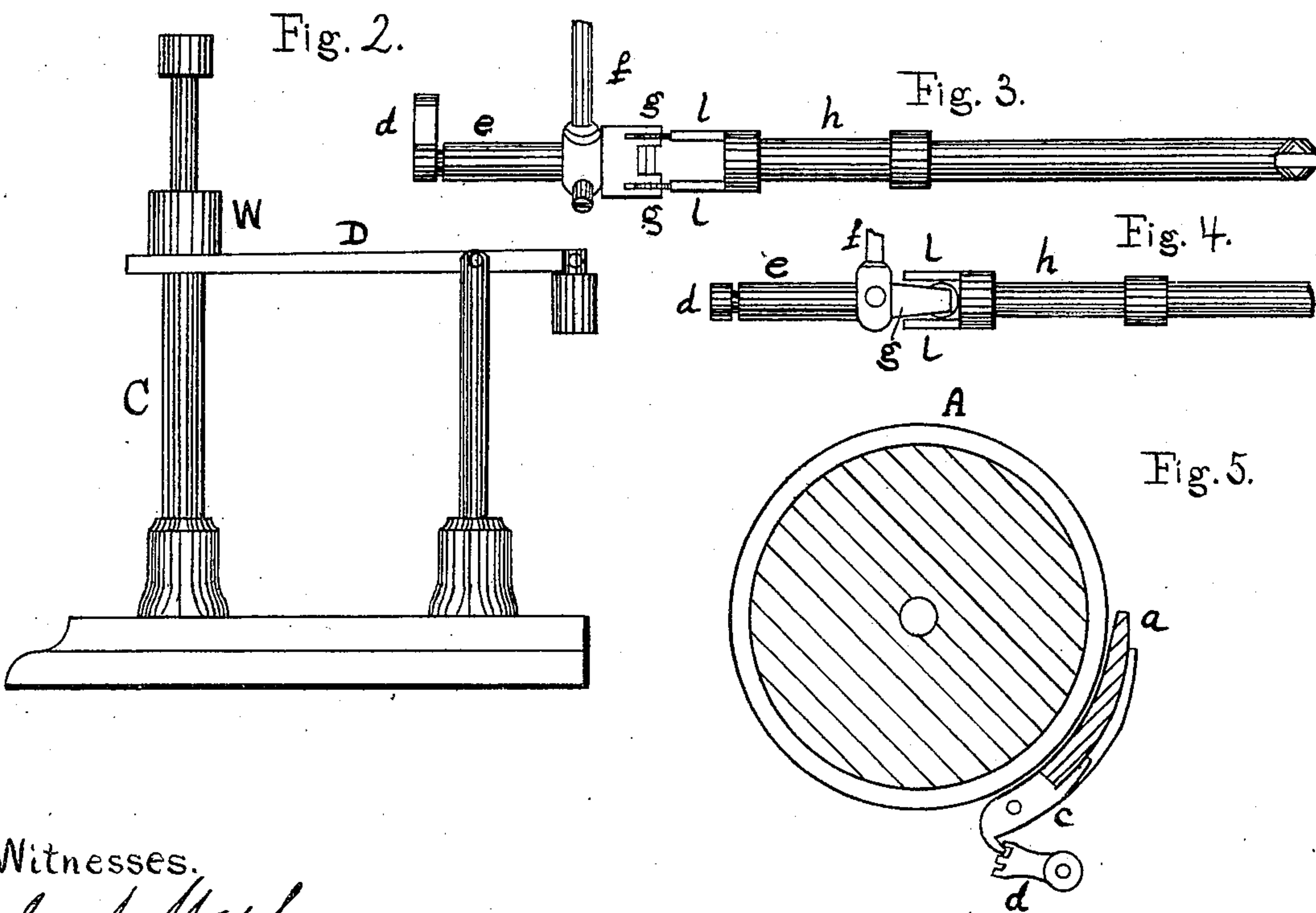
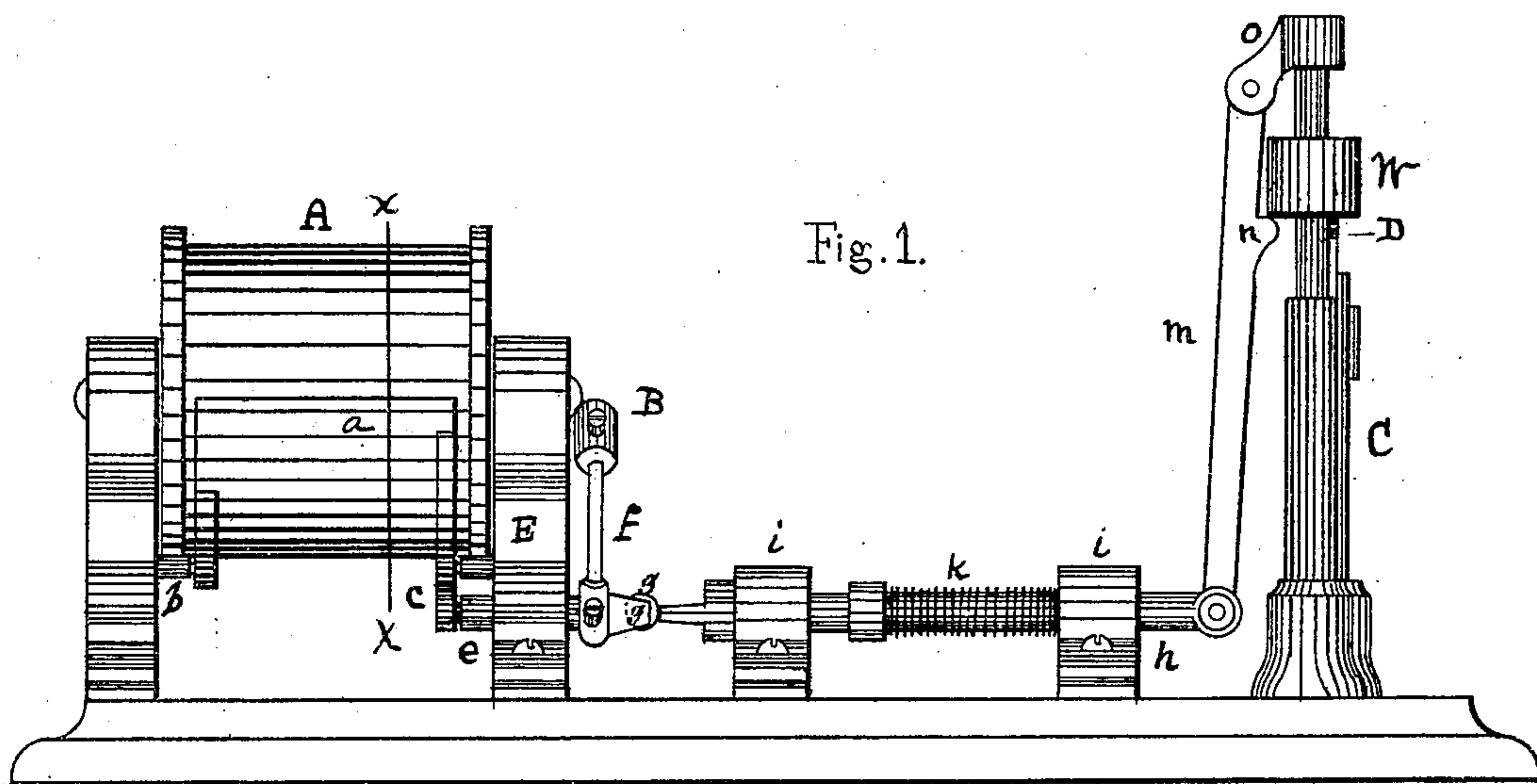


**J. BEGGS.**  
**Steam Hoisting Apparatus.**

No. 141,197.

Patented July 29, 1873.



Witnesses.

*E. A. West.*  
*A. W. Bond*

Inventor.

*James Beggs*

# UNITED STATES PATENT OFFICE.

JAMES BEGGS, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN STEAM HOISTING APPARATUS.

Specification forming part of Letters Patent No. **141,197**, dated July 29, 1873; application filed April 21, 1873.

*To all whom it may concern:*

Be it known that I, JAMES BEGGS, of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Steam Hoisting Apparatus, of which the following is a full description, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is an elevation; Fig. 2, an end view of the parts therein shown; Figs. 3 and 4, details; and Fig. 5, a section on line *xx* of Fig. 1.

The object of my invention is to provide a device by means of which the reversing-lever of the engine shall be automatically operated whenever the hoisting-cable breaks or becomes slack.

In the drawing, A represents the drum on which the hoisting-cable is wound. *a* is an apron placed at a little distance from the drum, and hinged at its lower edge. Upon one side of this apron is an iron, having a hook upon the lower end to engage with the catch *d*, which is fastened to one end of the shaft *e*, which may pass through the bearing E. The other end of the shaft *e* is formed as shown in Figs. 1, 3 and 4—narrow one way, broad the other, and in the end are two little sheaves, *g*. Upon this shaft is also secured a rod, *f*. Upon the end of the rod is a small weight, B. *h* is another shaft placed in suitable bearings *i i*. Upon one end of this shaft are two prongs or projections, *l l*, which, when the parts are in the position represented in Figs. 1 and 3, come in contact with the sheaves *g*. The other end of the shaft is pivoted to the bar *m*, which bar, at the upper end, is pivoted to the piece *o*, which is secured to the top of the post C. On one side of the bar *m* is a projection, *n*, upon which the weight W rests when in the position shown in Fig. 1. This weight has a hole through its center, and can be moved up and down upon the upper part of the post C. D is the reversing-lever, connected with the valve of the engine in any suitable manner. *k* is a spiral spring surrounding the shaft *h*, located between one of the bearings and an enlargement on the shaft.

In use, the several parts are placed in the position represented in Figs. 1 and 5, the apron *a* being held in its place near the drum by means of the catch *d*, the shafts *e* and *h* being in the position represented in Figs. 1 and 3, (Fig. 3 being a plan view,) the weight W having been raised and resting upon *n*. When the parts are in this position the spring *k* will be somewhat compressed, and the prongs upon the end of *h* will be in contact with the sheaves *g*. The end of the lever D, when the steam is on, will be in contact or nearly in contact with the weight W. Now, if the hoisting-cable on the drum A should break or become slack, its weight would bring that portion which is slack in contact with the upper edge of the apron *a*, or it will fall between the apron and the drum, and, the apron being so constructed and adjusted that a small weight will release the hook *c* from the catch *d*, the apron will fall, the hook *c* escaping from the catch *d*; then the weight B upon the end of the rod *f* will turn the shaft *e* into the position represented in Fig. 4, in which position the prongs *l l* can pass the end of the shaft *e*, and the action of the spring *k* will bring the shaft *h* into the position shown in Fig. 4, at the same time moving the bar *m* and withdrawing the projection *n* from beneath the weight W, which, falling, will come in contact with the end of the reversing-lever D, and operate the same.

The parts may be so arranged that the reversing-lever D, instead of being carried down, will be carried up by their operation, if desired.

I so counterbalance the apron *a* that it requires but a small weight to operate it.

The sheaves *g* are not essential, but facilitate the movement of that end of the shaft *e* upon the prongs *l l*.

It is not essential that the parts be so arranged that the weight W will act directly upon the reversing-lever D; but when the location of this lever is such as to require it, the weight might operate upon an intermediate shaft suitably connected with the reversing-lever.

The shaft *e* might be operated by means of



a roller connected therewith and located beneath the drum A in such a manner as to be rotated by the action of the chain when slack, in which case the weighted lever F could be dispensed with.

What I claim as new is as follows:

1. In combination with a drum, A, the apron *a*, shaft *e h*, spring *k*, bar *m*, and weight W, all constructed substantially as specified, for the purpose of operating the reversing-lever D in case of accident.

2. The shaft *e*, in combination with the apron *a* and shaft *h*, when the latter is connected with and arranged to operate the reversing-lever, substantially as described, all constructed and arranged to operate substantially as and for the purpose specified.

JAMES BEGGS.

Witnesses:

E. A. WEST,  
O. W. BOND.