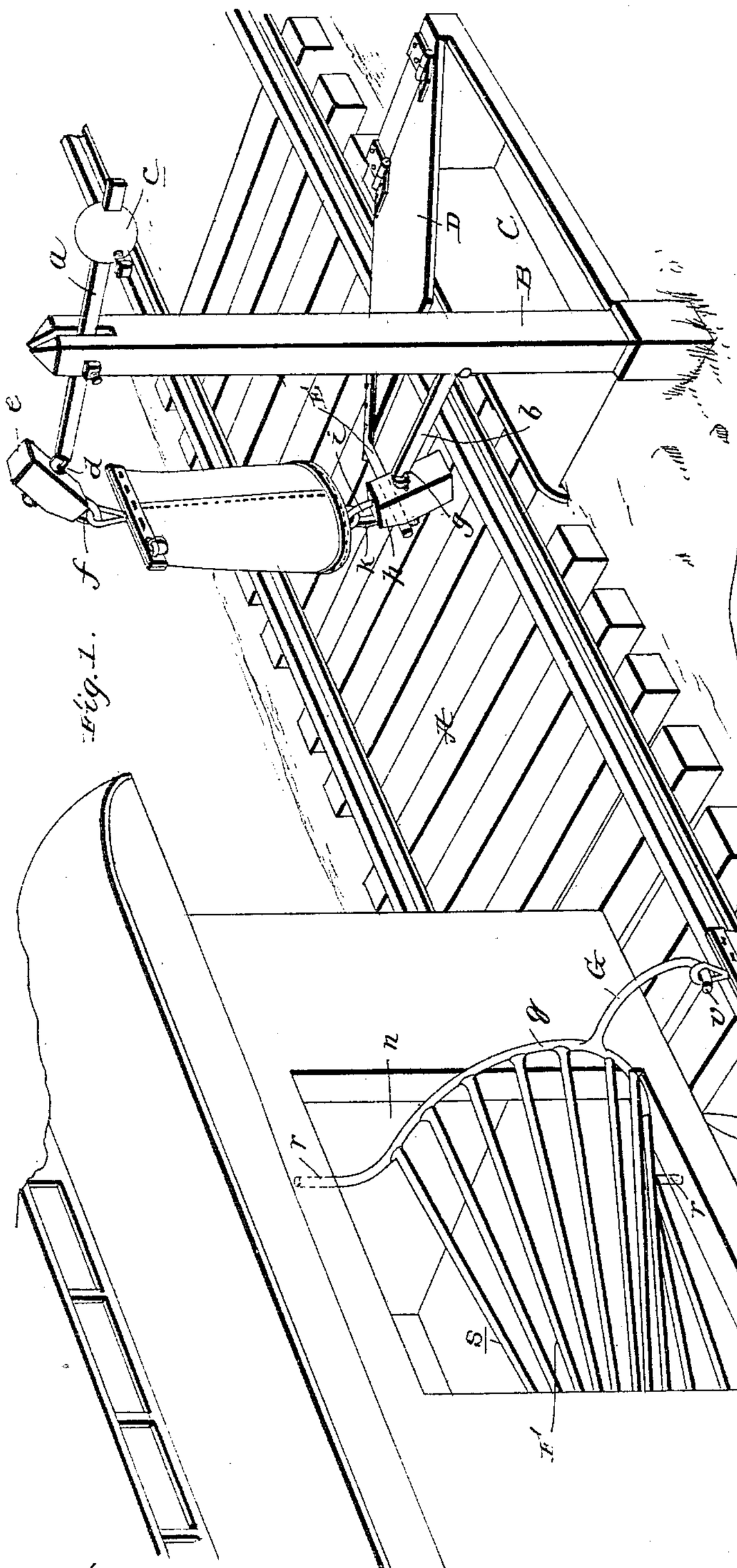
No. 616,556. Patented Dec. 27, 1898.

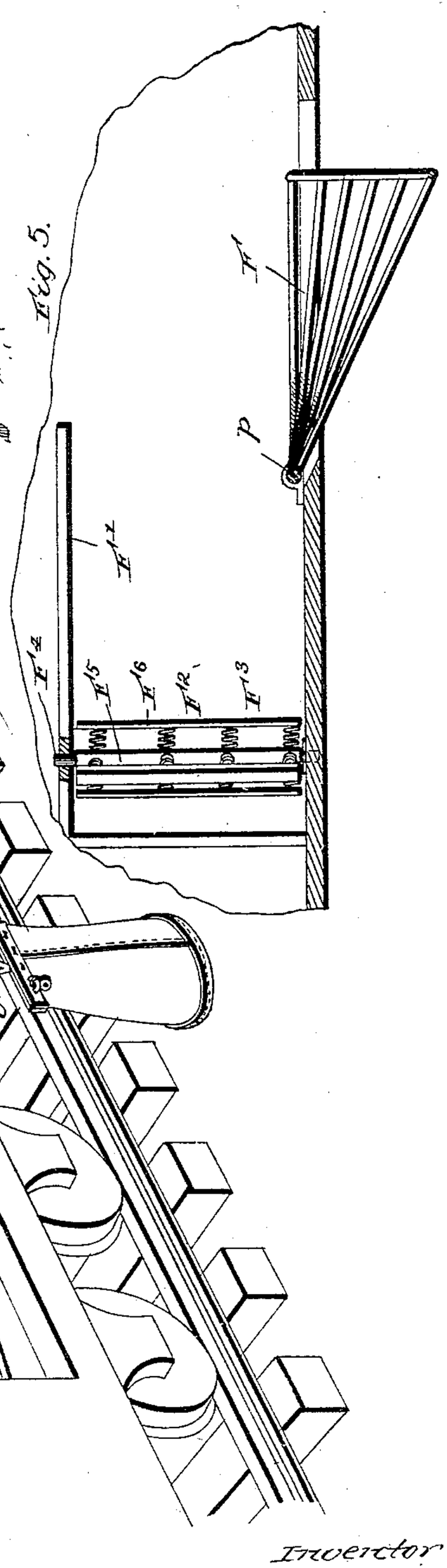
S. R. PATTEN.

MAIL BAG CATCHER AND CRANE.

(Application filed Oct. 13, 1898.)

(No Model.) 2 Sheets—Sheet 1.





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(No Model.) 2 Sheets—Sheet 2.

Fig. 2.

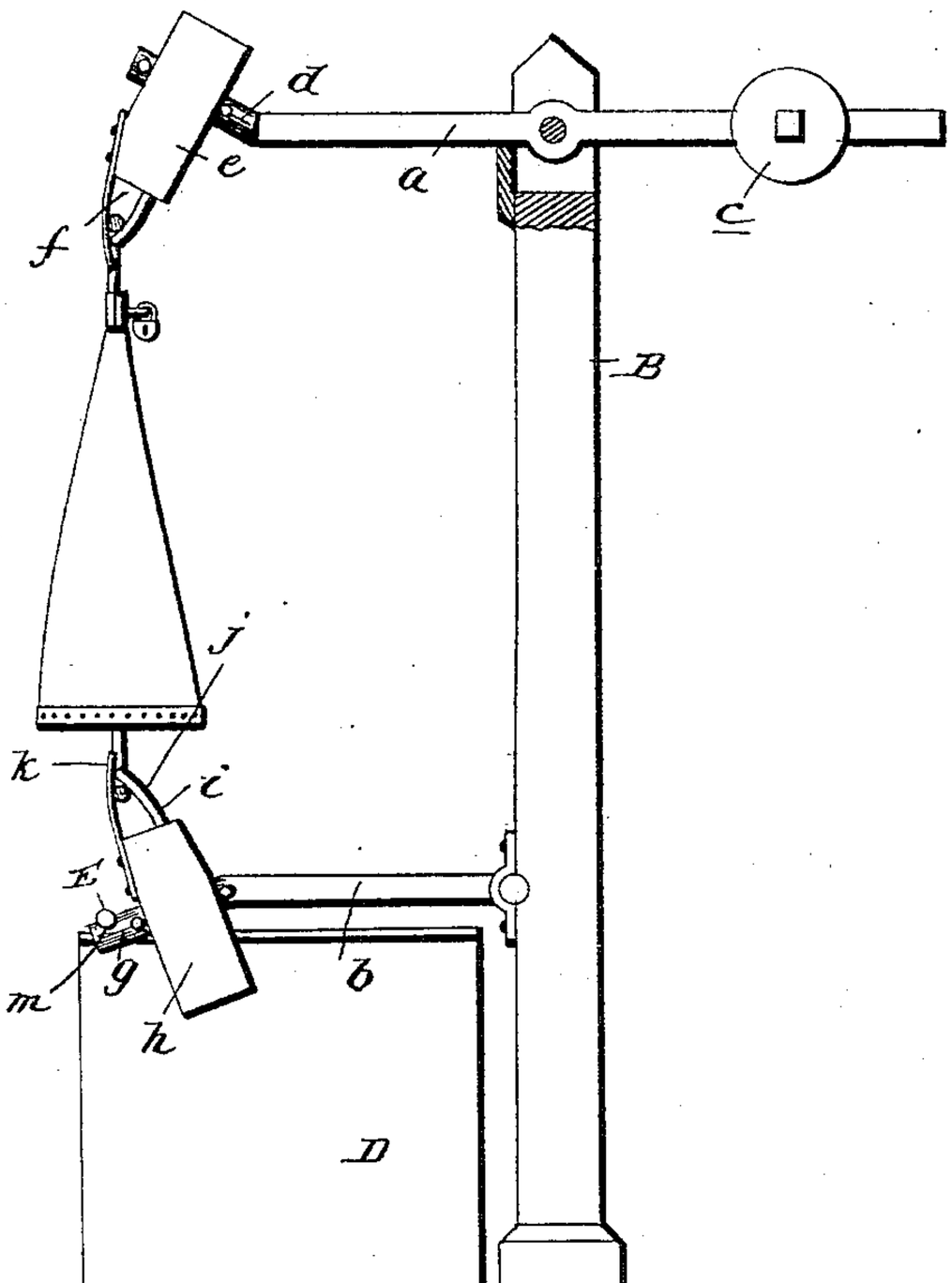


Fig. 3.

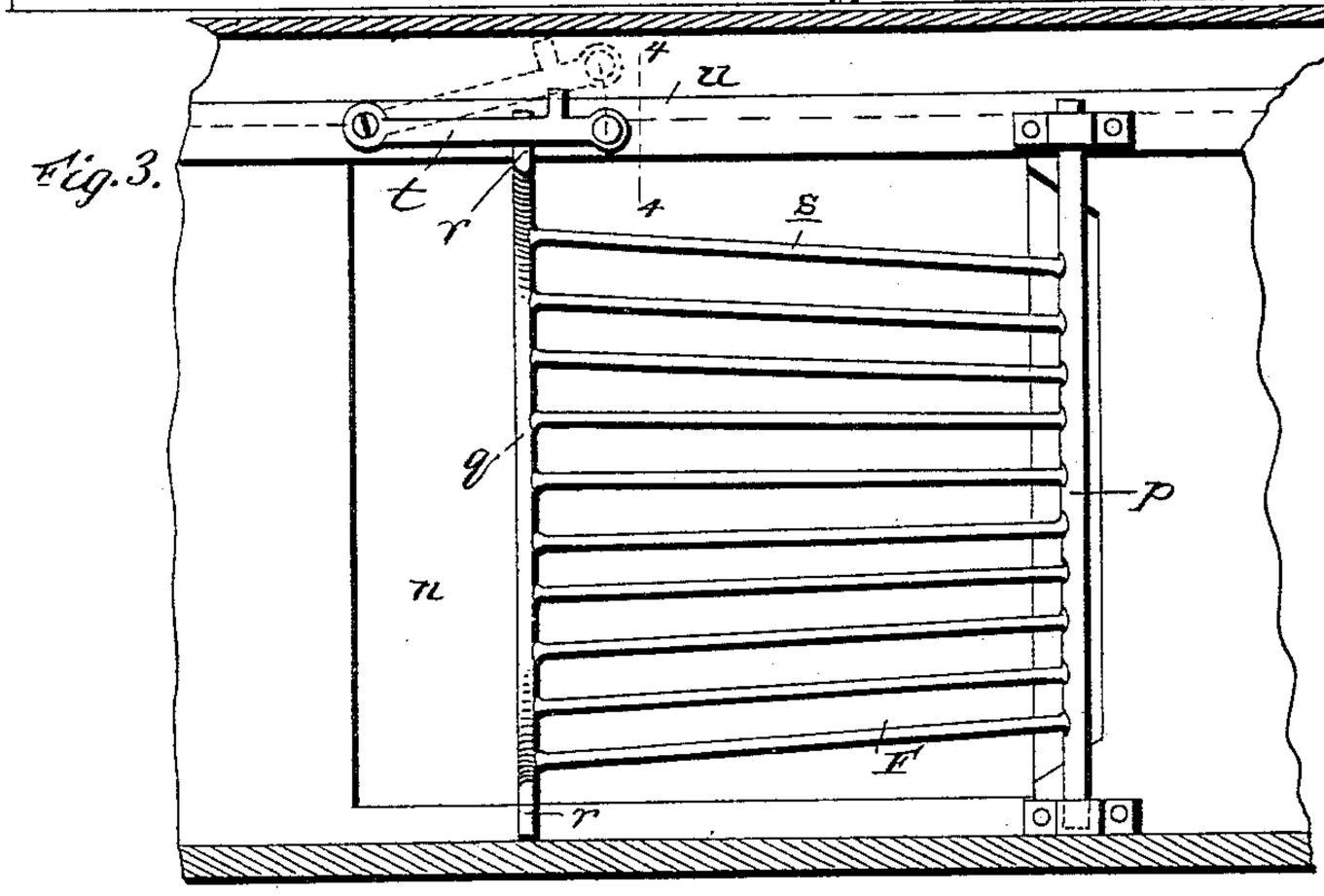
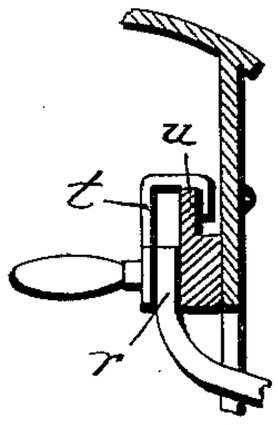


Fig. 4.



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UNITED STATES PATENT OFFICE.

SIMON R. PATTEN, OF OMAHA, NEBRASKA.

MAIL-BAG CATCHER AND CRANE.

SPECIFICATION forming part of Letters Patent No. 616,556, dated December 27, 1898.

Application filed October 13, 1898. Serial No. 693,391. (No model.)

To all whom it may concern:

Be it known that I, SIMON R. PATTEN, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented new and useful Improvements in Mail-Bag Catchers and Cranes, of which the following is a specification.

My invention relates to mail-bag catchers and cranes for use in conjunction with railway mail-cars, and contemplates the employment of a scoop on a car and a receptacle located at one side of the car-track, in combination with a crane also located at the side of the car-track, the scoop being adapted to take bags from the crane while the car is in motion and guide them through an opening into the car, and the receptacle being held open by the crane and arranged to receive bags from an appurtenance of the scoop and adapted to automatically close after the bags are received, and thereby protect the same from the weather.

With the foregoing in mind the invention will be fully understood from the following description and claims when taken in conjunction with the annexed drawings, in which—

Figure 1 is a perspective view of a portion of a railway mail-car equipped with my improved scoop, said car being shown on the track in close proximity to the crane and bag-receptacle located at the side thereof. Fig. 2 is a detail elevation, partly in section, illustrating the crane and the bag-receptacle, the crane being shown in its operative position and the receptacle with its cover open. Fig. 3 is a detail section of the car, illustrating the scoop in elevation from the inside of the car. Fig. 4 is an enlarged detail section taken in the plane indicated by the line 4 4 of Fig. 3, and Fig. 5 is a detail horizontal section illustrating the mail-bag receptacle in its proper relation to the scoop.

In the said drawings similar letters designate corresponding parts in all of the several views, referring to which—

A is a car-track, and B is a crane-upright located at one side of the same and equipped with a lever-arm *a* and a pivotally-connected arm *b*, as shown. The lever *a* is provided adjacent to its outer end with a weight *c*, calculated to raise its inner end out of the way of passing trains when the bag is discharged, and it has a bent portion *d* at its end adjacent to the track, on which is pivotally mounted a block *e*, carrying a clip *f*. The arm *b* is also provided with a bent end portion *g*, on which is pivotally mounted a block *h*, carrying a clip *i*. Said blocks *e h* are by reason of the bent portions of the arms held at an angle of about forty-five degrees when the arms are in a horizontal or approximately horizontal position, and being pivotally connected adjacent to their upper ends to the arms the clip *f* at the lower end of block *e* and the clip *i* at the upper end of block *h* will by virtue of gravity normally rest in a position to engage the straps usually provided at the ends of mail-bags. When desired, rings especially adapted for the purpose may be attached to the mail-bags for the engagement of the clips in the manner described.

As best shown in Fig. 2, the clips comprise rigid members *j*, fixed to the block, and resilient members or strap-springs *k*, connected to the blocks and impinging against and extending beyond the ends of the rigid members, as illustrated. From this it follows that by pressing against the extended portions of the resilient members *k* the clips may be readily opened for the placing of the straps or rings of a bag therein; also, that the clasps will permit the mail-bags to be taken on a train going in either direction.

The weight *c* on lever-arm *a* serves to raise the inner end thereof, while the weight of lower arm *b* and of the cover D serves to press the arm *b* downwardly. In this way the end straps of the bag are kept at the mouths of the clips and the bag is held under slight tension, so as to insure its disconnection from the crane when engaged by the scoop, presently described, and at the same time dislodgment of the bag by wind is prevented.

C is the mail-bag receptacle, located in the road-bed at the side of track A and in close proximity to the upright B, and D is the cover of said receptacle, which is connected to the same at one end and in a hinged manner. At its opposite end the cover D is provided with an arm E, which is designed to be placed in a seat *m* of the pivoted arm *b* and be held in

its raised position by the same after the manner shown in Fig. 2. This receptacle and cover may be made of any size or shape necessary to adapt them to the locality where a crane is placed.

F is the scoop, which has for its purpose to take the bag from the crane when the car is in motion and guide the same through the door or other opening *n* of the car into the same, and F^2 is a receptacle provided inside the car at the rear of the scoop to receive the bags therefrom. The scoop may be formed of sheet-iron or other material and may be of any form suitable to the purposes of my invention, although I prefer to make it of metallic bars in the form shown and have it comprise an upright shaft *p*, journaled in bearings at the inside of the car-wall and at the rear side of the opening *n* with reference to the direction in which the car is to travel, the semicircular outer end bar *q*, terminating in straight ends *r*, and the longitudinal bars *s*, interposed between and connected to the shaft *p* and end bar *q*, as shown. When it is not desired to use the scoop F, it is swung entirely within the car, so as not to strike bridges and other obstructions at the side of the track. When, however, the car approaches a crane holding a mail-bag, the scoop is swung out until the ends *r* of the bar *q* engage the inner side of the side wall of the car, and is secured in such position by a pivoted latch *t*, which is designed to bear on a ledge *u* on the car and engage the upper end *r* of the scoop-bar *q* after the manner best shown in Fig. 4. When desirable, however, the latch may be dispensed with, in which event the scoop will be provided with a suitable handle, through the medium of which an operator may hold the scoop in proper position while passing the crane. In its extended position (shown in Fig. 1) the scoop is adapted as the car passes the crane to take the bag from the crane and guide it into the car and receptacle F^2 therein through the opening thereof, and this irrespective of whether the car is traveling at a high or low rate of speed.

G is an arm of the scoop which branches laterally outward from the bar *q* and terminates at its outer end in a rearwardly-extending hook *v* or other device suitable for holding the mail-bag securely.

When it is desired to deliver a bag from the moving car into the receptacle C, the bag is hung on the hook or other device of arm G while the scoop is in the car, and said scoop is then swung out into its operative position. With this done when the car reaches the crane the scoop will take the bag therefrom and guide it into the receptacle F^2 in the car, and at the same time the arm *b* of the crane will sweep the bag off the hook *v* of the arm G and said bag will fall into the receptacle C. When the bag is taken from the crane, the arm *b* will fall, and the cover D, falling with it, will close the receptacle, and thereby protect the bag from the weather. At the same time both arms of the crane and the receptacle-cover will assume positions where they will be out of the way of the following cars.

The receptacle F^2 is preferably fixed in the car, and in order to prevent injury to the bags when they violently enter it the said receptacle is provided at its inner end with a cushion F^3, calculated to take up the shock and jar and prevent the bags and also the receptacle from being damaged. In the preferred embodiment of the invention the cushion F^3 is in the form of a rotary cylinder and comprises a shaft F^4, journaled in suitable bearings, bars F^5, and springs F^6, interposed between the bars and shaft. This form of cushion is preferable because it is adapted to turn when struck by the bags, and thereby further reduces the liability of the bags being injured.

I have shown the car as equipped with a scoop F and receptacle F^2 on but one side. It is obvious, however, that the scoop and receptacle may, when desired, be duplicated on the other side of the car, so as to permit of mail being taken from the crane into the car or discharged from the car into the receptacle C irrespective of the direction in which the car is traveling. It is also obvious that when deemed necessary or desirable the stationary receptacle C may be provided with a cushion similar to the cushion F^3 of the receptacle F^2.

It will be appreciated from the foregoing that my improved apparatus while simple is reliable in operation and is calculated to take bags from a crane into a moving car and is adapted to deliver bags from the car into the receptacle and effect the closure of the receptacle irrespective of the rate of speed at which the car is traveling.

I have specifically described the construction and relative arrangement of the parts of my improved apparatus in order to impart a full, clear, and exact understanding of the same. I do not desire, however, to be understood as confining myself to such specific construction and arrangement of parts, as such changes or modifications may be made in practice as fairly fall within the scope of my invention.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A mail-car having an opening, a scoop arranged to be extended through said opening and provided with an outwardly-extended bag-holding arm, a bag-receptacle arranged in the car, and a cushion in said receptacle; in combination with a stationary crane having an upper bag-holding arm, and a lower gravitating bag-holding arm arranged in a plane to remove a bag from the arm of the scoop, a bag-receptacle arranged in proximity to the crane, and a gravitating cover for said receptacle arranged to be held in its open position by the lower arm of the crane, substantially as specified.

2. A mail-car having an opening and a scoop arranged to extend through said opening and provided with an outwardly-extended bag-holding arm; in combination with a stationary crane having an upper bag-holding arm, and a lower gravitating bag-holding arm arranged in a plane to remove a bag from the arm of the scoop, a bag-receptacle arranged in proximity to the crane, and a gravitating cover for said receptacle arranged to be held in its open position by the lower arm of the crane, substantially as specified.

3. A mail-car having an opening and a scoop arranged to extend through said opening and provided with a bag-holding arm; in combination with a stationary crane having an upper arm provided with a bag-engaging spring-clip, and a lower gravitating arm provided with a bag-engaging spring-clip and arranged in a plane to remove a bag from the arm of the scoop, a bag-receptacle arranged in proximity to the crane, and a gravitating cover for said receptacle having an arm designed to rest in a seat in the lower bag-holding arm of the crane, substantially as specified.

4. The combination of a stationary crane having an upper arm and a lower gravitating arm and also having means on the arms for engaging and holding a mail-bag between them, a receptacle for mail-bags arranged in close proximity to the crane and having a gravitating cover arranged to be supported in its raised position by the lower arm of the crane, a car, a device on the car for taking bags from the crane, and a bag-holder on the car so arranged with respect to the lower arm of the crane as to enable said arm to remove bags therefrom, substantially as specified.

5. A crane comprising an upright, lower and upper arms connected to and extending laterally from the upright, a block with a bag-engaging clip at its lower end pivotally mounted adjacent to its upper end on the upper arm whereby it is free to swing on the arm and will normally rest with the clip depending, and a block with a bag-engaging clip at its upper end pivotally mounted adjacent to its upper end on the arm of the clip whereby it is free to swing on the arm and will normally rest with the clip uppermost, substantially as specified.

6. A crane comprising an upright, lower and upper arms connected to and extending laterally from the upright and having the downwardly and upwardly bent end portions, respectively, a block with a bag-engaging clip at its lower end pivotally mounted adjacent to its upper end on the bent portion of the upper arm whereby it is free to swing on the arm and will normally rest with the clip depending, and a block with a clip at its upper end pivotally mounted adjacent to its upper end on the bent portion of the lower arm whereby it is free to swing on the arm and will normally rest with the clip uppermost, substantially as specified.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

SIMON R. PATTEN.

Witnesses:
IDA W. BRINN,
JAS. W. CARR.