 inwardly of the car it is apparent that the said arms of said catcher will be carried outwardly and around, so as to occupy a horizontal position, and at the same time the arms 68 and 72 will be carried outwardly with the bags, thus placing the devices on the car in readiness to receive a bag from the delivering devices at the station and at the same time deliver bags to said devices substantially in the manner hereinbefore set forth. By swinging the lever 85 to one side to carry its arms 87^a away from said yoke 88 it is apparent that the catcher 93 may be operated independently of said arms 68 and 72, and it is thought the construction and operation of my improvements will be fully understood without further elucidation thereof.

A brace 96 connects the swinging horizontal crane member with the vertical member 1, (see Fig. 1,) said brace having its lower end secured to a collar 97, fitted to turn on said latter member. The pin 29 (see Fig. 4) holds the bag-catcher 24 in position on the neck of the head of the swinging horizontal crane member 18, and it will be understood that after the lever 48 has been struck and carried to one side by the anchor 77 above the bag the said lever will resume its former position, and thereby retain the bag in place upon said catcher 24. When the lever 85 is in its truly vertical position, both the bag-catcher 93 and the arms 62 and 72 will be operated together; but on disengaging this lever from the yoke 88 either may be operated separately.

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

1. A mail-bag-delivery device comprising a crane structure, and a swinging horizontal member provided at an end thereof with a neck and a reversible bag-catcher rotatably mounted on said neck, said bag-catcher being provided with means for suspending a bag therefrom.

2. A mail-bag-delivery device comprising a crane structure, a swinging horizontal member provided at an end thereof with a reversible bag-catcher having means for suspending a plurality of bags therefrom, and means for securing the bag-catcher in its different positions.

3. A mail-bag-delivery device comprising a crane structure, comprising a stationary upright member, a swinging horizontal member provided at an end thereof with a reversible bag-catcher, and means between the two said members for locking the horizontal member in its normal position.

4. A mail-bag-delivery device comprising a crane structure, comprising a stationary upright member, a swinging horizontal member

provided at an end thereof with a reversible bag-catcher, and means between the two said members for locking the horizontal member in its normal position, said means being adapted to disengage this member on application of force to the member in either direction horizontally.

5. A mail-bag-delivery device comprising a crane structure, comprising a stationary upright member, a swinging horizontal member provided at an end thereof with a reversible bag-catcher, means for securing the latter in its different positions, and means between the two said members for locking the horizontal member in its normal position.

6. A mail-bag-delivery device comprising a crane structure, a swinging horizontal member provided at an end thereof with a reversible bag-catcher, means for securing the latter in its different positions, and means between the two said members for locking the horizontal member in its normal position, said last-named means being adapted to disengage the said horizontal member on application of force to the member in either direction horizontally.

7. A mail-bag-delivery device comprising a crane structure, a swinging horizontal member provided at an end thereof with a neck, a reversible bag-catcher rotatably mounted on said neck and a post for supporting said horizontal member.

8. A mail-bag-delivery device comprising a crane structure, a swinging horizontal member provided at an end thereof with a neck, a reversible bag-catcher having means for suspending a plurality of mail-bags rotatably mounted on said neck, and means for retaining the same on the neck.

9. A mail-bag-delivery device comprising a crane structure, comprising a stationary vertical member, a swinging horizontal member provided at an end thereof with a neck having a circumferential groove, a reversible bag-catcher rotatably mounted on the neck and provided therein with an opening, and a pin passing through said opening and entering said groove.

10. A mail-bag-delivery device comprising a crane structure, a swinging horizontal member provided at an end thereof with a head and a neck, said head having opposite notches therein, a reversible bag-catcher rotatably mounted on the neck, and a spring-actuated bolt mounted on said bag-catcher adapted to engage in one of said notches.

11. A mail-bag-delivery device comprising a crane structure, a swinging horizontal member provided at an end thereof with a head and a neck, said head having opposite notches therein and said neck being formed with a circumferential groove, a reversible bag-catcher rotatably mounted on the neck and provided with an opening, a pin passing through said opening and entering said groove, and a

spring-actuated bolt mounted on the bag-catcher adapted to engage in one of said notches.

12. A mail-bag-delivery device comprising a crane structure, a swinging horizontal member provided at an end thereof with a head and a neck, said head having opposite notches therein, a reversible bag-catcher rotatably mounted on the neck, a spring-actuated bolt mounted on the catcher and adapted to engage in one of said notches, and an operating-lever for said bolt pivoted to said catcher.

13. A mail-bag-delivery device comprising a crane structure, and a swinging horizontal member provided at an end thereof with a reversible bag-catcher, the latter being provided with means for suspending a mail-bag thereto.

14. A mail-bag-delivery device comprising a crane structure, a swinging horizontal member provided at an end thereof with a reversible bag-catcher, means for securing the latter in its different positions, and means between the two said members for locking the horizontal member in its normal position, said bag-catcher being provided with means for suspending a bag thereto.

15. A mail-bag-delivery device comprising a crane structure, comprising a stationary vertical member, a swinging horizontal member provided at an end thereof with a neck, and a reversible bag-catcher rotatably mounted on said neck, said bag-catcher being provided with means for suspending a bag thereto.

16. A mail-bag-delivery device comprising a crane structure, comprising a stationary vertical member, a swinging horizontal member provided at an end thereof with a neck having a circumferential groove, a reversible bag-catcher rotatably mounted on the neck and provided therein with an opening, and a pin passing through said opening and entering said groove, said bag-catcher being provided with means for suspending a bag thereto.

17. A mail-bag-delivery device comprising a crane structure, comprising a stationary upright member, a swinging horizontal member, a post on which the horizontal member normally rests, a reversible bag-catcher rotatably mounted at the outer end of said horizontal member, another but non-swinging horizontal member projecting from said post, and a rotatable hook supported at the outer end thereof for engaging with the lower end of a mail-bag, said catcher being provided with means for suspending the upper end of the bag thereto.

18. A mail-bag-delivery device comprising a crane structure, comprising a stationary upright member, a swinging horizontal member, a post on which the horizontal member normally rests, a reversible bag-catcher rotatably mounted at the outer end of said horizontal member, another but non-swinging horizontal member projecting from said post, and a ro-

tatable hook supported at the outer end thereof for engaging with the lower end of a mail-bag, said catcher being provided with means for suspending the upper end of the bag thereto, and said second-named horizontal member being pivoted at its other end for vertical movement.

19. A mail-bag-delivery device comprising a crane structure, comprising a stationary vertical member, a swinging horizontal member, a post on the upper end of which the latter member normally rests, a reversible bag-catcher rotatably mounted at the outer end of said horizontal member and constructed of two arms separated by a space, another but non-swinging horizontal member projecting from the post, a rotatable hook supported at the outer end thereof to engage with the lower end of a bag, a swinging lever pivoted to the under side of said first-named horizontal member and extending across said space between the arms of the bag-catcher, and a spring-actuated bolt movably connected to the inner portion of said lever and engaging with a keeper on the post, said bag-catcher being provided with means for suspending thereto the upper end of said bag.

20. A mail-bag-delivery device comprising a crane structure, comprising a stationary upright member, a swinging horizontal member provided at one end thereof with a reversible bag-catcher, and a post on the upper end of which said horizontal member normally rests.

21. A mail-bag-delivery device comprising a crane structure, comprising a stationary upright member, a swinging horizontal member provided at an end thereof with a reversible bag-catcher, means between the two said members for locking the horizontal member in its normal position, and means tending to restore this member to such position when moved therefrom by a force applied thereto in either direction horizontally.

22. A mail-bag-delivery device comprising a crane structure, comprising a stationary upright member, a swinging horizontal member provided at an end thereof with a reversible bag-catcher, means between the two said members for locking the horizontal member in its normal position, and springs tending to restore this member to such position when moved therefrom by a force applied thereto in either direction horizontally.

23. A mail-bag-delivery device comprising a horizontal shaft mounted on the side of a moving car, means rotatable on the shaft, a reversible bag-catcher supported by said means, a bag-support, and means for automatically moving said bag-support when said rotatable means is rotated.

24. A mail-bag-delivery device comprising a horizontal rotatable shaft mounted on the

side of a moving car, vertical shafts geared to each end thereof, each provided with an upper and a lower socket, means on the horizontal shaft rotatable independently thereof and provided with a reversible bag-catcher, an operating-lever for these means having lateral arms, a device rigid with said horizontal shaft constructed to be clamped by said arms, and an arm fitted in one of each of said upper and lower sockets for supporting a mail-bag.

25. A mail-bag-delivery device comprising a horizontal rotatable shaft mounted on the side of a moving car; vertical shafts geared to each end thereof, each provided with an upper and a lower socket, means on the horizontal shaft rotatable independently thereof and provided with a reversible bag-catcher, an operating-lever for these means having lateral arms, a device rigid with said horizontal shaft constructed to be clamped by said arms, and an arm fitted in one of each of said upper and lower sockets for supporting mail-bags, the arm in the upper socket being slotted both vertically and horizontally and provided with a spring and carrying behind the spring a headed anchor supporting a chain to which the upper ends of the bags are directly connected.

26. A mail-bag-delivery device comprising a horizontal rotatable shaft mounted on the side of a moving car, vertical shafts geared to each end thereof, each provided with an upper and a lower socket, means on the horizontal shaft rotatable independently thereof and provided with a reversible bag-catcher, an operating-lever for these means having lateral arms, a device rigid with said horizontal shaft constructed to be clamped by said arms, and an arm fitted in one of each of said upper and lower sockets for supporting mail-bags, the arm in the upper socket being slotted both vertically and horizontally and provided with a spring, and carrying behind the spring a headed anchor supporting a chain to which the upper ends of the bags are directly connected, said lever being pivoted to be swung free of said clamping device.

27. A mail-bag-delivery device comprising a horizontal rotatable shaft mounted on the side of a moving car, vertical shafts geared to each end thereof, each provided with an upper and a lower socket, a yoke rigid with the shaft for turning the same, and an arm fitted in one of each of said upper and lower sockets for supporting, respectively, the upper and lower end of a mail-bag.

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

JESSE S. KAUFFMAN.

Witnesses:

FUIT L. KEATING,
J. S. HUSTON.