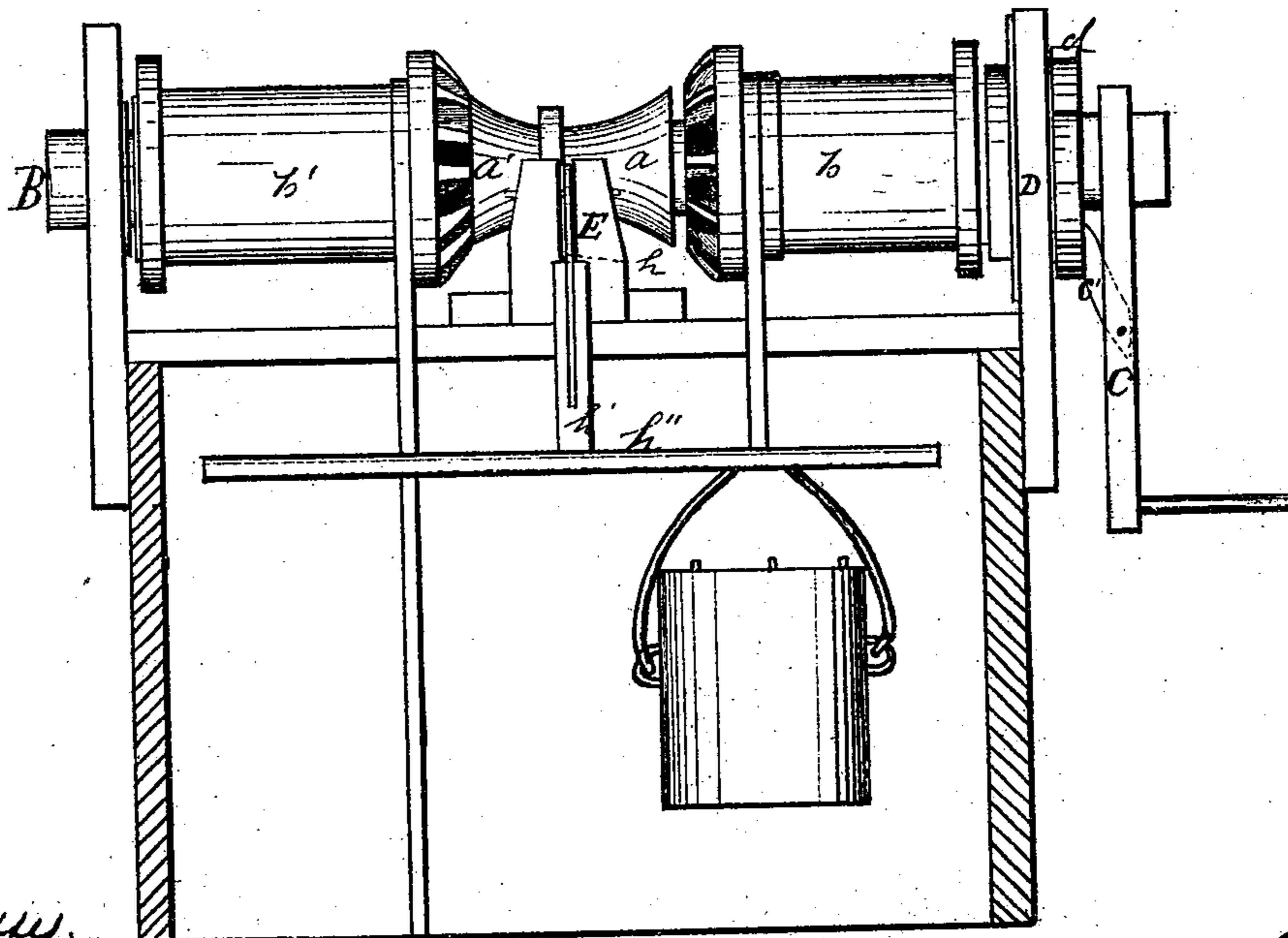
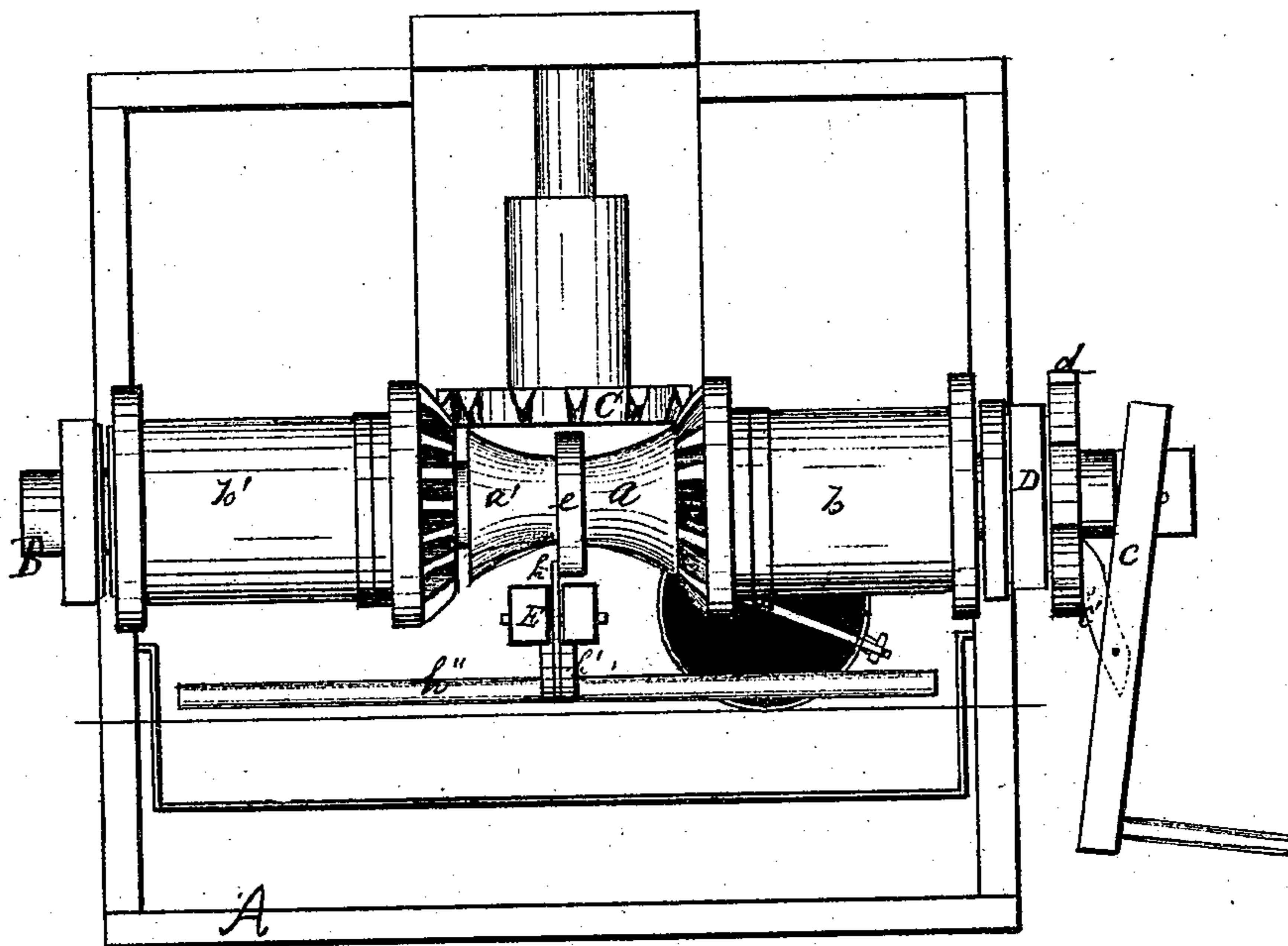


G. W. Carpenter,

Water Elevator.

No. 96,547.

Patented Nov. 9, 1869.



Witness.
C. Oden Brown
Chas. Wilson

G. W. Carpenter, Invt.
by Geo. E. Brown, Atty.

United States Patent Office.

GEORGE W. CARPENTER, OF BUTLER, INDIANA.

Letters Patent No. 96,547, dated November 9, 1869.

IMPROVEMENT IN WATER-ELEVATORS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE W. CARPENTER, of Butler, in the State of Indiana, have invented a new and useful Improvement in Water-Elevators; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is a plan view, and

Figure 2 is a transverse vertical section in the line *x x*, fig. 1.

To enable those skilled in the art to make and use my invention, I now proceed to describe its construction and operation.

Similar letters in the drawings refer to like parts.

This invention relates to a process of elevating water out of a well, by means of a horizontal shaft, supported over the same, rotated by a crank, and bearing two windlasses for hoisting and lowering buckets, said windlasses being connected by a bevel-gear, so as to rotate them in opposite directions; and

It consists in so attaching the crank to the shaft that the crank may be made to operate as a lever for shifting the shaft endwise, back and forth, in and out of gear, alternately with each windlass, in order that both windlasses may be made to reverse their motions every time a bucket comes to the surface; also, in combining with the shaft a stop to hold it in place, said stop being operated by each bucket in turn, so as to be displaced, and allow the shaft to be shifted as often as a bucket arrives at the surface.

In the drawings—

A represents a well-curb, on the top of which is placed, in suitable bearings, a shaft, B, sustaining two windlasses, *b b'*, the shaft being cylindrical, so as not to take the windlass around with it as it revolves, except as to the parts *a a'*, which are four-sided, and are intended to be introduced within the windlasses alternately, so that while one windlass is on one of the parts *a*, the other windlass may be on the cylindrical portion of the shaft.

A bevel-gear, C, connects the windlasses, which have cogs on their inner ends.

There is nothing new in the foregoing arrangement, nor the function discharged by the same, which is to cause the windlasses to revolve in contrary directions, so that as one hoists, the other may lower its bucket; and also to cause the windlasses alternately to change direction, so as to lower the raised

bucket, and raise the lowered one, without reversing the movement of the shaft.

The former object is effected by leaving one of the windlasses loose on the shaft, so that it may be rotated in a contrary direction from the windlass that is fast to the shaft, by means of the connecting bevel-gear C.

The latter object is effected by shifting the shaft endwise, so as to throw it in gear with the loose windlass.

The means by which the shaft is shifted endwise are as follows:

The crank *c* is pivoted to an arm, *c'*, projecting from the ratchet-plate *d*, through which the shaft passes.

The ratchet-plate is attached to one end of a tube that extends through the supporting-standard D, and to the other end of the tube is another plate, next to the opposite side of the standard.

Through the tube passes the shaft B.

The tube and ratchet *d*, with the standard, form a firm fulcrum for the lever-crank *c*.

By moving the outer end of the crank outward, the shaft is thrown into gear with the windlass *b'*.

By moving the outer end of the crank inward, the shaft is thrown in gear with the windlass *b*.

In order to hold the shaft in its place until the proper time for shifting it, I attach to it rigidly a collar, *e*, midway between the two square parts, *a a'*.

I also provide a standard, E, rising from the well-curb to the level of the shaft.

In the top of the standard E is pivoted, at right angles with the shaft, the blade *h*, the inner end of which is in contact with one side of the collar *e*, and thus keeps the shaft in place.

To the outer end of the blade *h* is attached a rod, *h'*, extending downward into the curb, and to the lower end of the rod is fastened a transverse bar, *h''*, parallel with the shaft, and hung in the path of the buckets as they rise and fall.

As the ascending bucket approaches the surface, it catches the bar *h''*, and lifts it, which movement depresses the inner end of the blade *h* below the collar *e*, so that the shaft may be shifted without obstacle.

The shaft being shifted, the bucket descends, the bar *h''* follows it, and the blade *h* comes up on the other side of the collar *e*, thus fastening the shaft.

The bar-rod and blade therefore form an automatic apparatus.

The bevel-gear serves not only to transmit motion from one windlass to the other, but also as a stop to prevent the crank from flying back with great velocity if the power is withdrawn during the operation of hoisting.

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

1. Attaching the crank *c* to the shaft *B*, in such a manner as that the crank may be operated as a

lever, to shift the shaft endwise, substantially as described.

2. The combination of the shaft *B*, provided with its collar *e*, with the blade *h*, rod *h'*, and bar *h''*, as and for the purpose described.

GEORGE W. CARPENTER.

Witnesses:

WM. P. CARPENTER,

E. SHRINER.