

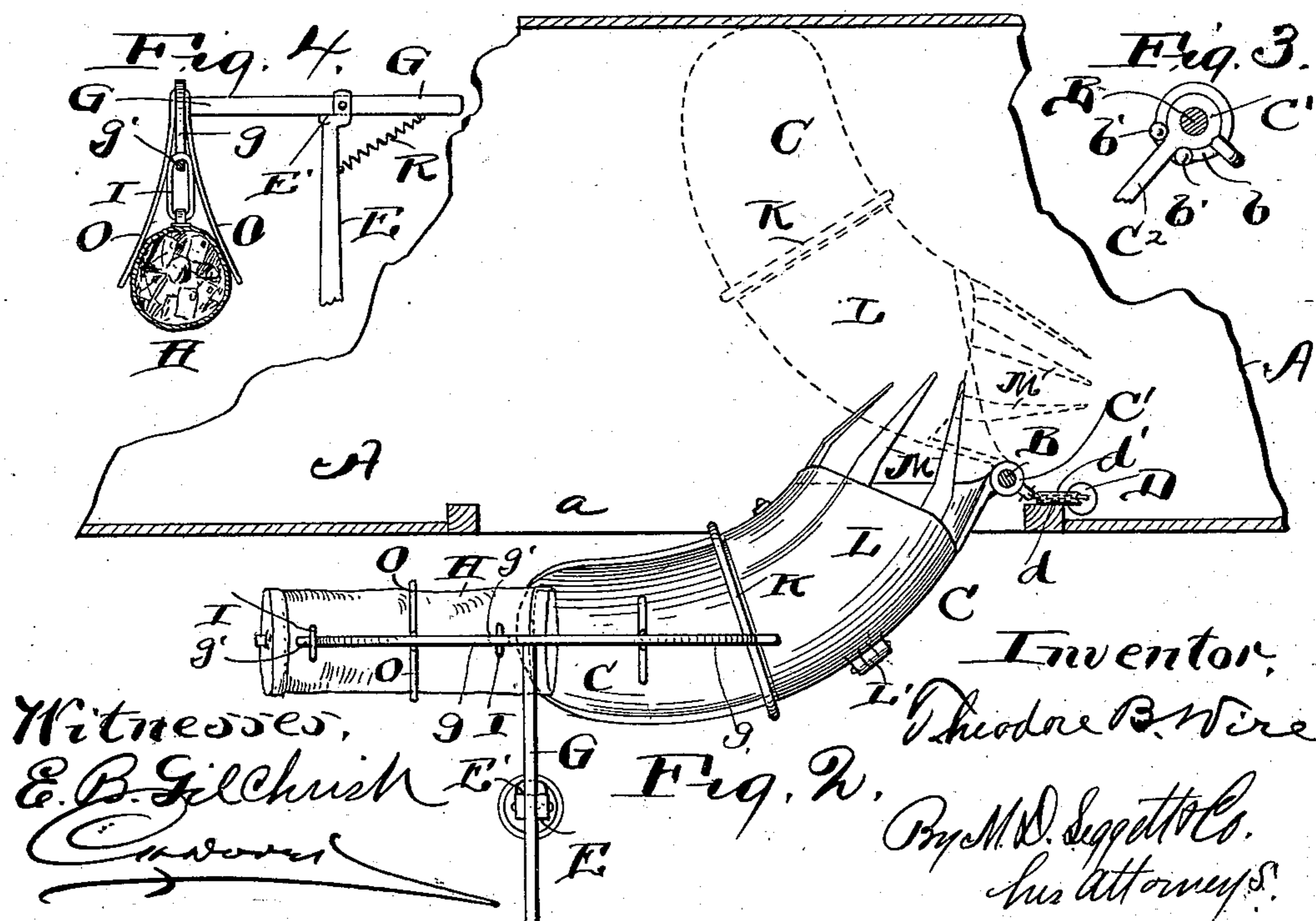
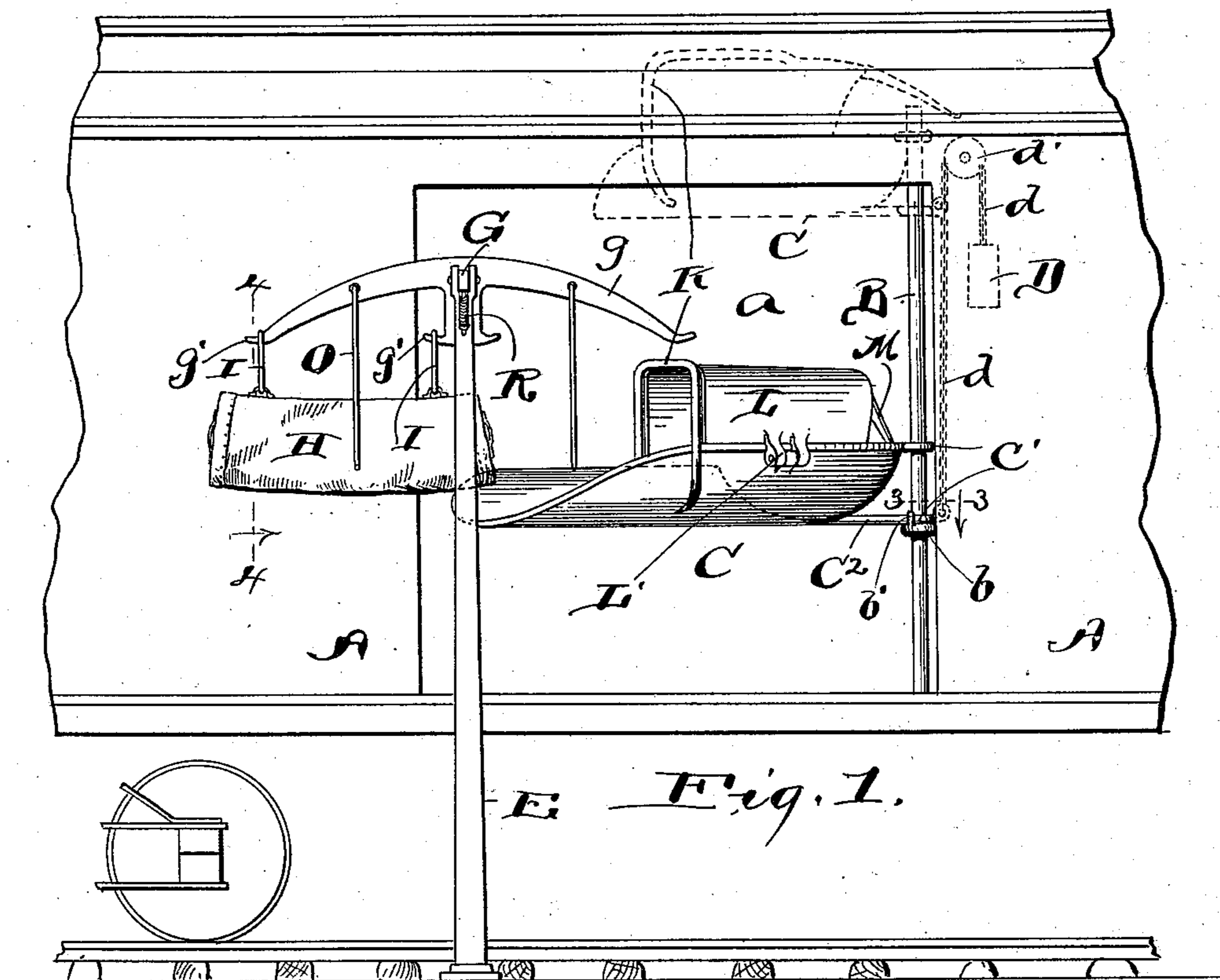
(No Model.)

T. B. WIRE.

# AUTOMATIC MAIL BAG COLLECTING APPARATUS.

No. 548,944.

Patented Oct. 29, 1895.



# UNITED STATES PATENT OFFICE

THEODORE B. WIRE, OF PERRY, OHIO.

## AUTOMATIC MAIL-BAG-COLLECTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 548,944, dated October 29, 1895.

Application filed June 29, 1895. Serial No. 554,456. (No model.)

*To all whom it may concern:*

Be it known that I, THEODORE B. WIRE, of Perry, in the county of Lake and State of Ohio, have invented certain new and useful Improvements in Automatic Mail-Bag-Collecting Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in automatic mail-bag-collecting apparatus designed for use in transferring a mail-bag from a station to a mail-carrying car while the latter is in motion; and it consists in certain features of construction and combinations of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a portion of a mail-carrying car provided with my improved mail-collecting chute, and this figure also illustrates the holders or devices employed at the station for holding the mail-bag to be removed by the aforesaid chute when the car moves by said holders. Fig. 2 is a top plan of the same, showing the car in section on line 2 2, Fig. 1. Fig. 3 is a section on line 3 3, Fig. 1, looking in the direction of the arrow. Fig. 4 is a section on line 4 4, Fig. 1, looking in the direction of the arrow.

Referring to the drawings, A designates a mail-carrying car provided at one side with an opening or doorway  $\alpha$ , leading to the interior of the car. The car at one side of said doorway or opening is provided with an upright post or rod B. A horizontally-arranged or approximately horizontally-arranged chute C is adapted to swing in a horizontal plane upon post or rod B, and to this end is provided with two sleeves or bearings  $C'$   $C'$ , arranged a suitable distance apart and slidably mounted upon the aforesaid rod or post. The chute, when not in use, is slid up post or rod B into the upper portion of the car, as shown in dotted lines, Fig. 1, and a counterpoise D is provided for retaining the chute in said elevated position. Poise D is attached to one end of a cable  $d$  that leads upwardly to and over guide-sheave  $d'$ , suitably supported in the upper portion of the car, and thence downwardly to the upper sliding sleeve or bearing

of the chute, to which it is attached in any approved manner. The chute, when swung into an inoperative position within the car, extends transversely of the latter, as shown in dotted lines, Fig. 2, and the length of the chute is such, relative to the width of opening or doorway  $\alpha$ , that the chute is capable of being swung through said doorway into an operative position outside of the car, as shown in solid lines, Figs. 1 and 2. When the chute is lowered preparatory to swinging the same into an operative position, poise D, of course, is raised. Poise D counterbalances the weight of the empty chute, and hence the chute can with great facility be moved into the upper portion of the car above doorway or opening  $\alpha$ . A stop for preventing the chute from being lowered beyond its operative position is provided, and consists, preferably, of a collar  $b$ , rigidly secured or formed upon post or rod B and adapted to be engaged by the lower sliding sleeve or bearing of the chute when the latter is in its operative position. Stops for preventing horizontal oscillation or vibration of the chute when the latter is in an operative position are also provided, and consist, preferably, of two upwardly-projecting lugs  $b'$ , formed upon collar  $b$  and located a suitable distance apart, in conjunction with the arm  $C^2$ , that connects the lower sliding sleeve or bearing of the chute with the chute proper, which arm in the operative position of the chute occupies the space between the aforesaid lugs of the rigid collar  $b$ ; by which construction, it will be observed, the chute positively cannot be displaced laterally in its operative position.

Each station from which mail-bags are to be delivered to the mail-carrying car is provided at one side of and in suitable proximity to the railway-track with an upright post or standard E, to the upper end whereof is fulcrumed a vertically-tilting lever G, that is arranged at right angles to the line of the railway-track, and at the end adjacent to the railway-track is shown provided with two arms  $g$ , extending in opposite directions, respectively, and arranged at right angles to the lever and parallel or approximately parallel with the line of the railway-track. The mail-bags to be transferred from said station to the moving mail-cars are suitably sus-

pended from arms *g g*, and the mail-bag to be collected by a certain car is suspended from the one or the other of said arms, according as the car is traveling in the one direction or the other.

H designates the mail-bags. In the drawings the mail-bag is removably suspended lengthwise from the respective arm *g* of lever *G* by means of two links or straps *I*, with which the bag is provided a suitable distance apart lengthwise of the bag and which engage the upper side of fingers or holders *g'*, with which said arm is provided, and that are arranged in line with each other and parallel or approximately parallel with the railway-track.

The arrangement of parts, briefly described, is such that the mail-bag to be collected by the moving car is suspended longitudinally and in line with the path of the forward or receiving end of chute *C* when the latter is in an operative position, as shown very clearly in Fig. 2, and holders *g'* from which the mail-bag is suspended project in the direction in which the chute moves in collecting mail-bags.

The shape of the mail-bag-collecting chute in plan is such that the chute, when in an operative position (shown in Fig. 2) shall curve laterally and inwardly from its receiving-end, and the chute is provided with any suitable device adapted to engage the links or straps *I*, attached to the bag, and dismount or dislodge them, and consequently the bag, from the fingers or holders from which they are suspended. This bag-dislodging device consists, preferably, of a bail-shaped frame *K*, the end members whereof are rigidly secured to the chute in any approved manner, and preferably about midway between the ends of the chute, and the central member whereof is adapted to engage links or straps *I* of the mail-bag, and thereby dislodge the bag from its holders.

The mail-bag-collecting chute at the rear of frame *K* is preferably provided with a hood *L*, whose shape in cross-section is that, or approximately that, of frame *K*, said hood being preferably hinged at one side, as at *L'*, to the chute, and provided at its opposite side with any suitable means (not required to be illustrated) for securing the hood in its closed position. The mail-bag, upon being dislodged from its holders by means of frame *K* of the chute, will, it is obvious, pass in under said frame and in under the hood at the rear of the frame and thence into the car.

To prevent the mail-bag from being thrown into the car with violence, I provide the chute preferably with any suitable number of springs *M*, that in the case illustrated are rigidly secured to the top of the hood of the chute in any approved manner and project rearwardly and downwardly into the path taken by the mail-bag when the latter passes into the car. Said springs are therefore adapted to be engaged by the mail-bag preparatory to the discharge of the latter into the car, and thereby check the movement of

the bag and direct the bag downwardly toward the floor of the car as the bag commences to leave the discharging end of the chute. I would also remark that suitable means for preventing lateral swinging or vibration of the bag by the wind, when the bag is suspended from its holders at the station, is provided, and consists, preferably, of two members *O*, adapted to engage opposite sides, respectively, of the mail-bag, and suitably secured to the arm *g*, from which the bag is supported. Members *O* depend from and engage opposite sides, respectively, of the supporting-arm, as shown in Fig. 4, and diverge toward their lower extremities and are preferably composed of spring metal or stiff elastic material. I would also remark that means for swinging the load-bearing arm of lever *G* upwardly to remove it farther from the path of passing trains, after the mail-bag that is suspended therefrom has been collected, is provided, and consists, preferably, of a spring *R*, attached at one end to the other arm of said lever and attached at its opposite end to post or standard *D*. A stop *E'*, consisting, preferably, of a lug formed upon upright or standard *E*, has such location as to be engaged by the under side of the load-bearing end of lever *G* in the working position of said lever, and thereby prevent the mail-bag holders from being lowered below the position required. I would also have it understood that my invention is not limited to the details of construction shown, but embraces, broadly, a mail-collecting chute vertically pivoted to the car, and having such shape that its receiving end, in the operative position of the chute, shall project toward the forward end of the car, and the mail-bag collected by the chute shall be conducted into the car.

What I claim is—

1. The combination with a mail-carrying-car provided with an opening or doorway leading to the interior of the car, of an upright post or rod provided at one side of said doorway or opening, a horizontally-arranged or approximately horizontally-arranged mail-bag-collecting chute suitably connected at its discharging-end with said rod or post so as to be capable of swinging upon, and movable up and down, the post or rod, a stop for limiting the descent of the chute upon its supporting-rod or post, and suitable means for preventing oscillation or vibration of the chute in the operative position of the latter, substantially as set forth.

2. The combination with a mail-carrying-car provided with an opening or doorway leading to the interior of the car, of an upright post or rod provided at one side of said doorway or opening, a horizontally arranged or approximately horizontally arranged mail-bag-collecting chute suitably connected at its discharging-end with said rod or post so as to be capable of swinging upon and movable up and down the post or rod, a poise for counterbalancing the empty chute and retaining the

latter in its elevated position, a sheave suitably supported within the upper portion of the car above the poise, a cable or flexible connection suitably attached at one end to the poise, and thence leading upwardly to and over the aforesaid sheave and thence to and suitably connected at its opposite end with the chute, a stop for limiting the descent of the chute upon its supporting-rod or post, and suitable means for preventing oscillation or vibration of the chute in the operative position of the latter, substantially as shown, for the purpose specified.

3. The combination with a mail-carrying car provided with an opening or doorway leading to the interior of the car, of an upright post or rod provided at one side of said doorway or opening, a horizontally arranged or approximately horizontally-arranged chute provided, at its discharging-end, with two sleeves C' C' slidably mounted a suitable distance apart upon the aforesaid rod or post, suitable means for supporting the chute in its elevated position within the car, a collar b formed upon said post or rod and engaged by the lower sleeve of the chute in the operative position of the latter, an arm connecting said lower sleeve with and being rigid with the chute, and the aforesaid collar being provided with two upwardly-projecting lugs located a suitable distance apart, and the arrangement of parts being such that the aforesaid arm shall occupy the space between the aforesaid lugs in the operative position of the chute, substantially as shown, for the purpose specified.

4. The combination with a mail-car provided with an opening or doorway leading to the interior of the car, and a horizontally or approximately horizontally swinging chute that, in its operative position, is adapted to discharge into the car through said opening, and has its receiving-end projecting forwardly, of an upright E, vertically-tilting lever G provided at one end with an arm g having the two fingers or holders g' arranged in line with each other substantially as indicated, a spring or its equivalent R, mail-bag suspended longitudinally and removably from the aforesaid fingers or holders, and means on and a suitable distance from the receiving-end of the chute for dislodging the

mail-bag from the aforesaid holders, all arranged and operating substantially as shown, for the purpose specified.

5. The combination with a mail-car provided with an opening or doorway leading to the interior of the car, and a chute, that, in its operative position, is adapted to discharge into the car through said opening, of a yielding-device at the discharging-end of the chute and located in the path taken by the mail-bag in the passage of the latter into the car, substantially as shown, for the purpose specified.

6. The combination with a mail-car provided with an opening or doorway leading to the interior of the car, and a horizontally-arranged or approximately horizontally-arranged mail-bag collecting-chute suitably attached to and adapted to discharge into the car through the aforesaid opening, of the mail-bag suspended longitudinally and removably at the station within the path of the receiving-end of the chute, a bail-shaped frame upon the chute for engaging the means instrumental in suspending the bar, and for dislodging the latter from the supporting-object, a hood upon the chute at the rear of said frame and any suitable number of springs or stiff elastic members rigid with and projecting rearwardly from the top of said hood, substantially as shown, for the purpose specified.

7. The combination with a mail-car provided with an opening or doorway leading to the interior of the car, and a horizontally-arranged, or approximately horizontally-arranged, mail-bag-collecting chute suitably attached to, and adapted to discharge into the car through the aforesaid opening, and any suitable number of stiff elastic members M at the inner or discharging-end of the chute and arranged in the path taken by the mail-bag in its passage into the car, substantially as shown, for the purpose specified.

In testimony whereof I sign this specification, in the presence of two witnesses, this 21st day of June, 1895.

THEODORE B. WIRE.

Witnesses:

C. H. DORER,  
L. WARD HOOVER.