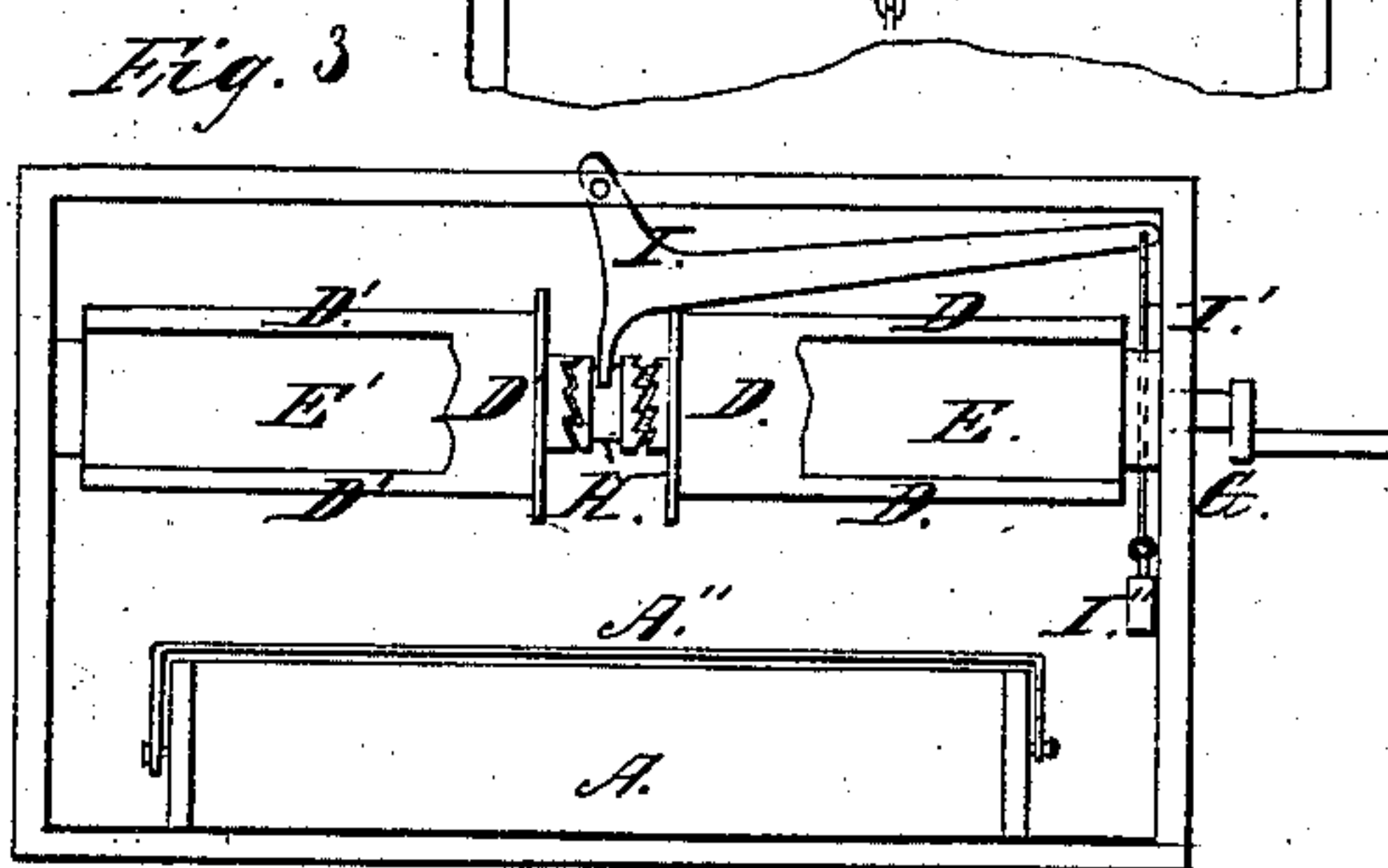
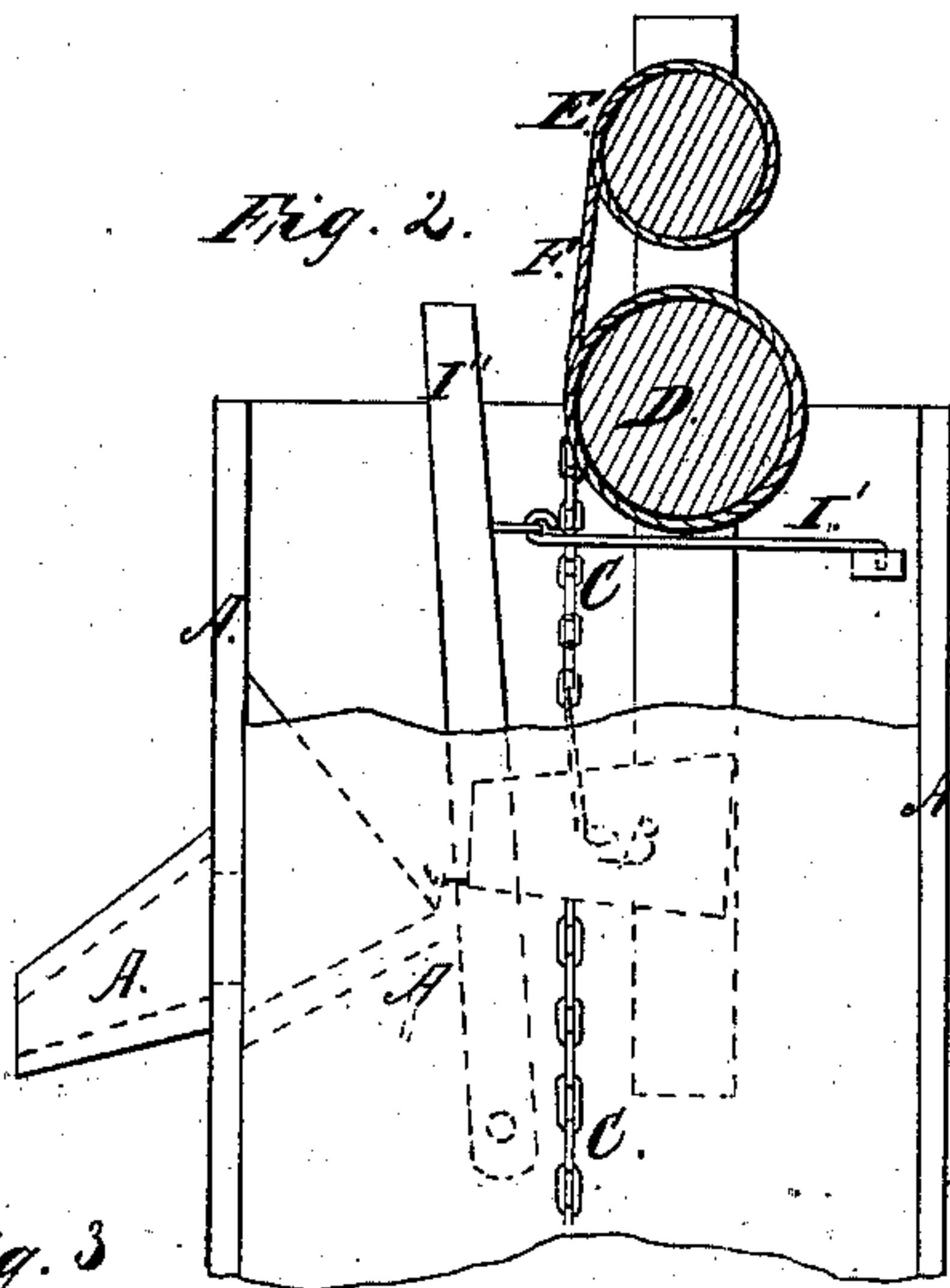
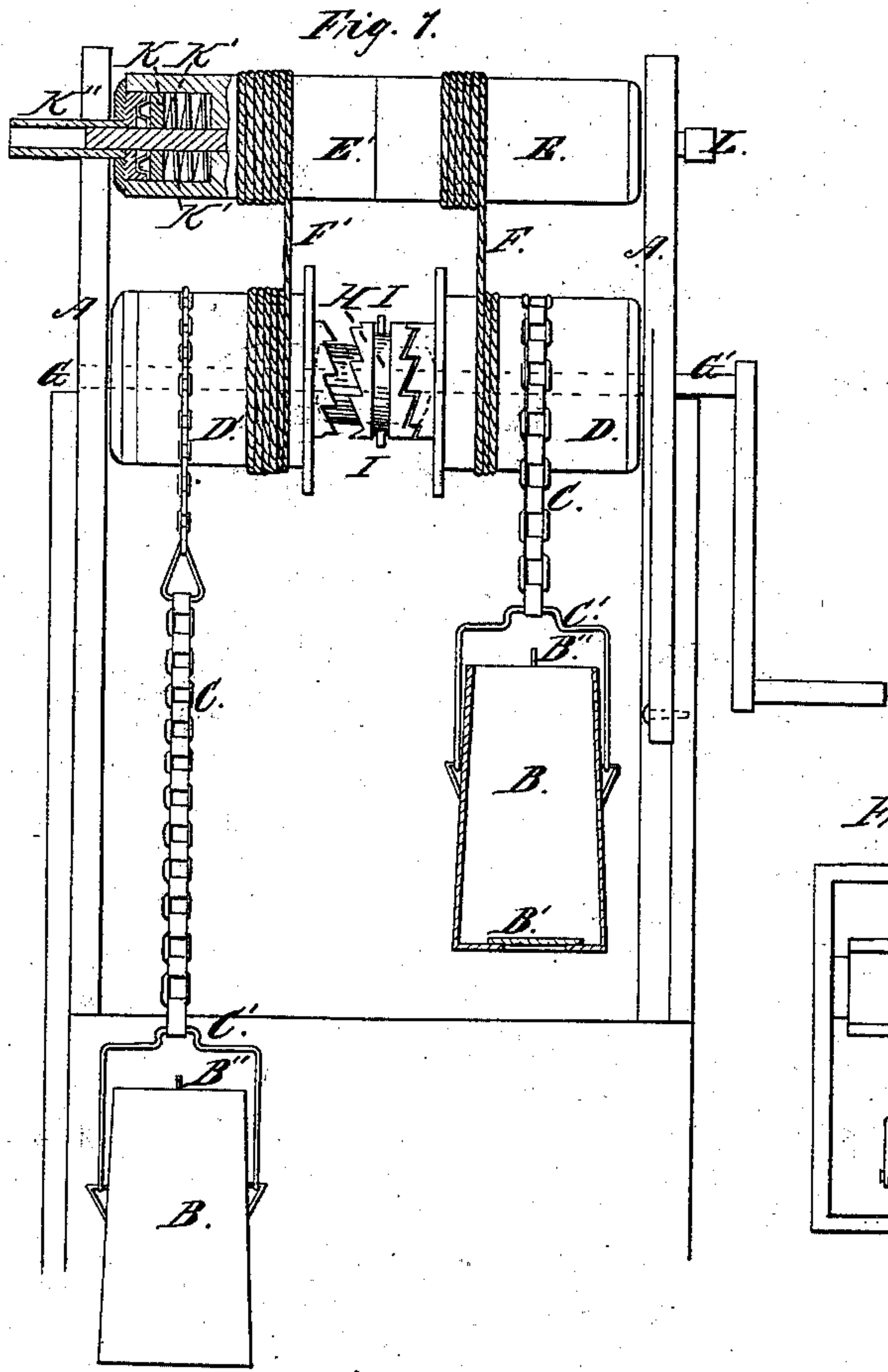


W. M. Palmer,
Windlass Water Elevator.

N^o 79772.

Patented July 7, 1868.



Witnesses:
Josh R. Edson
Chas F. Johnson.

Inventor
Wm M Palmer
by
D. S. Alden
his atty

United States Patent Office.

WILLIAM M. PALMER, OF MIDDLEBUSH, NEW JERSEY.

Letters Patent No. 79,772, dated July 7, 1868.

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, WILLIAM M. PALMER, of Middlebush, in the county of Somerset, and State of New Jersey, 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 annexed drawings, making part of this specification, in which—

Figure 1 is an elevation, partly in section.

Figure 2, also an elevation, partly in section.

Figure 3 is a plan.

The same letters in all the figures indicate identical parts.

This invention relates to a novel arrangement of parts of one of that class of water-elevators in which two buckets are alternately raised and lowered by turning a winch continuously in one direction.

A is the curb of a well, and B B two buckets hung therein, upon chains, C, attached to bales, C', by which the buckets are suspended a little distance above their centre of gravity. When the buckets are lowered into the water, they are filled by the pressure of the water opening flap-valves B¹, placed in the bottom, which valves close by the weight of the water as the buckets are elevated. When the buckets reach the top of the well, the pin B², in the upper edge, catches against the rod A², hinged to the spout A¹, and causes the buckets to turn, discharging their contents upon the apron of the spout A¹.

D D' are two cylinders, upon which the chains C are wound. The cylinders E E' are placed over them, and ropes, F F', are wound around the cylinders E and D, and E' and D', in opposite directions, so that as the rope around one series is wound up, that around the other series shall be unwound.

The cylinders D and D' are upon a common shaft, G, which is turned by a winch. They are, however, not fastened to the shaft, but turn loosely thereon. They may be made to turn alternately with the shaft, by means of the shifting-clutch H, which slides on the shaft, always turning with it, however. This clutch is made to shift by means of the lever H, which works into a groove in the clutch, and is operated by a rod, I¹, and lever, I², so placed as to be in reach of the person operating the winch. Thus, by turning the winch continuously in one direction, and shifting the clutch from one cylinder to the other, as the buckets alternately arrive at the top of the well, and discharge their contents, the cylinders will be caused alternately to revolve; the disengaged one being turned by the weight of the bucket, but controlled by the rope thereto attached from the upper cylinder. As the upper cylinders are upon one shaft, the rope from one will be wound up as that from the other is unwound. Thus one bucket cannot descend faster than the other rises, as the rope is wound off of the cylinders D and D' only as the chains are wound on to them.

The depth of the well may vary with fluctuations in the level of the water. In order to accommodate this change, the ropes on the cylinders E and E' may be changed in their relative length by means of the clutch K, placed on the shaft of the cylinders E and E'. The connection of the shaft is maintained by the outward pressure of the spring K'. It may be disconnected by pressing on the end of the shaft at L. Thus, by variations made in the relative position of the cylinders E and E', the length of fall of the chains C C may be regulated as desired.

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

The combination of the cylinders D and D', the shaft G, and clutch H, with the cylinders E and E', and shaft L, and clutch K, and ropes F and F', for alternately raising and lowering the buckets B through a distance that may be adjusted as required, by the continuous revolution of the shaft in one direction, substantially as set forth.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

WM. M. PALMER.

Witnesses:

R. MASON,

JOHN S. HOLLINGSHEAD.