No. 654,223. Patented July 24, 1900.

A. D. CARNAGY.

MAIL BAG CATCHER.

(Application filed Nov. 11, 1898.)

(No Model.)

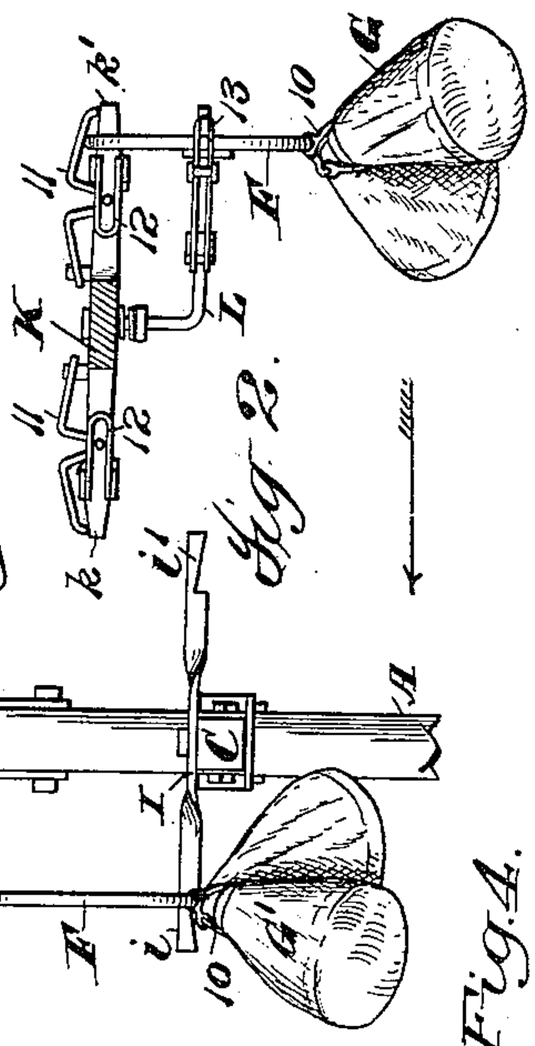

Fig. 2.

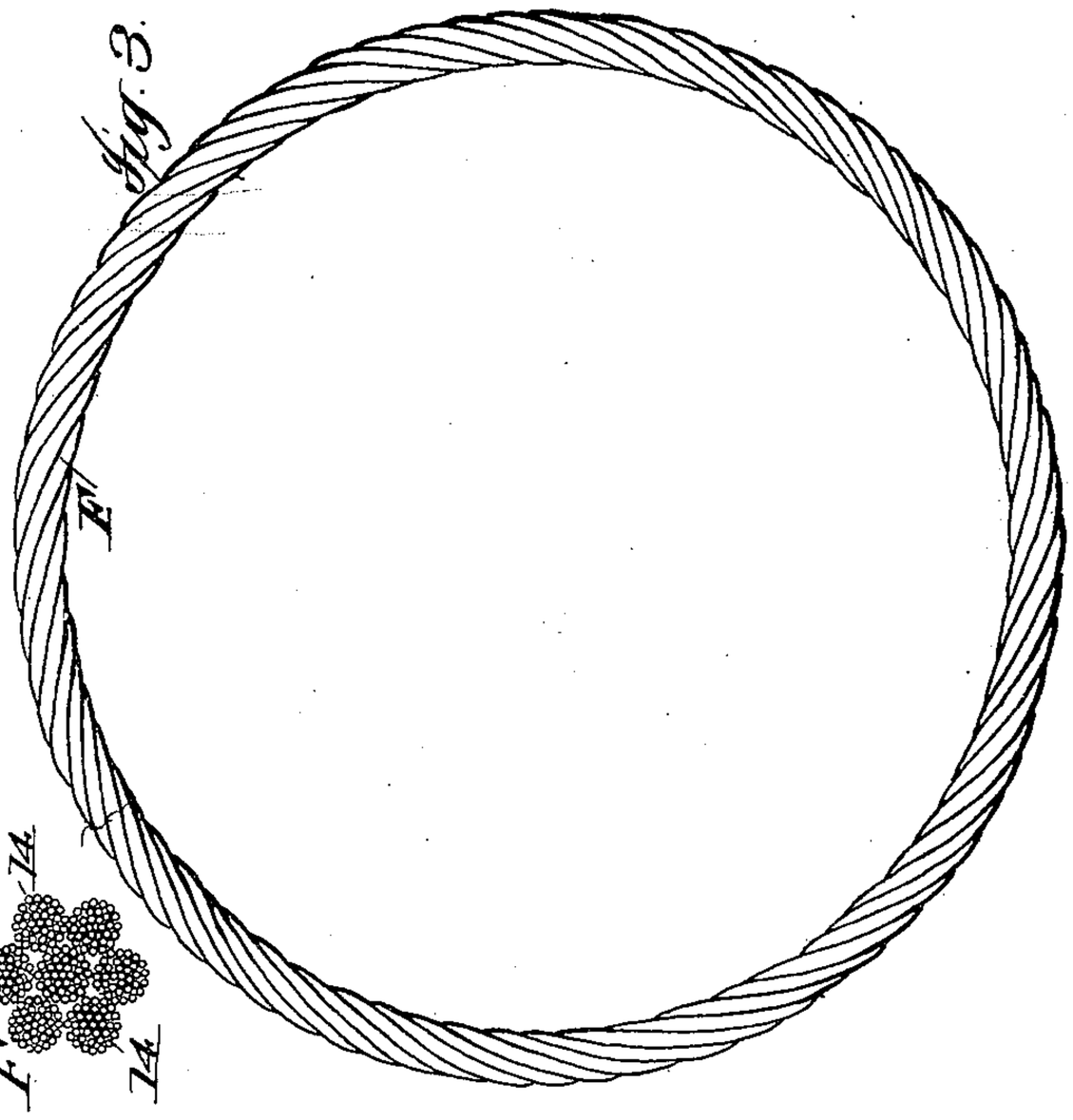

Fig. 3.

Fig. 4.

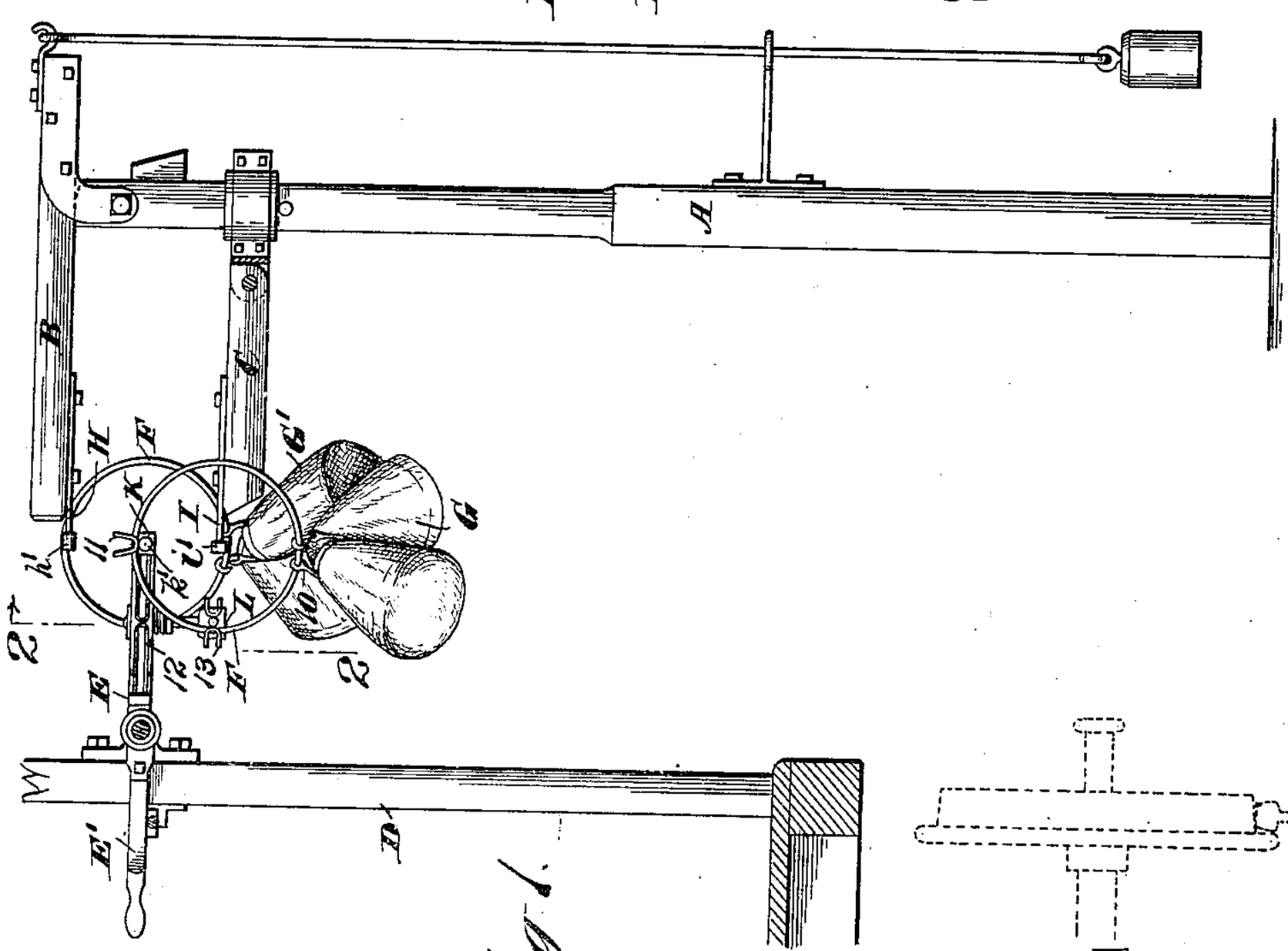

Fig. 1.

Attest:
C. F. Kehoe.
H. W. Bourke.

Inventor
Alford D. Carnagy
By Philipp Philipp & Thayer
Attys

UNITED STATES PATENT OFFICE.

ALFRED D. CARNAGY, OF TRENTON, NEW JERSEY, ASSIGNOR TO THE JOHN A. ROEBLING'S SONS COMPANY, OF SAME PLACE.

MAIL-BAG CATCHER.

SPECIFICATION forming part of Letters Patent No. 654,223, dated July 24, 1900.

Application filed November 11, 1898. Serial No. 696,150. (No model.)

To all whom it may concern:

Be it known that I, ALFRED D. CARNAGY, a citizen of the United States, residing at Trenton, county of Mercer, and State of New Jersey, have invented certain new and useful Improvements in Mail-Bag Catchers, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The object of the present invention is to provide a construction by which greater certainty in the proper delivery of mail-bags from or to moving mail-cars shall be secured and the strain resulting from the catching of a bag with the mail-car moving at a high speed shall be relieved. I attain this object by the use of an elastic metal catch-ring, by which the mail-bag is caught by the mail-crane when delivered from the car or by the catch-arm on the car in taking up a bag by the car, this elastic metal catch-ring being of sufficient strength to stand the great strain of catching the mail-bag, while at the same time having a sufficient elasticity to yield under and relieve such strain. The strain resulting from catching a mail-bag received or delivered by the mail-car running at a high rate of speed is thus taken up by the elasticity of the catch-ring, and shock or jar upon the mail crane or arm on the car is prevented. This gradual yielding of the catch-ring also prevents the rebound of the catch-ring and bag which always exists with rigid catch-rings and which has been a great cause of difficulty in the operation of mail-bag catchers, so that cushions, catches, and like devices of various forms have been used in attempts to secure certainty in the receipt and delivery of the bags. With the use of an elastic catch-ring these and other difficulties heretofore existing in the operation of mail-bag catchers are overcome, and it is possible also to use a simpler and lighter construction of mail-crane and car-bag-catching devices.

Any suitable construction of mail-crane and means on the car for receiving or delivering mail-bags may be used in carrying out my invention; but for the purpose of description and illustration the invention is shown herein as applied in connection with a mail-bag catcher of a well-known construction adapted to exchange mail-bags between a moving mail-car and a mail-crane, the car thus both delivering and receiving a mail-bag, and this construction will now be described in connection with the accompanying drawings, forming a part of this specification, and the features forming the invention then specifically pointed out in the claims.

In the drawings, Figure 1 is a sectional elevation of the mail-catcher, showing the parts in position for exchanging mail-bags. Fig. 2 is a vertical section taken between the mail-car and mail-crane on the line 2 of Fig. 1. Fig. 3 is a detail enlarged view of the catch-ring. Fig. 4 is a cross-section of the same on a still larger scale.

The mail-catcher illustrated is the same in general construction as that shown and fully described in United States Letters Patent No. 527,548, dated October 16, 1894, and this construction need be illustrated and described herein only sufficiently for explaining the present invention, reference being made to said Letters Patent for a full illustration and description of this general construction.

The mail-crane A carries at the top the pivoted supporting-bar B, by which a mail-bag is supported in position to be taken by the mail-car, and below this the catch-bar C, on which is received the mail-bag delivered from the car. The car D is provided with the pivoted carrying-bar E, projecting toward the mail-crane when in horizontal position for receiving and delivering a bag and having the usual handle E′ projecting within the car for swinging the carrying-bar E between its vertical and horizontal positions. A catch-ring F is secured to each mail-bag in any suitable manner, being shown as attached by a chain or cord 10 wound around the middle of the mail-bag and detachably connected with the catch-ring. In the construction shown the mail-bag G is the car-bag which is to be delivered, and bag G′ the station-bag to be received by the car.

The supporting-bar B carries at its end next the car D a cross-bar H, which forms the two supporting-arms *h h'*, upon one or the other of which the station mail-bag G' is hung by its catch-ring F, according to the direction in which the car is moving. As shown in the drawings the car is moving in the direction of the arrow in Fig. 2 and the station mail-bag G' is hung upon the arm *h*, which with the car moving in this direction is the forward supporting-arm. If the car were moving in the opposite direction, the station mail-bag G' would be hung upon the arm *h'*, which then would be the forward arm. The catch-bar C carries at its end next the car and beneath the cross-bar H a cross-bar I, which forms at its opposite ends catch-arms *i i'* below and in line with the supporting-arms *h h'*. The rear arm of these two catch-arms *i i'* catches or receives the car mail-bag G—that is, arm *i'* as the car is moving in the drawings. With the car moving in the opposite direction the catch-arm *i* would be the rear arm and receive the car mail-bag. These catch-arms *i i'* in the construction shown perform not only the function of catch-arms for receiving the mail-bag G from the car, but also act to hold the ring F of the station mail-bag G' firmly and in proper position, as described in the patent above referred to.

The carrying-bar E is provided at its end next the mail-crane A with a cross-bar K, which forms at its opposite ends supporting and catch arms *k k'*, which lie between the cross-bars H I, so that the forward arm *k* passes through and receives the catch-ring F of the station mail-bag G', suspended by the forward supporting-arm *h* and catch-arm *i* of the mail-crane, and the rear arm *k'* supports the ring F of the car mail-bag G and carries it over the rear catch-arm *i'* of the mail-crane, so as to deliver this bag thereto. With the car moving in the opposite direction the action of the arms *k k'* would be reversed. Each of the arms *k k'* is shown as provided with spring-catches 11, by which the ring F of the car mail-bag may be held, while permitting it to be stripped therefrom, and with detent-springs 12, between which the catch-ring F of the station mail-bag G' passes as that bag is received by the catch-arm *k* or *k'*, and the carrying-arm E has the pivoted retaining-arm L, provided with yielding springs 13 for holding in position the ring F of the car mail-bag G when suspended from arm *k* or *k'*, all as in the patent above referred to.

The elastic catch-ring F may be of any construction suitable to secure the desired result; but it is preferably made, as shown, of wire rope or cable, this construction admirably securing the combined strength and elasticity desired, and such a catch-ring forms in itself a specific part of the invention. This wire rope or cable catch-ring may be made in any suitable manner; but I preferably use a ring in which a single continuous strand, as 14, of the ring F illustrated and preferably of many small wires, as shown, forms the outer layer and core of the wire rope or cable, so that no splices are used in the construction of the ring, great strength and elasticity thus being secured. Such a ring is preferably made by making a form-ring of the same size as the ring desired by bending a piece of wire rope or cable into form, but without splicing the ends, the wire rope or cable of this form-ring having strands of the same size, number, and arrangement as those of the ring to be made, and then substituting for each of the outer form-strands in succession a winding of the single strand from which the ring is to be made, and finally drawing out the core-strand of the form-ring and substituting for this core-strand the opposite ends of the single strand which has been substituted for the outer form-strands.

While the invention has been shown as applied in connection with a mail-bag catcher adapted to exchange mail-bags with the mail-car moving in either direction and with the same arms forming catch-arms or supporting-arms, according to the direction in which the car is moving, it will be understood that the invention is not limited to such a construction nor to any particular form of devices for receiving or delivering the mail-bags, as my invention may be applied in connection with such devices of many different forms. It will be understood also that while the invention has been described in connection with the receipt and delivery of mail-bags and the general term of "mail-bag catcher" is applied to the construction to which the invention relates, the invention may be used also in connection with handling other articles than mail-bags.

What I claim is—

1. In a mail-bag catcher and the like, the combination of devices for supporting a mail-bag or the like in position for its receipt by or delivery from a moving car and for catching said mail-bag when received by or delivered from the moving car, and an elastic metal catch-ring by which the bag is caught and held on its receipt or delivery, said catch-ring being adapted to yield under the tension of transferring the mail-bag, substantially as described.

2. In a mail-bag catcher and the like, the combination of devices for supporting a mail-bag or the like in position for its receipt by or delivery from a moving car and for catching said mail-bag when received by or delivered from the moving car, and a wire rope or cable catch-ring by which the bag is caught and held on its receipt or delivery, said catch-ring being adapted to yield under the tension of transferring the mail-bag, substantially as described.

3. The combination with a mail-bag catch-

arm for catching and holding a mail-bag in transfer between a moving car and mail-station, of a wire rope or cable catch-ring by which the bag is caught and held by the catch-arm, substantially as described.

4. An elastic catch-ring for mail-bags and the like made of metal and adapted to yield under the tension of transferring the mail-bag, substantially as described.

5. An elastic mail-bag catch-ring formed of wire rope or cable, substantially as described.

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

ALFRED D. CARNAGY.

Witnesses:
C. J. SAWYER,
T. F. KEHOE.