

(No Model.)

2 Sheets—Sheet 1.

W. ILETT.

APPARATUS FOR UNLOADING COAL.

No. 252,038.

Patented Jan. 10, 1882.

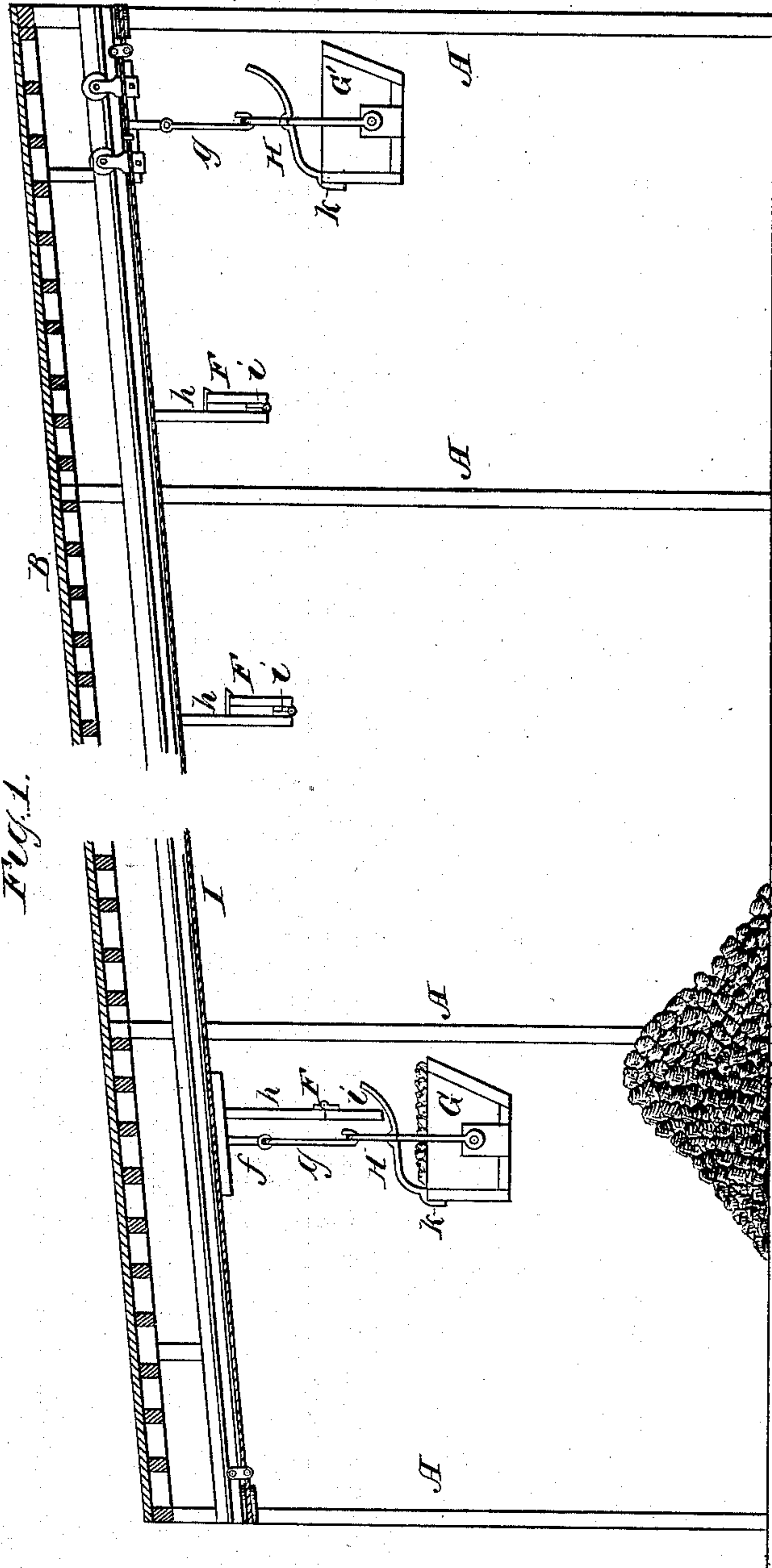


Fig. 1.

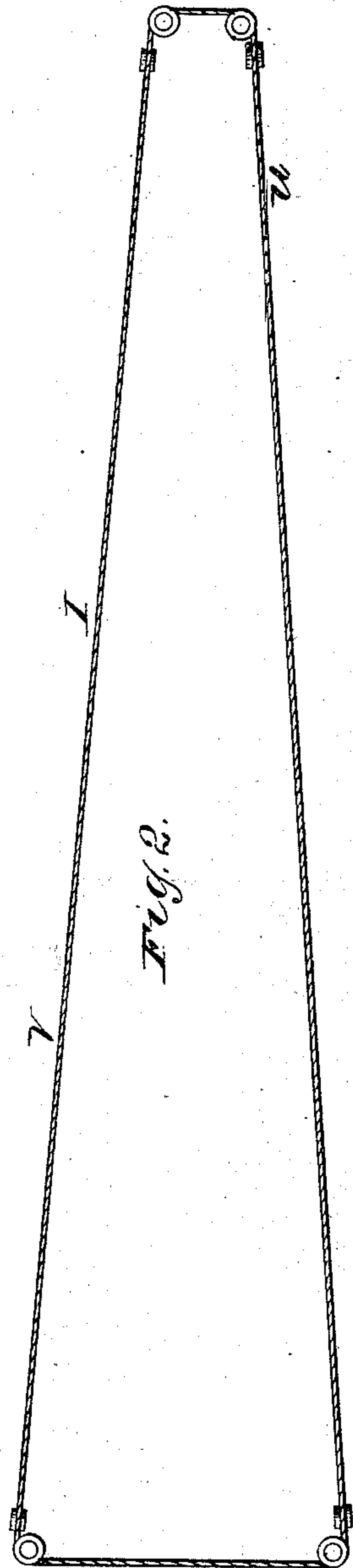


Fig. 2.

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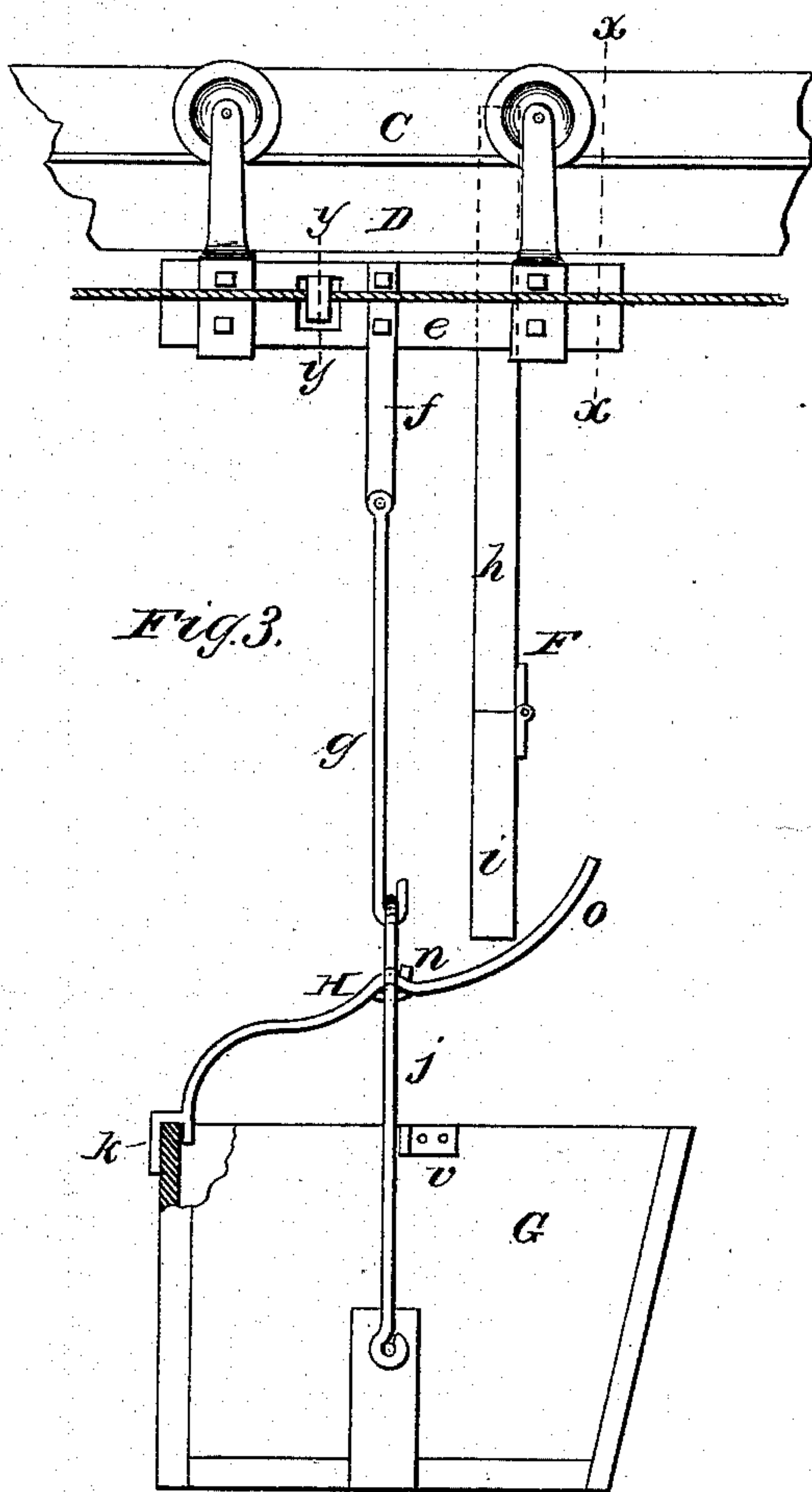


Fig. 3.

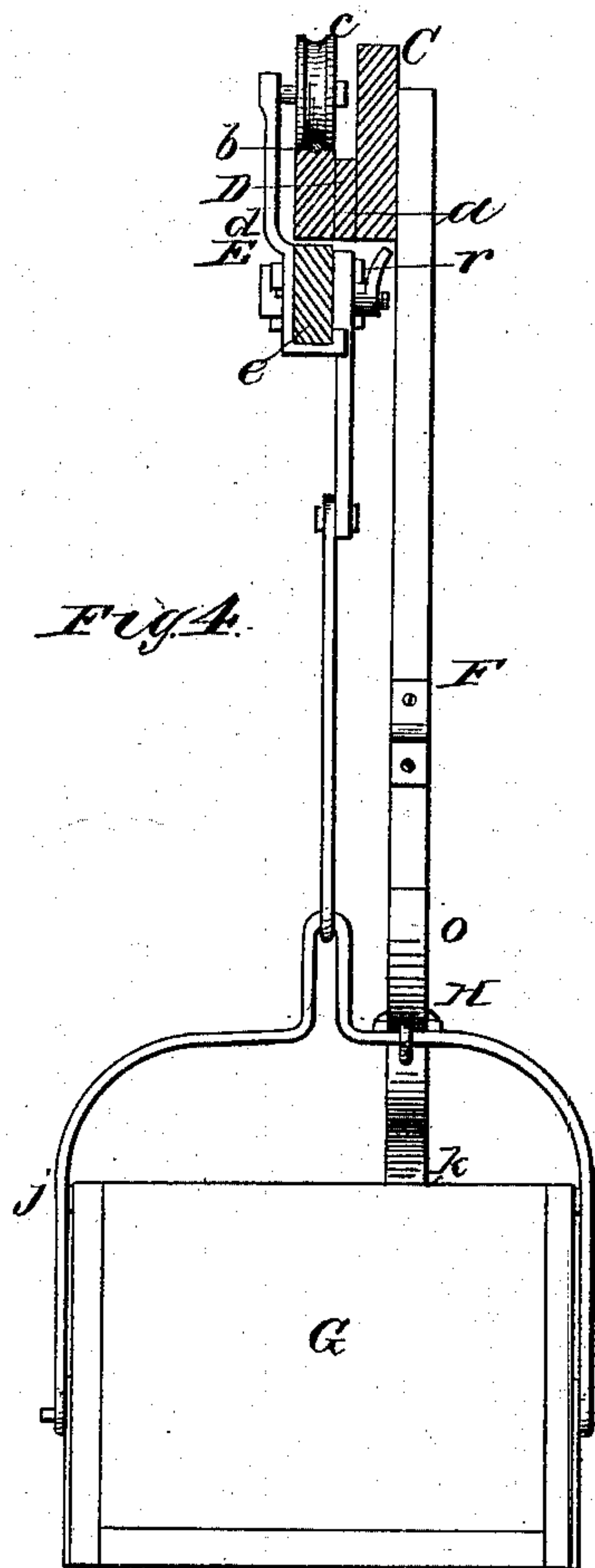


Fig. 4.

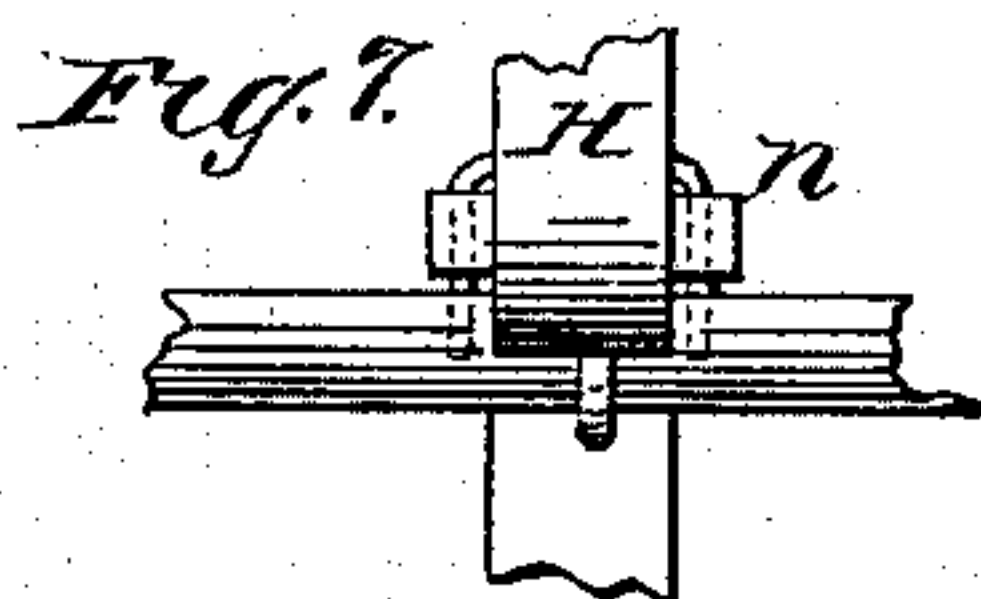


Fig. 7.

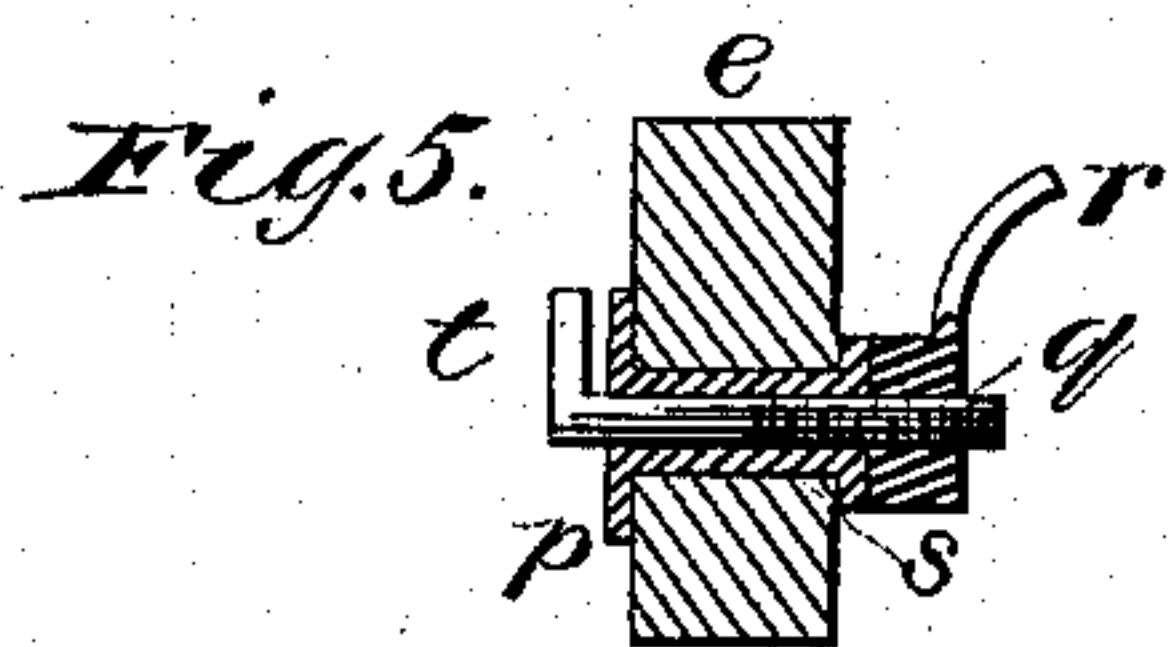


Fig. 5.

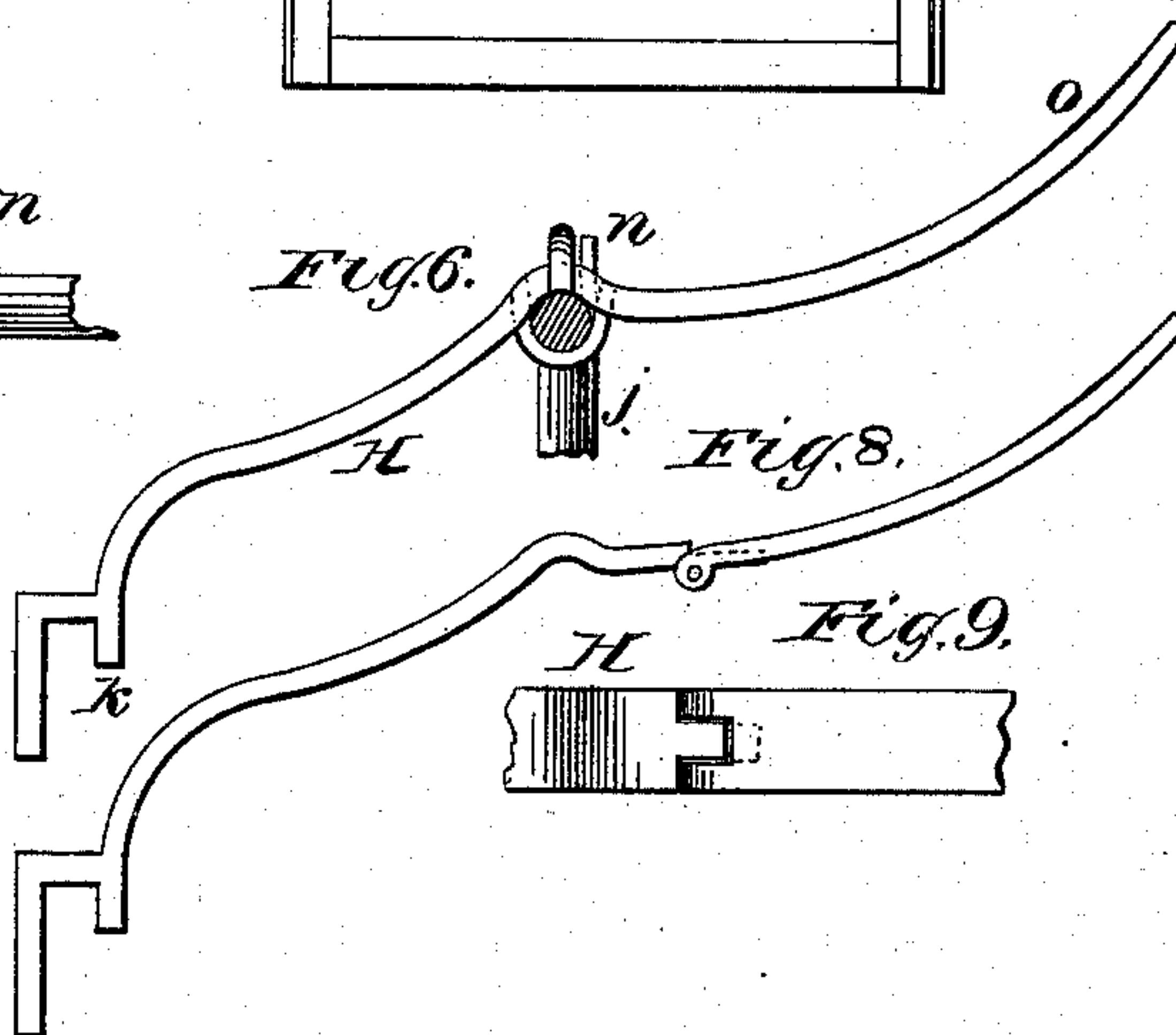


Fig. 6.

Fig. 8.

Fig. 9.

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# UNITED STATES PATENT OFFICE.

WILLIAM ILETT, OF CHICAGO, ILLINOIS.

## APPARATUS FOR UNLOADING COAL.

SPECIFICATION forming part of Letters Patent No. 252,038, dated January 10, 1882.

Application filed November 8, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM ILETT, residing at Chicago, in the county of Cook and State of Illinois, and a citizen of the United States, have invented new and useful Improvements in Apparatus for Unloading Coal, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation, showing my devices ready for use at a coal-yard. In this figure I have shown in section a roof supported upon posts. Fig. 2 shows the arrangement of the endless chain which I use. Fig. 3 is an enlarged view, showing a side elevation of my improvement. Fig. 4 is a section at line *x* of Fig. 3. Fig. 5 is a detail, being a section of the parts represented at *y* of Fig. 3; Figs. 6 and 7, enlarged, details showing the connection of the lever with the bail of the bucket. Figs. 8 and 9 show a modification.

The object of my invention is to facilitate the unloading of coal, which I accomplish by providing a bucket so made and suspended that when filled it will be held in an upright position by means of a suitable latch or fastener, and when the latch or fastener is released the bucket will turn over and discharge the coal, and will then automatically return to its former position, ready to be again filled; in providing automatically-operating devices of a peculiar construction for releasing the bucket from the latch or fastener; in providing pendants with which the arm of the lever which releases the fastening can come in contact at the proper time, which pendants are made in two parts, the lower portion being hinged or pivoted to the upper fixed part, so that such lower part can be turned out of the way when desired; and in an improved device for fastening the carriage from which the bucket is suspended to an endless cable, all as hereinafter fully described.

In the drawings, A represents posts, upon which a roof, B, over the coal-yard may be supported.

C are timbers of suitable strength suitably supported at proper distances above the coal-yard.

D are pieces secured upon one side of the timbers C. As shown, there are strips *a* between D and C for the purpose of removing D

to a proper distance from C to allow the pulleys of the carriages to pass. On the top of D is a track, *d*, on which the pulleys of the carriages travel.

E are carriages, consisting of pulleys *e* pivoted upon studs upon the inside of irons *d*, which irons are bolted to a short strip of wood, *e*.

*f* is a short iron bar bolted to the strip *e* of the carriage, and *g* is a rod or bar, pivoted at its upper end to the iron *f* and having a hook at its lower end.

F are pendants, consisting of two parts, *h* and *i*. The upper part, *h*, is rigidly secured to the back side of the timber C, and the lower part, *i*, is hinged or pivoted to the part *h* in such a manner that it can be turned up out of the way in one direction only, but when down, as shown in Fig. 3, will be practically rigid, so far as movement to the left is concerned, (looking at said figure.)

G G' are buckets, each provided with a bail, *j*. The bail is pivoted to the bucket eccentrically, and the lower part of the buckets weighted with iron bands or otherwise, so that when the bucket is empty the portion below the pivotal point of the bail will be heavier than the portion above.

H is a bar or lever, one end of which is provided with a catch or fastening, *k*, to engage with the upper edge of one side of the bucket and hold it in its upright position, as shown in Fig. 3. This bar H is pivoted upon the bail a little to one side of the center thereof, as shown in Fig. 4, which may be done by means of a loop, *l*, on the under side of the bar H.

*m* is a loop, the ends of which are secured to the bail each side of the bar H, which loop extends over such bar.

*n* is a projection upon the bar or lever H. The pendants F and the bar or lever H are so arranged relative to each other that the free end *o* of the bar H will come in contact with the lower end of the hinged part *i* of the pendant when the bucket passes the same, if such part *i* be turned down, as shown in Fig. 3.

I is an endless cable running over pulleys arranged in any suitable manner. The bar *e* of the carriage is provided with a clamping device consisting of a hook, *p*, which passes through the bar *e*, having a screw-thread upon the inner end, on which is a nut, *q*, provided



with a handle, *r*, for convenience. To prevent wear I provide the bar *e* with a bushing, *s*, through which the hook *p* passes. I also provide a metal facing, *t*, on the outside of the bar *e*, encircling the hole through which the hook *p* passes. I arrange the carriages and buckets upon opposite sides of the cable *I*. Two of these are shown in Fig. 1. If shown in Fig. 2, one would be at the point *u* and the other at the point *v*, so that when a full bucket is passing in one direction an empty bucket will be moving in the opposite direction.

By means of suitable well-known devices the cable *I* can be made to move first in one direction and then in the opposite direction. When the cable is inclined, as shown in the drawings, the empty bucket can be drawn up by the weight of the filled bucket. It is not necessary to have an endless cable to operate two buckets which move back and forth.

The buckets shown are square; but any other suitable form may be used; but they should be so constructed and suspended that when the holding device is tripped the filled bucket will be turned over by gravity, and when emptied will return to its upright position, ready to be again filled.

The holding-bar *H* might be arranged upon the side of the bail instead of upon the top.

By hinging the lower end of the pendant *F* so that it swings only in one way it will be practically rigid for the purpose of tripping the holding device; but when the empty bucket returns the lower part of the pendant can be pushed out of the way by the action of the bar *H*.

A stop, as indicated at *v*, can be placed upon the side of the bucket to limit its return movement.

If the buckets are to be used in unloading vessels, I provide the releasing end of the lever and holding device with a joint, so that it can be turned over out of the way while passing through the hatchway to prevent accidental tripping of the holding device. This modification is shown in Figs. 8 and 9.

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. A pendant, *F*, made in two parts, the lower part being hinged to the upper part, in combination with a traveling bucket provided with a holding device arranged to come in contact with and be tripped by such pendant, substantially as and for the purpose specified.

2. A bucket, *G*, having its lower end weighted, and provided with a bail hinged at one side of and above the center of gravity, in combination with a holding device hinged to the bail, and having an extension or arm, *o*, adapted to come in contact with the lower end of a pendant, substantially as and for the purpose specified.

3. A carriage, *E*, provided with a hook, *p*, and tightening-nut *q*, for the purpose of securing the carriage to the cable *I*, substantially as and for the purpose specified.

WILLIAM ILETT.

Witnesses:

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EDGAR T. BOND.