

No. 685,054.

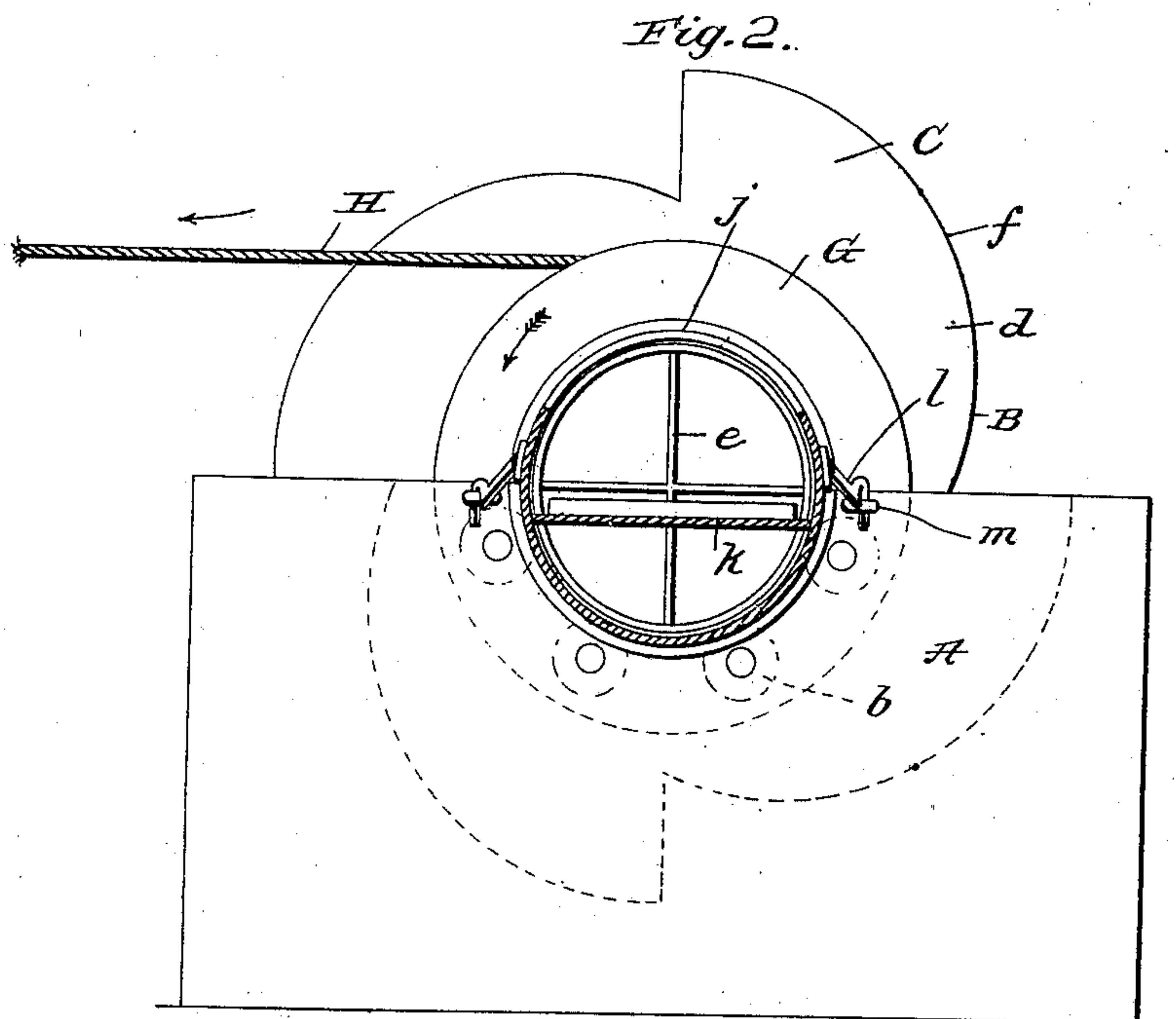
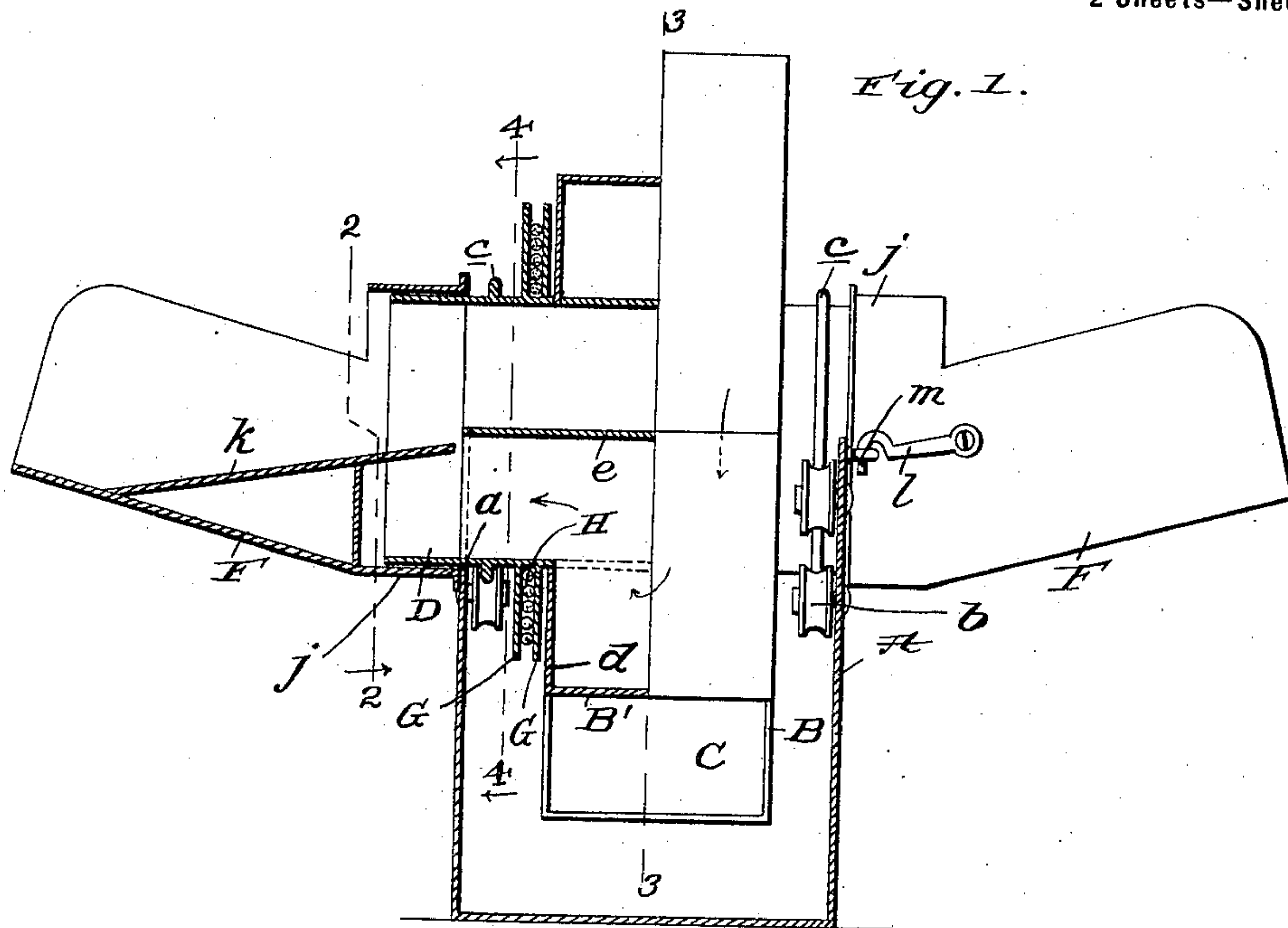
Patented Oct. 22, 1901.

A. LE BLANC.
WATER ELEVATING APPARATUS.

(Application filed Mar. 8, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
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2 Sheets—Sheet 2.

Fig. 3.

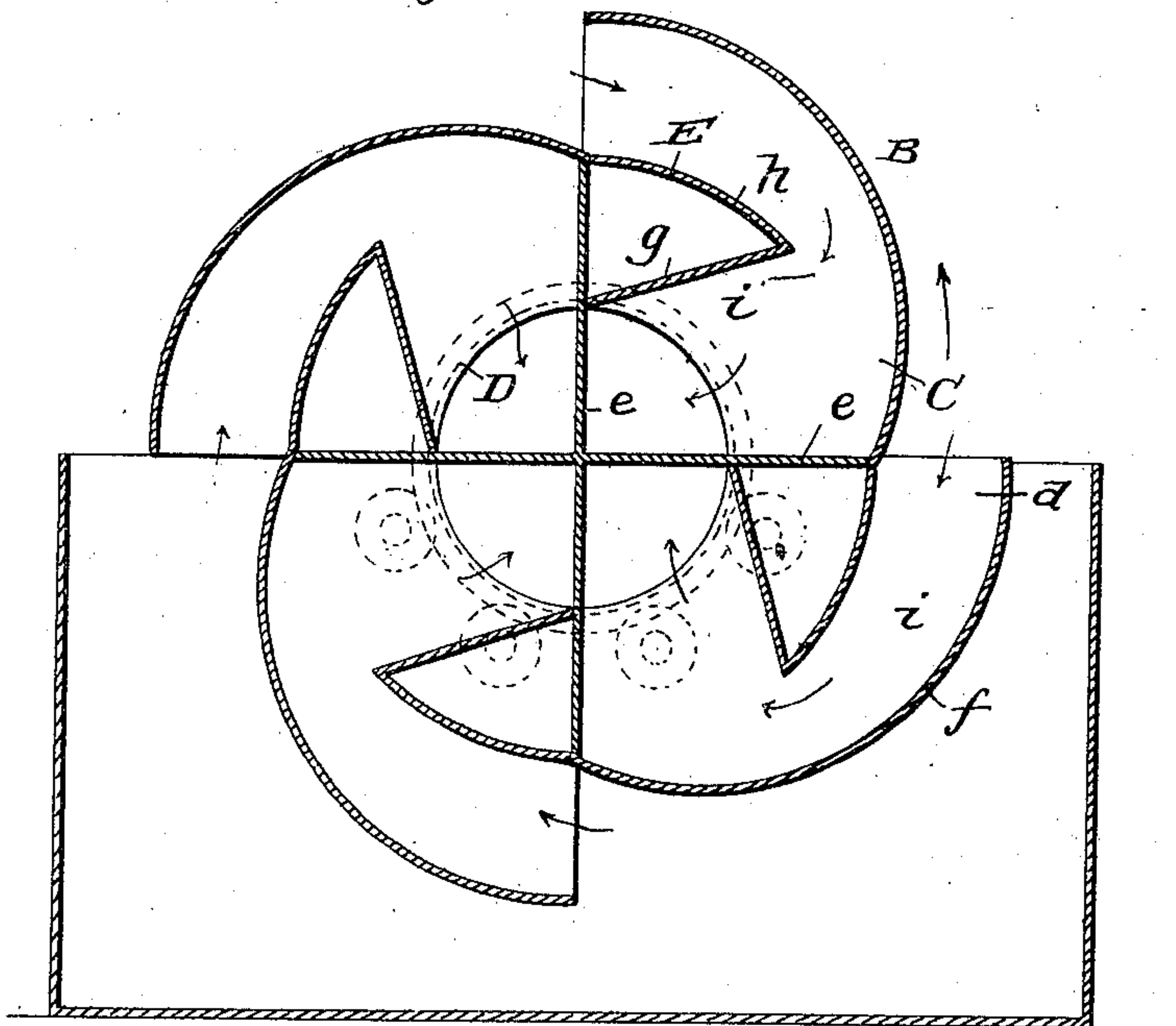
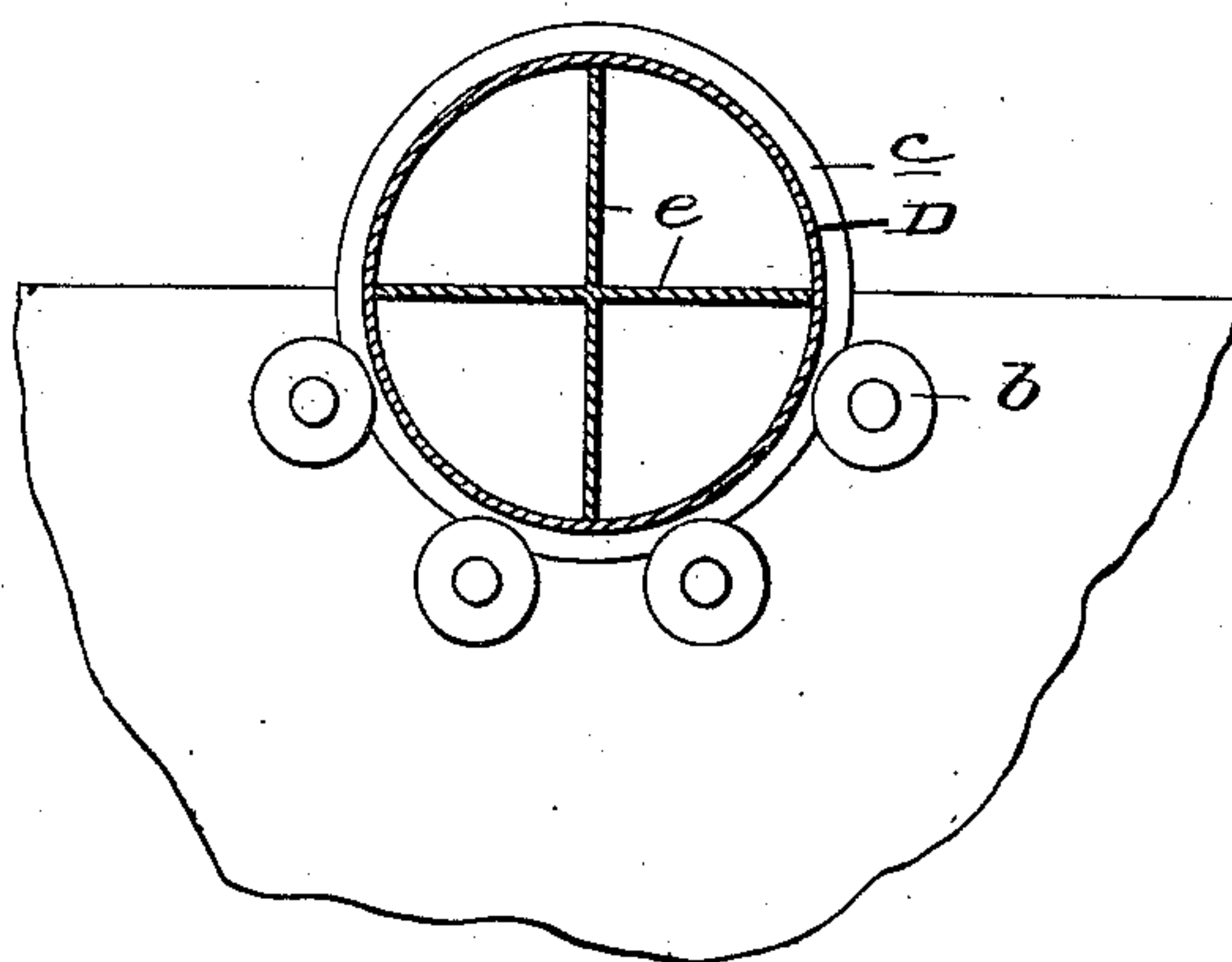


Fig. 4.



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UNITED STATES PATENT OFFICE.

ALFIO LE BLANC, OF NEW ORLEANS, LOUISIANA.

WATER-ELEVATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 685,054, dated October 22, 1901.

Application filed March 8, 1901. Serial No. 50,279. (No model.)

To all whom it may concern:

Be it known that I, ALFIO LE BLANC, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented new and useful Improvements in Water-Elevating Apparatus, of which the following is a specification.

My invention relates to water-elevating apparatus such as used for irrigating and draining purposes, and is designed more particularly as an improvement upon the apparatus disclosed in my Letters Patent, No. 355,329, of January 4, 1887.

It consists in a certain peculiar construction the novelty, utility, and advantages of which will be fully understood from the following description and claims, when taken in connection with the accompanying drawings, in which—

Figure 1 is a front view of my improved apparatus with some of the parts in section and some in elevation. Fig. 2 is a longitudinal section taken in the plane indicated by the broken line 2 2 of Fig. 1. Fig. 3 is a longitudinal central section taken on the broken line 3 3 of Fig. 1, and Fig. 4 is a detail section taken on the broken line 4 4 of Fig. 1.

In the said drawings similar letters of reference designate corresponding parts in all of the several views, referring to which—

A is the support of the rotary drum of my improved apparatus, which is shown in the form of a tank designed to be connected with a suitable source of water-supply and is provided in the upper edges of its side walls with semicircular openings *a* and on the inner sides of said side walls, below the openings *a*, with peripherally-grooved rollers *b*, for a purpose presently described. In lieu of the tank A a support comprising standards similar to the side walls of said tank may obviously be employed when desired, the said support being designed to be arranged in a stream, ditch, or other place from whence water is to be elevated.

B is the rotary drum, which is arranged between the sides of the tank or support A, as best shown in Fig. 1. The said drum is preferably made of sheet metal and comprises a body portion *B'*, having four buckets C and trunnions D, which extend laterally from the opposite sides of the body portion and rest in

the openings *a* in the sides of the tank and are provided with peripheral ribs *c*, arranged to bear on the peripherally-grooved rollers *b*, the latter with a view of holding the drum against lateral play incident to the rotation thereof and reducing the friction to a minimum.

The buckets C are formed by the side walls *d* of the body portion *B'* of the drum, in conjunction with transversely-disposed radial walls *e*, interposed between the said side walls *d* and outer curved walls *f*, each of which extends from the outer end of one radial wall *e* to a point in the same plane and at about the proportional distance illustrated from the outer end of the next forward wall *e* with reference to the direction in which the drum is rotated to elevate water.

In each of the buckets C is located an air-chamber E, which are calculated to render the drum buoyant and remove a portion of the weight thereof from the rollers B, with the result that the drum may be more easily turned than would otherwise be the case. The said air-chambers are formed by walls *g h*, in conjunction with the walls *e*, and the walls *h* are arranged as best shown in Fig. 3, whereby it will be observed that they serve, in conjunction with the side walls *d* and outer walls *f*, to form mouths *i* in communication with the interior of the buckets.

The trunnions D are hollow and communicate with the interior of the body portion *B'* of the drum, and the radial walls *e*, which separate the buckets C, extend about the proportional distance illustrated into the said trunnions for a purpose presently pointed out.

F F are troughs or spouts arranged at opposite sides of the tank or support A and adapted to receive water from the drum B. These troughs or spouts are provided at their inner ends with circular portions *j*, which loosely surround the trunnions D, and they are preferably inclined upwardly from said circular portions, so as to enable them to elevate the water which they receive. The troughs or spouts are also provided with inclined false bottoms *k*, the inner ends of which are arranged in such a plane as to enable them to receive water from each of the buckets C when the rear or bottom wall *e* of each bucket reaches a horizontal position immediately

above their said inner ends. The troughs or spouts may be connected to the tank or support A in any suitable manner, although I prefer to provide them with hooks *l* to engage eyes *m* on the sides of the tank or support, as shown in Figs. 1 and 2.

G G are parallel radial flanges fixed on one of the trunnions D, and H is a cable which is connected at one end to said trunnion and is designed to be wound on the same between the flanges G G after the manner best illustrated in Fig. 1.

The drum B may be readily turned by hand in the direction opposite to that indicated by arrow, since the water will offer little or no resistance to such rotation, and in this way the cable H may be expeditiously wound on one trunnion of the drum. The drum is designed to be rotated to raise water by drawing the cable in the direction indicated by arrow in Fig. 2, and when the drum is so rotated it will be observed that its buckets will take up the water and retain the same until their rear walls *e* reach positions above the inner ends of the false bottoms *k* of the spouts F, when they will discharge it on the said false bottoms to be conveyed by the spouts or troughs to the points of discharge. When desirable, the drum may be rotated by a suitable motor through the medium of a belt passed around the trunnion of the drum between the flanges thereon.

It will be appreciated from the foregoing that but little power is required to rotate the drum of my improved apparatus and that by virtue of the said drum having four buckets it is calculated to raise a large amount of water incident to each rotation; also, that the apparatus as a whole is simple and inexpensive in construction and embodies no parts that are liable to get out of order after a short period of use.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a water-elevating apparatus, the combination of a suitable support, a drum comprising a body, and hollow trunnions extend-

ing laterally in opposite directions from the center thereof, and journaled on the support; the said body having four buckets formed by its side walls in conjunction with transversely-disposed radial walls *e* and outer curved walls *f*, and also having the transversely-disposed radial walls *e* extended into the hollow trunnions, and the discharge spouts or troughs disposed at opposite sides of the drum, and having the bottoms *k* extending within the trunnions thereof, and arranged so as to receive water from the rear transverse wall of each bucket when said transverse wall in its upward movement reaches a horizontal position.

2. In a water-elevating apparatus, the combination of a support comprising uprights having semicircular openings in their upper edges and also having peripherally-grooved antifriction-rollers arranged immediately below said openings, the drum comprising a body, and hollow trunnions extending laterally in opposite directions from the center thereof and through the semicircular openings of the supporting-uprights, and having peripheral ribs bearing on the antifriction-wheels of the uprights; the said body having four buckets formed by its side walls in conjunction with transversely-disposed radial walls *e* and outer curved walls *f*, and also having the transversely-disposed radial walls *e* extended into the hollow trunnions, and the discharge spouts or troughs having inner circular portions connected to the uprights of the support, and loosely receiving the hollow trunnions, and also having the bottoms *k* extending within the trunnions and arranged so as to receive water from the rear transverse wall of each bucket, when said transverse wall in its upward movement reaches a horizontal position.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ALFIO LE BLANC.

Witnesses:

JOHN CLESSI,
M. A. GLARFE.