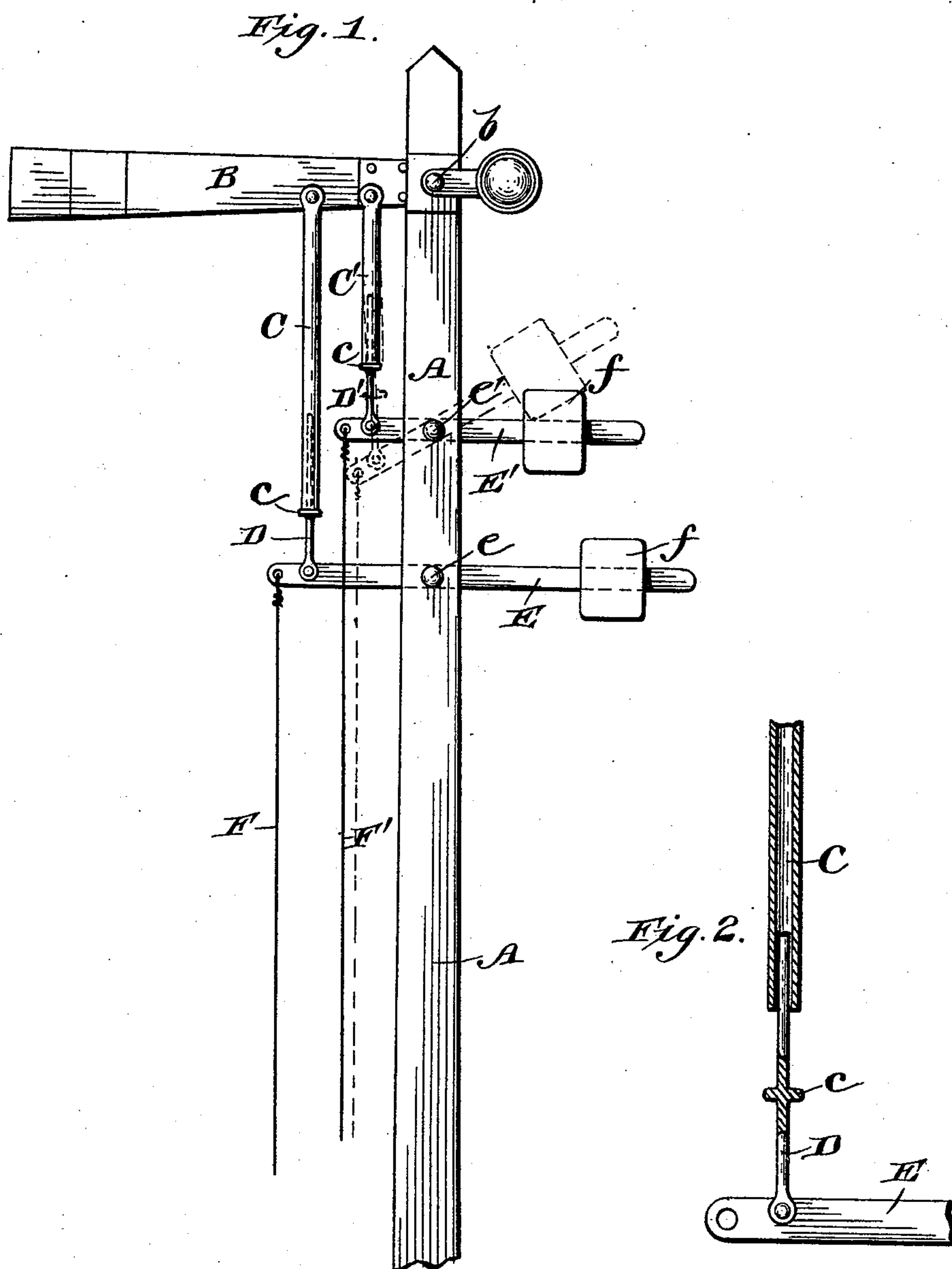


(No Model.)

J. S. LYNAM.
SEMAPHORE OPERATING APPARATUS.

No. 528,961.

Patented Nov. 13, 1894.



Witnesses

Severance.
Robert H. Richardson

Inventor

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by
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UNITED STATES PATENT OFFICE.

JOHN S. LYNAM, OF WINCHESTER, MASSACHUSETTS, ASSIGNOR OF TWO-THIRDS TO CHARLES S. COLLINS AND GEORGE F. ADAMS, OF NASHUA, NEW HAMPSHIRE.

SEMAPHORE-OPERATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 528,961, dated November 13, 1894.

Application filed April 26, 1894. Serial No. 509,074. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. LYNAM, a citizen of the United States, residing at Winchester, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Semaphore-Operating Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in semaphore operating apparatus and has particular relation to that class of semaphores which are connected to and operated by two or more railway switches, sidings or other signal operating devices and it consists of the combination of a movable semaphore provided with two or more pendent hollow arms, movable rods adapted to slide within said arms to a limited extent so as to independently support or allow the descent of the latter and means for connecting the rods to switches or other signal operating devices.

It also consists of the combination of a pivoted semaphore provided with pivoted pendent hollow arms, rods adapted to slide within said arms and provided with projections that are adapted to support said arms, pivoted weighted levers connected to and adapted to operate said rods and means for connecting said levers to switches or other signal operating devices whereby said levers may be operated independently.

It also consists of certain other constructions and combinations as will be hereinafter more fully described and specifically claimed.

In the accompanying drawings, Figure 1. represents a side elevation of the devices embodying my invention, and Fig. 2. represents a detail central vertical section through a portion of one of the hollow arms and its actuating rod.

A in the drawings, represents the semaphore supporting post; B, the semaphore or signal pivoted at the upper end of the same; C, C', hollow arms pendent from the said semaphore; D, D', rods adapted to slide within said arms; E, E', weighted levers pivoted to the post A and carrying the lower ends of the

rods D, D'; and F, F', the operating wires connecting the levers E, E', with the switches or other semaphore operating devices.

The semaphore B is of the ordinary type used by railways and is pivoted to the upper end of the post A at the point *b*. Two or more hollow arms C, C', are pivotally connected to the lower edge of the semaphore B so as to be free to swing below the same from right to left. The arms are preferably made of different lengths so as not to interfere with each other when in action and to allow their actuating mechanism to be mounted on the post A at different points.

The levers E, E' are pivoted to the post A at *e, e'* respectively so as to be in horizontal planes slightly below the ends of the arms C, C', when the latter are in their raised position as shown in Fig. 1.

The rods D, D', have their respective lower ends pivoted to the ends of the levers E, E' and are adapted to slide within the arms C, C'. These rods are each provided with lugs *c* which are adapted to engage the ends of the hollow arms C, C', and thus support them in their raised position. The levers E, E', are each provided with counterbalance weights *f, f*, which are adapted to bring said levers to a horizontal position when they are released from all restraint of the wires F, F', which are attached to their outer ends and connect them with their respective switches or other signal operating devices.

The operation of the device is as follows: When a switch or siding connected to the main line is opened, the wire connecting it to the semaphore (say wire F) is thereby slackened and thus permits the lever E to rise and thrusts the lugs *c* of the rod D against the lower end of the hollow arm C and raises said arm and the semaphore which is connected thereto. If another switch is opened (say that connected to lever E') said lever will also rise and both levers will be in the position shown in Fig. 1, with the semaphore at danger. When either one or the other of the switches is closed it pulls down the lever and rod connected thereto but the signal remains at danger as the other switch is open and its lever and rod are up and supporting the hollow arm

of the semaphore. It will be readily seen that the latter switch must be closed also before its lever and rod can descend and permit the semaphore to drop to safety.

- 5 Any number of switches or other signal operating devices can be connected to one semaphore but they must all be at safety before the semaphore will drop to safety as if one alone remains open or at danger, its lever and
10 rod will support the semaphore.

What I claim as my invention is—

1. In a semaphore operating mechanism the combination of a suitable supporting post, a semaphore pivoted thereto, two or more pendent
15 hollow arms connected to said semaphore, movable arms adapted to slide within said arms to a limited extent so as to independently support or allow the descent of the latter and means for connecting the rods to the switches

or other signal operating devices, substantially as described. 20

2. In a semaphore operating mechanism the combination of a suitable supporting post, a semaphore pivoted thereto, pendent hollow
25 arms connected to said semaphore, rods adapted to slide within said arms to a limited extent so as to independently support or allow the descent of the latter, pivoted weighted levers connected and operating said rods and means for connecting said levers to switches
30 or other signal operating devices, substantially as described.

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

JOHN S. LYNAM.

Witnesses:

J. WINSLOW RICHARDSON,
HUGH BEATIE.