

(No Model.)

W. H. BEAKEY.
SAFETY GRIP FOR MINING CAGES.

No. 584,260.

Patented June 8, 1897.

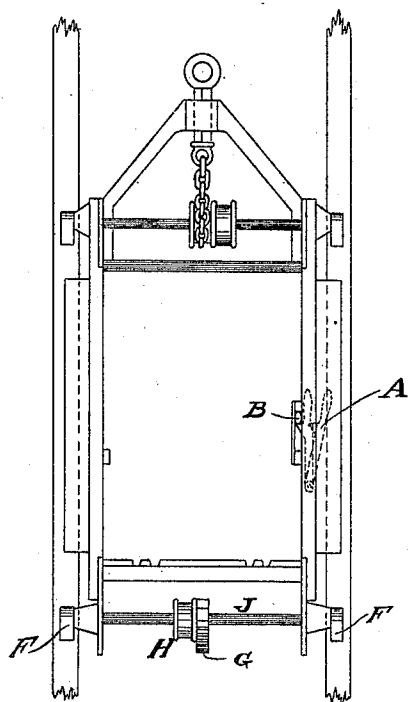


Fig. 2.

Fig. 1.

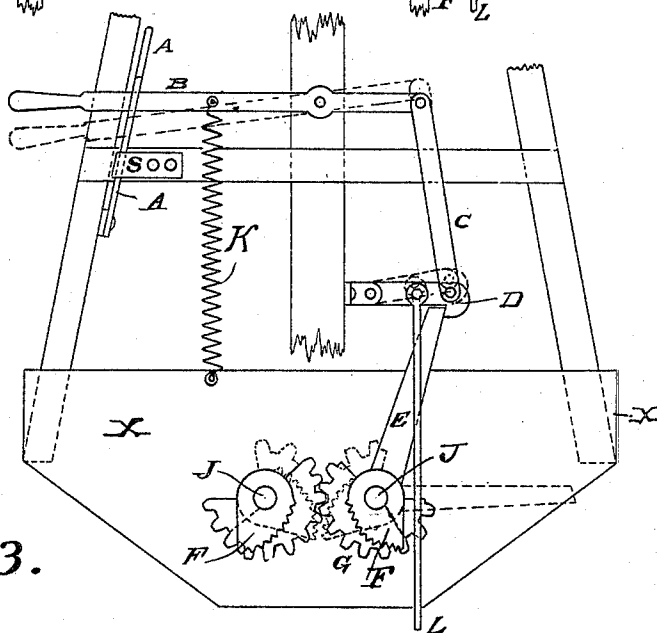
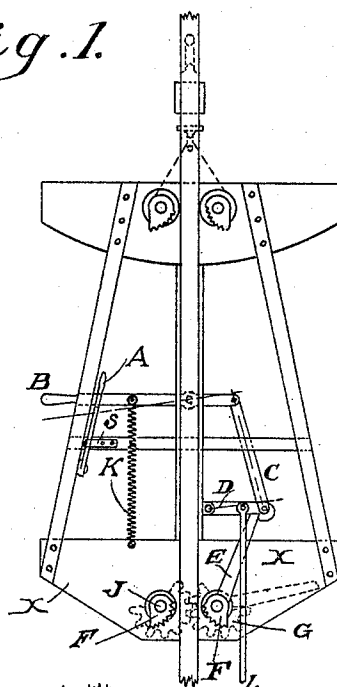


Fig. 3.

Witnesses.

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SAFETY-GRIP FOR MINING-CAGES.

SPECIFICATION forming part of Letters Patent No. 584,260, dated June 8, 1897.

Application filed October 30, 1896. Serial No. 610,606. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY BEAKEY, a citizen of the United States, residing at Walkerville, in the county of Silver Bow and State of Montana, have invented a new and useful Cage-Tender's Safety-Grip on Mining-Cages, of which the following is a specification.

My invention relates to an improvement in mining-cages; and it consists of a contrivance or appliance to be attached or affixed to mining-cages as they are used in ascending or descending shafts in mines and by which contrivance or appliance a mining-cage can be easily and safely stopped at any place or at any time in case of accident. The construction and operation of the appliance or apparatus is as hereinafter described, reference being had to the accompanying drawings, in which—

Figure 1 represents a side view of a mining-cage. Fig. 2 represents a front view of a mining-cage. Fig. 3 represents the bottom section of a mining-cage.

Similar letters refer to similar parts throughout the several views.

A shouldered vertical catch A supports the free end of a hand-lever B, which is pivoted in horizontal position within the cage and connected at one end by a rod C with a pivoted catch or "crab" D. The latter is also arranged horizontally and provided on the under side with a notch for detachable engagement with the free end of a lever-arm E, which is rigidly connected with one of two intermeshing segmental gears G and two locking devices F, arranged adjacent to said gears and on the same shaft, so as to oscillate with them. The said devices F are in the nature of toothed cams and are commonly known as "safeties." The lever B is supported in normal position by means of the aforesaid shouldered catch A, and the latter is held in such engaging position by a spring S. A helical spring K holds the lever B down on catch A,

and when released from the latter it aids also in tilting the lever and thus lifting the crab D.

If the cable suspending the cage breaks when the latter is either ascending or descending or if the engine-brake refuses to act efficiently, the operator places his left hand on the handle portion of catch A and his right on lever B, then by a lateral movement disengages A from B, and instantly depresses the latter, which movement raises the crab D and releases lever-arm E, which falls by gravity (see dotted lines) and thus rotates the gears G far enough to throw the devices F into frictional and practically locking engagement with the fixed vertical guides arranged on the sides of the cageway or shaft. By this means the cage is brought to a standstill before it can descend two feet.

The rod L serves to connect a crab D of one cage with that of another, (not shown,) so that the locking devices of both cages may be operated simultaneously.

What I claim is—

1. The combination, with a cage for the purpose specified, vertical guides in the shaft, and locking mechanism for engaging said guides, of the lever-arm connected with such mechanism, the pivoted crab which normally engages said arm, the lever and connecting-rod for operating the latter, and a catch for supporting said lever, substantially as shown and described.

2. The improved apparatus for the purpose specified, comprising the hand-lever, a spring-catch for supporting the lever, the notched and pivoted crab, a rod connecting the hand-lever and the crab, the lever-arm E, normally engaged by said crab, and locking-cams or safeties, with one of which said arm is connected, and segmental gears connecting said cams or safeties, as shown and described.

WILLIAM HENRY BEAKEY.

Witnesses:

FORREST M. HALL,
MICHAEL COWLEY.