

(No Model.)

2 Sheets—Sheet 1.

W. H. ELLIS.
MAIL CRANE.

No. 486,032.

Patented Nov. 8, 1892.

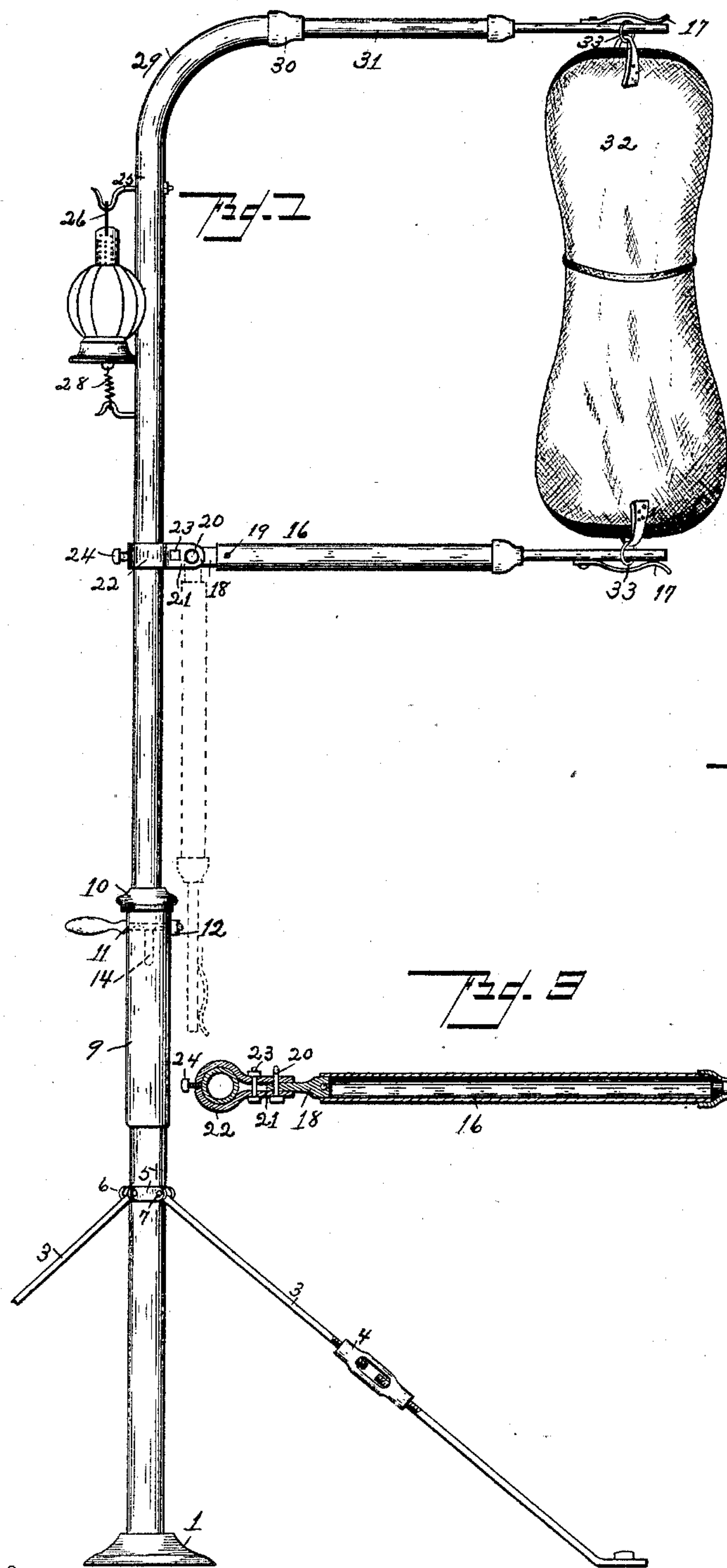
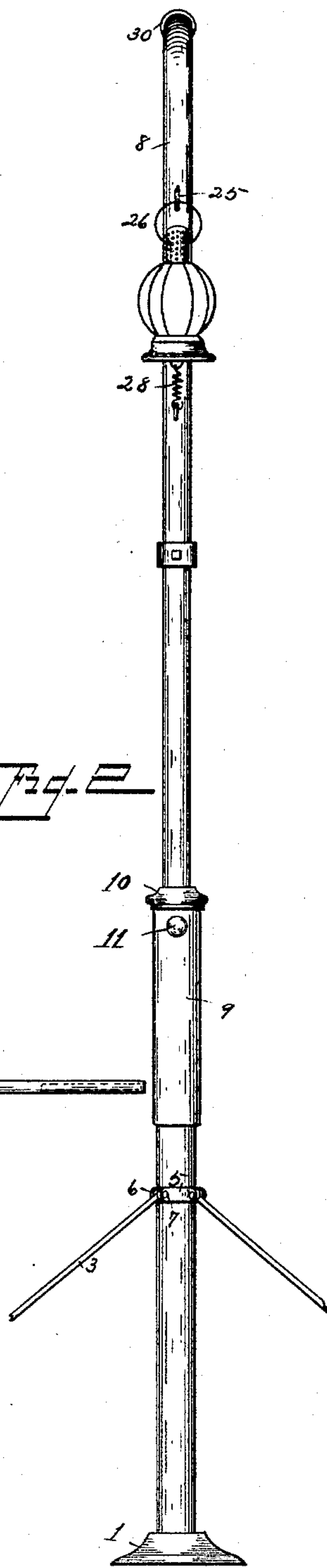


Fig. 2

Fig. 3



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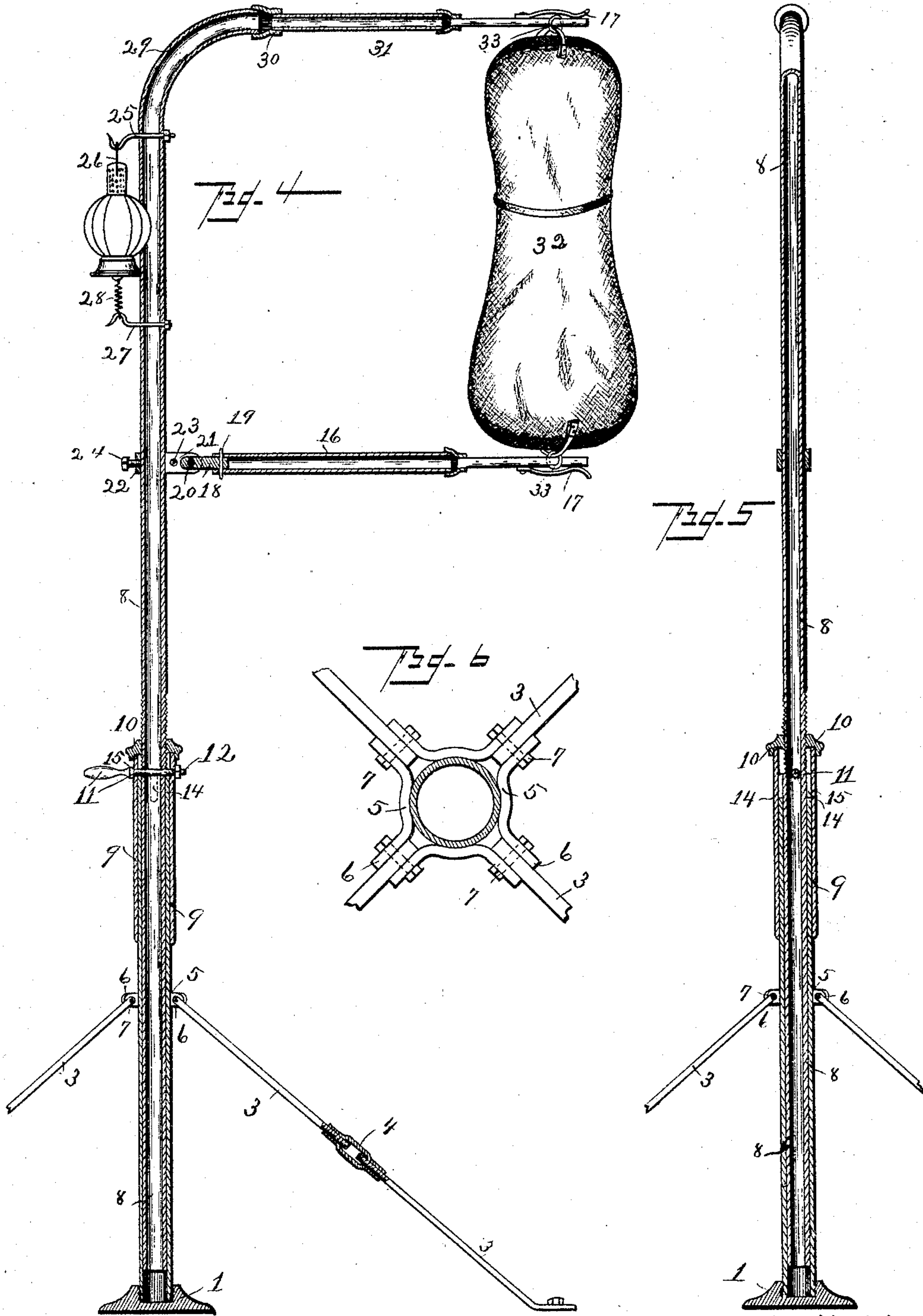
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UNITED STATES PATENT OFFICE.

WILLARD H. ELLIS, OF COLUMBUS, NEBRASKA, ASSIGNOR OF ONE-HALF
TO THE SHEFFIELD VELOCIPEDE CAR COMPANY, OF THREE RIVERS,
MICHIGAN.

MAIL-CRANE.

SPECIFICATION forming part of Letters Patent No. 486,032, dated November 8, 1892.

Application filed August 12, 1892. Serial No. 442,905. (No model.)

To all whom it may concern:

Be it known that I, WILLARD H. ELLIS, of Columbus, county of Platte, and State of Nebraska, have invented certain new and useful
5 Improvements in Mail-Cranes, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to produce an improved, compact, strong, and durable device adapted to carry a mail-bag in position
10 for it to be taken up from a moving car.

In the accompanying drawings, Figure 1 is a side elevation of my crane, showing the bag in position. Fig. 2 is a similar view to Fig. 1
15 with the crane part turned at right angles to the position shown in Fig. 1. Fig. 3 is a central vertical section through the adjustable swinging-arm support. Fig. 4 is a central vertical section through the standard and
20 crane, showing the relation of parts in the position shown in Fig. 1; and Fig. 5 is a similar view taken at right angles to the position shown in Fig. 4. Fig. 6 is a top plan view of my brace-collar detached, showing portions of
25 the braces in position.

Referring to the figures on the drawings, 1 indicates a pedestal, in the top of which by suitable means—as, for instance, screw-threads—is fastened a standard, which preferably consists of a tube or pipe of suitable
30 material.

3 indicates braces provided with adjustment-pieces 4 for adjusting the length of the braces.

5 indicates the brace-collar, which consists of a collar provided with slotted lugs 6, to which, by means of bolts 7, the upper ends of the braces are fastened. The lower ends of the braces are fastened to the platform for
40 the crane by any suitable means, as by screws.

8 indicates an extension-frame that is preferably made of a tubular piece of metal whose outside diameter is sufficiently smaller than the inside diameter of the standard to allow
45 the former to telescope easily within the latter.

9 indicates a cap-sheath, whose main portion consists of a tube whose inside diameter is sufficient for it to pass readily over the outside of the standard. It is united by an annulus 10 to the frame-piece. The annulus may
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be made integral with the sheath or otherwise, as preferred, and may be fastened to the frame-piece by any suitable means—as, for instance, shrinking them. I prefer some means by which the position of the sheath
55 upon the frame-piece may be adjusted for increasing or diminishing the height of the frame-piece—such, for instance, as screw-threads or the like.

11 indicates a handle provided with a screw-threaded bolt end that is passed, preferably, through the sheath and the frame-piece and is secured in position by nut 12. Where the sheath is made adjustable upon the frame-piece, the hole in the frame-piece may be made
60 oblong lengthwise of the frame-piece to admit of the adjustment, or separate graded holes may be employed, if preferred. The shape of the bolt end of the handle may be round throughout, or it may be made in any
65 other suitable manner.

14 indicates vertical slots or kerfs on opposite sides of the standard, adapted to receive the bolt end of the handle and lock it in position.
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15 indicates shallow depressions on opposite sides of the standard at right angles to the slots therein and adapted to yieldingly hold the bolt end of the handle and the frame-piece connected therewith against rotation.
75 80

16 indicates a hinged arm, which preferably consists of metal tubes united together by suitable unions and provided at its outer end with a reduced part and a spring-guard 17.

18 indicates a hinge connection adapted to
85 be screwed upon the larger end of the arm or to be pinned thereto by a pin 19.

20 indicates a pintle adapted to secure the hinged part between the lugs 21 of a split collar 22, that is adapted to encircle the frame-piece and be secured around the same by a bolt 23, provided with nut-washers, as illustrated.
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24 indicates a set-screw adapted to hold the collar in position upon the frame-piece.
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25 indicates a hook near the top of the frame-piece, adapted to receive the bail of a signal-lantern, as indicated at 26 in the drawings.

27 indicates an eyebolt secured to the frame-piece below the hook and provided with a
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spring-hook 28, adapted to engage with the lower part of the signal-lantern and prevent it from swinging.

29 indicates the upper curved end of the extension-arm 8, to which is secured by any suitable means—as, for instance, a union 30—the fixed arm 31, which, with the exception of its being fixed, is in all respects similar to the swinging or hinged arm 16.

32 indicates a mail-bag provided with rings at opposite ends 33 or any suitable retaining devices adapted to receive the reduced ends of the fixed and swinging arms, respectively, and to hold the bag stretched in the position illustrated in Fig. 1, the springs upon the arms serving to prevent its accidental dislodgment.

To understand the operation of my device, suppose the parts to be in the position illustrated in Fig. 1 of the drawings, the bolt end of the handle resting in the shallow depressions 15 in the top of the standard, and that a person upon a passing car desires to catch the mail-bags. He seizes it by the middle, or in any way he chooses, and, owing to the force of the train, which passes at right angles to the arms of the crane, the frame-piece is rotated, overcoming the yielding resistance of the engagement between the bolt end of the handle of the shallow depressions and pulling the bag from the ends of the arms. As soon as the bag is released, the swinging arm drops out of the way and the frame-piece is thrust into the position shown in Fig. 2 of the drawings, in which position it is locked by the dropping of the bolt end of the handle into the slots 14, so as to prevent the crane from swinging back-

ward or getting in the way of other passing trains. When it is necessary to swing it around again for action, the operator lifts upon the handle 11 and raises its bolt end free from the slots which restrain it and restores it in position, as shown in Fig. 1.

It should be observed that it is desirable to have a yielding resistance opposed to the rotation of the frame-piece when it is in the position shown in Fig. 1. Otherwise the ends of the arms of the mail-bag might be struck by some projection upon the train and swing it out of reach of the postman, which would be a fatal objection to the practical value of the device.

What I claim is—

1. In a mail-crane, the combination, with a hollow standard, of a frame-piece telescoped therein and a cap-sheath secured to the frame-piece and adapted to envelop the upper part of the standard, substantially as described.

2. In a mail-crane, the combination of a hollow standard, a frame-piece telescoped therein, a cross-bolt, and slots in the upper end of the standard, adapted to engage the cross-bolt, substantially as described.

3. In a mail-crane, the combination of a standard, a frame-piece, a cross-bolt, longitudinal slots in the upper end of the standard, and shallow depressions at right angles to the said slots therein, substantially as described.

In testimony of all which I have hereunto subscribed my name.

WILLARD H. ELLIS.

Witnesses:

JAMES G. RUDER,
J. C. ECHOLS.