

July 5, 1955

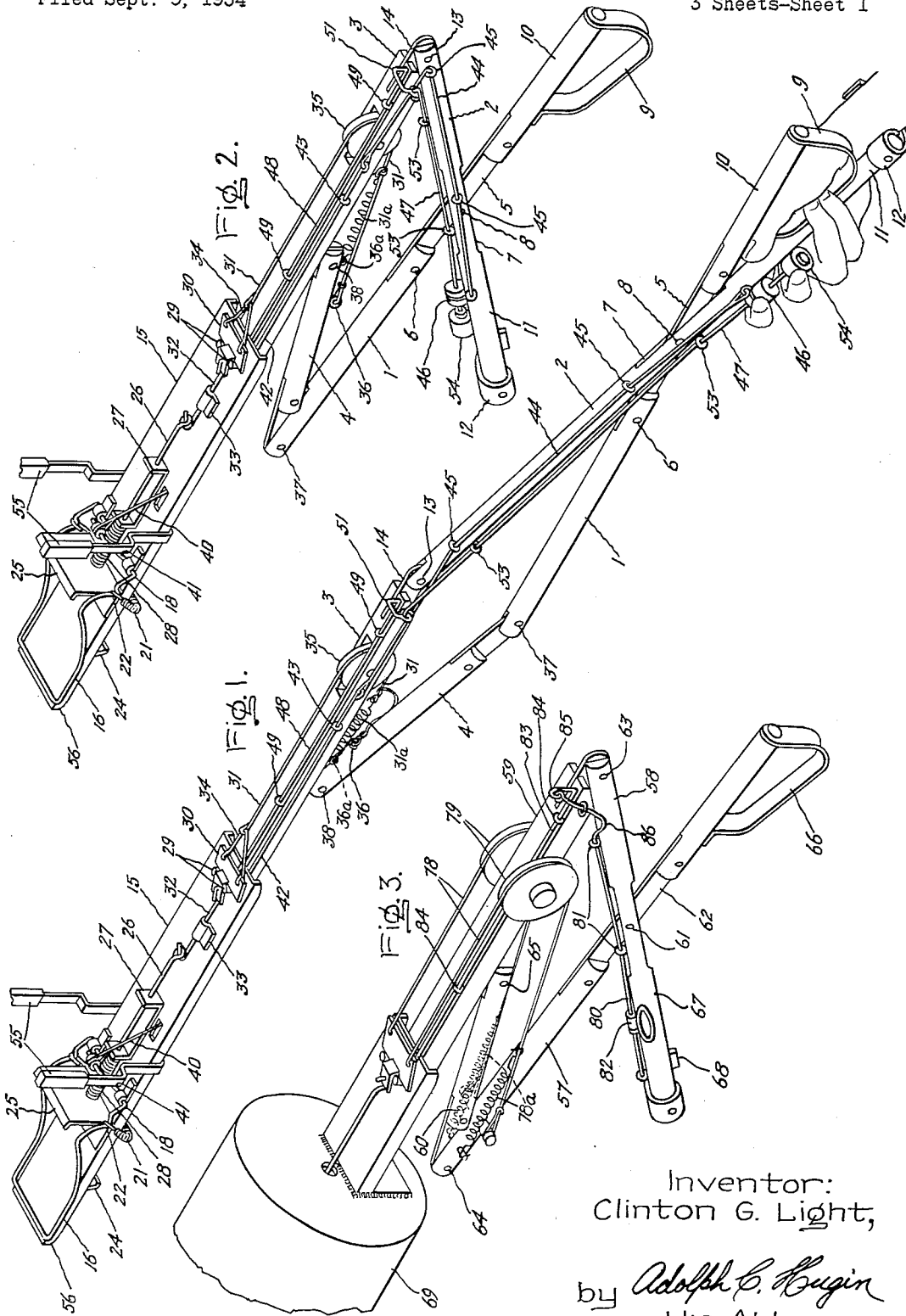
C. G. LIGHT

2,712,466

MATERIAL COLLECTION AND DELIVERY DEVICE

Filed Sept. 9, 1954

3 Sheets-Sheet 1



Inventor:
Clinton G. Light,
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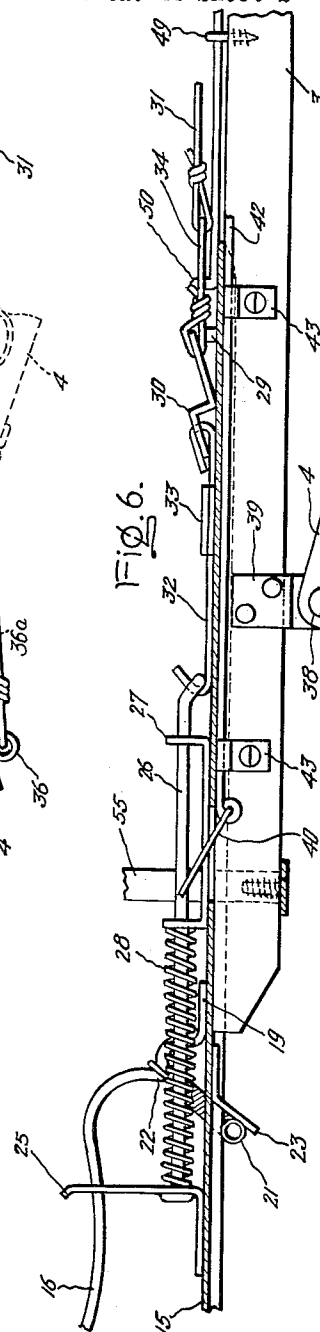
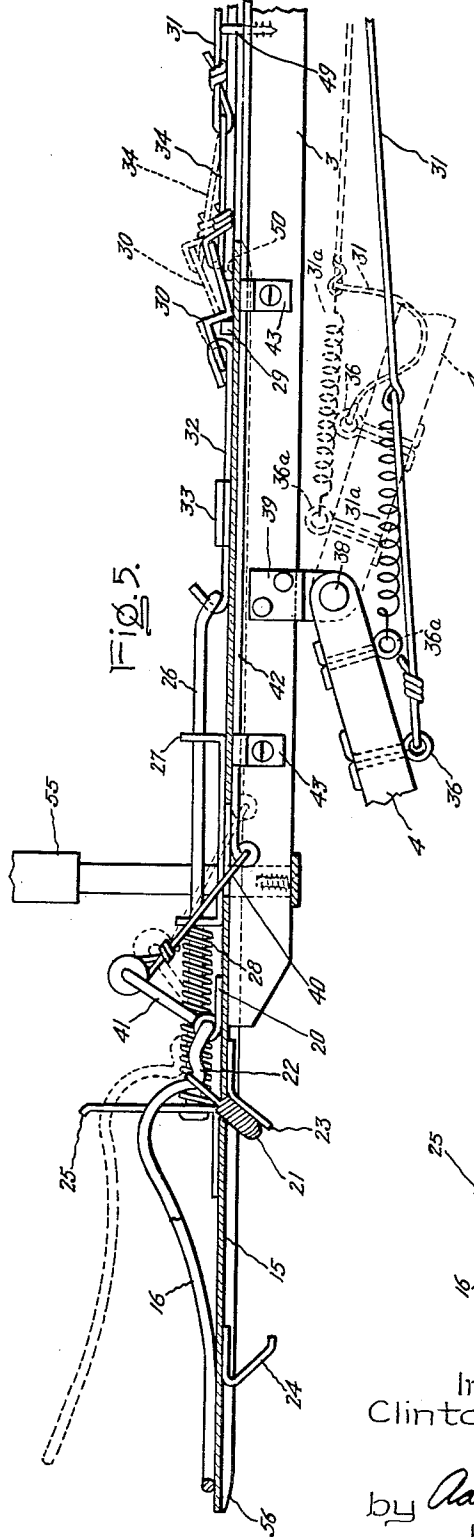
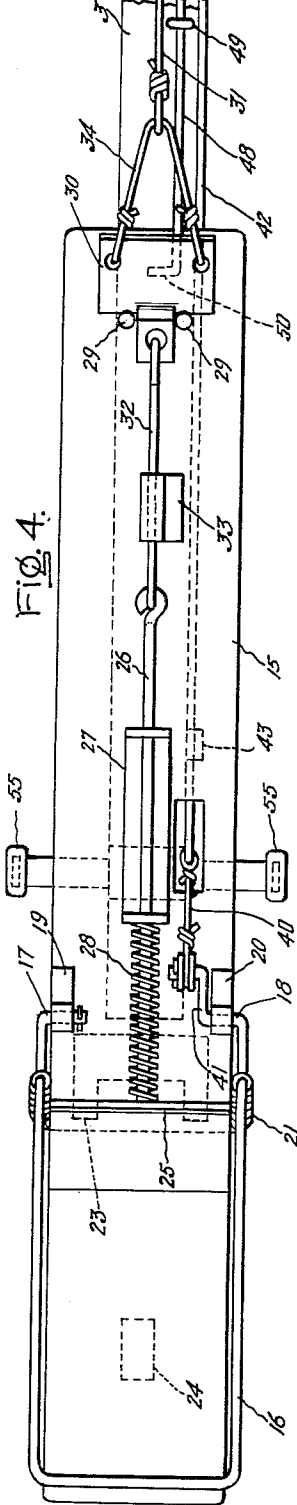
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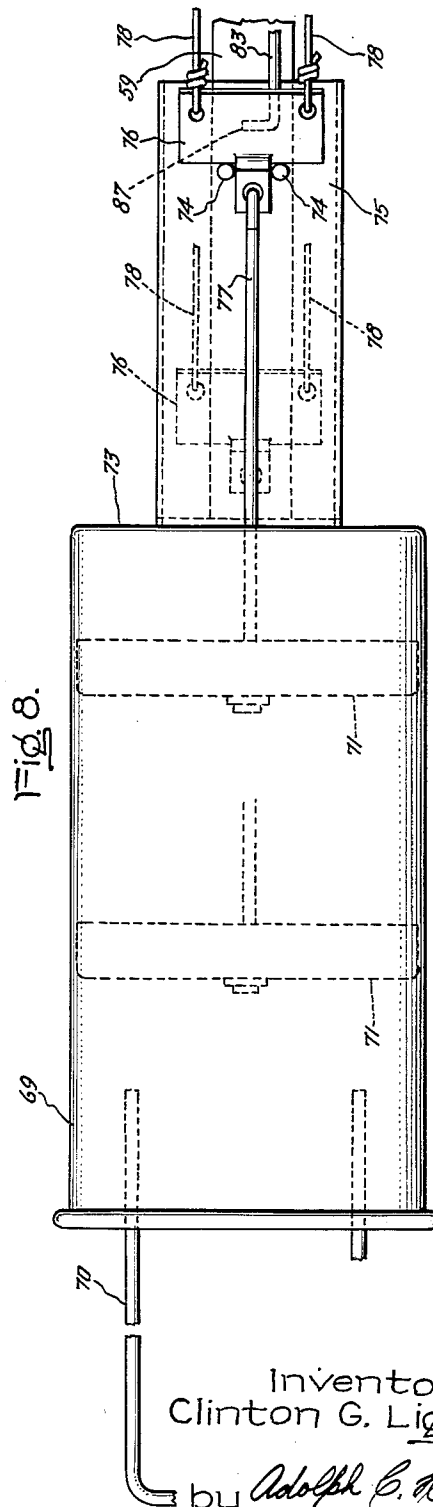
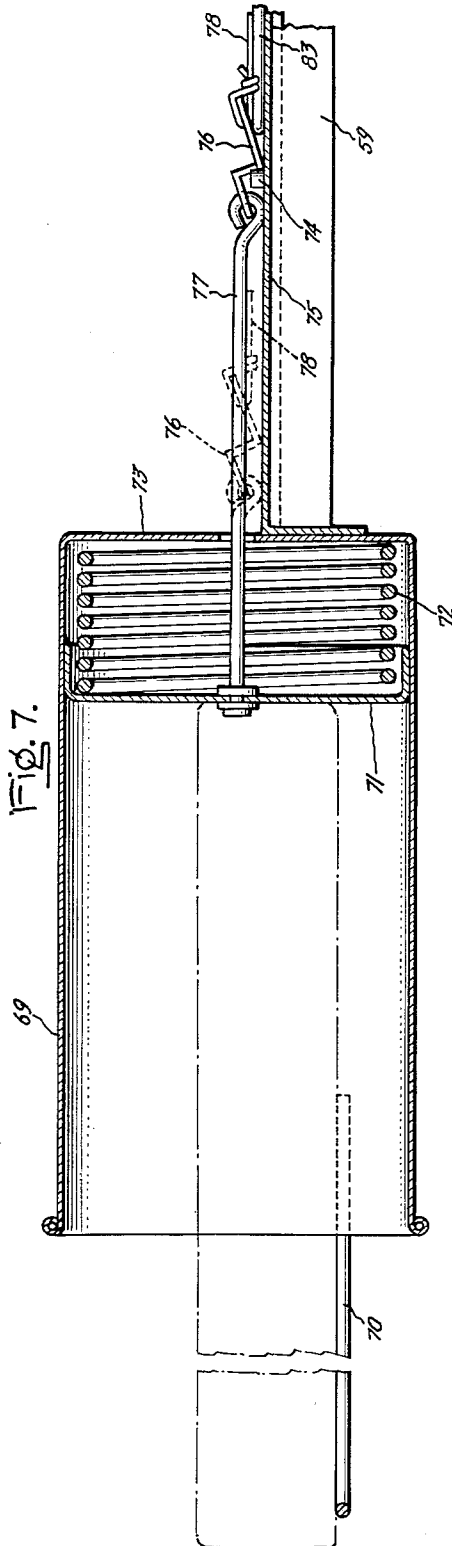
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MATERIAL COLLECTION AND DELIVERY DEVICE

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3 Sheets-Sheet 3



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2,712,466

MATERIAL COLLECTION AND DELIVERY DEVICE

Clinton G. Light, Radiant Valley, Md.

Application September 9, 1954, Serial No. 455,025

10 Claims. (Cl. 294—50.5)

My invention relates to collection and delivery devices and particularly to devices for facilitating the collection and delivery of materials such as mail, newspapers, and the like, from and into receptacles like mail and newspaper boxes.

In many areas, especially in suburban and rural localities, mail, newspapers, and such material is commonly delivered by depositing it in a container, usually mounted on a post or other elevated stand by the side of the road. Delivery and collection of this material often requires stopping the delivery vehicle and dismounting in order to provide the service. Besides the work involved in thus delivering materials, a great amount of time is consumed in the operations repeated at each stop. It is an object of my invention to provide a device for delivering and collecting material from delivery boxes with greater ease and more expeditiously.

It is another object of my invention to provide delivery and collection devices which may be retracted into the delivery vehicle for loading and removal of material therefrom, and which may easily be extended for delivering and collecting material from containers without leaving the delivery vehicle, and, in fact, I have found that it is not even necessary to stop the vehicle in many instances.

A further object of my invention is to provide a material delivery and collection device which can be readily held and operated by using only one hand.

My device is formed with a retractable arm or frame with a material holder on one end and gripping and operating members on the other end thereof. Letters, newspapers, small parcels, and the like are adapted to be placed in the material holder when the arm is retracted and to be ejected therefrom by an ejector mechanism operable remotely from the opposite end of the retractable arm. This ejector mechanism includes a spring-biased trigger which is cocked automatically when the arm is retracted, and which is adapted to be released or fired remotely through a trigger mechanism. In a device for letter delivery, the letter is adapted to be held by a resiliently biased clasp or clamping member, which also is operable remotely by a release cable or cord from the opposite end of the arm. In collecting mail, the clasp or clamping member is operated to open position as the material holder is inserted into the mail-box. The support part of the material holder is then slid under the mail with the open clasp over it. Release of the clasp clamps the mail firmly to the support. The arm is retracted and the mail removed into the collection bag. A small parcel and newspaper holder device may use a cylinder as the holder with a plunger type ejector adapted to be operated in essentially the same manner as the letter delivery device. Various other refinements are provided for ease of handling and operation which may be omitted if a simpler construction is desired.

Further objects and advantages of my invention will become apparent and my invention will be better understood from the following description thereof referring to

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the accompanying drawings, and the features of novelty which characterize my invention will be pointed out with particularity in the claims annexed to and forming a part of this specification.

In the drawings, Fig. 1 is a perspective view, partly broken away, of an embodiment of my invention especially useful for mail delivery and collection, showing the retractable frame in extended position; Fig. 2 is a perspective view, partly broken away, of the device shown in Fig. 1, illustrating the device with the frame in retracted position; Fig. 3 is a perspective view, partly broken away, of another embodiment of my invention, especially useful for newspaper delivery, showing the frame in retracted position; Fig. 4 is a plan view of the material holder end of the device shown in Figs. 1 and 2, with the ejector mechanism in cocked position; Fig. 5 is a side elevation, partly broken away, of the portion of the device shown in Fig. 4; Fig. 6 is a side elevation, partly broken away, of the portion of the device shown in Figs. 4 and 5, with the ejector mechanism in released position; Fig. 7 is an enlarged elevation, partly in section, of the material holder end of the device shown in Fig. 3, with the ejector mechanism in cocked position; and Fig. 8 is a plan view of the device portion shown in Fig. 7.

Referring to the drawings, I have illustrated in Figs. 1, 2, 4, 5, and 6 an embodiment of my delivery and collection device which is particularly useful in handling mail in rural areas having mail-boxes mounted on posts or other types of elevated supports. For such mail service, the carrier generally drives around his route in an automobile. In order to save time and work, I provide my device with a folding retractable arm or frame on which a material holder is provided at one end and a one-hand holding and operating means is provided at the other end, so that the frame can be retracted into the car, the mail placed in the holder, the frame then extended, and the mail deposited in the mail-box, all without leaving the car. A little practice will enable the carrier to place the mail for the next box in the holder while traveling between boxes and to make the delivery into the box in a minimum of time. I have found that a pantograph type frame or arm serves very effectively for present purposes. In the illustrations of this type of delivery device, I have shown a pantograph frame having four pivotally connected links 1, 2, 3, and 4. The single hand holding and operating arrangement is provided on the ends of two pivotally connected adjacent links 1 and 2. The link 1 is preferably formed with a narrow connecting shank 5 on one end thereof, which may be made integral with the link 1 or rigidly secured thereto in any suitable manner, as by a rivet or screw 6. This narrow shank 5 passes through a complementary slot 7 formed through an end of link 2 and is pivotally connected thereto by a suitable pivot pin 8. The slot 7 and the shank 5 are made of lengths such that the links 1 and 2 can be folded to have a relatively very small angle between the adjacent inner sides thereof when the frame is in its extended position and a relatively wide or large angle therebetween when the frame is in its retracted position.

In manipulating the device for delivery or collection of mail, it is desirable that it can be held in only one hand. In order to facilitate such handling, all parts of any size are preferably made of one of the light metals or of light weight wood. Furthermore, a suitable holding arrangement is provided including a hand grip 9 secured to an end 10 of the link 1 mounted on the shank 5. The link 2 is formed with a gripping extension 11 on the end thereof adapted to lie adjacent to the hand grip 9 when the pantograph frame is in extended position and the angle between links 1 and 2 is a minimum, as shown in Fig. 1. This gripping extension 11 is pro-

vided with a wrist or arm support 12 on the end thereof, such that the operator's one hand can easily hold the device, as shown in Fig. 1, with the hand gripping the hand grip 9 and the gripping extension 11, while added support is provided by the operator's wrist on the support 12.

Letters and small parcels are adapted to be held during delivery and collection by a material holder on the end of the pantograph frame opposite the gripping end thereof. This material holder is mounted on the outer end of link 3, which is pivotally connected to the end of link 2 opposite the gripping extension 11 by a suitable pivot pin 13, which extends through link 2 and a narrow shank 14 on link 3. The material holder includes a channel-section support 15 on the outer end of link 3 and a clasp or clamping member 16, formed of suitable wire or similar material, in the form of a U, pivotally mounted on the support 15 by journalling inturned ends 17 and 18 thereof in mounting brackets 19 and 20, respectively. A coil spring 21 is secured to the clamping member 16 at curves 22 therein, extends under the support 15, and is held in a forward position by a bracket 23, so as to bias the clamping member 16 into clamping engagement with the support 15. Letters may be placed between the clamping member 16 and the material support 15 and will be held while the frame is being extended to the mail-box.

An opening hook or catch 24 is secured to the under side of the support 16, near the outer end thereof, to provide for hooking onto the door of a mail-box for opening it to insert the mail into the box, if it be not provided with an adequate opening for insertion of mail held in the holder. When the end of the mail is in the box, it is adapted to be forcibly ejected from the holder into the mail-box by an ejector mechanism having an L-section impelling member 25, slidably mounted on the support 15 by a mounting rod 26, which is longitudinally translatable supported in a bracket 27 secured to the support 15. A compression coil spring 28 engages the back of the impelling member 25 and the front leg of the bracket 27 and resiliently biases the impelling member to an extended position toward the outer end of the holder 15. Compression of the spring 28 is obtained by a cocking means which is cocked automatically when the pantograph frame is retracted. This cocking means includes a cocking catch on the third link 3, comprising a pair of catch bosses 29 on the inner end of the support 15, and a cocking member 30 adapted to have a cocking engagement with the catch bosses 29 when retracted by a draw element including a cable or cord 31.

The cocking member 30 is secured to the impeller rod 26 by a link 32 which is slidably guided in a bracket 33 and is secured to the pull cord 31 by a connecting element 34 attached to each rear corner of the cocking member 30 to assure a balanced pull thereon. The pull cord 31 passes over a pulley 35 pivotally mounted on the link 3 and is secured to the link 4 by a suitable eyelet 36. A light tension element, such as a light spring 31a is secured to the pull cord 31 and by an eyelet or cotter pin 36a to link 4, so as to maintain, at all times, tension on the pull cord 31 to keep it on the pulley 35. The link 4 is pivotally connected by a suitable pivot pin connection 37 to the end of link 1 opposite to the hand grip 9 and pivotally connected at the other end thereof to link 3 by a pivot pin 38 in a bracket 39. Thus, when the pantograph frame is folded to its retracted position, shown in Fig. 2, with the angle between the inner sides of links 1 and 2 at a maximum, the pull cord 31 is drawn taut and the cocking member 30 is drawn back to cocked position, engaging the bosses 29, as shown in Figs. 2, 4, and 5, with the impelling member 25 drawn back into cocked position. In this position, the compressed spring 28 exerts pressure upon the cocking member 30 so as to hold it biased against the catch bosses 29.

Ejection of material from the holder by the impelling member is obtained by first releasing the clamping pres-

sure of the clamping member 16 by raising it away from the support 15, as shown in dotted lines in Fig. 5, to allow the impelling member 25 to push the material off the support 15. This release of the clamping pressure is remotely controlled by a pull means including a link 40, pivotally connected to a crank arm 41 on the end of the clamping member, and pivotally connected to a pull rod 42, longitudinally translatable mounted in guide brackets 43. A pull cable or cord 44 is fastened to the end of the pull rod 42, passes through guide eyelets 45 on link 2, and is secured at the other end to an operating knob 46, slidably mounted on a trip rod 47, and arranged adjacent to the end of the gripping extension 11, so that it can be pulled easily with a finger of the hand which holds the pantograph frame in extended position. With the clamping pressure released from the clamping member 16 upon mail on the support 15, the impelling member is released from its cocked position by a trigger release including a trigger trip rod 48 mounted in eyelets 49, on link 3, and having a trip finger 50 on one end thereof arranged adjacent to the cocking bosses 29 under the cocking member 30, when it is in cocked position. The trigger rod is formed with a crank arm 51 on the other end thereof connected to the trigger trip rod 47, mounted in eyelets 53 on link 2, and is provided with a trip knob 54 on the end thereof adjacent to the end of the gripping extension 11, so that a simple pull on the trigger trip knob, by a finger, turns the trip rod 48 and raises the trip finger 50 which raises the cocking member, releasing it, as shown in dotted lines in Fig. 5. This frees the impelling member 25, and the spring 28 exerts a pressure thereon and forcibly biases it toward the outer end of the material holder from the position shown in Fig. 5 to that shown in Fig. 6, thus ejecting the mail off the support 15 into the mail box.

In delivering small packages with this type device, the package is merely placed between clamping arms 55 of a U-shaped bracket mounted on the outer end of the material holder and inserted into an open mail-box, where it is easily dislodged from the arms 55 by a simple quick sidewise flip of the device.

Collection of mail from a mail-box also is facilitated with my device. In collecting mail, the end of the material holder is inserted into the mail-box and the clamping member 16 is raised by pulling the pull knob 46. The end 56 of the support 15 is tapered to aid in sliding it under letters in the box. When the letters are on the support 15, the clamping member 16 is released and clamps the letters to the support 15 until it is retracted and they are manually removed, all without dismounting from the car.

Another embodiment of my invention is illustrated in Figs. 3, 7, and 8, which is especially useful in delivering newspapers, magazines, and like articles. As in the other embodiment, this delivery device includes a folding retractable arm or pantograph frame having four pivotally connected links 57, 58, 59, and 60. This pantograph frame is essentially the same as that shown in Figs. 1 and 2, with adjacent ends of links 57 and 58 pivotally connected by a pin 61 extending through link 58 and a shank 62 of link 57, adjacent ends of links 58 and 59 pivotally connected by pin 63, adjacent ends of links 57 and 60 pivotally connected by pin 64, and adjacent ends of links 59 and 60 pivotally connected by pin 65. A hand grip 66 is mounted on the end of link 57 and a gripping extension 67 with an arm or wrist support 68 are provided on the end of link 58, which is connected to link 57, similar to those shown on links 1 and 2, in Figs. 1 and 2, to provide for handling the device with a single hand.

In this construction, the material holder includes a cylindrical member 69 with a material supporting bracket 70 extending from the outer end thereof, especially useful for holding articles like newspapers and magazines. The material holder is provided with an ejector mechanism having a plunger impelling member 71 slidably

mounted within the cylindrical member 69 in longitudinally translatable relation thereon with a compression spring 72 arranged between the inner side of the plunger 71 and a closed end 73 of the cylindrical member 69 for biasing the plunger to an extended position toward the outer end of the material holder. As in the other construction, the impelling member is adapted to be cocked by a cocking mechanism, which compresses the spring 72 when cocked, and to be released from its cocked position by a trigger for forcibly ejecting material from the cylindrical holder 69. This cocking mechanism includes a cocking catch, formed by a pair of catch bosses 74 on the support 75 on the link 59, and a cocking member 76 secured to the impelling member 71 by a link 77, with a cocking draw element formed by a draw cable or cord 78 secured to each rear corner of the cocking member 76 and to pantograph link 57 near its pivotal connection 64 to link 60. The cords 78 pass over pulleys 79 rotatably mounted on link 59, so that the impelling member is automatically drawn to its cocked position, as shown in Figs. 3, 7, and 8, by folding the pantograph frame to its retracted position with the angle between the inner sides of links 57 and 58 at a maximum. Light tension elements, such as springs 78a, are suitably secured to the draw cords 78 and to the link 57, so as to maintain, at all times, the draw cords 78 in tension around the pulleys 79 to prevent dislodgement therefrom. The pulleys 79 preferably are formed with a groove for centering the draw cords thereon.

Ejection of material from the holder is obtained by releasing the impelling member from its cocked position by a remotely controlled trigger means having a pull release rod element 80 mounted in eyelets 81 on the link 58 with a trigger knob 82 adjacent the gripping extension 67. As in the other embodiment, a trigger rod 83 is mounted in eyelets 84 on link 39 and is formed with a crank arm 85 on one end thereof connected by a flexible connection 86 to the adjacent end of the trigger rod 80 and a trigger finger 87 on the other end, so that a pull on the trigger knob 82 turns the trigger rod 83 through the crank arm 85, which turns the trigger finger 87 and raises the cocking member, tripping it off the catch bosses 74. This releases the compression spring which forcibly biases the impelling plunger member 71 toward the outer end of the material holder, as shown in dotted lines in Fig. 8, thus ejecting material from the holder.

While I have illustrated and described particular embodiments of my invention, modifications thereof will occur to those skilled in the art. I desire it to be understood, therefore, that my invention is not to be limited to the arrangements disclosed, and I intend in the annexed claims to cover all modifications which do not depart from the spirit and scope of my invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. A delivery device including a folding retractable pantograph frame having four pivotally connected links, means on two adjacent of said links for holding said pantograph frame in extended position with one hand, a material holder on one end of a third of said links pivotally connected to one of said two links at the end thereof opposite said holding means, said material holder including an ejector mechanism having an impelling member for forcibly engaging material held in said material holder for ejecting such material from said holder, said ejector mechanism including means for biasing said impelling member to an extended position and means for drawing said impelling member to a cocked position by folding said pantograph frame to retracted position with the angle between said two links at its maximum, trigger means for tripping said impelling member from its cocked position and for thereby forcibly biasing said impelling member by said biasing means toward the outer end of said material holder.

2. A delivery device including a folding retractable pan-

tograph frame having four pivotally connected links, a hand grip on one end of one of said links, a gripping extension with an arm support on one end of a second of said links pivotally connected to said one link and adapted to lie adjacent to said hand grip when said pantograph frame is in extended position with the angle between said one link and said second link at its minimum providing for holding said pantograph frame in such extended position with one hand gripping said hand grip and said gripping extension, a material holder on one end of a third of said links pivotally connected to said second link at the end thereof opposite said gripping extension, said material holder including an ejector mechanism having an impelling member for forcibly engaging material held in said material holder for ejecting such material from said holder, said ejector mechanism including means for biasing said impelling member to an extended position and means for drawing said impelling member to a cocked position by folding said pantograph frame to retracted position with the angle between said one and said second links at its maximum, trigger means for tripping said impelling member from its cocked position and for forcibly biasing said impelling member by said biasing means toward the outer end of said material holder.

3. A delivery device including a folding retractable pantograph frame having four pivotally connected links, means on two adjacent of said links for holding said pantograph frame in extended position with one hand, a material holder on one end of a third of said links pivotally connected to one of said two links at the end thereof opposite said holding means, said material holder including an ejector mechanism having an impelling member for forcibly engaging material held in said material holder for ejecting such material from said holder, said ejector mechanism including a compression spring for biasing said impelling member to an extended position and a cocking catch on said third link and a cocking member secured to said impelling member with a cocking draw element secured to an end of one of said links and to said impelling member for drawing said impelling member to a cocked position with said cocking member held by said catch and for compressing said spring by folding said pantograph frame to retracted position with the angle between said two adjacent links at its maximum, said compressed spring thereby exerting pressure upon said cocking member to hold it biased against said catch, trigger means having a pull release element adjacent said holding means and a trip release for tripping said cocking member off said catch by said pull release element and thereby releasing said compressed spring for forcibly biasing said impelling member toward the outer end of said material holder.

4. A delivery device including a folding retractable pantograph frame having four pivotally connected links, a hand grip on one end of one of said links, a gripping extension with an arm support on one end of a second of said links pivotally connected to said one link and adapted to lie adjacent to said hand grip when said pantograph frame is in extended position with the angle between said one link and said second link at its minimum providing for holding said pantograph frame in such extended position with one hand gripping said hand grip and said gripping extension, a material holder on one end of a third of said links pivotally connected to said second link at the end thereof opposite said gripping extension, said material holder including an ejector mechanism having an impelling member for forcibly engaging material held in said material holder for ejecting such material from said holder, said ejector mechanism including a compression spring for biasing said impelling member to an extended position and a cocking catch on said third link and a cocking member secured to said impelling member with a cocking draw element secured to an end of one of said links and to said impelling member for drawing said impelling member to a cocked position

with said cocking member held by said catch and for compressing said spring by folding said pantograph frame to retracted position with the angle between said one and said second links at its maximum, said compressed spring thereby exerting pressure upon said cocking member to hold it biased against said catch, trigger means having a pull release element adjacent said gripping extension on said second link and a trip release element adjacent said catch for tripping said cocking member off said catch and thereby releasing said compressed spring for forcibly biasing said impelling member toward the outer end of said material holder.

5. A delivery device including a folding retractable pantograph frame having four pivotally connected links, means on two adjacent of said links for holding said pantograph frame in extended position with one hand, a material holder including a support and a clamping member pivotally mounted on said support with resilient means biasing the free end of said clamping member into engagement with said support and arranged on one end of a third of said links pivotally connected to one of said two links at the end thereof opposite said holding means, a pull means secured to said clamping member and having an operating element adjacent said holding means for moving said free end of said clamping member away from said support, said material holder including an ejector mechanism having an impelling member for forcibly engaging material held in said material holder for ejecting such material from said holder, said ejector mechanism including means for biasing said impelling member to an extended position, means for drawing said impelling member to a cocked position by folding said pantograph frame to retracted position with the angle between said two links at its maximum, trigger means for tripping said impelling member from its cocked position and thereby biasing said impelling member toward the outer end of said material holder by said biasing means.

6. A delivery device including a folding retractable pantograph frame having four pivotally connected links, a hand grip on one end of one of said links, a gripping extension with an arm support on one end of a second of said links pivotally connected to said one link and adapted to lie adjacent to said hand grip when said pantograph frame is in extended position with the angle between said one link and said second link at its minimum providing for holding said pantograph frame in extended position with one hand gripping said hand grip and said gripping extension, a material holder including a support and a clamping member pivotally mounted on said support with resilient means biasing the free end of said clamping member into engagement with said support and arranged on one end of a third of said links pivotally connected to said second link at the end thereof opposite said gripping extension, a pull means secured to said clamping member and having an operating element adjacent said gripping extension for moving the free end of said clamping member away from said support, said material holder including an ejector mechanism having an impelling member for forcibly engaging material held in said material holder for ejecting such material from said holder, said ejector mechanism means for biasing said impelling member to an extended position, means for drawing said impelling member to a cocked position by folding said pantograph frame to retracted position with the angle between said one and said second links at its maximum, trigger means for tripping said impelling member from its cocked position thereby biasing said impelling member toward the outer end of said material holder by said biasing means.

7. A delivery device including a folding retractable pantograph frame having four pivotally connected links, a hand grip on one end of one of said links, a gripping extension on one end of a second of said links pivotally connected to said one link and adapted to lie adjacent to said hand grip when said pantograph is in extended position

with the angle between said one link and said second link at its minimum providing for holding said pantograph frame in extended position with one hand gripping said hand grip and said gripping extension, a material holder including a support and a clamping member pivotally mounted on said support with resilient means biasing the free end thereof into clamping engagement with said support and arranged on one end of a third of said links pivotally connected to said second link at the end thereof opposite said gripping extension, a pull means secured to said clamping member and having an operating element adjacent to said gripping extension for moving said free end of said clamping member away from said support, said material holder including an ejector mechanism having an impelling member for forcibly engaging material held in said material holder for ejecting such material from said holder, said ejector mechanism including a compression spring for biasing said impelling member to an extended position and a cocking catch on said third link and a cocking member secured to said impelling member with a cocking draw element secured to the fourth of said links and to said impelling member for drawing said impelling member to a cocked position with said cocking member held by said catch and for compressing said spring by folding said pantograph frame to retracted position with the angle between said one and said second links at its maximum, said compressed spring thereby exerting pressure upon said cocking member to hold it biased against said catch, trigger means having a pull release element adjacent said gripping extension on said second link and a trip release element adjacent said catch for tripping said cocking member off said catch by said pull release element and thereby releasing said compressed spring for forcibly biasing said impelling member toward the outer end of said material holder.

8. A delivery device including a folding retractable pantograph frame having four pivotally connected links, means on two adjacent of said links for holding said pantograph frame in extended position with one hand, a cylindrical material holder member on one end of a third of said links pivotally connected to one of said two links at the end thereof opposite said holding means, said material holder including an ejector mechanism having a plunger impelling member longitudinally translatable within said cylindrical member for forcibly engaging material held in said material holder for ejecting such material from said holder, said ejector mechanism including means arranged between said plunger impelling member and an end of said cylindrical member for biasing said impelling member to an extended position and means for drawing said impelling member to a cocked position by folding said pantograph frame to retracted position with the angle between said two links at its maximum, trigger means for tripping said impelling member from its cocked position and for forcibly biasing said impelling member by said biasing means toward the outer end of said material holder.

9. A delivery device including a folding retractable pantograph frame having four pivotally connected links, a hand grip on one end of one of said links, a gripping extension on one end of a second of said links pivotally connected to said one link and adapted to lie adjacent to said hand grip when said pantograph is in extended position with the angle between said one link and said second link at its minimum providing for holding said pantograph frame in such extended position with one hand gripping said hand grip and said gripping extension, a cylindrical holder for material arranged on one end of a third of said links pivotally connected to said second link at the end thereof opposite said gripping extension, said material holder including an ejector mechanism having a plunger impelling member longitudinally translatable within said cylindrical member for forcibly engaging material held in said material holder for ejecting such material from said holder, said ejector mechanism including means arranged between said plunger impelling member

and an end of said cylindrical holder member for biasing said impelling member to an extended position and means for drawing said impelling member to a cocked position by folding said pantograph frame to retracted position with the angle between said one and said second links at its maximum, trigger means for tripping said impelling member from its cocked position and for forcibly biasing said impelling member by said biasing means toward the outer end of said material holder.

10. A delivery device including a folding retractable pantograph frame having four pivotally connected links, a hand grip on one end of one of said links, a gripping extension with an arm support on one end of a second of said links pivotally connected to said one link and adapted to lie adjacent to said hand grip when said pantograph frame is in extended position with the angle between said one and said second links at its minimum providing for holding said pantograph frame in such extended position with one hand gripping said hand grip and said gripping extension, a cylindrical material holder member on one end of a third of said links pivotally connected to said second link at the end thereof opposite said gripping extension, said material holder including an ejector mechanism having a plunger impelling member longitudinally translatable within said cylindrical member for forcibly engaging material held in said material holder for ejecting such material from said holder, said ejector mechanism including a compression spring arranged be-

tween said plunger impelling member and an end of said cylindrical member away from the outer end thereof for biasing said impelling member to an extended position and a cocking catch on said third link and a cocking member secured to said impelling member with a cocking draw element secured to said first of said links and to said impelling member for drawing said impelling member to a cocked position with said cocking member held by said catch and for compressing said spring by folding said pantograph to retracted position with the angle between said one and said second links at its maximum, said compressed spring thereby exerting pressure upon said cocking member to hold it biased against said catch, trigger means having a pull release element adjacent said gripping extension on said link and a trip release element adjacent said catch for tripping said cocking member off said catch by said pull release element and thereby releasing said compressed spring for forcibly biasing said impelling member toward the outer end of said material holder.

References Cited in the file of this patent

UNITED STATES PATENTS

737,452	Needles	Aug. 25, 1903
941,644	Miller	Nov. 30, 1909
2,250,313	Petz et al.	July 22, 1941

FOREIGN PATENTS

176,217	Great Britain	Mar. 9, 1922
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