

A. H. & F. C. SNYDER & J. P. GAFFNEY.
MAIL CATCHING AND DELIVERING APPARATUS

APPLICATION FILED NOV. 9, 1908.

908,898.

Patented Jan. 5, 1909.

3 SHEETS—SHEET 1.

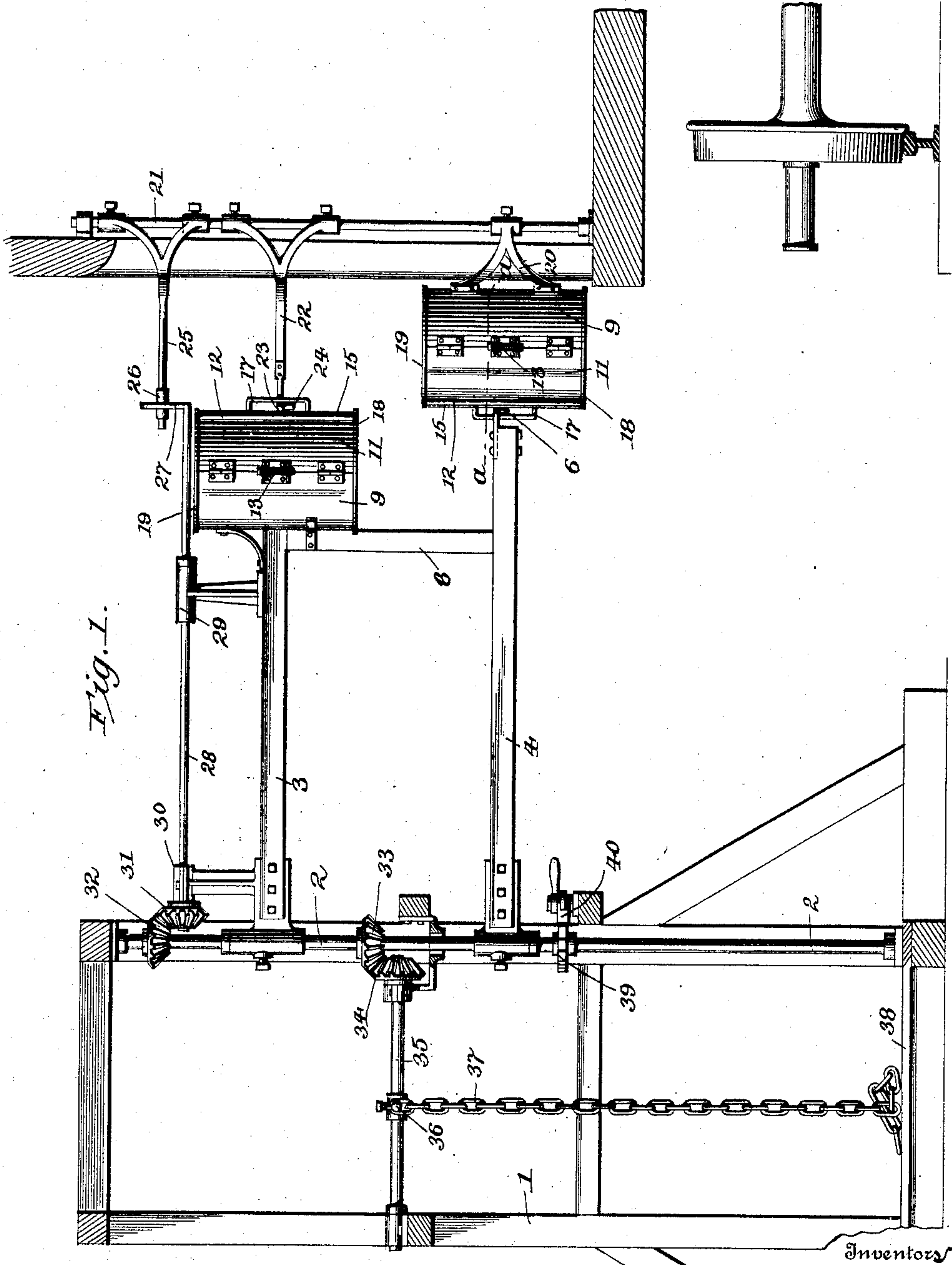


Fig. 1.

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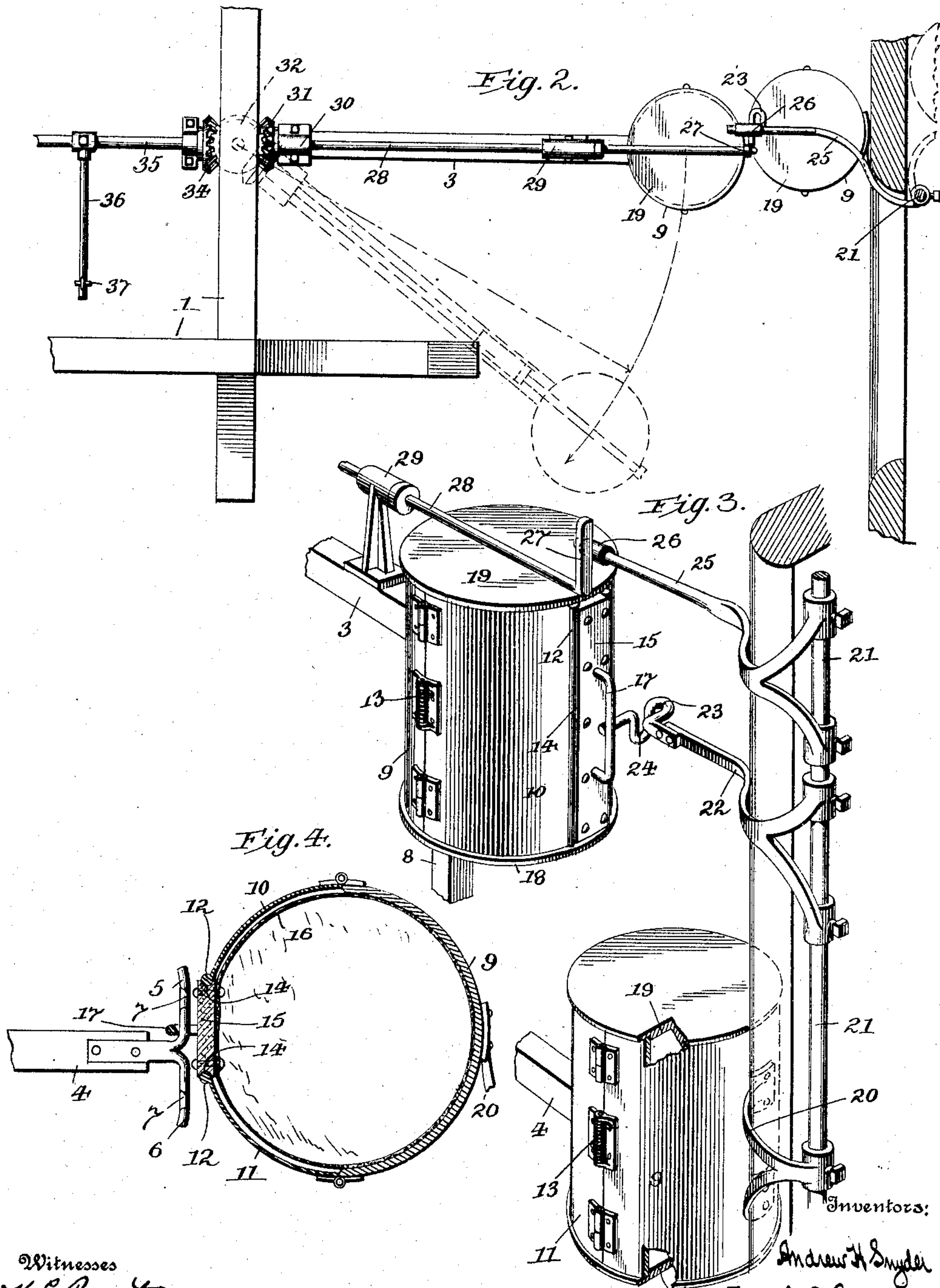
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Fig. 5.

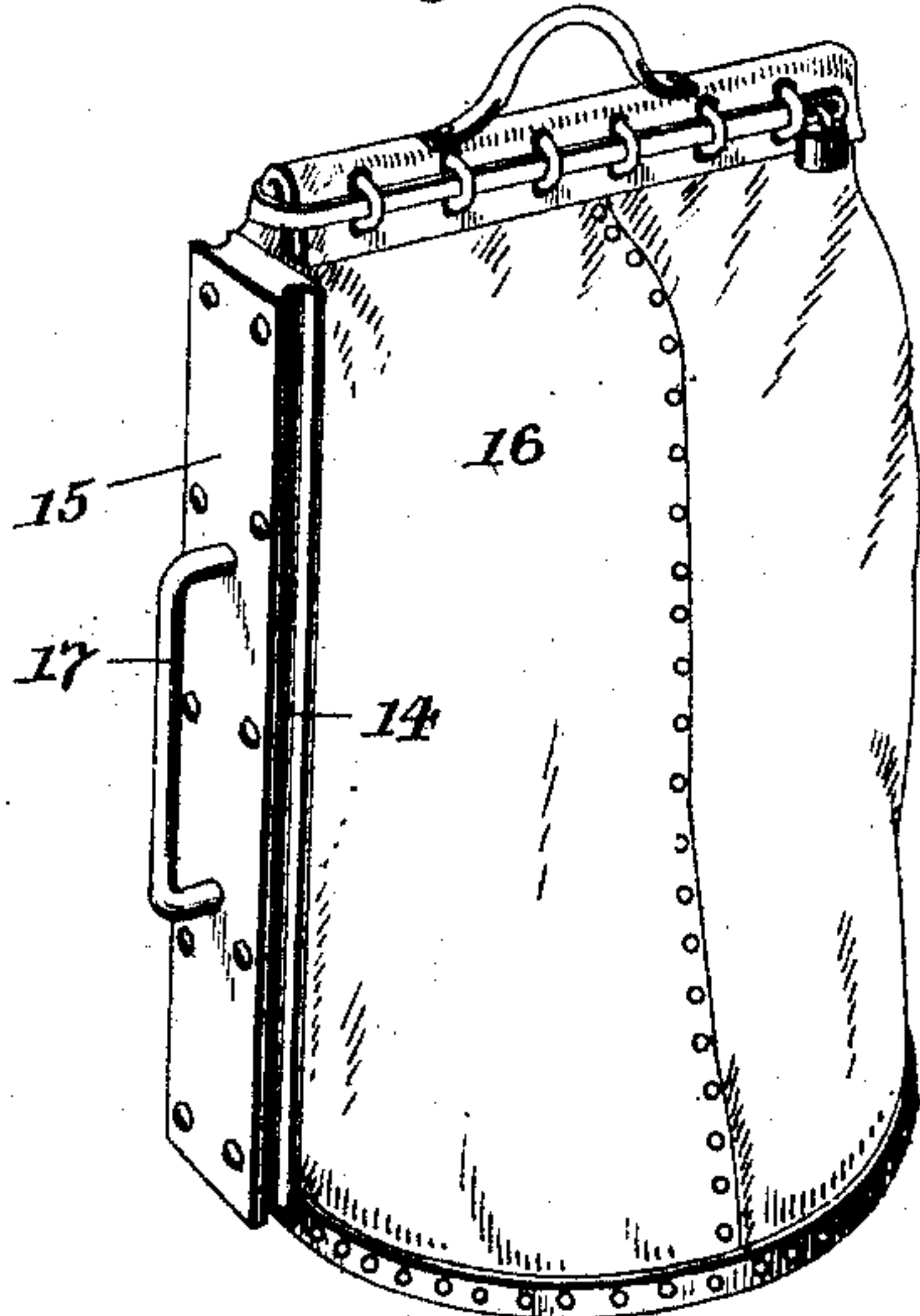


Fig. 6.

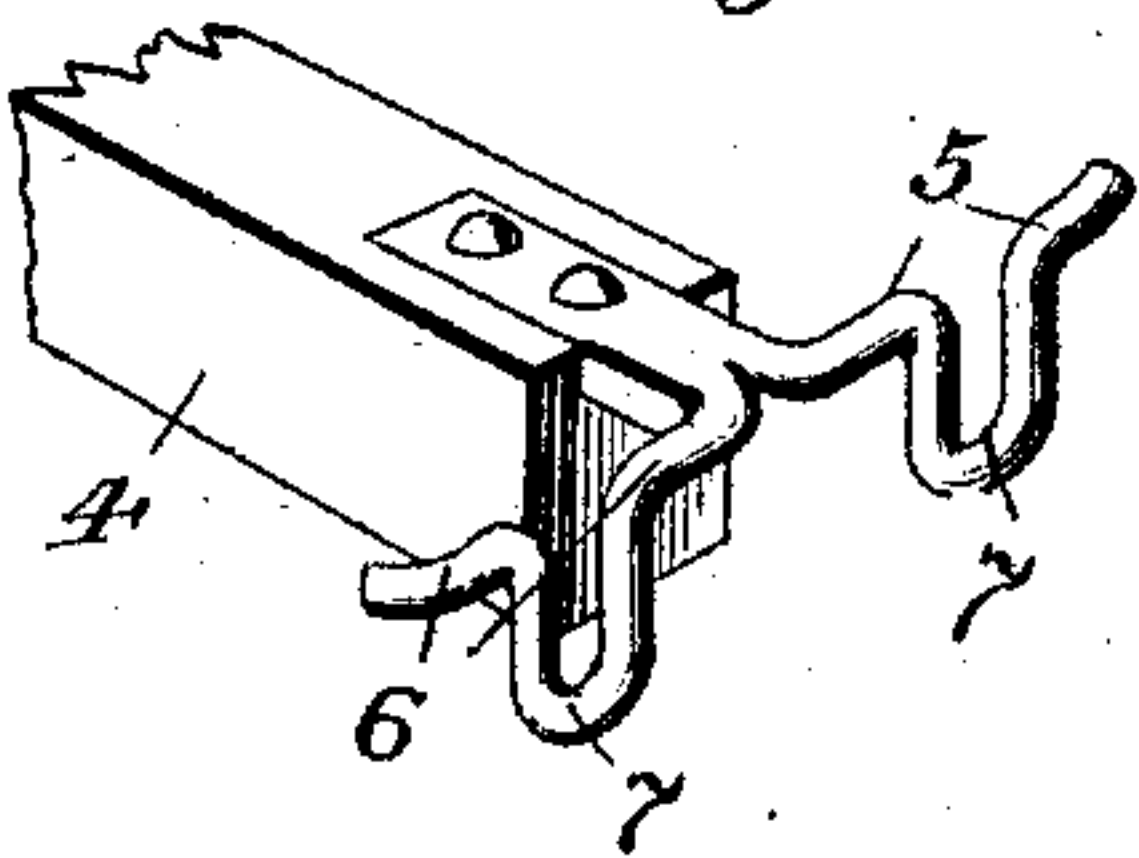
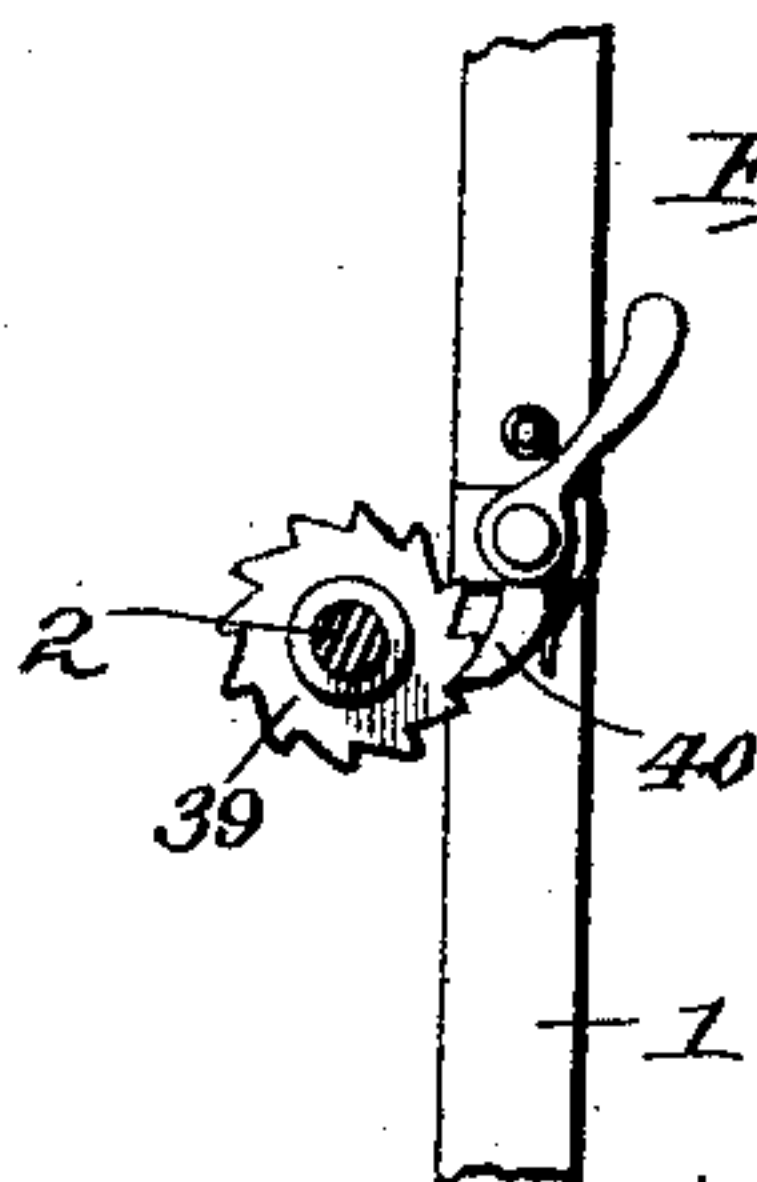


Fig. 7.



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UNITED STATES PATENT OFFICE.

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MAIL CATCHING AND DELIVERING APPARATUS.

No. 908,898.

Specification of Letters Patent.

Patented Jan. 5, 1909.

Application filed November 9, 1908. Serial No. 461,765.

To all whom it may concern:

Be it known that we, ANDREW H. SNYDER, FRANK C. SNYDER, and JAMES P. GAFFNEY, citizens of the United States, residing at Cumberland, in the county of Allegany and State of Maryland, have invented certain new and useful Improvements in Mail Catching and Delivering Apparatus, of which the following is a specification.

Our present invention relates to improved apparatus for the delivery of mail-bags or pouches to and from moving trains, the construction and advantages of which will be hereinafter set forth, reference being had to the accompanying drawings, wherein:

Figure 1 is an elevation of the apparatus, the car being shown in section and a portion of the frame which supports the delivering and receiving mechanism at one side of the track being broken away as shown in section; Fig. 2 a top plan view of the apparatus just prior to the delivery of a pouch to the crane at the side of the track and from said crane to the crane on the car; Fig. 3 a perspective view of the crane located at the edge of the car-door, the pouch-receptacle carried thereby, and the pouch-receptacle carried by the crane or standard located at the side of the track, the parts being in the same position as shown in Fig. 2; Fig. 4 an enlarged horizontal sectional view, taken on the line *a-a* of Fig. 1; Fig. 5 a perspective view of a mail-bag or pouch, showing the device employed in conjunction with our invention as applied thereto; Fig. 6 a perspective view of the double hook or arm employed upon the crane at the side of the track to withdraw the pouch from the pouch-receptacle carried by the crane upon the car; and Fig. 7 a detail view of the ratchet mechanism employed in conjunction with the standard or crane at the side of the track.

The main object of the invention is to provide a simple and efficient apparatus by which a mail-bag may be delivered to the car or train while in transit, and a pouch delivered from the car to the crane located at the side of the track.

A further object of the invention is to provide means for imparting an initial movement to the crane or supporting arm located at the side of the track prior to the engagement of the hooks or arms with the bags or pouches which are carried by said crane and the car crane, so as to do away to a greater or

less extent with the jar or impact which would otherwise be present and be delivered directly to the hooks or arms and to the bags or pouches. In other words, the crane located at the side of the track is given an initial forward movement prior to the actual engagement of the hooks with the bags or pouches.

A still further object of the invention is to provide means for counterbalancing the swinging movement of the crane and to prevent the same from being thrown too rapidly or violently, the means in the present instance taking the form of a pick-up weight which, while permitting the crane to swing freely during the first part of its movement will arrest the same during the latter portion of its movement and finally bring it to a standstill.

Another object of the invention is to provide means for holding the crane in a position away from the track or the train passing along the same, thus preventing the weight from throwing the crane back toward the train after the impetus imparted to the crane by the detaching hook has been overcome.

It is also an object of the invention to provide a simple and efficient support and housing for the mail-bag or pouch, the same style of support or housing being used upon the crane attached to the car and the crane at the side of the track.

A still further object of the invention is to provide an attachment to the mail-bag or pouch which will permit the ready withdrawal of the pouch from the housing and effectually prevent any injury to the contents of the pouch.

With these and other objects in view, a detailed description of the invention will be given.

A framework 1, best shown in Fig. 1, is located to one side of the track and forms the support for a vertical shaft 2, the shaft being mounted in suitable bearings so that it may be rotated or permitted to bring the various parts secured thereto into proper relation with the mechanism carried by the car.

Extending outwardly from the shaft are two arms 3 and 4, the lower arm, 4, being somewhat longer than the upper arm, and provided at its outer end with a hook of the form best shown in Fig. 6. The hook may be said to comprise fingers 5 and 6, each finger having a depressed or U-shaped section

formed therein and into which the staple or loop secured to the bag or pouch and herein-
after more specifically referred to, will drop
after the bag has been withdrawn from the
5 receptacle or housing. The arms 3 and 4
will preferably be connected by a brace 8,
and to said brace and at the outer end of the
arm 3 is secured a combined support and
housing for the mail-pouch. As will be seen,
10 said housing comprises a substantially semi-
cylindrical back 9, preferably formed of rela-
tively heavy sheet metal, and two quadrant-
shaped doors or wings 10 and 11 hinged to the
vertical forward edges of the back, the ver-
15 tically-disposed edges of said doors or wings
being rounded or provided with rounded en-
largements 12. A spring hinge 13, or other
equivalent spring device will be employed in
conjunction with each door, so that the
20 rounded edges of the doors will be thrown in-
wardly toward each other, and when in posi-
tion will embrace or enter into grooves 14
formed upon the edges of a plate or strip 15
secured to the mail-pouch or bag 16, said
25 strip or plate being formed of any suitable
material. An elongated eye or staple 17 ex-
tends outwardly from the plate 15 and stands
in a vertical position, as does the plate 15.

The receptacle is provided with a bottom
30 18, upon which the bag rests when in posi-
tion therein, and is likewise provided with
a top 19 so that when a bag is in place within
the receptacle it is entirely housed and is thus
protected from the weather and not sub-
35 ject to the action of the wind, which with
certain devices of this character renders the
structure objectionable in practice. The
staple 17 is likewise held in a fixed position.

The receptacle or housing which is attached
40 to a crane-arm 20, is of the same style and
formation as the one just described. Said
arm 20 is secured to a vertically-disposed
shaft 21 mounted in suitable bearings adja-
cent to the jamb or frame of the car-door.
45 An arm 22 is likewise rigidly secured to the
shaft 21 and carries a hook 23, Fig. 3, which
is formed with a downwardly-extending U-
shaped section 24, which engages the staple
17 of the bag which is removed from the re-
50 ceptacle carried by the swinging frame adja-
cent to the track. A third arm 25 is like-
wise secured to the vertically-disposed shaft
21, the arm at its outer or free end being pro-
vided with a cushion member 26 which is
55 adapted to contact with the vertically-dis-
posed arm 27 mounted upon the outer end
of the horizontally-disposed rocker-shaft 28,
which shaft is mounted in suitable bearings
29, 30 secured upon the upper face of the arm
60 or beam 3.

To the inner end of the shaft 28 is secured
a bevel-gear 31, which meshes with a similar
gear 32, secured upon the vertically-disposed
shaft 2. A second bevel-gear 33, mounted
65 upon the shaft 2, meshes with a similar gear

34 secured upon a shaft 35, the latter being
supported in suitable bearings mounted upon
the frame 1. An arm 36 is secured to said
shaft 35 and a chain 37 is attached to the
outer end of the arm 36. The chain will be 70
made relatively heavy and a number of links
will rest upon a platform 38 when the arm
occupies a horizontal position and the arm
27 stands in a vertical position; or in other
words, when the crane stands at right angles 75
to the track or the line of travel of the train.
A ratchet 39 is likewise secured to the shaft
2, and coöperates with a pawl 40, the ar-
rangement being such that as the frame or
platform crane, as it may be termed, is swung 80
to the position shown in dotted lines in Fig.
2 by the impact of the arm 25 and the hook-
carrying arm 22 in the act of withdrawing
the pouch from the receptacle, said crane
will be held in the dotted-line position and 85
prevented from being moved back through
the action of the weight toward the train.
After the train has passed and it is desired to
reset the crane, the ratchet may be with-
drawn and the weight allowed to throw the 90
parts back to the full-line position. In order
to avoid confusion, the swinging frame com-
posed of the members 3 and 4 and the allied
parts, will be termed the "platform crane"
while the shaft 21 and its parts located with- 95
in the car will be termed the "car crane".
It will be noted that the latter may be used
on either side of the car.

It is conceivable that in so far as the ge-
neric invention is concerned the details of the 100
apparatus may be varied without departing
from the spirit of our invention. For in-
stance, the mechanism for imparting the ini-
tial rotary movement to the platform crane
prior to the engagement of the hooks or arms 105
with the bags may be arranged in various
ways. So, too, a take-up weight of any
style may be used, though a chain affords a
simple device and one that is not readily
disarranged. 110

Having thus described our invention, what
we claim is:

1. In an apparatus for delivering a mail-
pouch or bag to a train, the combination of a
platform crane; means carried thereby for 115
holding the pouch in position; means carried
by a car for engaging the pouch; and means
for imparting an initial swinging movement
to the crane prior to the engagement of the
means carried by the car for withdrawing 120
the pouch from its support.

2. In an apparatus for delivering a mail-
pouch or bag to a car, the combination of a
platform crane movable about a vertical
axis; means carried thereby for supporting 125
the mail-bag; means carried by the car for
engaging the mail-bag and withdrawing it
from its support; means carried by the crane
for rotating the same; and means carried by
the car for engaging said rotating means and 130

imparting motion thereto prior to the engagement of the bag-withdrawing means with the bag.

3. In an apparatus for delivering mail-bags or the like to a car, the combination of a platform crane adapted to be swung about a vertical axis; means carried thereby for holding a mail-bag or pouch; means mounted on the car for engaging said pouch and withdrawing it from its holding means; means mounted upon the crane for causing the same to rotate; means carried by the car, engaging said latter means and causing the same to operate prior to the engagement of the bag-withdrawing means with the bag; and a pick-up weight in operative connection with the crane and adapted to arrest its swinging movement.

4. In an apparatus for delivering mail-bags or the like to a car, the combination of a platform crane adapted to be swung about a vertical axis; means carried thereby for holding a mail-bag or pouch; means mounted on the car for engaging said pouch and withdrawing it from its holding means; means mounted upon the crane for causing the same to rotate; means carried by the car engaging said latter means and causing the same to operate prior to the engagement of the bag-withdrawing means with the bag; a pick-up weight in operative connection with the crane and adapted to arrest its swinging movement; and means for holding the crane against retrograde movement after it has been swung away from the car.

5. In an apparatus for delivering mail-bags or the like to a car, the combination of a vertically-disposed shaft; a supporting arm extending outwardly from said shaft; a mail-bag holder carried by said arm; means carried by the car for engaging a mail-bag and withdrawing it from the holder; a rock-shaft mounted upon the arm; gearing between said rock-shaft and the vertically-disposed shaft; an arm extending upwardly from said rock-shaft at the outer end thereof; and an arm carried by the car and adapted to engage said arm and to cause a movement of the parts so as to impart an initial rotation to the vertically-disposed shaft and the parts carried thereby prior to the engagement of the bag-withdrawing means with the bag.

6. In an apparatus for delivering mail-bags or the like to a car, the combination of a vertically-disposed shaft, located to one side of the track; an arm extending outwardly therefrom; means carried by said arm for holding a mail-bag or pouch; an arm carried by the car adapted to engage the mail-bag supported by said holder; a rock-shaft; an arm extending upwardly from the outer end of the rock-shaft; a second arm carried by the car and adapted to coact with said upstanding arm prior to the engagement

of the means carried by the car for withdrawing the pouch; gearing interposed between the rock-shaft and the vertically-disposed shaft to impart motion to the latter when said rock-shaft is actuated; a pick-up weight operatively connected to the vertically-disposed shaft; and means for holding the vertically-disposed shaft against retrograde movement after it has been swung away from the car.

7. In an apparatus for delivering mail-bags or the like to a car, the combination of a vertically-disposed shaft; an arm extending outwardly therefrom; means carried by the arm for holding a mail-bag; an arm carried upon the car adapted to engage the bag and withdraw the same from said holding means; a rock-shaft extending outwardly from the vertical shaft; an arm extending upwardly from said rock-shaft; a second arm carried by the car adapted to engage the upstanding arm prior to the engagement of the means for withdrawing the bag from its holder; gearing interposed between said rock-shaft and the vertically-disposed shaft; a countershaft; gearing interposed between said countershaft and the vertically-disposed shaft; an arm extending outwardly from said shaft; and a chain connected to the outer end of said arm, the lower links of the chain normally resting upon a platform or the like when the parts are in operative relation with reference to the car; and means for holding the vertical shaft against retrograde movement toward the car.

8. A holder for mail-pouches and the like, comprising a fixed portion; a pair of wings hinged thereto; and means for throwing the free edges of said wings toward each other and into engagement with a strip secured to a mail-bag or pouch.

9. A holder for mail-bags or the like, comprising a semicylindrical member; a top and bottom secured thereto; a pair of wings or doors hinged to the forward edges of said semicylindrical member; means for drawing the free edges of said doors or wings toward each other; a mail-bag or pouch provided with a strip secured thereto, said strip being provided with grooves along its edges adapted to receive the free edges of the doors or wings; and a staple secured to said strip.

10. A receptacle for holding mail-bags or the like, comprising a semicylindrical back piece; a top and bottom secured thereto; a pair of wings or doors hinged to the forward edges of said semicylindrical member, the free edges of said doors being rounded; a bag provided with an elongated strip secured thereto, the edges of said strip being formed with grooves adapted to receive the enlarged portions of the doors; and an elongated staple secured to said strip.

11. A receptacle for holding mail-bags, provided with a yielding member adapted to

engage a strip secured upon a mail-bag, said strip being likewise provided with means for engagement therewith of a device for withdrawing the bag from the receptacle.

5 12. In a mail-bag catching and delivering apparatus, the combination of a platform crane; a receptacle carried thereby and adapted to hold a mail-bag; a hook likewise carried by said crane; a car crane; a receptacle carried by said car crane in line with the hook upon the platform crane; and a hook likewise mounted upon the car crane in line with the receptacle mounted upon the platform crane.

15 13. In a mail-bag catching and delivering apparatus, the combination of a platform crane; a receptacle mounted thereon for holding a bag; a hook likewise carried by said crane; a car crane; a receptacle carried by the car crane in line with the hook upon the platform crane; a hook carried by the car crane in line with the receptacle on the platform crane; and means for imparting a forward movement to the platform crane prior to the engagement of the hooks with the bags or pouches carried by the respective receptacles.

20 14. In a mail-bag catching and delivering apparatus, the combination of a platform crane; a receptacle carried by said platform crane and adapted to inclose and hold a mail-bag or pouch; a hook carried by said platform crane; a car crane; a receptacle mounted upon said crane and adapted to inclose and support a bag or pouch, said receptacle being in line with the hook upon the platform crane; a hook mounted upon the car crane, said hook standing in alinement with the receptacle upon the platform crane; 40 means mounted upon the platform crane for

causing the latter to rotate about its axis away from the car; and means carried by the car crane for actuating said rotating means prior to the engagement of the hooks with the bags carried by the receptacles. 45

15. In an apparatus for delivering mail-bags, the combination of means for supporting a bag; means for disengaging the bag from its support; and means for imparting an initial swinging movement to one or the other of said members prior to the actual engagement of the other therewith. 50

16. In an apparatus for engaging and delivering mail-bags or the like, the combination of a platform crane; a receptacle carried by said crane for holding a bag; a hook likewise carried by said crane; means for causing the crane to swing about its axis; a car crane; a receptacle carried by said car crane in line with the hook carried by the platform crane; a hook carried by said car crane in line with the receptacle mounted upon the platform crane; an arm carried by the car crane adapted to cause said means for rotating the platform crane to come into action prior to engagement of the hooks with their respective bags; a pick-up weight adapted to arrest the movement of the platform crane; and means for holding said crane against retrograde movement. 60 70

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

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FRANK C. SNYDER.
JAMES P. GAFFNEY

Witnesses:

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