

Billings & Hutton,

Windlass Water Elevator,

No 28,342,

Patented May 22, 1860.

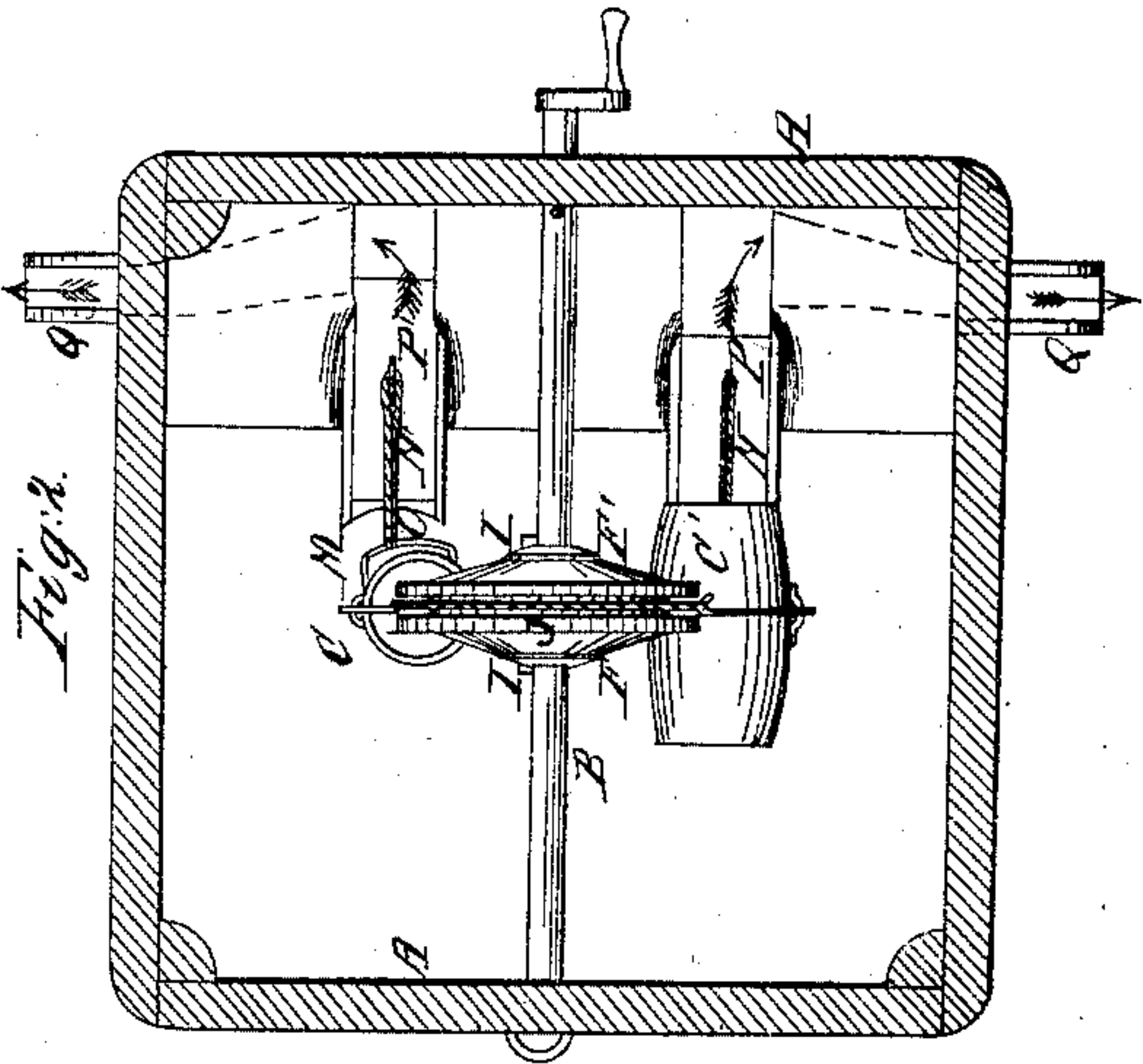


Fig. 3.

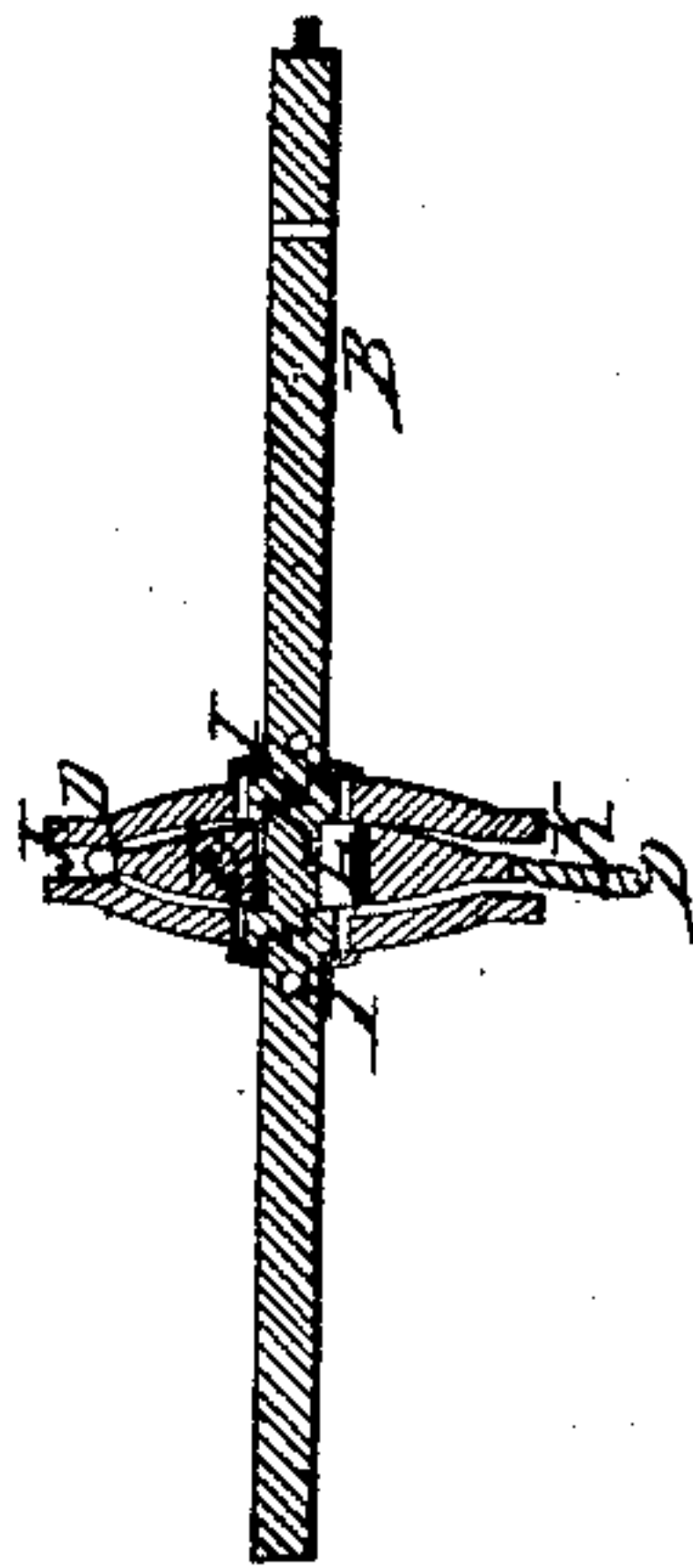


Fig. 4.

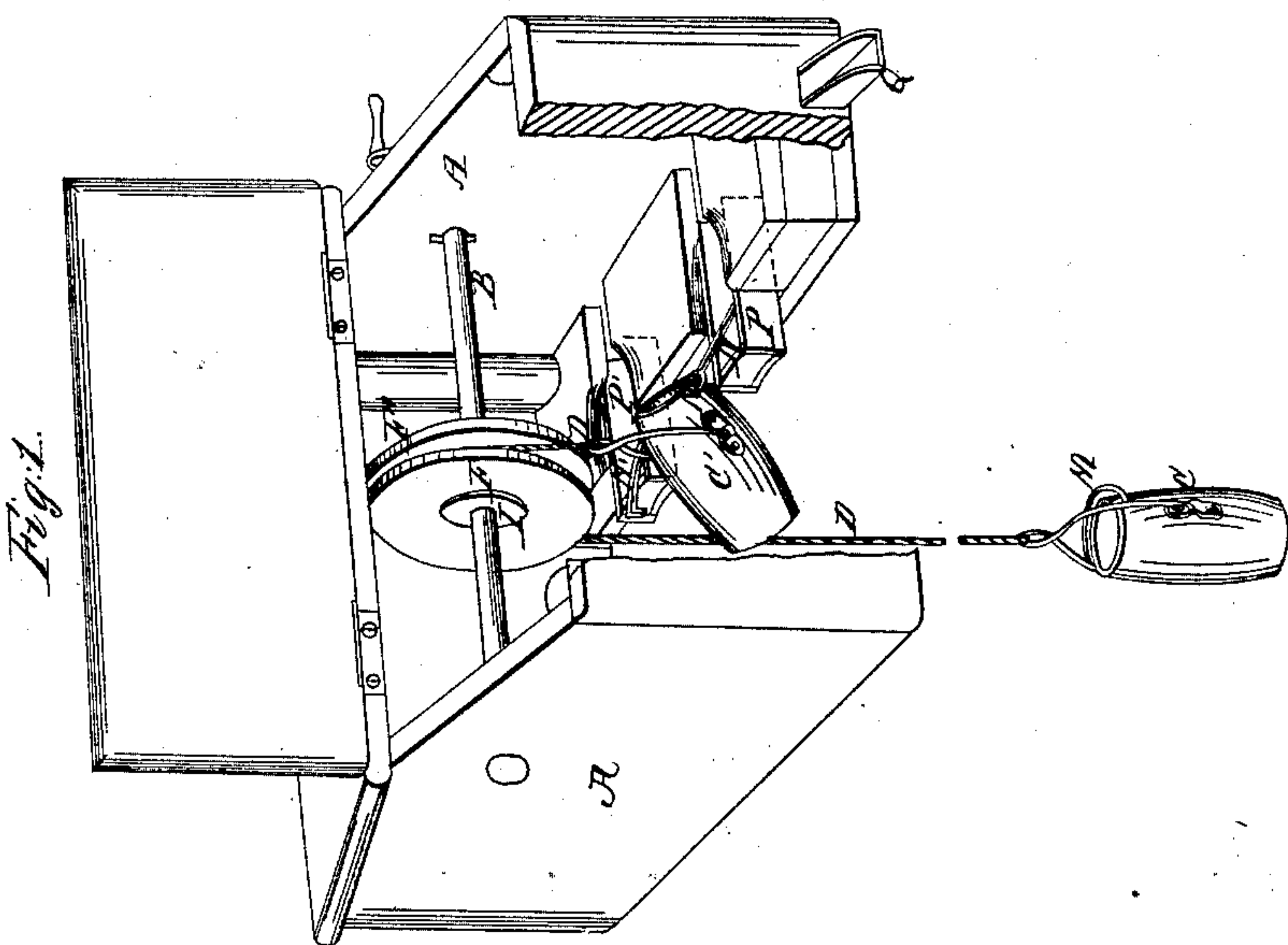
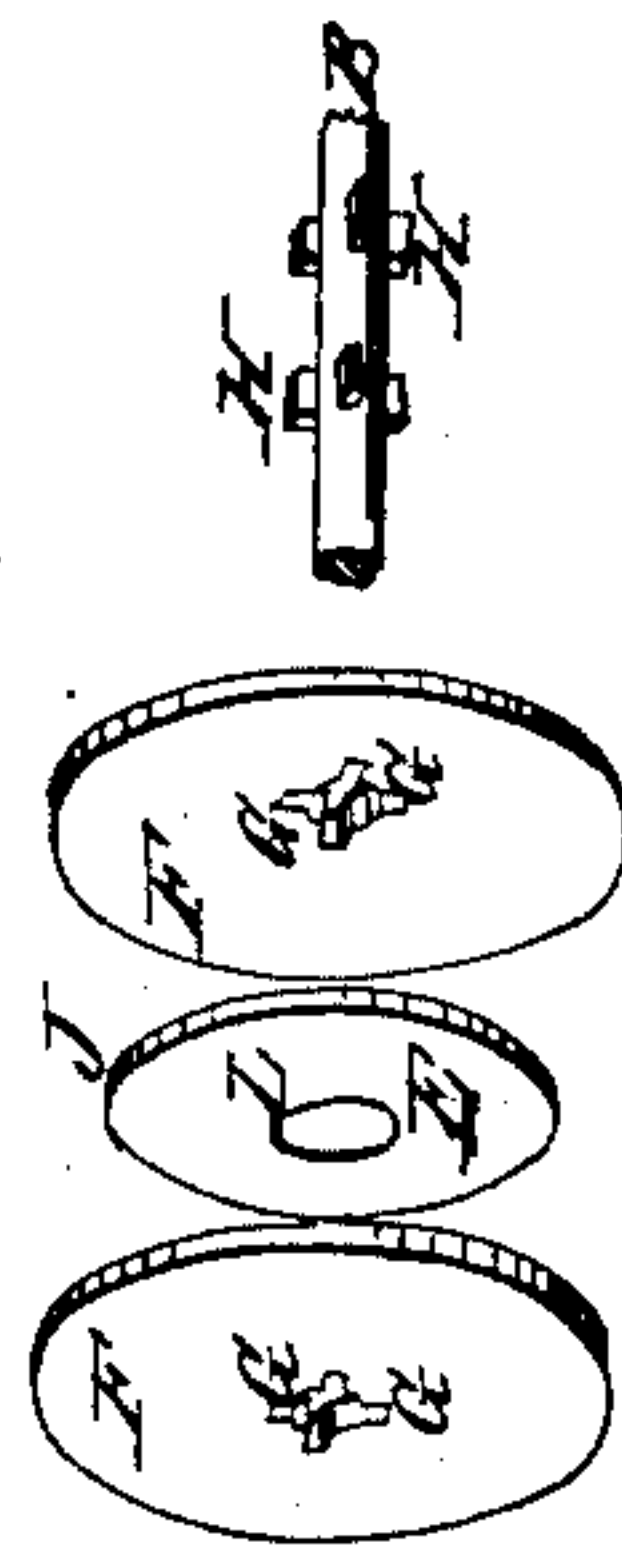


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

G. W. BILLINGS AND W. M. HUTTON, OF CLEVELAND, OHIO.

APPARATUS FOR ELEVATING WATER FROM WELLS.

Specification of Letters Patent No. 28,342, dated May 22, 1860.

To all whom it may concern:

Be it known that we, G. W. BILLINGS and W. M. HUTTON, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented an Improved Method of Raising and Discharging Water from Wells, Cisterns, &c.; and we do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1, is a perspective view of the apparatus. Fig. 2, is a top view. Fig. 3, is a transverse section of the windlass. Fig. 4, is a sectional view of the windlass, seen in perspective. Fig. 5, is a side view of Fig. 3, which will be referred to in the description.

Like letters denote like parts in the several views.

The nature of our improvement relates to a certain arrangement of devices, by which the cord or chain used in raising the bucket will be firmly held from slipping between two revolving disks, which disks are caused to hold the rope by a circular revolving wedge, which so acts upon the disks, as to firmly hold the rope between them. When raising the bucket and discharging the water, and in connection therewith the bucket is so arranged in relation to the spout, that the water is discharged from the well bucket to a sliding spout, or drawer, and after the contents is discharged, the bucket is disengaged from the spout, and causes it to move back in place, as hereinafter described.

The curb A, Figs. 1, and 2, may be made of any desirable form or size, suitable for the object designed. The shaft B, has its bearings in the sides of the curb, and to the shaft is attached a crank, for the purpose of operating it, in raising, and discharging the water by means of the buckets O, C'.

The bail is hinged to each bucket a little above the center, so that the bucket will hang in a vertical position when suspended, by the rope D, as seen at C, in Fig. 1, and will also allow the bucket to be tipped from a vertical position seen at C, to an inclined, or horizontal position, seen at C', C', Figs. 1, and 2, which allows the water to be raised, and discharged from the buckets.

The rope D passes over the periphery of the revolving wedge E, as seen in Figs. 3, and 4, on each side of which are placed the adjustable disks F, F'. From the eye of

the disks extend four slots G, or their equivalents, which receive the four radial arms, or lugs H, or their equivalents, on the shaft B, Figs. 3, 4 and 5. These lugs are tapering inward toward the wedge E, to which corresponds the slots G, as seen in Fig. 3. This tapering of the lugs H, and slots G, cause the disks to move toward each other, as the eye of the disks fit loosely upon the shaft, as does also the lugs, and slots, but by means of the lugs, the disks are revolved by turning the shaft B. The washers, and pins I, I, prevent the disks from moving off from the lugs outwardly, and the wedge E, from slipping inwardly, thus the disks are retained in place upon the shaft.

In the process of raising water, a bucket is attached to each end of the rope or chain, which passes over the wedge E, between the disks F, F', as seen in Fig. 3. In this operation, the weight of the water in the bucket, by means of the rope, is transmitted from the bucket C, to the top of the revolving wedge at J, which causes the wedge to be forced down, vertically, between the disks. By this action of the wedge, the disks on the under side of the shaft, are caused to open at K, Fig. 3, and to close correspondingly at J, above the shaft. Thus the rope is firmly held, as by a clamp between the disks, above the shaft as the disks turn in raising the buckets. As the eye L, of the wedge is larger than the shaft, it allows the wedge to be continually pressing down, between the disks as they turn. The bearings of the disks upon the shaft and lugs act as the fulcrum, upon which the disks are moved laterally by the wedge, and by which they are revolved, with the shaft. The wedge revolves with the disks but turns eccentrically to them as indicated at E, Fig. 5, which shows the relative position of the wedge.

Connected to one side of each bucket is a loop M, Figs. 1, and 2 which attaches itself to the hook N, as the bucket is drawn up in contact with it, as seen at O, Fig. 2. The bucket being thus hooked the mouth of it is held, while the bucket is being tipped, as seen at C', in Figs. 1 and 2. It is so raised by the windlass that all the water is discharged from the buckets into the drawer P, to which is connected the hook N.

In the operation of the bucket, attaching itself to the hook N, the drawer P, is drawn out from the position, seen at P', to P, so as

to receive all the water from the bucket as it is tipped in raising. As soon as the water is discharged from the bucket, and it begins to descend, the bucket is relieved from the hook, and in so doing, the part of the bucket below the bail joint, is brought in contact with the outer end of the drawer P, as the bucket tends to its vertical position, thereby causing the drawer to be pushed in by the action of the bucket. From the position seen at P, to that of P', the operation of the bucket C, with the hook N', and drawer P', is the same, as that described of the bucket C'. The buckets in raising and discharging water operate alike, but alternately. The water passes from the drawers P, P' to the spouts Q, as indicated by the arrows in Fig. 2. A flat belt or chain, may be connected with the buckets, by which the loop M, will always be brought in contact with the hooks N, N'. As the belt is entirely between the disks, it will be turned with its flat side to

the periphery of the wedge, thereby causing the loops and hooks to be brought in contact.

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What we claim as our improvement, and desire to secure by Letters Patent, is—

1. The arrangement of the disks F, F', with the radial slots G, and revolving wedge E, in combination with the radial arms, or lugs H, shaft B and rope D, the whole being constructed, substantially as set forth, for the purpose described.

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2. The sliding drawers P, P', hooks N, N', and loops M, M', when specially arranged as herein described, and operating conjointly, in combination with a windlass and buckets, in the manner and for the purpose set forth.

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Witnesses:

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