No. 630,424. Patented Aug. 8, 1899.

R. K. TERRY & W. GRISSOM.

SAFETY DEVICE FOR ELEVATORS.

(Application filed Mar. 11, 1899.

No Model.) 2 Sheets—Sheet 1.

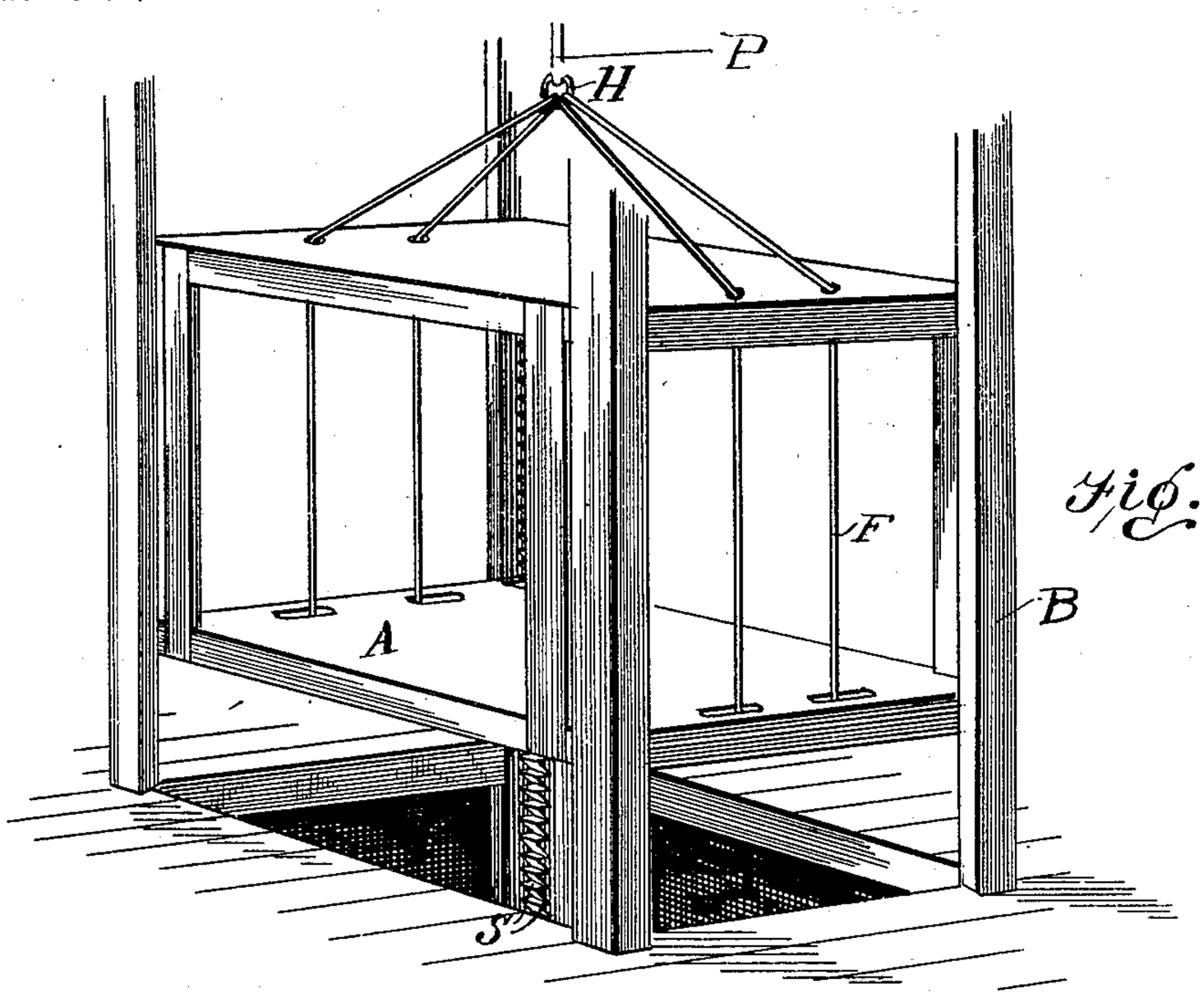

Fig. 1.

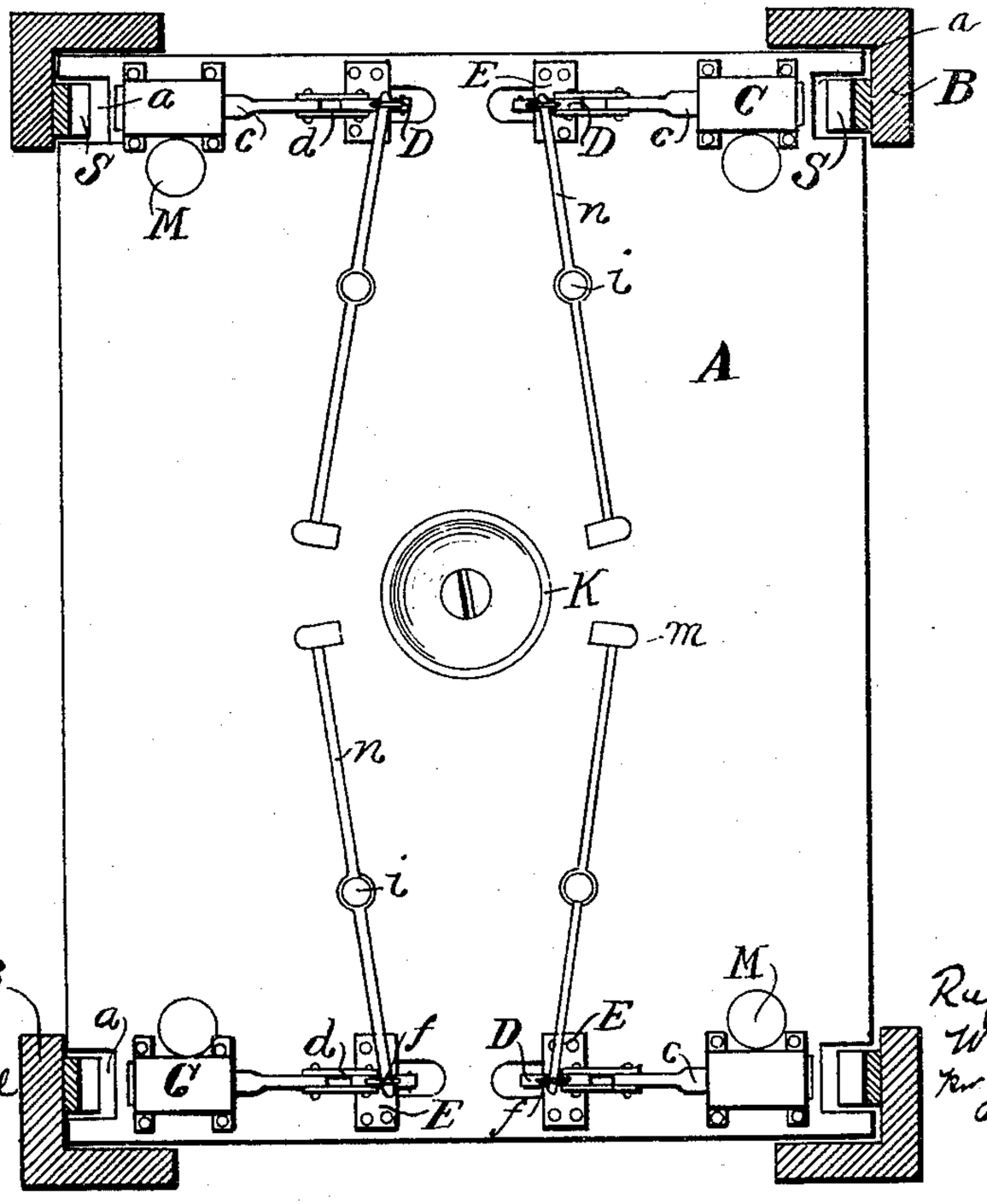

Fig. 2.

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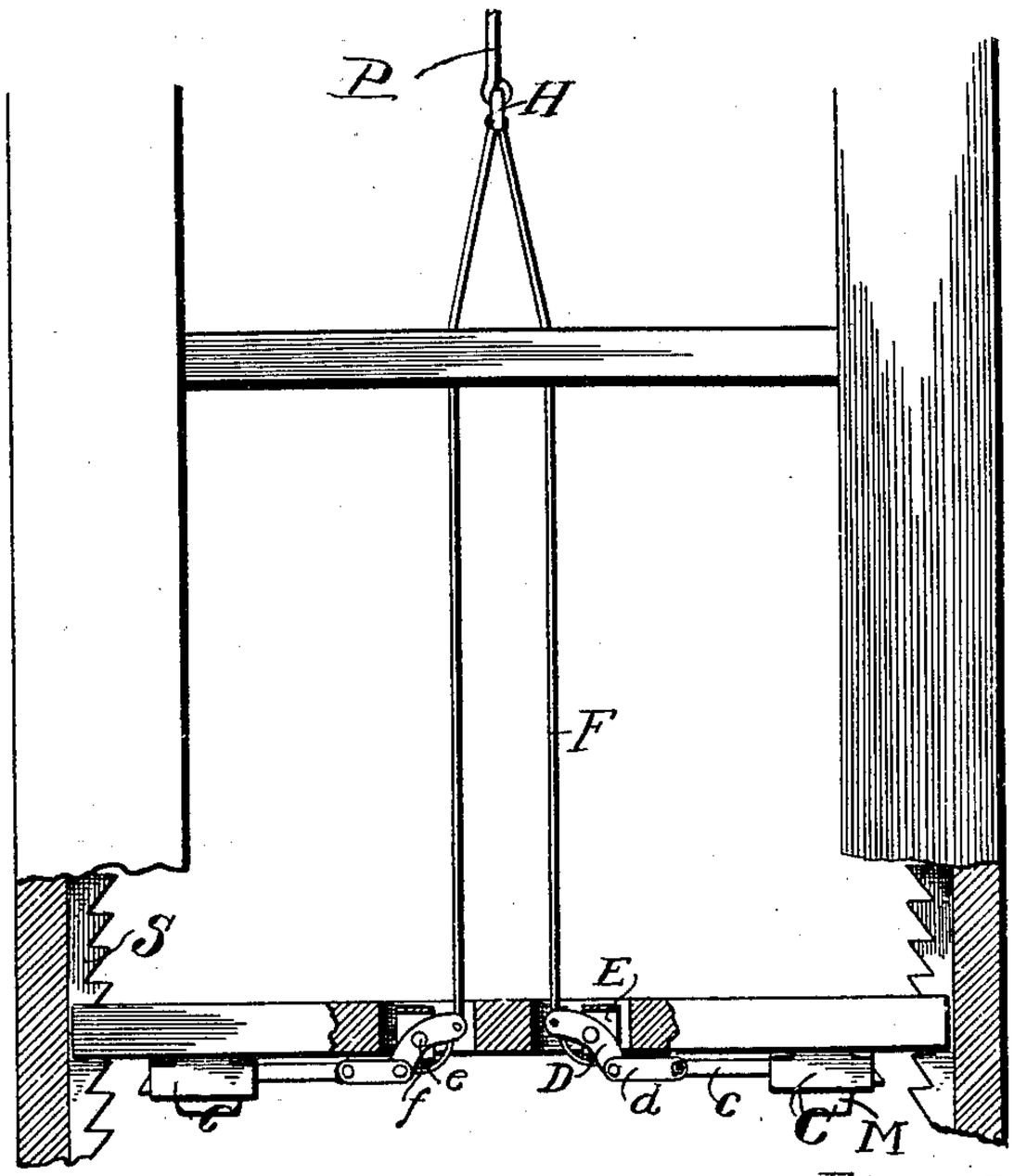

Fig. 3.

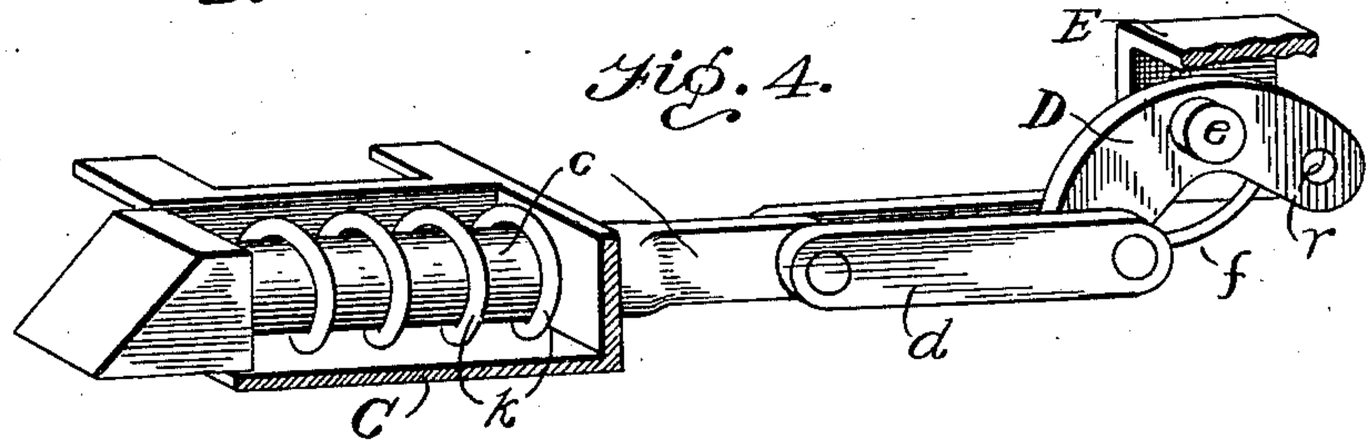

Fig. 4.

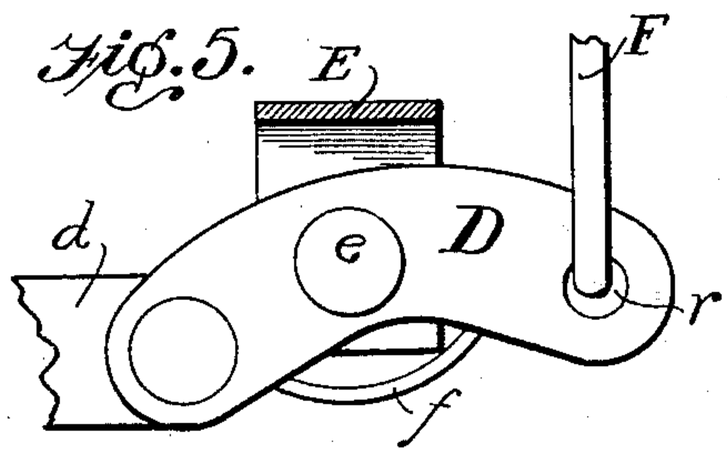

Fig. 5.

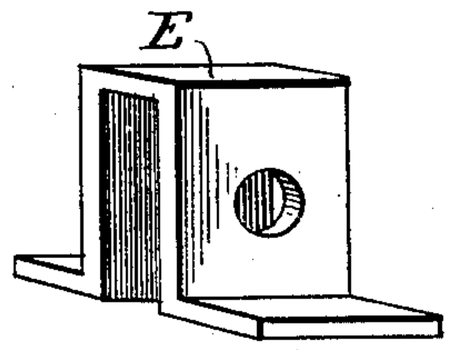

Fig. 6.

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UNITED STATES PATENT OFFICE.

RUFUS K. TERRY AND WILLIAM GRISSOM, OF BEL GREEN, ALABAMA.

SAFETY DEVICE FOR ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 630,424, dated August 8, 1899.

Application filed March 11, 1899. Serial No. 708,676. (No model.)

To all whom it may concern:

Be it known that we, RUFUS K. TERRY and WILLIAM GRISSOM, citizens of the United States of America, and residents of Bel Green, county of Franklin, State of Alabama, have invented certain new and useful Improvements in Safety Devices for Elevators, of which the following is a specification.

The object of our invention is to provide safety devices for preventing the fall of an elevator and means for showing, by running the car to the bottom of the shaft, that at least one of the spring-actuated bolts is in working order.

The nature of our invention will be described below and pointed out in the claims.

In the drawings, Figure 1 is a perspective. Fig. 2 is a plan of the under side of the car. Fig. 3 is a side view in broken section. Figs. 4, 5, and 6 are detail views.

Like letters refer to like parts.

A is the car, which may, if desired, be made double to accommodate passengers and freight; but it is here shown as a single compartment.

B are vertical strips forming guides to be suitably located in the corners of the shaft, and near each corner there is a vertical rack-bar S, extending from the bottom to near the top of the shaft. The roof and floor of the car are recessed at *a* to accommodate the rack-bars or prevent impingement. On the under side of the car-floor, near each corner, are four metallic boxes C. In each of these are bolts *c*, with enlarged beveled heads to engage with their respective rack-bars.

Between the head of the bolt and the inner end of the box is a strong coiled spring *k*, adapted to throw the bolt quickly outward when one or all of the cables above are accidentally released.

d are links inclosing the outer end of the bolt and a portion of lever D. This lever is shaped as shown and pivoted or fulcrumed upon a bolt *e* in the metallic elbow-iron E, the upper part of which extends up into a recess in the floor. The end of the levers opposite to the links has an eye *r* for the attachment of a rope or cable F, which passes upward through an opening in the floor and roof of the car. Four are shown here attached above the roof to a ring H, and this may have another cable P extending upward to hoisting and lowering mechanism at the top of the shaft, or the ring may be attached to such mechanism in any suitable way. Each lever D has a depending loop *f*. Engaging with this is arm *n*, looped around a pivot *i*, attached to the floor, and having a hammer *m*.

K is a centrally-located alarm-bell. Therefore when the car is lowered to the bottom of the shaft the bell will ring, for as the bolts spring outward loops *f* will operate arm *n*, and the sound of the bell will show that at least one of the spring-actuated bolts is in working order or if no sound is heard that said bolts should be examined.

M are buffers or cushions of suitable material in order to break the shock if the conductor should carelessly lower the car to the bottom of the well.

It will be seen that if cable K breaks or all the cables F part all of the bolts would spring into the rack-bars, stopping the descent of the car. If even only one of the cables F breaks, a bolt will spring into its rack-bar and stop the car. When the four cables are taut, they draw the inner ends of levers D up and sustain the weight of the car. When the levers are in this position, the bolts and the bell-hammers are retracted and no obstacle to the movement of the car exists so long as there is no breakage or detachment of the cables.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination with the rack-bars, of the spring-actuated bolts under the car-floor, the links, the levers adapted to withdraw the bolts and sustain the weight of the car in connection with the cables, the hammers, the alarm-bell, and the cables attached to said levers, as set forth.

2. The combination with the rack-bars, of the spring-actuated bolts, the links, the levers having depending loops, arms with a hammer pivoted to the under side of the car-floor and engaging with said loops, a central alarm-bell, and cables attached to said levers, as set forth.

Signed by us, at Bel Green, Alabama, this 23d day of February, 1899.

RUFUS K. TERRY.
WILLIAM GRISSOM.

Witnesses:
WILLIAM R. PETREE,
AUGUSTUS R. SMITH.