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PATENTED AUG. 1, 1905.

F. X. LE FEBVRE.

MAIL AND PACKAGE DELIVERING AND RECEIVING DEVICE FOR RAILWAY
TRAINS.

APPLICATION FILED SEPT. 28, 1904.

3 SHEETS—SHEET 1.

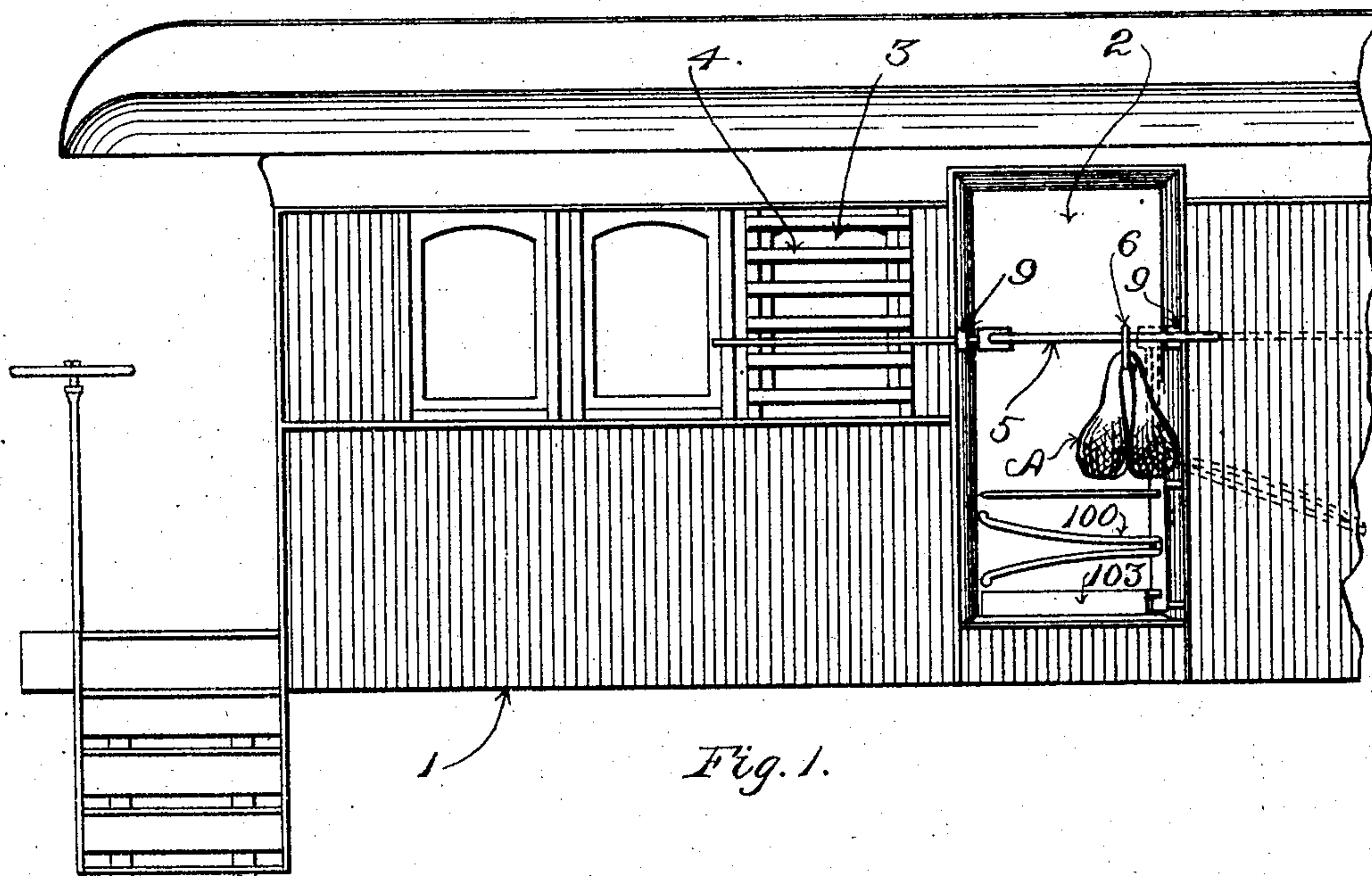


Fig. 1.

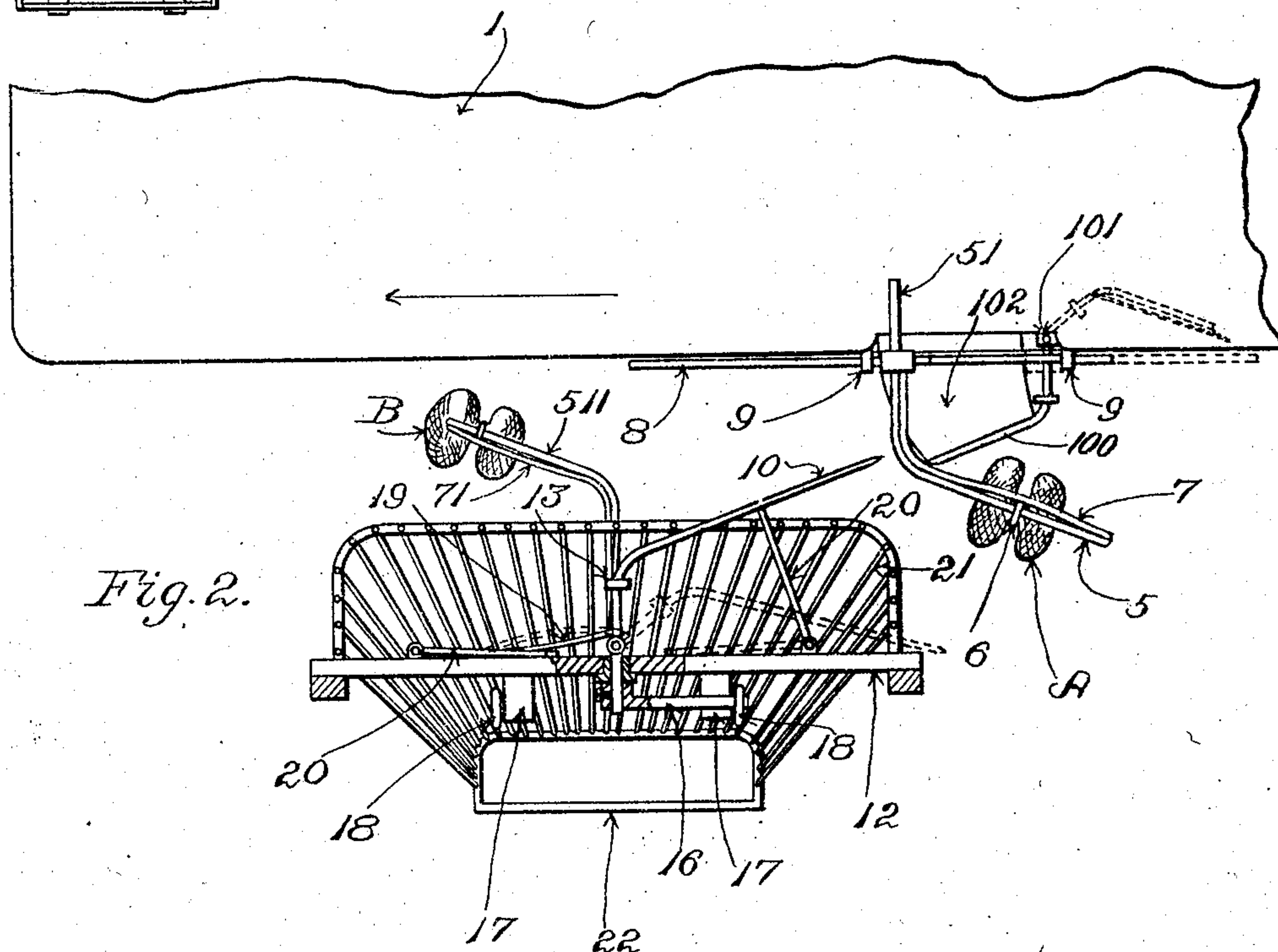


Fig. 2.

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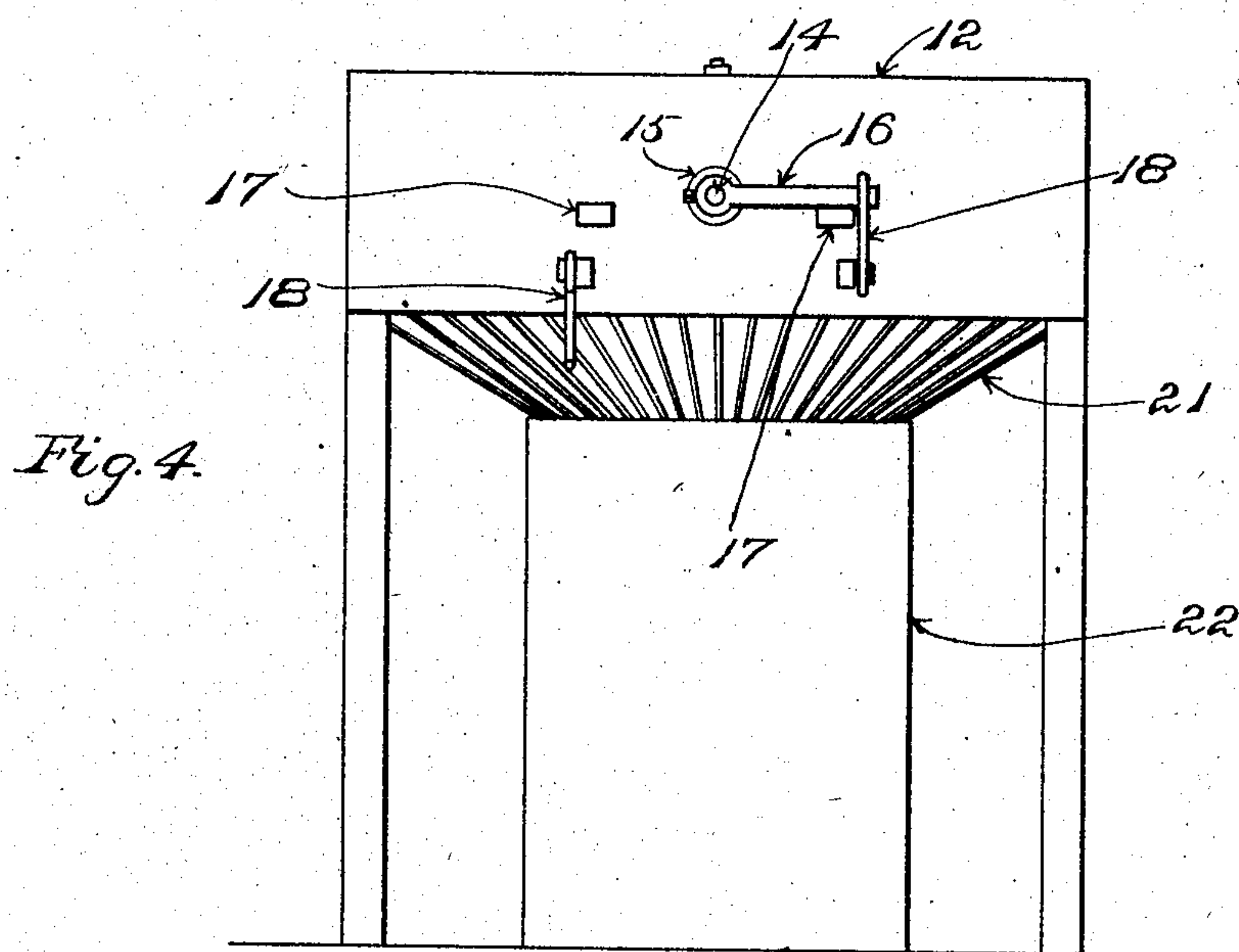
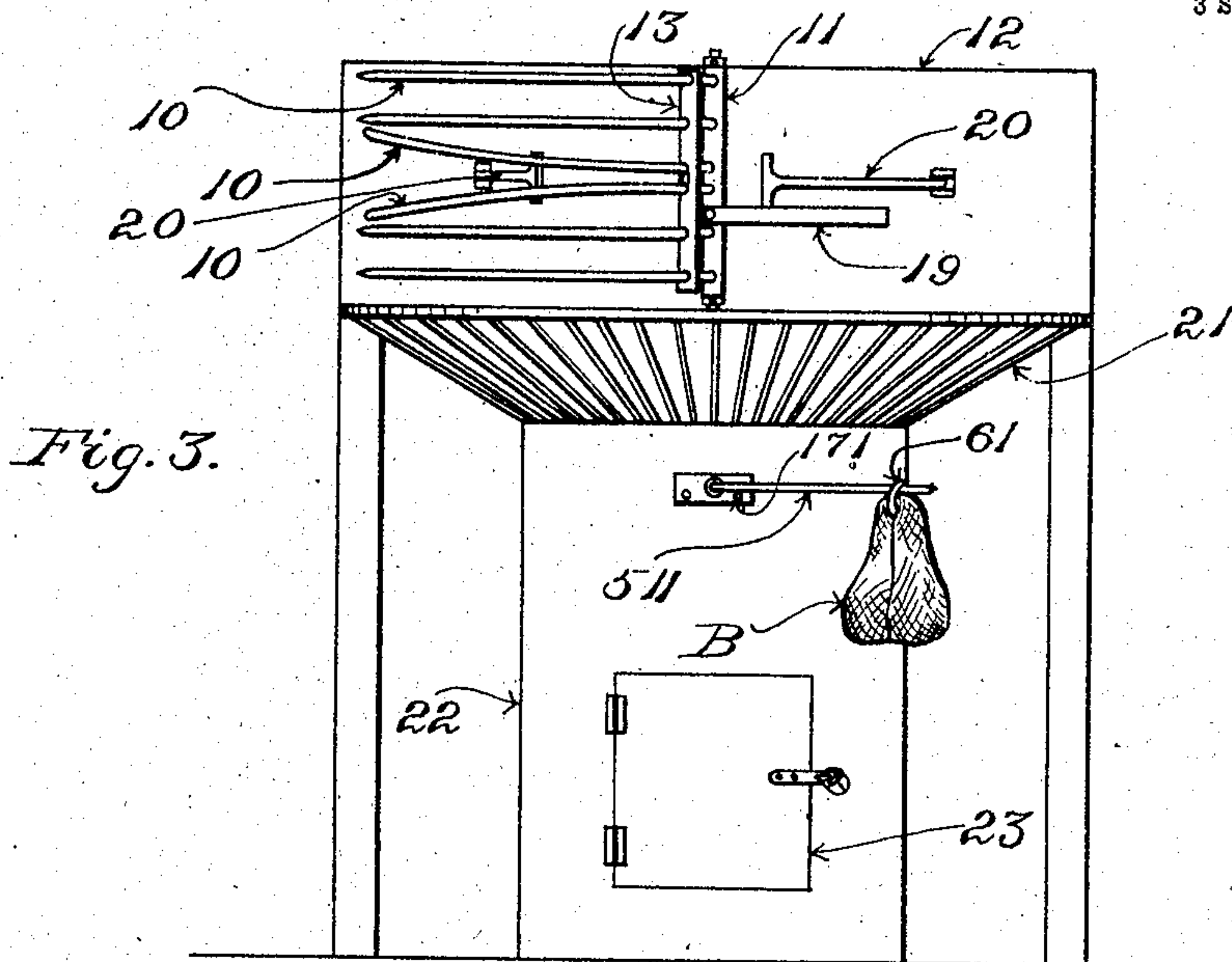
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3 SHEETS—SHEET 2.



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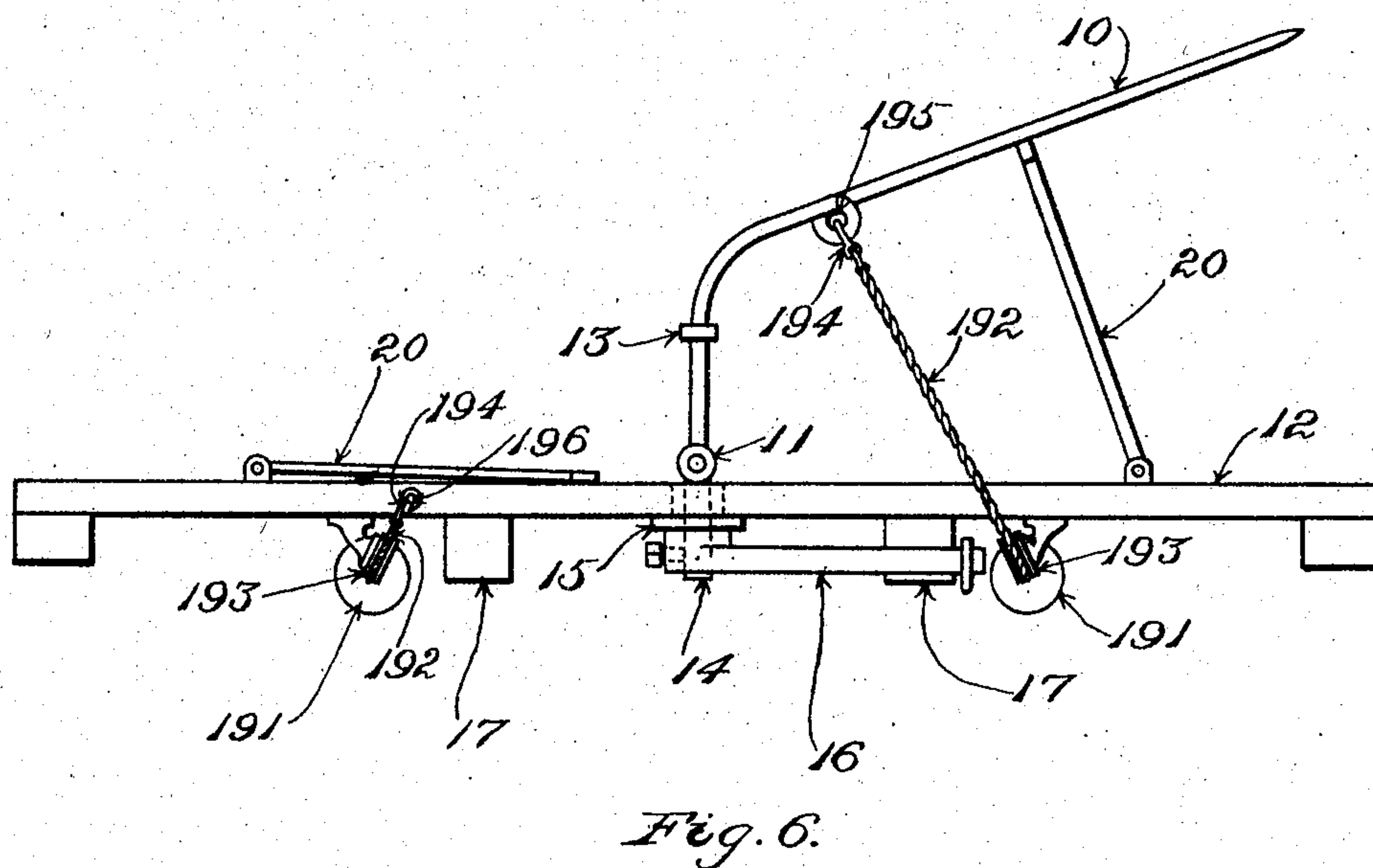
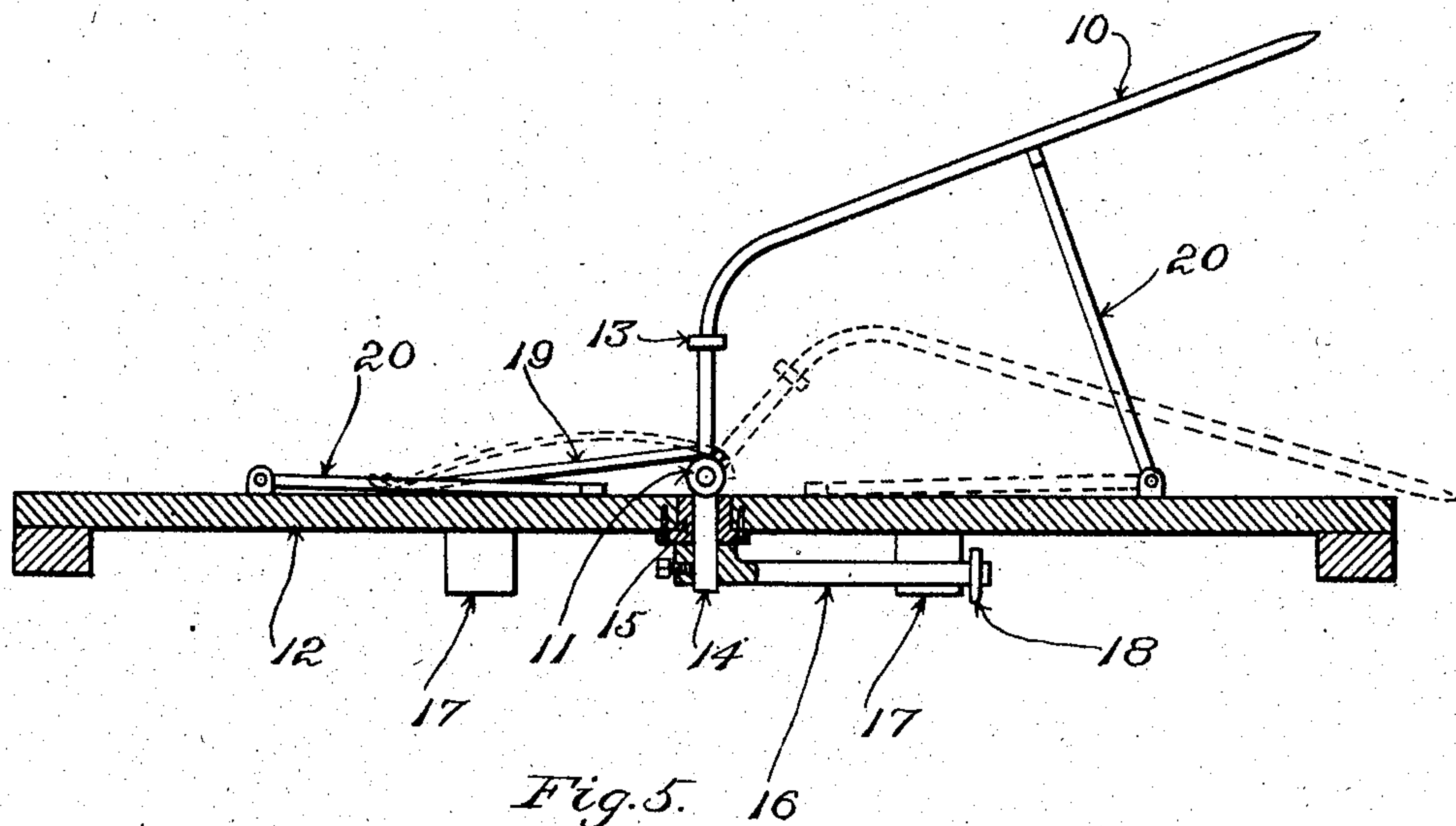
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UNITED STATES PATENT OFFICE.

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MAIL AND PACKAGE DELIVERING AND RECEIVING DEVICE FOR RAILWAY-TRAINS.

No. 796,133.

Specification of Letters Patent.

Patented Aug. 1, 1905.

Application filed September 23, 1904. Serial No. 226,291.

To all whom it may concern:

Be it known that I, FRANCIS X. LE FEBVRE, a citizen of the United States, residing at Somerville, in the county of Middlesex, State of Massachusetts, have invented a certain new and useful Improvement in Mail and Package Delivering and Receiving Devices for Railway-Trains, of which the following is a specification, reference being had therein to the accompanying drawings.

At the present time, as is well known, it is usual to provide a railway mail or postal car with a mail-catcher by means of which to enable a mail bag or pouch, supported in suitable position in convenient proximity to the railroad-track at a point or station at which the train does not make a stop, to be caught and taken on board the said car as the train passes such point or station. The use of the form of mail catcher or hook at present employed calls for considerable expertness on the part of the operator. The speed with which the mail-catcher strikes the suspended mail bag or pouch causes the ends of the bag to fly around with considerable force, exposing the operator to risk of injury and frequently occasioning a severe blow of the bag or pouch against the side of the car immediately at the rear of the doorway at which the mail-catcher is applied. To protect the glass of the window in this portion of the car from breakage by such a blow, it is usual to attach a guard-grating at the outside of the said window. While some endeavor has been made to effect the delivery of a mail-bag or the like mechanically at a station or point at which the train does not stop, these endeavors have not led to the introduction of any successful devices for the purpose, and it is customary for the mail-clerk to toss the bag or pouch out through the open doorway of the car as the latter passes such point or station. The flying bag or pouch at times strikes a bystander, injuring him more or less. Sometimes it breaks through the window of a station-building. At times it lands in an unobserved or inaccessible position. Bags have fallen into snow-drifts and not been discovered for days. A light bag often is swept under the wheels of the passing train by the air-currents produced by the movement of the train, with resulting injury to the bag and its contents and frequently the destruc-

tion or loss of the said contents in whole or in part.

The objects of the present invention are in part to provide devices of novel and practical character by means of which a mail bag, pouch, or other receptacle or package to be left at a point or station at which a railway-train does not stop may be conveniently and safely delivered from the moving train without liability to loss, accident, or injury to the bag or other receptacle or package or the contents thereof, and, further, to provide for the retention of the mail-bag or other receptacle or package thus delivered.

The objects of the invention are also in part to provide improved devices for delivering a mail-bag or other receptacle or package from a fixed support and receiving it upon a car of a train moving past the point or station at which such support is located.

The invention will be described with reference to the specific embodiment of the same, which is illustrated in the drawings.

In the drawings, Figure 1 shows in side elevation portion of a railway-car and such portions of the devices in which the invention is embodied as are carried by the car. Fig. 2 is a view in plan, partly sectional, showing the said specific embodiment of the invention applied in connection with portion of the car aforesaid and with the stationary supports, to which reference is made hereinafter. Fig. 3 shows in front elevation the parts involved in the invention which are mounted at the side of the railway-track. Fig. 4 shows in rear elevation the parts which are shown in Fig. 3. Fig. 5 is a view in horizontal section, on a somewhat larger scale than the preceding figures, of the stationary receiver. Fig. 6 is a plan view of the stationary receiver, showing weights substituted for the spring of Fig. 5.

Having reference to the drawings, 1, Figs. 1 and 2, is a railway-car, only a portion of the length thereof being shown. 2, Fig. 1, is a doorway in one side of the said car, and 3 a window adjacent the said doorway. At 4 is shown the guard-grating, which customarily is applied over the window next adjacent the doorway 2 for the purpose of protecting the glass from being broken by a mail-bag which has been taken by the form of mail-catcher usually employed. The said guard-grating is not actually necessary when my

improved catching devices, hereinafter described, and shown in place in Figs. 1 and 2, are employed at the doorway 2. It is shown in its usual position in Fig. 1, however, inasmuch as the delivering devices shown in place at the doorway in Figs. 1 and 2 are capable of being employed in connection with the usual form of mail-catcher, and I contemplate employing the same in such connection when preferred.

The delivering device which is applied to the car is provided with an arm 5, which in its operative position is caused to extend outward from the car-body in a horizontal plane, as indicated in Figs. 1 and 2. The free extremity of the said arm projects obliquely outward from the body of the car, as shown best in Fig. 2, and in use the device is arranged so that the said free extremity extends toward the end of the car which when the train is in motion is the rear end thereof. The mail bag, pouch, or other receptacle or package to be delivered from the car is hung to the said arm by means of a suspensory device suitable for convenient connection with the bag or the like and adapted for ready application to the arm 5, as well as adapted to slide along the latter to permit of the removal of the said bag or the like at the end of the arm. The precise character of the said suspensory device is not material. Herein I have shown a mail-bag A and a ring-shaped suspensory device 6, which is arranged or connected with the said mail-bag and which fits loosely upon the arm 5. In order to prevent the bag from becoming blown or accidentally thrown from the arm 5, I provide means for securing the suspensory device in a yielding manner upon the arm. Preferably I employ a yielding frictional retainer and I have shown such a retainer, it constituting one feature of the invention, although the employment of a retainer of this particular character or of the particular retainer herein shown is not essential so far as the broader phases of the invention are concerned. The retainer 7 (shown in Fig. 2) consists of an elastic bar or strip extending lengthwise of the arm 5 and in close proximity thereto. The ring or other suspensory device in being applied to the arm 5 is introduced between the arm and retainer and is compressed with yielding force between the two, the degree of compression being sufficient to prevent free movement of the ring or the like along the arm, but not sufficient to prevent the same from being moved and withdrawn from the arm through the action of the stationary receiving device. The said arm 5 may be mounted in convenient and preferred manner upon the car and at any approved height. Herein I have for convenience of illustration shown it attached to a supporting rod or shaft 8, which latter is applied movably to sockets or bearings 9 9, that are attached to opposite sides of the frame of the doorway at about the

height at which the similar sockets or bearings of the similar supporting rod or shaft of the usual mail-catcher are usually attached. The said supporting rod or shaft is rotatable in the said sockets or bearings to enable the delivering device to be turned, by means of the handle 51, Fig. 2, into the horizontal working position in which it is shown in Figs. 1 and 2, as for purposes of delivery, or into a depending position—such, for instance, as that in which it is represented in dotted lines in Fig. 1. In order to permit the delivering device to be employed in conjunction with the ordinary form of mail-catcher when desired without interfering with the action of the said mail-catcher when the latter is to be utilized, the supporting rod or shaft 8 is in some cases of length sufficient to enable the same to be slid lengthwise in the sockets or bearings far enough to place the delivering-arm entirely out of the way of the arm of the mail-catcher, as indicated in Figs. 1 and 2, wherein the delivering device is shown in dotted lines occupying an inoperative position entirely at one side of the doorway.

For the purpose of taking the bag or other receptacle or package from the delivering-arm I employ a relatively stationary receiving device on the order of that which is shown in the accompanying drawings and in which certain specific features of the invention are embodied. The said receiving device is provided with a plurality of bars 10 10, Fig. 3, two or more of such bars being employed, arranged one above another and connected at their inner ends with a carrier 11. The said carrier is mounted upon a fixed or stationary supporting-bar 12, which latter is located alongside the railway-track. A spacing and reinforcing bar 13 is applied to these bars at a short distance from the carrier 11, and adjacent the said spacing and reinforcing bar the bars 10 10 are bent so that their outer portions occupy an oblique position with relation to the inner portions of the bars. For action in connection with the delivering device the outer extremities of the bars 10 10 are arranged to extend in the direction opposite to that in which the car 1 moves. They incline toward the path of the car, so that as the latter passes the bars 10 10 will project across the arm of the delivering device, one or more of the said bars extending above the said arm and the other or others below. Hence as the arm moves between two of the said bars the bag A will pass to the outer side of the latter. Through the engagement of the bars with either the suspensory device or the bag the bag will be arrested and held while the car passes on, the movement of the car drawing the delivering-arm 5 out from the suspensory device. The inclined position of the bars 10 10 lessens the force of the blow produced by the impingement of the bag or its suspensory device upon the said bars

and gradually reduces the rate of motion of the bag as the latter is pushed off the reversely-inclined delivering-arm until at the bend of the said bars the onward movement of the bag is stopped without material shock. The outward inclination of the delivering-arm 5 permits the bag to travel outward upon such arm as the bag advances along the inclined bars 10 10. To permit the entrance of the suspensory device between the bars 10 10, the latter are free from one another at their extreme outer ends, although this usually is not important save in the case of the pair thereof between which the suspensory device is particularly intended to enter. For the purpose of facilitating such entrance the extremities of the bars of the said pair are bent away from each other in a vertical direction, as shown in Fig. 3, the divergence being intended to compensate for accidental variation vertically in the position of the delivering-arm 5 and for swaying of the car as it passes the receiving device. Such swaying would raise or lower the outer portion of the delivering-arm with relation to the space between bars 10 10, into which the suspensory device should pass; but the divergence of the ends of the bars of the said pair prevents the suspensory device and delivering-arm from missing the said space by providing a wider entrance to the latter. The said pair of bars continue to approach each other to or near the spacing and reinforcing bar 13 in order to trap the suspensory device, and the latter will or may strike against the said bar in order to insure the dislodgment of the suspensory device from the delivering-arm.

It has been indicated hereinbefore that the outer extremities of the delivering-arm and receiving device extend in the direction opposite to that in which the car 1 moves. When the car travels in the direction which is opposite to that indicated by the arrows in Figs. 1 and 2, the positions of the delivering and receiving devices will be correspondingly reversed. In the case of the delivering device this is effected by removing its shaft or supporting-rod from the sockets or bearings therefor at the opposite sides of the doorway and turning the device end for end before replacing the same. In the case of the receiving device the reversal may be provided for in various ways without departure from the spirit of the invention in its broader phases. I have devised a reversible construction of receiving device which in some cases I prefer to employ and which I will explain as follows: The carrier 11 is provided with a shaft or journal 14, which latter is fitted to a suitable bearing, as 15, with which the supporting-bar 12 is furnished, as indicated in Figs. 2, 4, and 5. This mode of mounting the receiving device enables the same to be turned around the axis of the said shaft or journal from the position in which such device is

shown in Figs. 2, 3, 5, and 6 to one diametrically opposite, so that the outer extremities of the bars 10 10 shall extend in the opposite direction. For convenience in turning the receiving device or receiver the shaft or journal 14 is or may be provided with an arm, as 16, by means of which the said device may be manually shifted in position. To fix the opposite positions of the receiving device, stops, as 17 17, may be provided upon the supporting-bar 12, against which, respectively, the arm 16 will take bearing, the said stops serving to limit the movement of the receiving device in either direction and thereafter serving to support the arm 16, so as to prevent the descent of the receiving device below its normal position under the influence of gravity. Latches or locks, herein constituted by hooks 18 18, which are pivotally mounted upon the supporting-bar, are provided to act, in connection with the arm 16, to prevent accidental change of position. If the receiving device is designed to be employed in a location where trains pass in one direction only, the feature of reversibility may be omitted.

In order to enable the receiving device when not in use to occupy a position closely adjacent the support 12, I preferably connect the carrier 11 with the shaft or journal 14 by means of a vertical pivot, as indicated in Figs. 2, 3, 5, and 6. This enables the said device to be swung horizontally about such pivot from the working position, (shown in full lines in Figs. 2, 5, and 6,) in which it is extended toward the railway-track, into the inoperative position thereof, (shown in dotted lines in Figs. 2 and 5,) in which it is closely adjacent the support 12. In the embodiment of the invention which is shown in Figs. 1 to 5 the carrier 11 has attached thereto one extremity of a blade or leaf-spring 19, the free extremity of the said spring resting against the surface of support 12, and the spring tending to cause the receiving device to assume and retain the normal or inoperative position which is represented by the dotted lines in Figs. 2 and 5. When the receiving device is turned around the axis of the shaft or journal 14, the free extremity of the spring 19 slips upon the surface of support 12. Fig. 6 illustrates the employment of weights in lieu of the spring 19. Thus 191 is a weight having connected therewith a rope or chain 192, extending over a sheave or pulley 193, and provided with a hook 194 for engagement with the receiving device. The latter is furnished with eyes 195. In Fig. 6 two weights are shown, respectively located at opposite sides of the journal or shaft 14, which are respectively brought into action as the working position of the receiving device is shifted to suit the direction of movement of trains. Each weight is brought into action by causing its hook 194 to engage with one of the eyes 195 of the re-

ceiving device. When a given weight is thrown out of action by disengaging the corresponding hook from the receiving device, such hook in Fig. 6 is temporarily engaged with a pin 196 upon support 12 in order to retain the same in convenient position. For the purpose of holding the receiving device in its full-line or working position detents 20 20 are employed. In Figs. 2, 3, 5, and 6 one of such detents is shown in action, it serving as a prop to hold the receiving device in the said position against the action of spring 19. There being two of the detents or props 20 20, in order to correspond in number with the two opposite working positions of the receiving device, one thereof in each of the said figures is shown in its idle position turned in against the support 12. The detents or props are pivotally connected with support 12 to enable them to be placed in and out of action, and also so as to enable the one which is in action to be disengaged from the receiving device, so as to release the latter from its working position. Preferably I arrange for causing the said disengagement to occur automatically, and to this end I form each detent or prop with a widened outer end, so that such end may extend across or bridge the space between two of the bars 10 10 of the receiving device. I also locate the said detent or prop in position to cause the outer end thereof to be struck by the suspensory device or bag at the time a bag supported by the delivering-arm 5 is engaged by the receiving device. Thereby the detent or prop is knocked inward out of its full-line position of Figs. 2, 3, 5, and 6, and the receiving device is freed to the action of spring 19 or of weight 191, whereupon the latter acts to swing the receiving device into the dotted-line position of the said figures. By the contact of the bag with the detent or prop 20 the momentum of the bag is reduced and the force of the blow with which the bag fetches up at the bend of the arms 10 10 is much deadened.

The mail-bag, which has been disengaged from delivering-arm 5 by the receiving device, drops from the latter into or upon a suitable receptacle or the like. In the present instance an inclined grating 21 is provided below the receiving device, the lower ends of the bars thereof terminating in position to guide the bag into a closed box 22, the latter being provided with a door 23, by means of which access to the interior of the said box may be had. The bag will remain safely within the said box, protected by the latter, until called for and taken away by the proper person. Its door 23 will be provided with a suitable lock.

My devices for placing a mail-bag, pouch, or other receptacle or package upon a moving car comprise an arm 511, Figs. 2 and 3, provided with a yielding retainer 71, the said

arm and retainer corresponding in general character, construction, and mode of operation with the delivering-arm 5 and its retainer 7, which have been described hereinbefore. The said arm 511 may be mounted upon some suitable stationary or other support adjacent the railway-track. Herein it is mounted upon the box 22. In order to enable the arm 511 to be reversed in position to suit movement of trains in different directions, the said arm is mounted pivotally after the manner of the receiving device. To support and retain it in either of its opposite positions, a pin 171 is employed, which is inserted into one or the other of the holes which are formed for its reception at opposite sides of the pivot of the arm in either the side of box 22 or a block attached to such side. The catching device which I apply to the car to coöperate with the arm 511 is shown in Figs. 1 and 2 at 100. It corresponds in general respects with the operative portion of the receiving device, which has been described, it being hung or mounted pivotally, as at 101, Fig. 2, at one side of the doorway of the car, so as to enable the same be swung out through the doorway into working position, as shown by full lines in such Figs. 1 and 2, or to be swung into the interior of the car and around out of the way adjacent the inner surface of the side of the car, as indicated in dotted lines in Fig. 2. To catch the bag as it drops, after being taken by the catching device 100 from the arm 511, the said device is furnished with a bottom 102, which is formed of suitable sheet material. In order to enable the said bottom to be turned up when the device is swung into the car, so as to enable the device to be placed close against the side of the car, the bottom is hinged at 103, Fig. 1.

I claim as my invention—

1. The combination with a railway-car or other vehicle, and a support alongside the path thereof, of a receiving device mounted upon one of the said elements, and a delivering-arm mounted upon the other thereof, the said delivering-arm having an oblique portion constituting an outwardly and laterally inclined support of proportionately-extended length along which the suspensory device of the mail-bag or other parcel slides when the latter is taken by the receiving device, whereby the said mail-bag or other parcel is delivered gradually to the receiving device.

2. The combination with a railway-car or other vehicle, and a support alongside the path thereof, of a delivering-arm mounted upon one of the said elements having an oblique portion constituting a horizontal outwardly and laterally inclined support of proportionately-extended length along which the suspensory device of the mail-bag or other parcel slides when the latter is taken by the receiving device, and a receiving device having an oblique acting portion inclined oppositely

with relation to the oblique supporting portion of the delivering-arm, and which extends across the said portion of the said arm, whereby the mail-bag or other parcel is removed gradually from the delivering-arm and the shock minimized.

3. The combination with a railway-car or other vehicle, provided with sockets or bearings, of a shaft mounted in the said sockets or bearings, and a delivering-arm upon the said shaft having an oblique outer portion constituting a laterally-inclined support of proportionately-extended length along which the suspensory device of the mail-bag or other parcel slides in being taken from the said support.

4. The combination with a railway-car or other vehicle, provided with sockets or bearings, of a shaft mounted in the said sockets or bearings, a delivering-arm mounted upon the said shaft having an oblique outer portion constituting a horizontal laterally-inclined support of proportionately-extended length along which the suspensory device of the mail-bag or other parcel slides in being taken from the said support, and a retainer bar or strip extending lengthwise of the said support and between which and the support the suspensory device is confined.

5. The combination with a railway-car or other vehicle, and the delivering-arm carried thereby and having an oblique outer portion constituting a laterally and outwardly inclined support of proportionately-extended length along which the suspensory device of the mail-

bag or other parcel slides when the latter is taken by the receiving device, of a stationary receiving device located alongside the path of the said railway-car or other vehicle, having the oblique acting portion inclined oppositely with relation to the oblique supporting portion of the delivering-arm and which extends across the said portion of the said arm, whereby the mail-bag or other parcel is removed gradually from the delivering-arm, and the receptacle into which the mail-bag or other parcel passes from the said receiving device.

6. The combination with a railway-car or other vehicle, and the delivering-arm carried thereby, of the receiving device adapted to be swung into opposite positions, means to latch the said device in working position, said means adapted to be automatically disengaged to release the said device, and means to move the device into a retracted position when unlatched.

7. The combination with a railway-car or other vehicle, and the delivering-arm carried thereby having the outwardly-inclined portion provided with a yielding retainer, of the relatively stationary receiving device having the inclined acting portion, and a receptacle adjacent the said device into which the bag or the like passes from the receiving device.

In testimony whereof I affix my signature in presence of two witnesses.

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