

APPLICATION FILED JAN. 28, 1908.

Patented Nov. 10, 1908.

The image contains two technical drawings of a mechanical device, labeled Fig 1 and Fig 2.

Fig 1 is a side view of a large lever arm, labeled *A*, pivoted at point *a*. A roller or wheel is mounted on the lever arm at point *b*. A pulley is mounted on the lever arm at point *c*. A cable or rope is shown passing over the pulley, with one end attached to a fixed point *d* and the other end attached to a point *e* on the lever arm. The lever arm is supported by a frame with two large wheels at the base, labeled *B* and *C*. A vertical rod or cable, labeled *f*, is shown passing through the frame and the lever arm, with a pulley at point *g* and a weight or handle at point *h*. The lever arm is also labeled *a* at its base and *b* at its tip.

Fig 2 is a detailed view of the pulley mechanism. It shows a pulley with a wheel and a frame. The pulley is labeled *a* and the frame is labeled *b*. A cable or rope is shown passing over the pulley, with one end attached to a point *c* and the other end attached to a point *d*. The pulley is mounted on a frame with two large wheels, labeled *B* and *C*. A vertical rod or cable, labeled *f*, is shown passing through the frame and the pulley, with a pulley at point *g* and a weight or handle at point *h*. The pulley is also labeled *a* at its base and *b* at its tip.

INVENTOR

Burton G. Cope

BY

Walter A. Knight

ATTORNEY

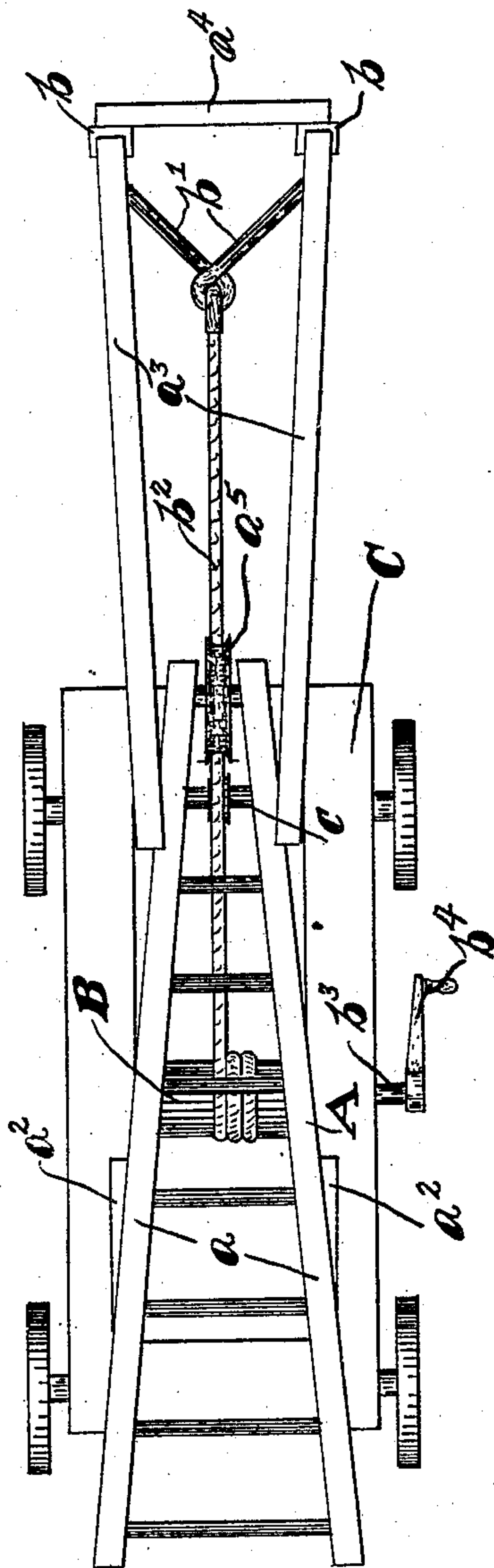
B. G. COPE.
DERRICK HOIST.
APPLICATION FILED JAN. 28, 1908.

903,271.

Patented Nov. 10, 1908.

2 SHEETS—SHEET 2.

FIG. 3



WITNESSES

Canoll H. Richards
Joseph R. Gardner

INVENTOR

Burton G. Cope

BY

Walter A. Knight

ATTORNEY

UNITED STATES PATENT OFFICE.

BURTON G. COPE, OF ORRVILLE, OHIO, ASSIGNOR TO THE CYCLONE DRILL COMPANY, OF ORRVILLE, OHIO, A CORPORATION OF OHIO.

DERRICK-HOIST.

No. 903,271.

Specification of Letters Patent.

Patented Nov. 10, 1908.

Application filed January 28, 1908. Serial No. 413,137.

To all whom it may concern:

Be it known that I, BURTON G. COPE, a citizen of the United States, residing at Orrville, in the county of Wayne and State of Ohio, have invented new and useful Improvements in Derrick-Hoists, of which the following is a specification.

This invention relates to new and useful improvements in derrick hoisting mechanisms, and especially to those mechanisms which are applied to drilling or other machines mounted on trucks and having a derrick.

Heretofore a great deal of inconvenience has been experienced in the hoisting of the derricks of portable machinery and a great amount of power has been required. Also the position and kind of mechanism used has been disadvantageous to the good operation of the machinery, as it has been so placed and operated as not to permit of the best design.

The object of this invention is to provide such a device as will easily and quickly hoist the derrick with the expenditure of very little power; and also to have the device so simple in construction and occupying such a position, relative to the other mechanism that there will be no interference with the operation or design.

The particular embodiment of my invention selected for illustration is shown in the following drawings, in which:

Figure 1, is a side elevation of the device as applied to the trucks of portable drilling machinery. Fig. 2, is a perspective of the shoe and its means of attachment to the cable with the derrick brace in position, with parts broken away. Fig. 3, is a top plan view of the device as applied to the trucks of a portable machine.

Referring to the drawings, A, is the derrick. Members a^1 , a^2 , are firmly fastened to the frame, C, supported by the trucks, and to each other, and form a triangular one paneled truss. At the top of members a^1 , a^2 , where they join, is pivoted the derrick, A, at some convenient point near its lower end. Independent braces, a^3 , are pivoted to the derrick near the top. A pulley, a^5 , is suitably journaled near the top of the derrick. The lower ends of members, a^3 , are adapted to rest in sockets in the shoes, b , which contact with the ground and which are fastened together by a strip, a^4 , placed high enough to

clear the ground. Each shoe has at one of its ends an eyelet, b^5 . A bail, b^1 , has an eyelet, b^6 , adapted to receive the hoisting cable, b^2 .

The drum B, is rigidly fastened to shaft, b^3 , said shaft being suitably journaled in a bearing attached to the frame, C. Attached to shaft, b^3 , in any convenient manner is a crank and handle, b^4 , or other means of rotation. The cable b^2 , which in the drawing is wound around the drum, connects to bail, b^1 , and may or may not operate over an idler, c , between the end of the frame, C, and the drum.

The operation of this device is as follows: Assuming that the derrick is lowered and is to be hoisted, and that the braces are free at their lower ends. The shoes and attached parts are then laid on the ground; the brace ends placed in the shoe sockets, and the cable connected with the drum, B, which is rotated by hand in a direction to wind up the cable, b^2 , and the lower ends of members, a^3 , are slid along the ground on shoes, b , toward the end of the frame, C. While this operation is going on, the angle between the members a , and a^3 , diminishes and the lower ends of said members approach the adjacent ends of the frame, C. After a sufficient rotation of the drum, B, the lower end of member, a , comes in contact with frame, C, and may if desired be fastened to said frame. When the above has been accomplished the lower ends of the braces, a^3 , are sufficiently close to the end of frame C, they may be lifted and set on the frame, C, to which they may or may not be fastened. To lower the derrick the cable must be unwound from the drum and the friction between the ground and shoes and the parts must be overcome, which would be aided by the weight of the derrick to such a degree that one man could easily perform the operation, in handling a drill derrick of ordinary size. When the shoes and their connections are not in use, not being connected to any other portion of the drill, the whole part is put out of the way.

What I claim as new and desire to secure by Letters Patent of the United States, is:—

1. A derrick hoisting device, consisting of a combination of derrick braces pivoted to a derrick, which is pivoted to a truck frame, shoes adapted to receive the loose ends of said braces and means for drawing said shoes towards said truck.

2. A derrick hoisting device, comprising

shoes adapted to receive and hold the derrick
braces on the ground end, said braces pivoted
to the derrick, means for connecting said
shoes to a rotatable drum, said drum, and
5 means for rotating said drum.

3. A derrick hoisting device having a drum
adapted to wind up a flexible connection at-
tached to the derrick, said drum journaled
to the frame of a truck adapted to support
10 any type of portable machinery and to which
the derrick is attached, and said flexible con-
nection attached to the derrick braces by
means of a rigid connection attached to shoes
contacting with the ground and attached to
15 the derrick proper.

4. A derrick hoisting device adapted to
raise a derrick composed of the derrick
proper pivoted to a frame, and braces piv-
oted to the derrick near the tops of both said
20 parts, shoes adapted to rest on the ground
and connections from said shoes to a drum,
said drum and means for rotating said drum.

5. In combination with a derrick hoisting
device, shoes comprising a channel adapted
25 to loosely receive and hold the ends of the

loose members of the derrick, and a cross
member by which opposite shoes are held to-
gether.

6. In combination with a derrick com-
posed of two parts pivoted together; a hoist 30
mechanism consisting of flexible and rigid
connections attached to the lower end of the
loose member of the derrick, shoes compris-
ing a channel adapted to loosely receive the
ends of the loose members of the derrick, 35
said shoes having means for the attachment
of hoisting connections, and a cross connec-
tion between opposite shoes.

7. Shoes comprising a channel adapted to
loosely receive the ends of the loose members 40
of the derrick and means for attachment for
hoisting connections and cross member.

In testimony whereof I have hereunto set
my hand in presence of two subscribing wit-
nesses.

BURTON G. COPE.

Witnesses:

A. J. CUSTER,
T. M. KRIEGER.