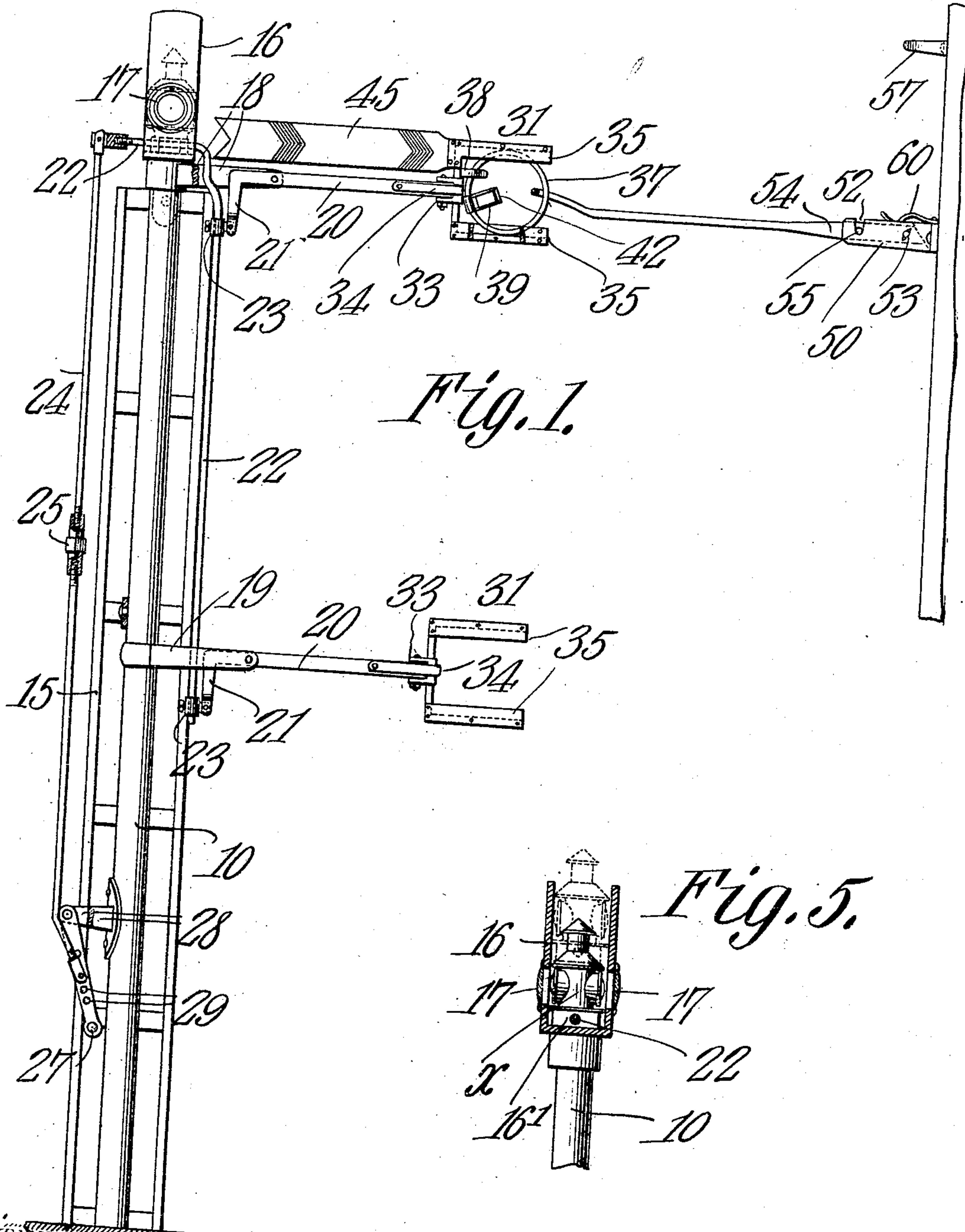


No. 860,803.

PATENTED JULY 23, 1907.

S. T. HARVEL.  
TRAIN ORDER DELIVERER.  
APPLICATION FILED MAY 22, 1907.

2 SHEETS--SHEET 1.



WITNESSES:

*E. M. Hewitt.*  
*Geo. C. Parker*

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 $B_{17}$ 

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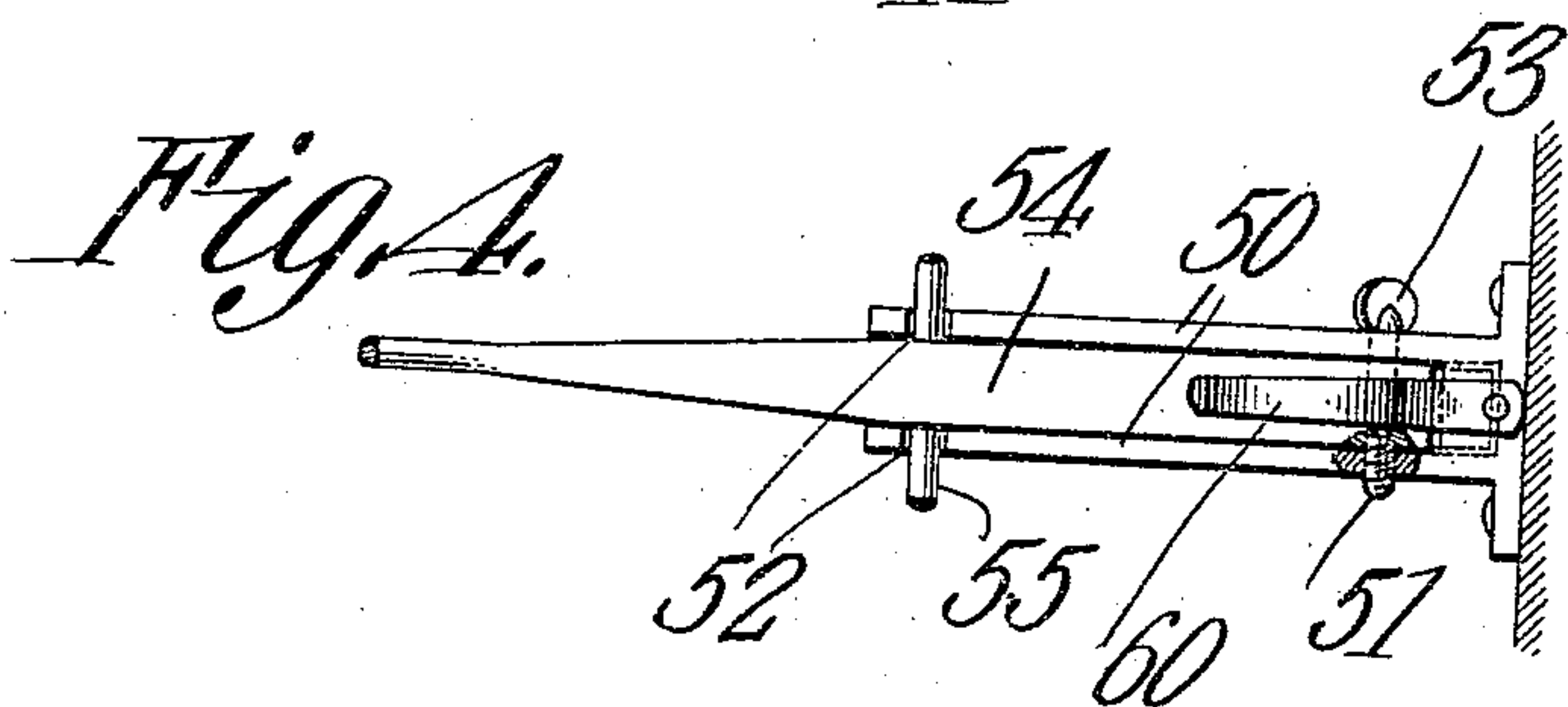
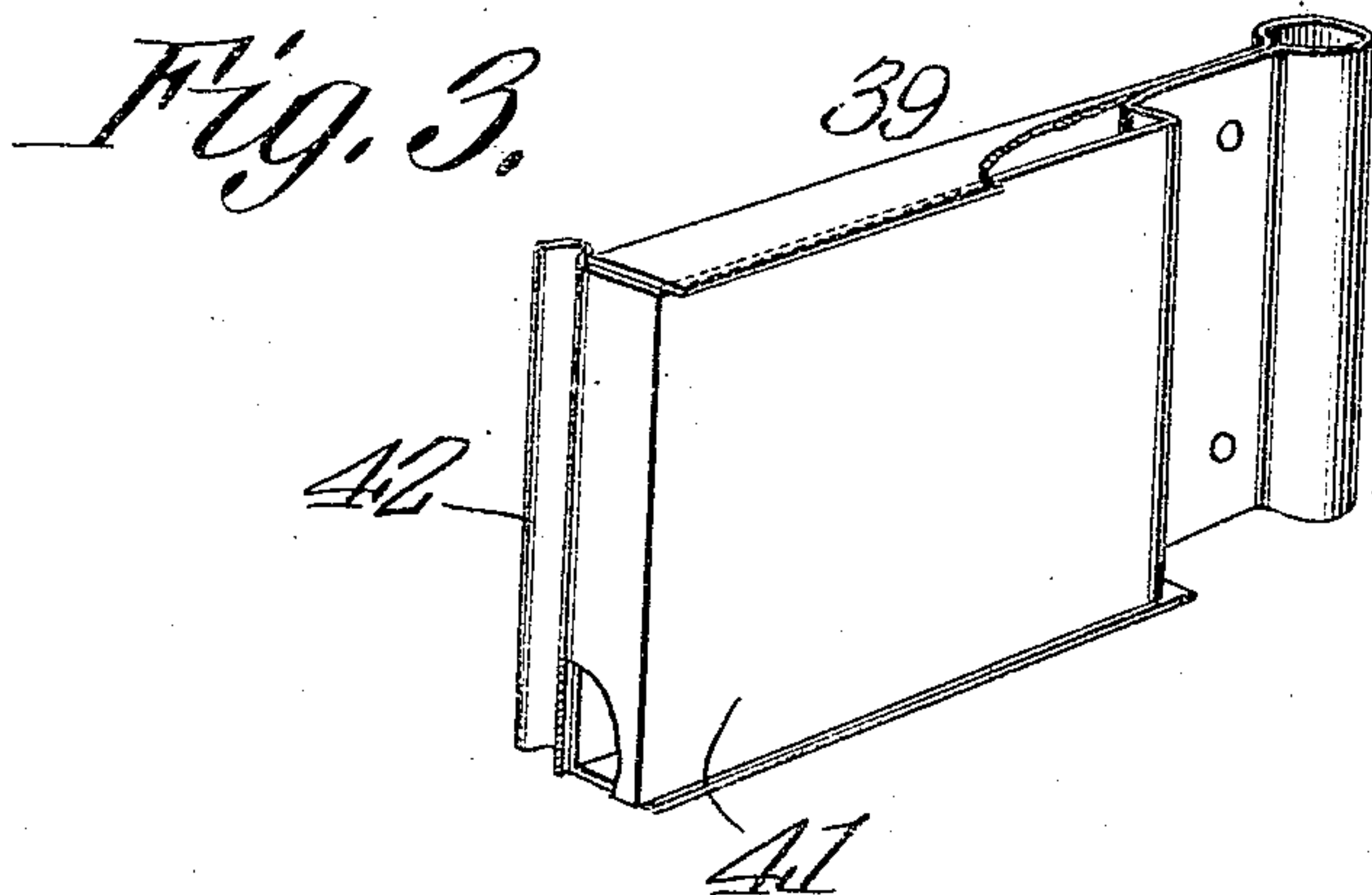
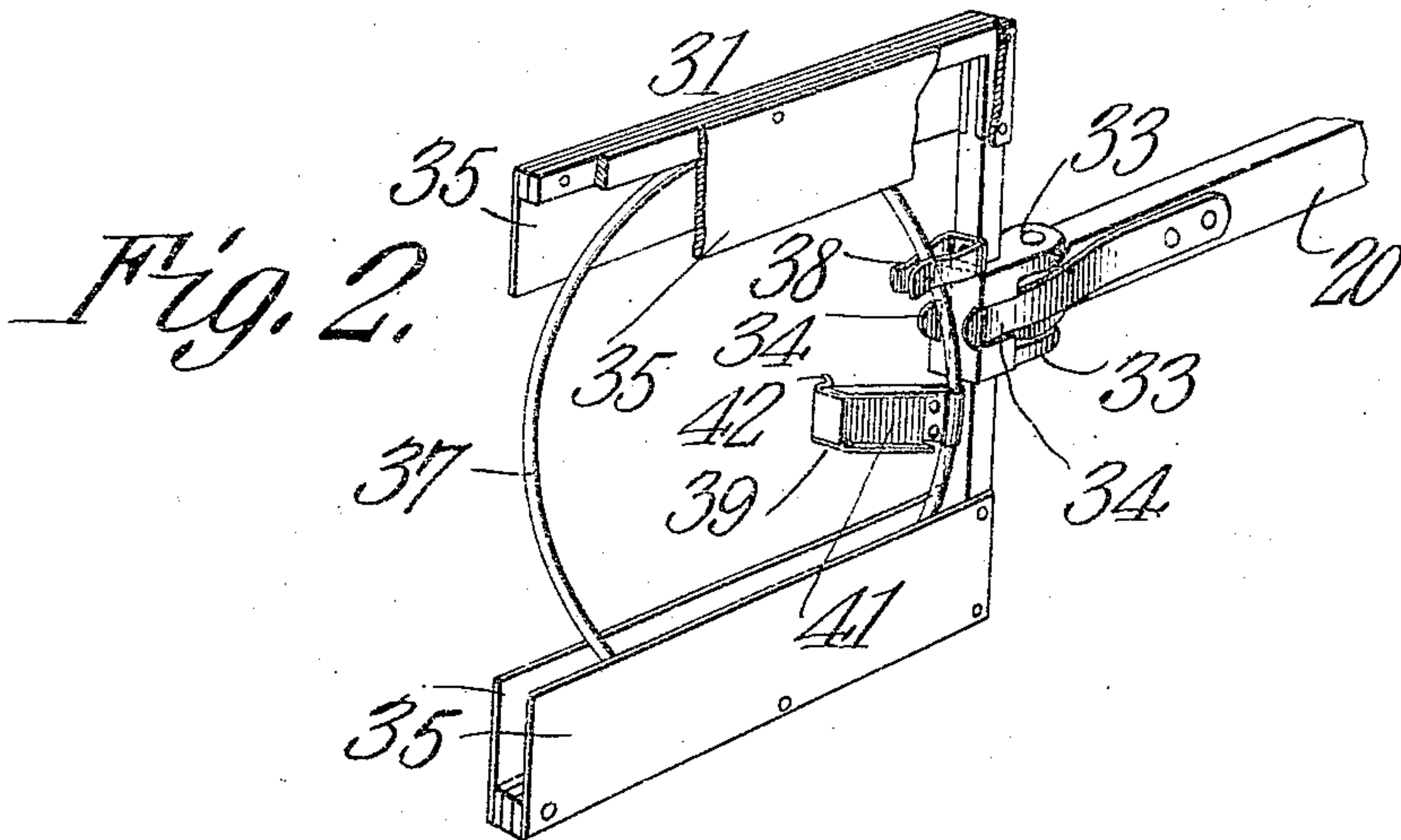
ATTORNEYS

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2 SHEETS—SHEET 2.



WITNESSES:

*E. H. Kline*  
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# UNITED STATES PATENT OFFICE.

SAMUEL THOMAS HARVEL, OF LAWRENCE, KANSAS, ASSIGNOR OF ONE-FOURTH TO EDWARD T. RILING AND ONE-FOURTH TO THAD STEVENS, BOTH OF LAWRENCE, KANSAS.

## TRAIN-ORDER DELIVERER.

No. 860,803.

Specification of Letters Patent.

Patented July 23, 1907.

Application filed May 22, 1907. Serial No. 375,093.

*To all whom it may concern:*

Be it known that I, SAMUEL THOMAS HARVEL, a citizen of the United States, residing at Lawrence, in the county of Douglas and State of Kansas, have invented  
5 a new and useful Train-Order Deliverer, of which the following is a specification.

The principal object of the present invention is to provide a mechanism of novel construction for delivering train orders and messages to moving trains, the  
10 apparatus being so constructed that both the engineer and conductor of a train passing a local station may receive orders in duplicate without stopping.

A further object of the invention is to simplify and improve the construction of the order carriers, so that  
15 the delivery operation may be certain and positive without danger of damage or mutilation of the message.

A still further object of the invention is to provide a device of this character which may be readily adjusted  
20 to operative or inoperative position as required, and which when moved to operative position will automatically display a signal to warn the approaching train that orders are ready for collection.

With these and other objects in view, as will more  
25 fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various  
30 changes in the form, proportions, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings:—Figure 1 is a perspective view of a train order catching and delivery  
35 mechanism constructed in accordance with the invention. Fig. 2 is a detail perspective view, partly in section, of the ring and ring holder. Fig. 3 is a similar view of the message receiving box. Fig. 4 is a plan  
40 view, partly in section, of the catcher. Fig. 5 is a detail view of a portion of the lantern support.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

45 The mechanism at the station comprises a post 10, the base of which is embedded in the ground, while the upper portion projects to a sufficient height, generally about ten feet, to present the orders in convenient position to be caught by the passing train. That  
50 portion of the post above the ground is supported and braced by a frame 15 which may be formed of structural iron and is connected to the post at intervals, the frame being preferably of such construction as to form a ladder so that access may be readily had to the sig-

naling devices, especially where a lamp or lamps are  
55 used.

Secured to the outer post is a casing 16, preferably formed of sheet metal and provided with a lens or lenses 17, the member 16 being arranged as a shield for  
60 a signal lamp which may be employed at night in order to notify the crew of the approaching train that an order or orders are ready for delivery.

Projecting from the post 10 are two brackets 18 and 19, that are preferably secured to the post, and are provided with spaced arms, and between the arms of each  
65 bracket is pivoted a bell crank lever 20, the longer arm of which forms a support for the message carrying device, while the shorter arm 21 of each lever is connected to a vertically arranged rod 22, the connections being made adjustable by the employment of a collar 23, the  
70 collar in each case being secured to the rod by a set screw, and having a pivotal connection with the shorter arm of the bell crank lever. The upper end of the rod 22 is bent outward toward the top of the post, and is connected at the upper end to a vertically disposed rod  
75 24, the connecting members being in the form of threaded blocks adjustably mounted on the ends of the rods, and pivoted to each other. The rod 24 is formed of two sections that are connected to each other by a turn  
80 buckle 25 for convenience in adjusting the length of said rod, and the lower end of the rod is connected to an operating lever 27 that is fulcrumed to a bracket 28 projecting from the post 10. The operating lever 27 is provided with a number of openings 29 to receive a pin  
85 which passes through a block at the lower end of the rod 24 for convenience of adjustment, and when in operative position the pin is arranged to one side of the vertical plane of the fulcrum of the lever so as to form an automatic lock which will retain the parts in position for the delivery of a message.—  
90

To the outer arms of the bell crank levers are connected approximately U shaped frames 31, each frame being in the form of a metal bar properly shaped and provided with rearwardly extending lugs 33 which  
95 are pivoted to the bell crank lever and swinging over the pivotal connection is a leaf spring 34 that tends normally to maintain the frame 31 in alignment with the bell crank lever. To the upper and lower horizontal arms of the frame 31 are secured side plates 35 that are formed of sheet metal and these, in connection with the horizontal arms, form grooves for the  
100 reception of a steel ring 37, which ring may be forced into place by the telegraph operator or station master and held therein by a small locking spring 38 which is carried by the vertical bar of the frame.  
105

Secured to the ring 37 is a message box 39 that preferably is formed of sheet metal and is provided with a spring closed lid or cover 41 having a handle member



42 which also constitutes a catch for maintaining the box in closed position. A message is placed in the box, the latter closed, and then the ring is inserted in place in the delivery frame 31 in readiness to be caught from the frame.

The uppermost of the two arms is provided with a semaphore arm 45 which, when adjusted to horizontal position, will notify the engineer that an order is ready for delivery and a semaphore signal is moved to and from display position, together with the message holding frames.

Secured to the cab, and preferably also to the caboose of the train are brackets 50, each bracket comprising a pair of spaced arms provided with an opening 51, and a pair of notches 52. The openings 51 serve for the reception of a bolt 53 that is provided at one end with a thumb piece for convenient removal when necessary. On this bolt is pivoted a catcher arm 54 having a curved or hook like end that is adapted to engage in the ring 37 for the purpose of removing the same from the carrying frame. The base of the catcher is provided with a pin 55 that extends out laterally from both sides, and normally rests in the recesses 52. When the catcher is not in use, it is folded up flatwise against the side of the cab or car, and is held in position by a suitable retaining spring 57.

When a message is to be delivered, the catch arm is moved down to proper position and will enter the ring 37 as the train passes by. During this operation the spring 34 will hold and allow the ring carrying frame 31 to turn approximately to a right angle to the arm 30, so that the ring may be drawn out of the frame without injury, while the ring will be carried practically to the full length of the arm and will prevent all danger of its flying off from the shock. When the ring has been caught, it is either moved back by hand or it may move as a result of the impact into engagement with a retaining spring 60 that is carried by the rear portion of the bracket 50, so that the ring will be held in convenient position to permit the removal of the message from the carrying box.

The lantern *x* is supported by a small bracket 16' carried by the upper portion of the rod 22.

When the rings are to be removed from the catcher arm, the ring is pushed out past the base end of the arm and bolt 53 is removed and the arm allowed to drop down in order to permit the ring to slide off.

With a device of this type, train orders or messages of any kind may be readily delivered to both the en-

gineer and conductor while the train is traveling at any speed and without danger of mutilating the messages.

-I claim:-

1. In apparatus of the class described, a standard, a lens frame and lens carried thereby, a carrying arm pivoted to the standard, an operating rod connected to the arm and having a portion crossing the plane of the lens frame, and a signaling lamp carried by the rod and movable therewith into positions into and out of alinement with the lens.

2. In a device of the class specified, a post, a bracket projecting therefrom, an arm pivoted to the bracket and arranged to swing vertically, a frame pivoted to the arm and arranged to swing horizontally, said frame being adapted for the reception of a message carrier, and a spring tending to hold frame in alinement with the arm.

3. In a device of the class specified, a pivotally mounted spring held frame having upper and lower grooves, and a message carrying ring arranged to fit within said grooves.

4. In apparatus of the class described, a pivotally mounted frame having upper and lower grooved arms arranged in spaced relation, and a spring message carrying ring seated in said grooves.

5. In a device of the class specified, a pivotally mounted frame having spaced grooved arms, the grooves opening at the ends of the arms, a message carrying ring formed of spring metal seated in the grooves, and an auxiliary spring serving as a positive lock for the ring.

6. In a device of the class specified, a message carrying ring, and a holder therefor, said holder engaging the ring at diametrically opposite points.

7. In a device of the class specified, a post, a pair of brackets projecting from the post, bell crank levers pivoted to the brackets, carrying arms or frames on said levers, a rod connecting said levers, an operating lever, and a rod extending from the operating lever to the connecting rod, whereby both bell crank levers may be simultaneously moved to and from position.

8. In a device of the class specified, a bracket, a catcher arm pivoted thereto, said bracket having forwardly extending arms provided with recesses near their ends, a pin projecting from the catcher arm and seated in said recesses.

9. In a device of the class specified, a standard, a lantern shield supported at the upper end thereof, lenses carried by the shield, a pivotally mounted message carrying arm, an operating handle connected thereto, said lever having an approximately horizontal portion extending within the shield, and a lantern carried by the horizontal portion of said lever.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

SAMUEL THOMAS HARVEL.

Witnesses:

L. D. BISHOP,

EDW. T. RELING.