

No. 610,828.

Patented Sept. 13, 1898.

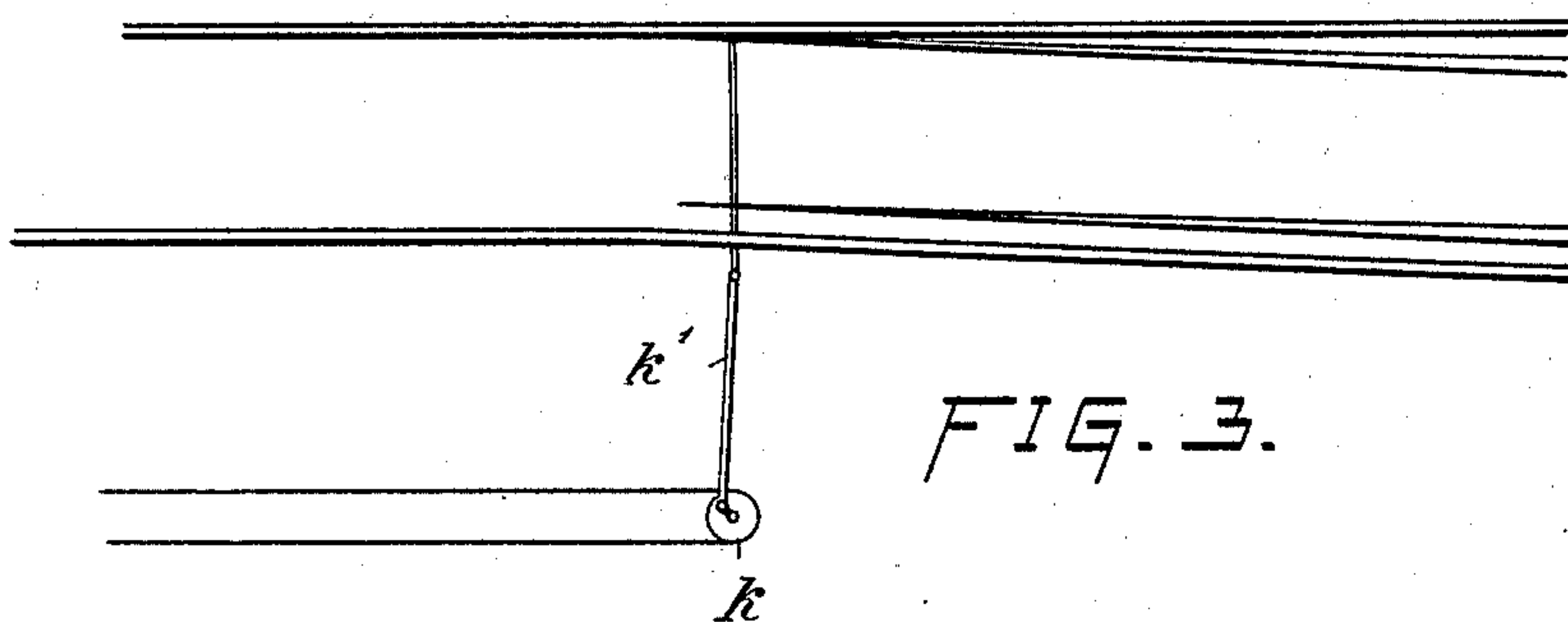
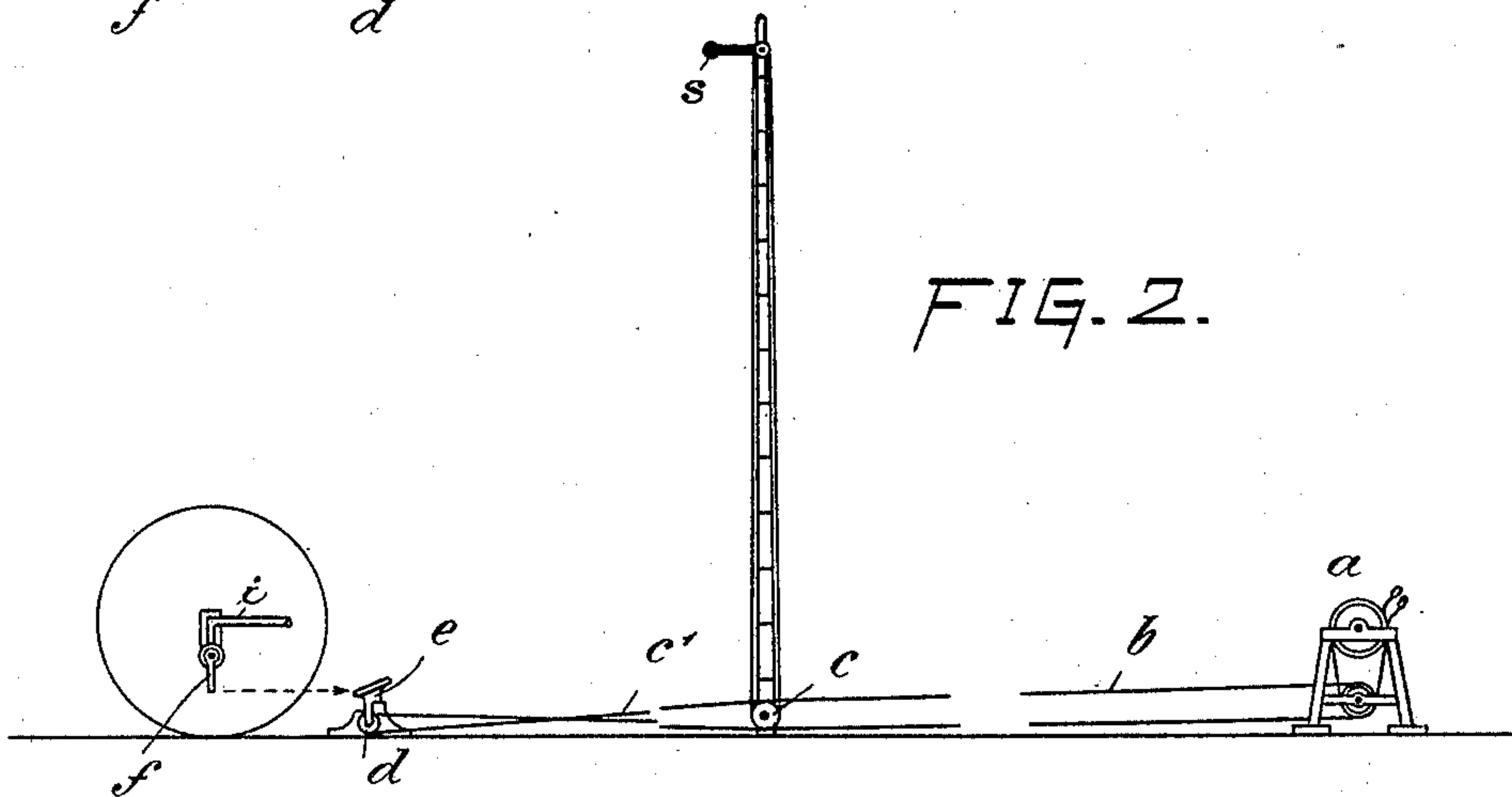
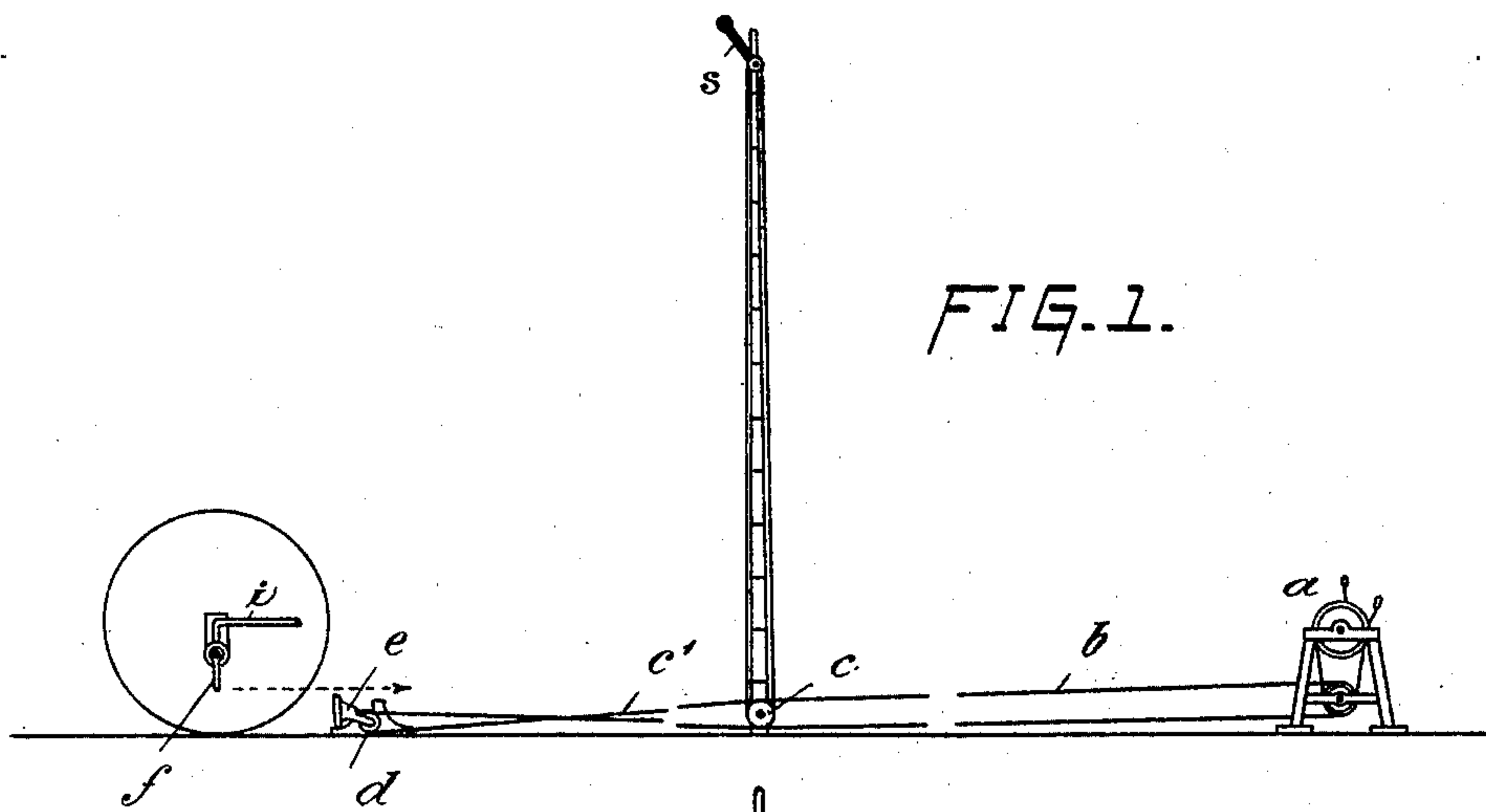
C. PETERS.

DEVICE FOR PREVENTING RAILWAY ACCIDENTS.

(Application filed Oct. 5, 1897.)

(No Model.)

2 Sheets—Sheet 1.



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FIG. 4

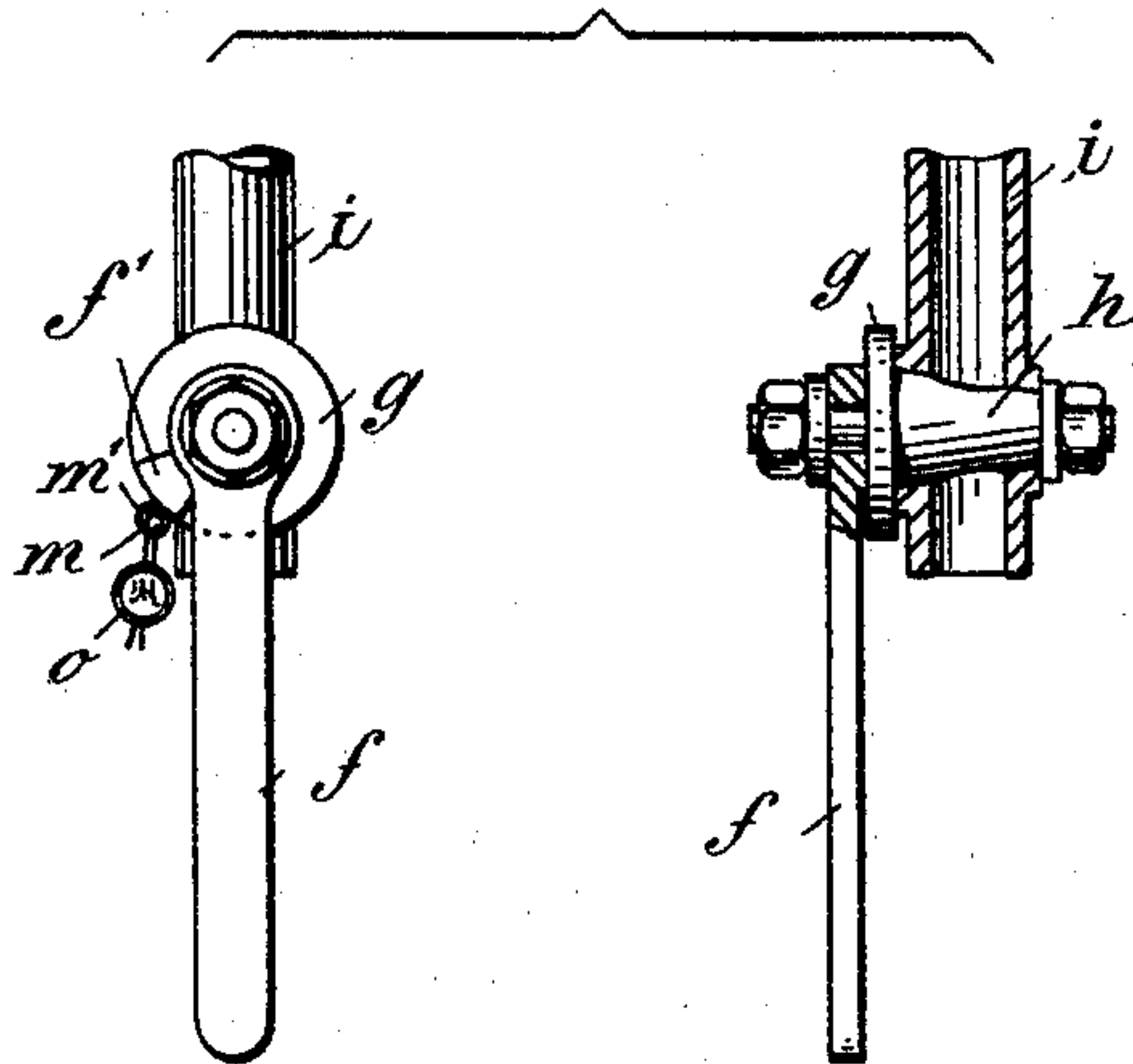
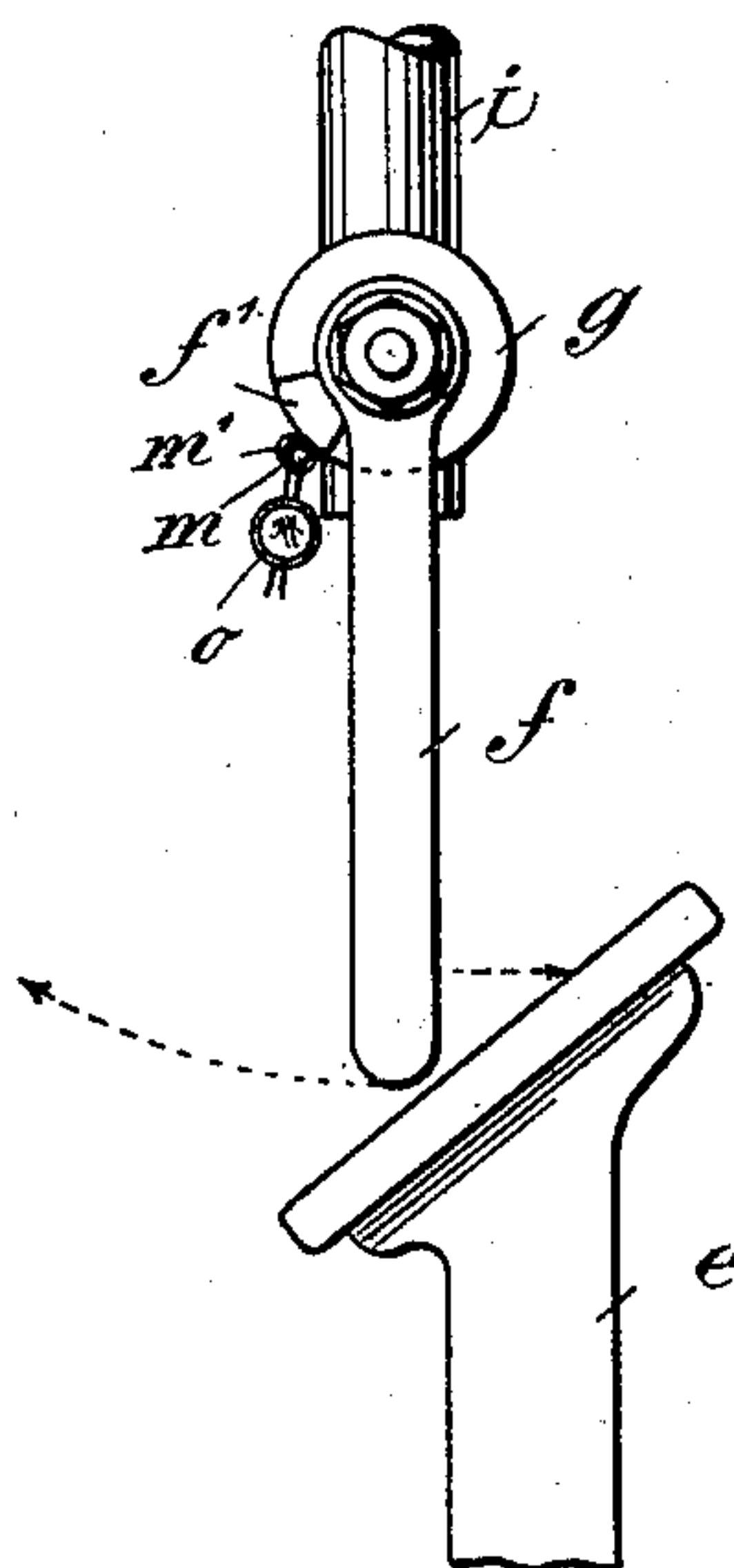


FIG. 5.



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UNITED STATES PATENT OFFICE.

CORNELIS PETERS, OF NYMWEGEN, NETHERLANDS, ASSIGNOR OF TWO-THIRDS TO WILHELMUS SCHOONDERMARK, OF WASPIK, AND J. A. A. SCHOONDERMARK, OF LEEUWARDEN, NETHERLANDS.

DEVICE FOR PREVENTING RAILWAY ACCIDENTS.

SPECIFICATION forming part of Letters Patent No. 610,828, dated September 13, 1898.

Application filed October 5, 1897. Serial No. 654,176. (No model.)

To all whom it may concern:

Be it known that I, CORNELIS PETERS, engineer, of Nymwegen, in the Kingdom of Netherlands, have invented a Device for Preventing Railway Accidents, of which the following is a specification, reference being had therein to the accompanying drawings.

Although the systems of signaling on railways have attained a high degree of perfection, accidents arising from the failure to observe signals cannot be entirely prevented. Either want of attention of the engine-driver, fogs, or other circumstances may cause the position of a signal to remain unnoticed and the train to proceed although the line is closed against it.

The object of my invention is to prevent this; and my invention consists in the arrangement and use of an apparatus by which the train is at once arrested by means of entirely self-acting mechanisms whenever a stopping or danger signal should not be noticed or attended to by the driver. This is attained by connecting a movable arm to the apparatus for setting a semaphore-signal or a switch in such a manner that when the line is closed against the train the arm is in a projecting—for instance, a vertical—position and encountered by a lever arranged on the train and operating a cock or valve when turned by the arm, so as to put the air or steam brake on and stop the train immediately. The arrangement is so made that the engine-driver need not pay any attention to the signal in question at all, for when the signal indicates “all right” or “line clear” the train can proceed without hindrance; but when the signal is in the danger or stopping position the driver may even be asleep or drunk and nevertheless the train will be at once brought to a standstill. The driver is not even able maliciously to cause the train to go on, because the lever for the brake-valve or brake-cock is not accessible while the train is running.

On the drawings appended hereunto the improved apparatus is represented.

Figure 1 shows a diagrammatic view of the improved apparatus in combination with a

semaphore-signal showing the line “clear;” Fig. 2, a similar view with the signal placed at “danger;” Fig. 3, a switch in combination with the apparatus. Fig. 4 shows in detail a cock used in connection with the apparatus, and Fig. 5 is a view of said cock and the arm for engaging the cock-lever.

On the drawings, *a* represents a signal-setting winch, of usual construction, from which, by means of the wires or chains *b*, the semaphore-arm *s* can be set in various positions in the well-known manner. Over the guide-pulley *c* passes a wire *c'*, connected to the wire *b* in such a manner that it moves with the same, and consequently can raise an arm *e*, which is fixed on the same shaft as the wire-pulley *d*, into a vertical position or lay it down. The arm *e*, formed with an inclined pallet, is in its horizontal or down position when the semaphore-signal *s* shows “all right” or “line clear,” as shown in Fig. 1. The train can then proceed past the arm *e* without the valve or cock lever *f*, which is conveniently arranged on the tender, coming into contact with the pallet; but if the semaphore-arm *s* is in the danger or stop position and the arm *e* raised up in consequence, as shown in Fig. 2, the pallet on the arm *e* is in the path of the lever *f* and the latter is turned by coming into contact with the pallet. The lever *f* is preferably loose on the shank of the plug *h* of the cock and rests against a segmental projection *f'*, Fig. 4, on the plug, and when turned takes it along and opens the cock, whereby the pipe *i* of the Carpenter, Westinghouse, or other brake system is placed into communication with the atmosphere, and the train is thus at once arrested. When the cock is to be returned to its former position ready for action and to take off the brake, the lever *f* must be turned so as to complete an entire revolution, as the plug can only be moved when the lever bears against the segment *f'*. This turning of the cock cannot be done from the driver's platform, but only from the ground.

To prevent an accidental opening of the cock by the vibrations resulting from the running of the train, the lead seal represented

on Figs. 4 and 5 is preferably used. The shell of the cock *g* is formed with an eyelet *m*, which is fastened to a similar eyelet *m'* on the segment *f'* by a piece of fine twine, the ends of which are held together by a lead seal *o*. When the apparatus acts and turns the handle, the twine is torn before the cock is opened.

Fig. 3 represents a switch which is connected by a rod *k'* to an eccentric pin on the pulley *k*, so that when changing the switch the position of the arm is simultaneously changed by means of the wires connected to the same, as with the signaling apparatus hereinbefore described. If the switch is not in the position required for the running in of the train, the arm or pallet *e* is in its raised position and brings the train at once to a stop if it should overrun the switch, notwithstanding its wrong position. These means not only prevent a collision of the train, but also accidents through running on when a draw or swing bridge is opened, because the signals in question are invariably obeyed if they are connected with the safety apparatus hereinbefore described.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. A locomotive or railway carriage provided with a brake-pipe, a brake-cock having a projection on its plug, and an arm or lever loose on said plug and adapted when moved to engage the projection and carry the plug along with it to open the cock, said lever being also adapted for engagement with a projection on the track, substantially as described.

2. A locomotive or railway carriage provided with a brake-pipe, a brake-cock having a projection on its plug, and an arm or lever loose on said plug and arranged for engagement with an arm on the track, the said lever being adapted when moved in one direction to engage the projection on the plug and carry said plug along to open the cock, the said plug being arranged to move only in one direction and when the lever is bearing against the projection, whereby the lever must complete an entire revolution to return the cock to its normal position, as and for the purpose set forth.

3. A locomotive or railway carriage provided with a brake apparatus having a movable projection adapted to be engaged by an arm on the track so that said arm will apply

the brake automatically, the said brake apparatus being provided with a readily-breakable temporary fastening to prevent accidental application of the brake, substantially as described.

4. A locomotive or railway carriage provided with a brake-pipe, a brake-cock, an arm adapted to be engaged by a projection on the track and arranged to engage the plug of the brake-cock to open the same to apply the brake automatically, and a readily-breakable temporary fastening device for the said plug to prevent accidental opening of the brake-cock, substantially as described.

5. A locomotive or railway carriage, provided with a brake-pipe, a brake-cock having a projection on its plug, an arm or lever loose on said plug and adapted to engage the projection thereof, said lever being also adapted for engagement with a projection on the track, and a readily-breakable temporary connection between the said lever and the plug of the brake-cock, substantially as described.

6. A railway having a movable arm located on the track, mechanism connected with said arm for throwing it into either of two positions, a brake-pipe carried by a locomotive or railway carriage, a brake-cock having a segmental projection on its plug, an arm or lever loose on said plug and adapted to engage the projection and carry the plug along with it, the free end of the said lever being adapted for engagement with the movable arm on the track, and a readily-breakable temporary fastening device for the plug of the brake-cock, substantially as described.

7. The combination with a setting apparatus for a switch or signal, of a movable arm located on or near the track and operatively connected to said apparatus, and a brake apparatus carried by a railway or locomotive carriage and having a brake-cock provided with a projection on its plug, and an arm or lever loose on said plug and adapted when moved to engage the projection and carry the plug along with it, the said lever being adapted for engagement with the arm on the track, substantially as described.

In witness whereof I hereunto set my hand in presence of two witnesses.

CORNELIS PETERS.

Witnesses:

PIETER W. BOOR,

AUGUST SIEGFRIED DOER.