

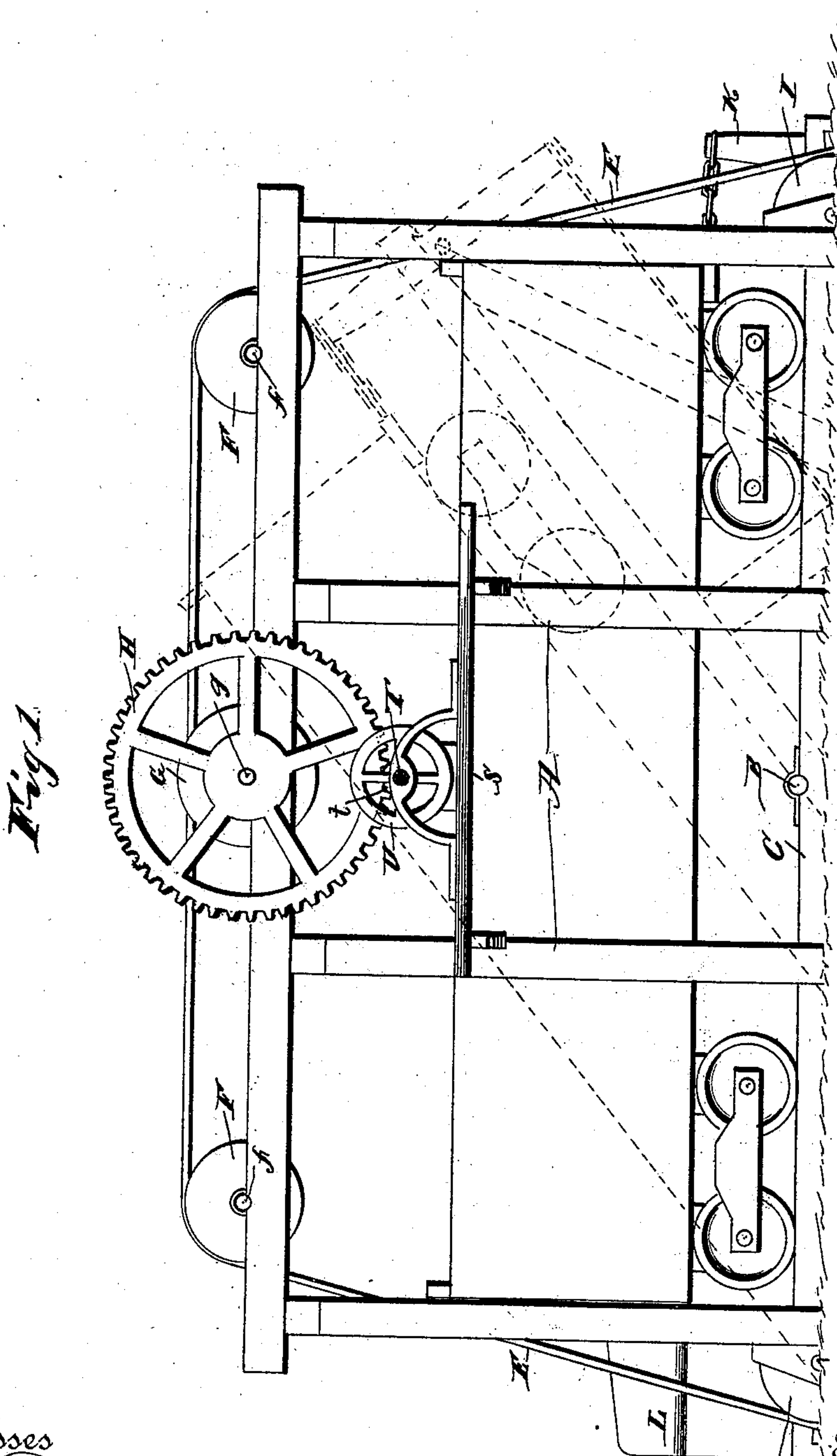
(No Model.)

2 Sheets—Sheet 1.

B. CHALFANT.
UNLOADING APPARATUS.

No. 373,222.

Patented Nov. 15, 1887.



Witnesses
Geo. Thayer
C. C. Doyle

Inventor
B. Chalfant
by *C. A. Howells*
Attorney

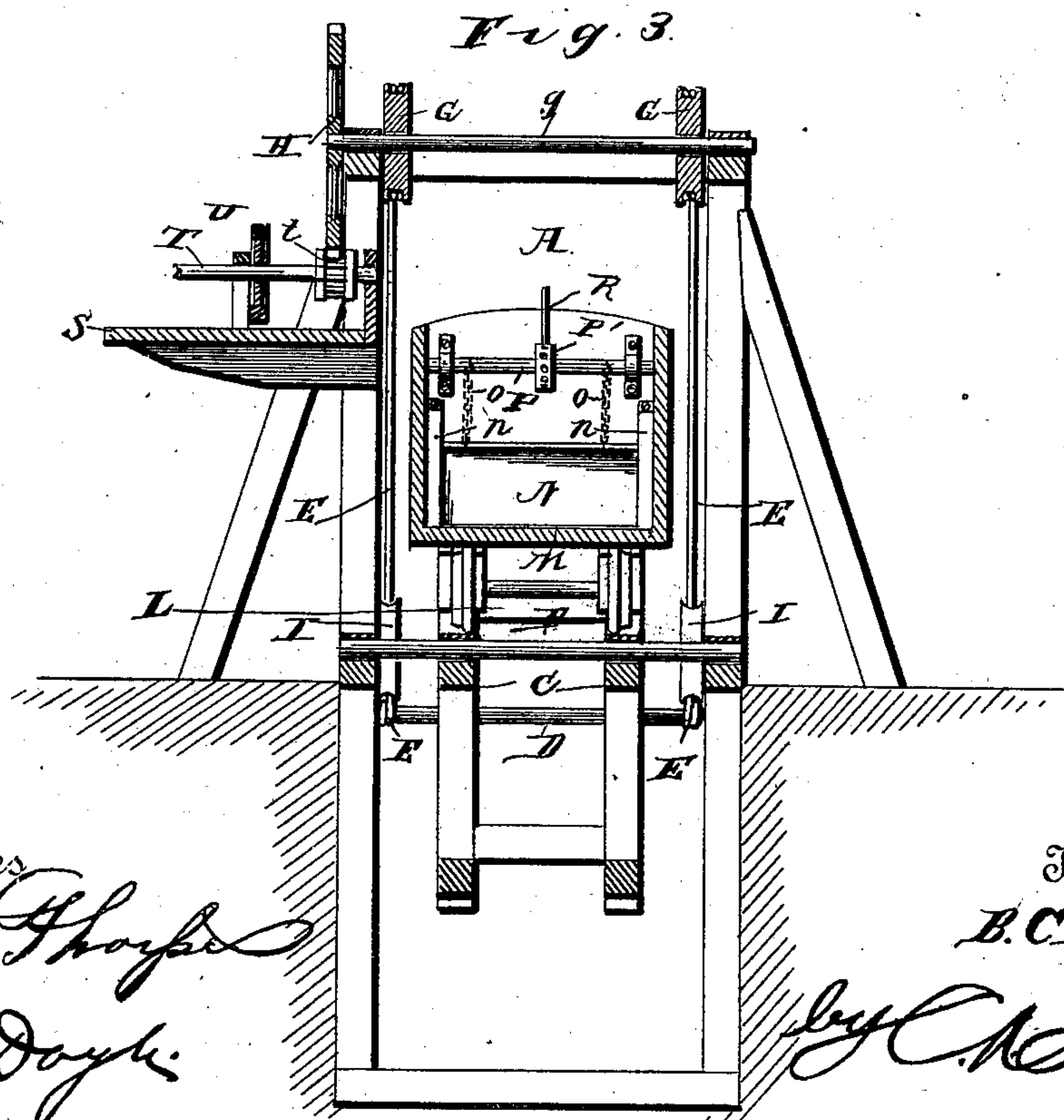
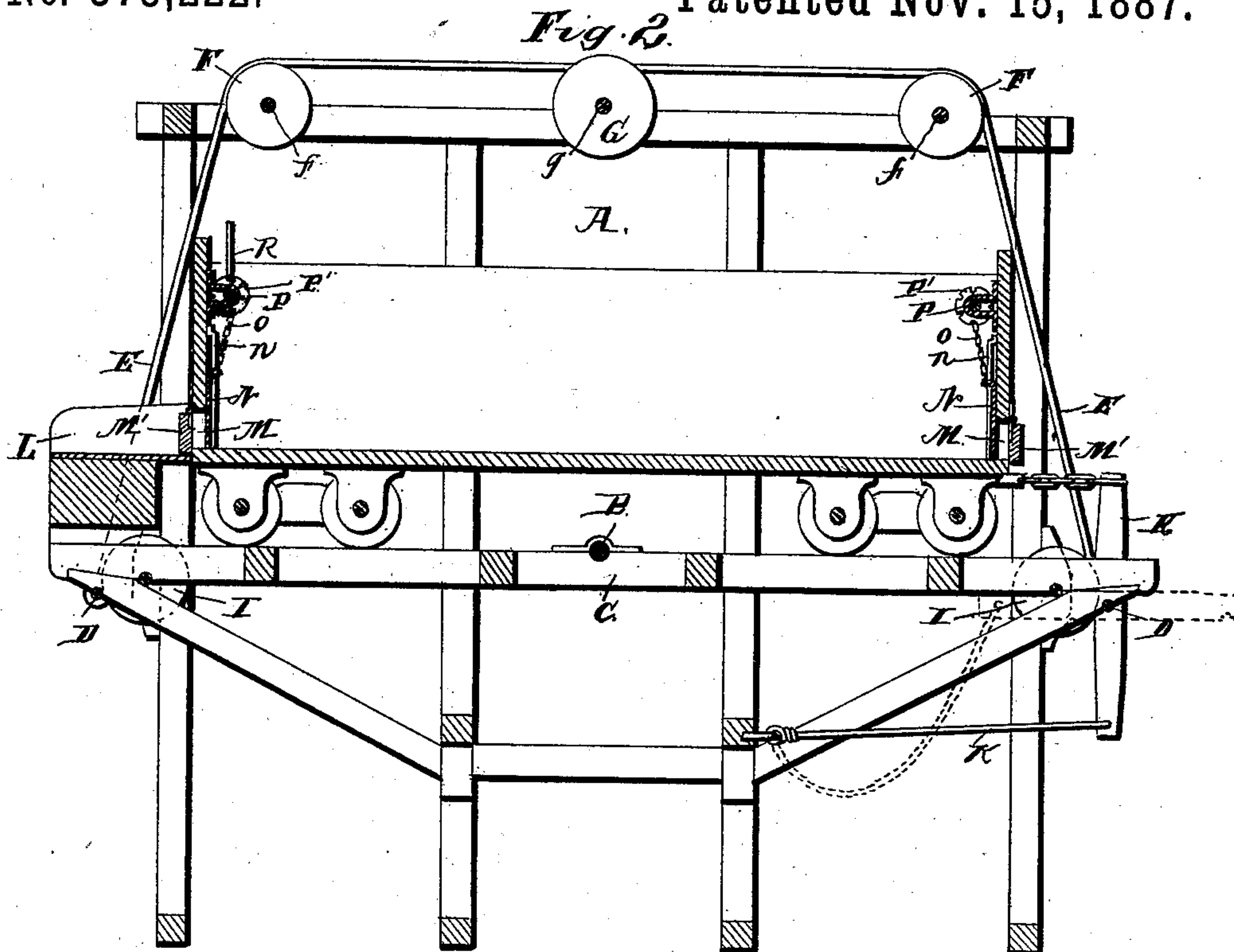
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UNITED STATES PATENT OFFICE.

BAYARD CHALFANT, OF KINMUNDY, ILLINOIS.

UNLOADING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 373,222, dated November 15, 1887.

Application filed August 6, 1887. Serial No. 246,306. (No model.)

To all whom it may concern:

Be it known that I, BAYARD CHALFANT, a citizen of the United States, residing at Kinmundy, in the county of Marion and State of Illinois, have invented a new and useful Improvement in Unloading Apparatuses, of which the following is a specification.

My invention relates to improvements in machines for unloading; and it consists in a certain novel construction and arrangement of parts, fully set forth hereinafter, and specifically pointed out in the claims.

In the drawings, Figure 1 is a side view of the device. Fig. 2 is a longitudinal section thereof. Fig. 3 is a central transverse section.

Referring by letter to the drawings, A designates the frame-work, which is built over the pit into which the coal or grain is to be deposited, and in suitable bearings in the said frame-work on the level of the track along which the cars to be unloaded are moved is mounted the shaft B, carrying the tilting frame or track C. The said tilting frame is provided on the upper side with rails on which to run the car, and the under portion is strongly trussed to enable it to bear a great weight.

D D are rods or bars passed through or firmly secured to the tilting frame at each end, and projecting beyond the sides thereof, and to the ends of the said rods are secured the ends of the wire ropes or cables E, which pass from thence up and over the sheaves F F at the top of the frame and near the ends and are attached at the centers to the drums G, which are arranged at the center of the frame. The sheaves F F at each end of the frame are secured to transverse rods *f f*, and thus they will turn simultaneously, and the drums G G are also secured on a transverse rod, *g*, which is extended outwardly on one side of the frame and provided on the end with the gear-wheel H.

It will be readily seen that as the wire rope is secured rigidly at the center to the drum, as the latter is rotated the rope on one side thereof will be wound thereon and the rope on the other side will be unwound, and consequently the tilting track will be inclined, as shown in dotted lines in the drawings.

I I indicate sheaves secured to the inner sides of the frame about on the level of the ground, on which the cables bear when the

track is tilted to ease the motion of the frame in which the tracks are supported, and thereby reduce the friction.

One of the rods D (or both, if desired) is provided at the center with a lever-arm or hold-back, K, the upper end of which is adapted to be attached to the link of the car which is on the track, while to the lower end is attached a rope, chain, or cable, *k*, which is fastened at the other end to a convenient beam under the track. The object of this device is obvious. When the car is run on the track, the hold-back is swung down into the position shown in dotted lines to allow the car to pass over, after which it is raised and the upper end thereof engaged with the link on the end of the car. The chain attached to the lower end of the lever is now drawn tight and secured, thus preventing the car from running off the track when it is tilted in the opposite direction.

L designates a chute which is secured to the tilting track after the car is secured in place thereon, and the said chute is arranged at the end of the car close under the opening M therein. The said opening in the end of the car is provided on the outside with a swinging door, M', hinged at the upper edge and adapted to swing out as the car is tilted, and it may be secured in any preferred manner at the lower edge.

N designates a vertically-sliding door arranged on the inside of the opening M and sliding in ways *n n*, provided therefor at the sides of the opening. To the upper edge of the said door at each end is attached a short chain, O, which passes up over a transverse bar, P, arranged transversely across the end of the car above the opening M and mounted in suitable bearings. The said bar P is provided at the center with a block, P', provided with a series of peripheral sockets, in which the end of the lever-bar R is adapted to be inserted to turn the block, and consequently the bar is secured thereto. In this way the chains are wound on the ends of the rod and the door N is raised to allow the passage of the grain or coal.

S designates a small platform arranged on the side of the frame A near the top thereof, and in suitable brackets or standards on the said platform is mounted the horizontal shaft

T, comprising the driving-shaft of the engine, which is supported on the platform, but not shown in the drawings. The inner end of the horizontal shaft is provided with a gear-wheel,

5 *t*, to mesh with the wheel H.

U designates a brake-wheel, also secured to the said shaft and adapted to be operated upon by a brake to regulate the motion of the shaft, and consequently of the tilting frame, when the

10 car is being emptied. The said wheel also serves as a balance-wheel to render the motion of the engine steady and pass over centers.

The operation of the invention will be obvious from the above. The car to be unloaded

15 is run on the tilting track, the holdback or locking-bar K is attached to the link in the end of the car to prevent the latter from sliding off the track when tilted, and the chute is adjusted and secured in any preferred manner

20 at the end of the car which is designed to be lowered. The sliding door in the end of the car is now raised and everything is in readiness to unload. The shaft T is now rotated by the power, thus turning the gear-wheel H,

25 and consequently the drums which are attached to the same shaft as the gear-wheel, and the track is tilted and the contents of the car pass through the opening M. When the car is empty, the engine or power is reversed

30 and the track returned to its horizontal position, when the car is run off, and the device is ready to receive another full car.

The device is very simple and easily managed, and if when the car is run on the track

35 it is arranged so as to be balanced it will be seen that very little power is necessary to tilt the track.

The operation of the invention being simple and direct, a car may be emptied in a very

40 short time.

The drawings show the device adapted to empty the car at either end—that is, to tilt in either direction; but it will be seen that this may be altered at will, as there are few cases

45 in which it is of advantage to tilt in both directions.

Having thus described my invention, I claim—

1. The combination of the supporting-frame

A, the drum or windlass G in the upper cen- 50
tral portion thereof, provided with suitable
operating mechanism, the sheaves F near the
outer ends of said frame, the tilting track sup-
ported in said frame and mounted on a piv-
otal rod, the cable E, connected to the sup- 55
porting-frame of the tilting track and, passing
over the sheaves F, engaging with the drum
G, the anti-frictional sheaves or pulleys I at
the lower outer ends of the track-frame,
adapted to engage the cable E, the lever-arm 60
K, pivotally mounted at one end of the frame
A and adapted to be secured at its upper end
to the coupling link or chain on the end of
the car, and the cable *k*, attached to the lower
end of said lever to hold it in a vertical posi- 65
tion against the action of the coupling link or
chain, substantially as described.

2. In combination with the frame A, having
the drum or windlass G, and the sheaves or
pulleys F, arranged in the upper portion 70
thereof, as shown and described, the tilting
track mounted in said frame A, as set forth,
the anti-frictional sheaves or pulleys I at the
lower ends of said tilting track, and the cable
E, secured to the tilting track and passing 75
over the pulleys or sheaves I and F and en-
gaged and operated by the windlass or drum
G, as set forth, substantially as described.

3. The combination, with the frame A and
the tilting track pivoted therein and adapted 80
to be inclined longitudinally, of the car having
the openings M in the ends, the pivoted outer
doors, M', to close the said openings, and the
sliding inner doors, N, operating in vertical
ways, the transverse bars P above the doors, 85
chains connected to the doors and adapted to
be wound on the said bars, block P' on the
centers of the bars, provided with peripheral
sockets, and the lever R, to insert in one of
the sockets to turn the block, substantially as 90
and for the purpose specified.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
presence of two witnesses.

BAYARD CHALFANT.

Witnesses:

W. W. NEIL,
G. FENSTER.