

G. S. FOLLENSBEE.

Rotary-Pumps.

No. 158,480.

Patented Jan. 5, 1875.

FIG. 1.

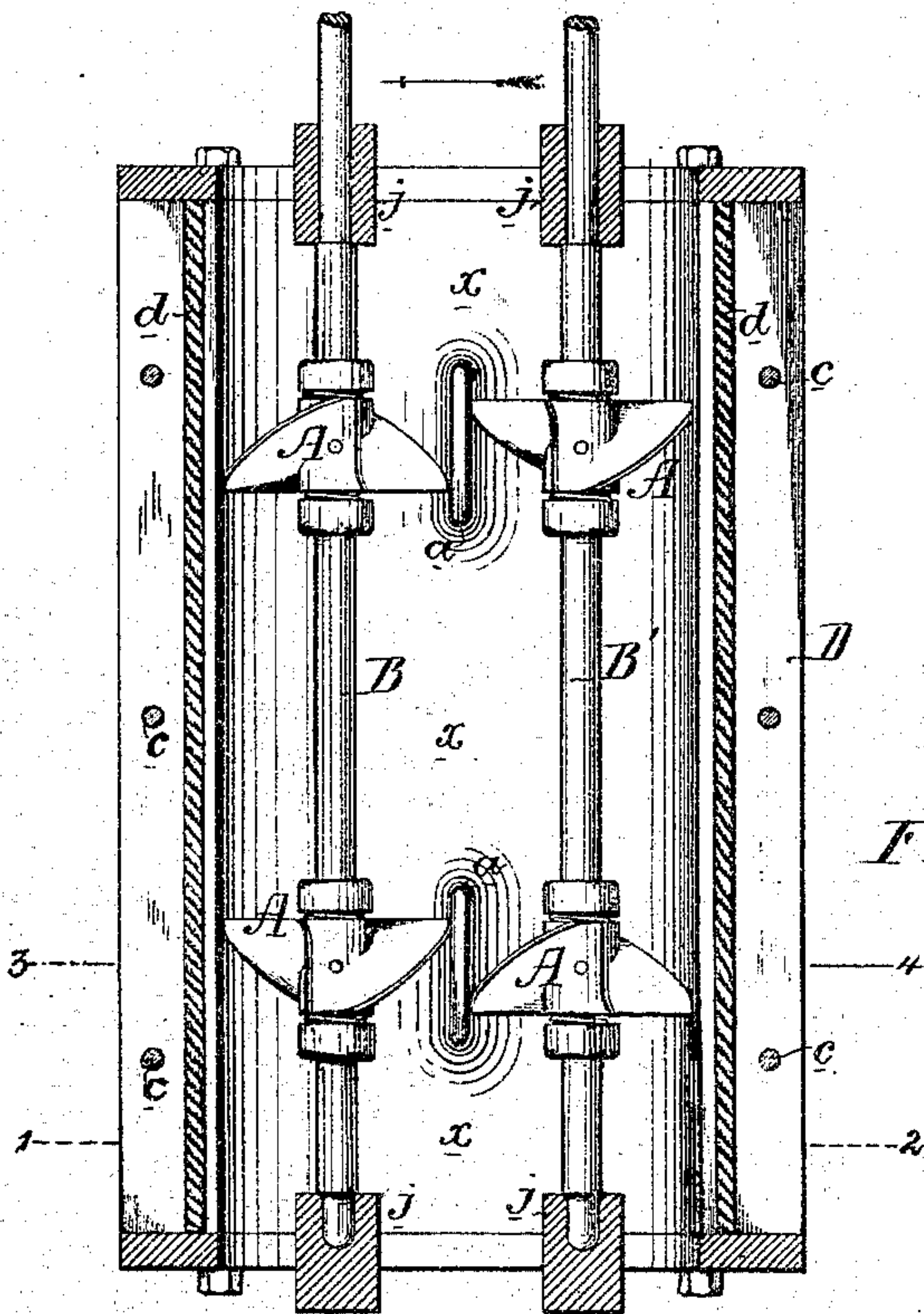


FIG. 3.

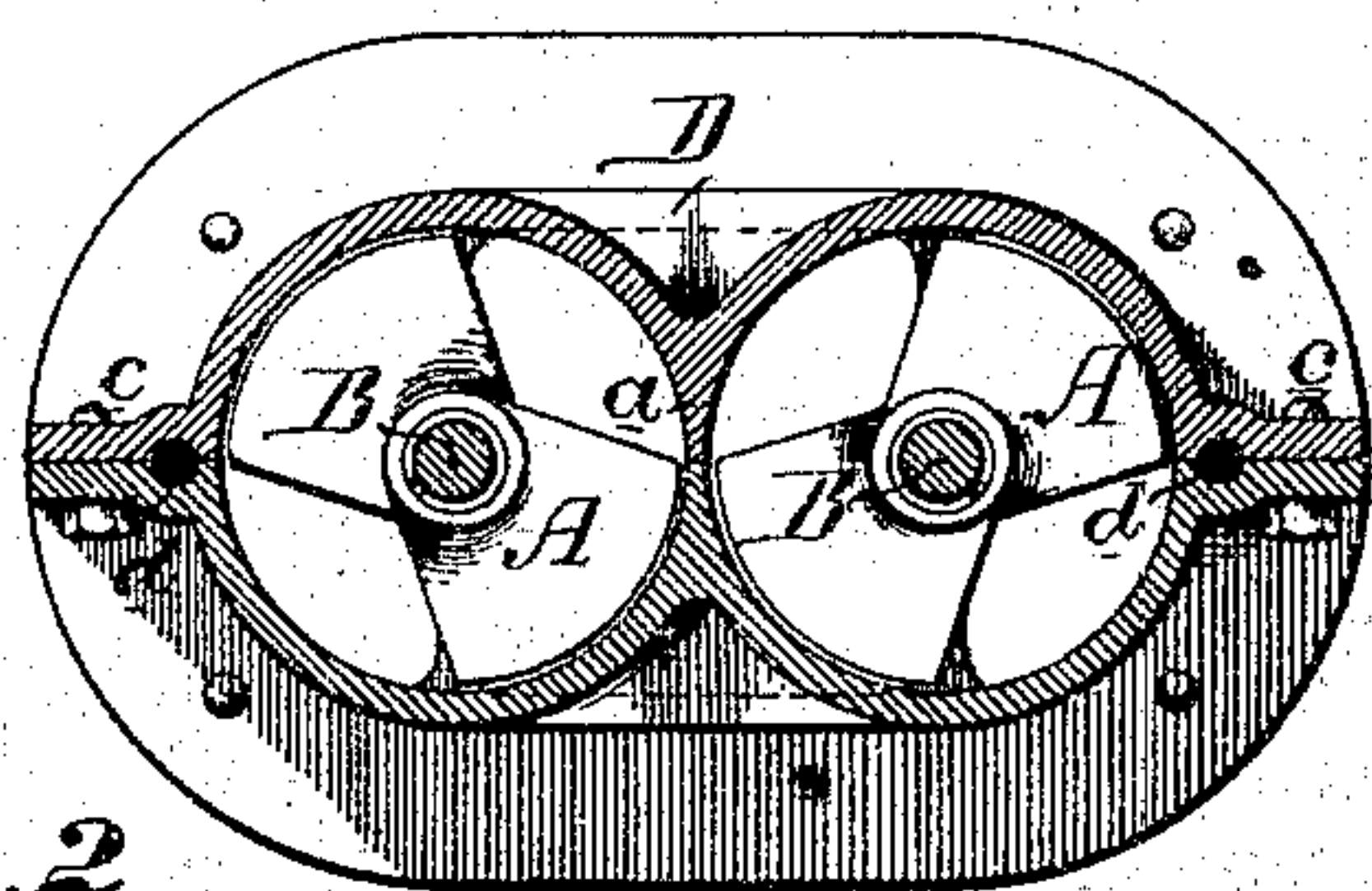


FIG. 2.

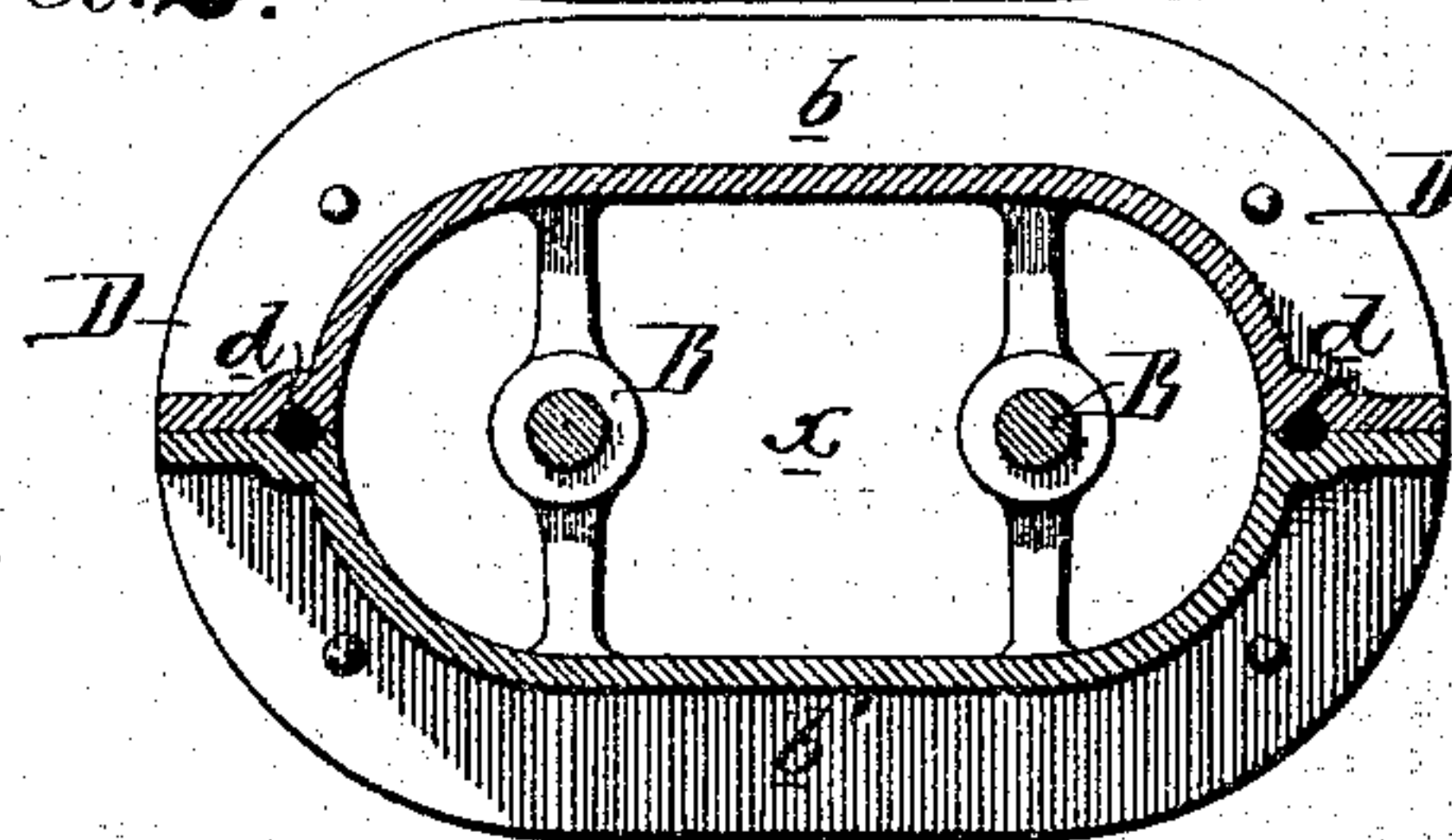


FIG. 4.

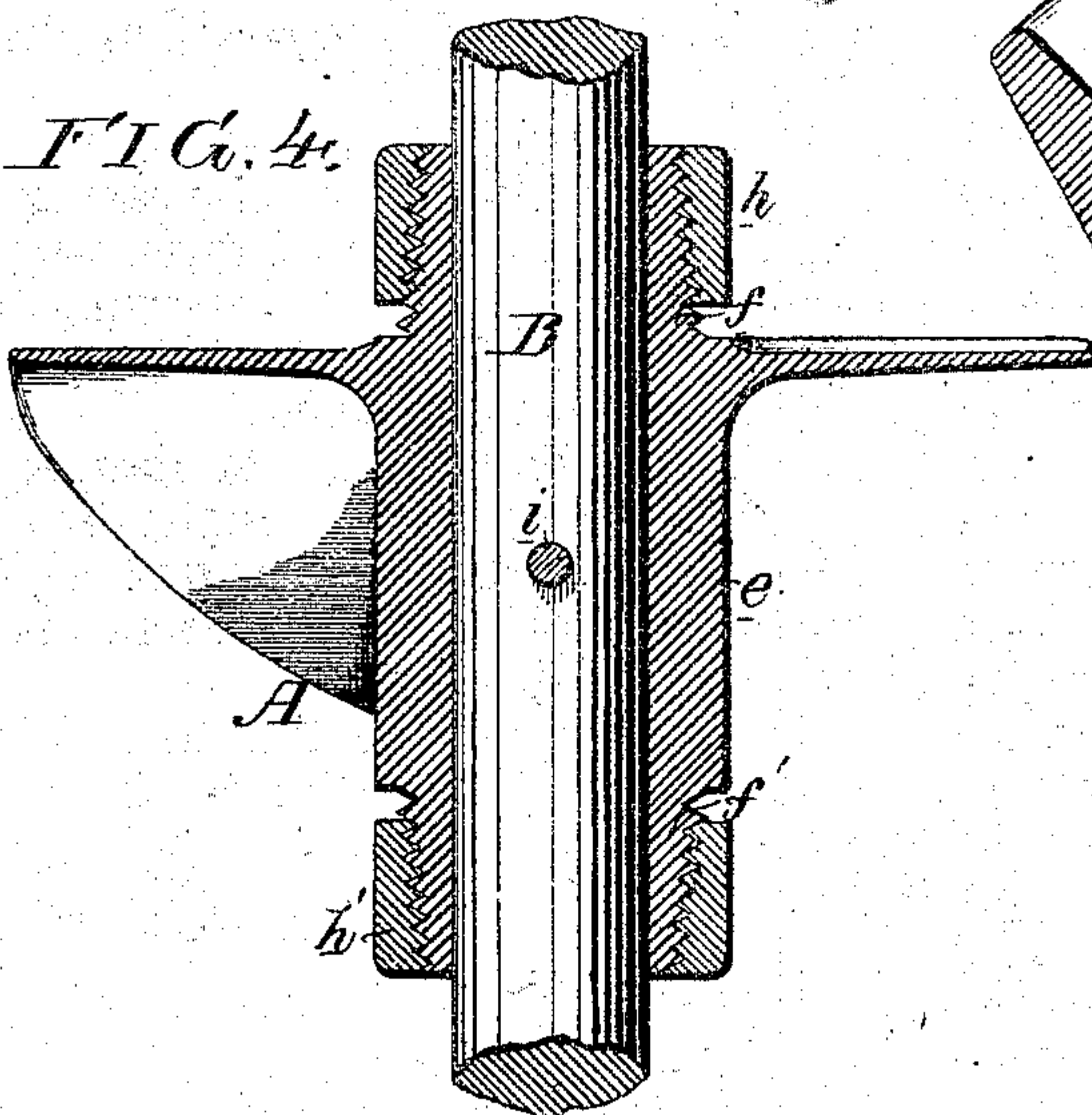
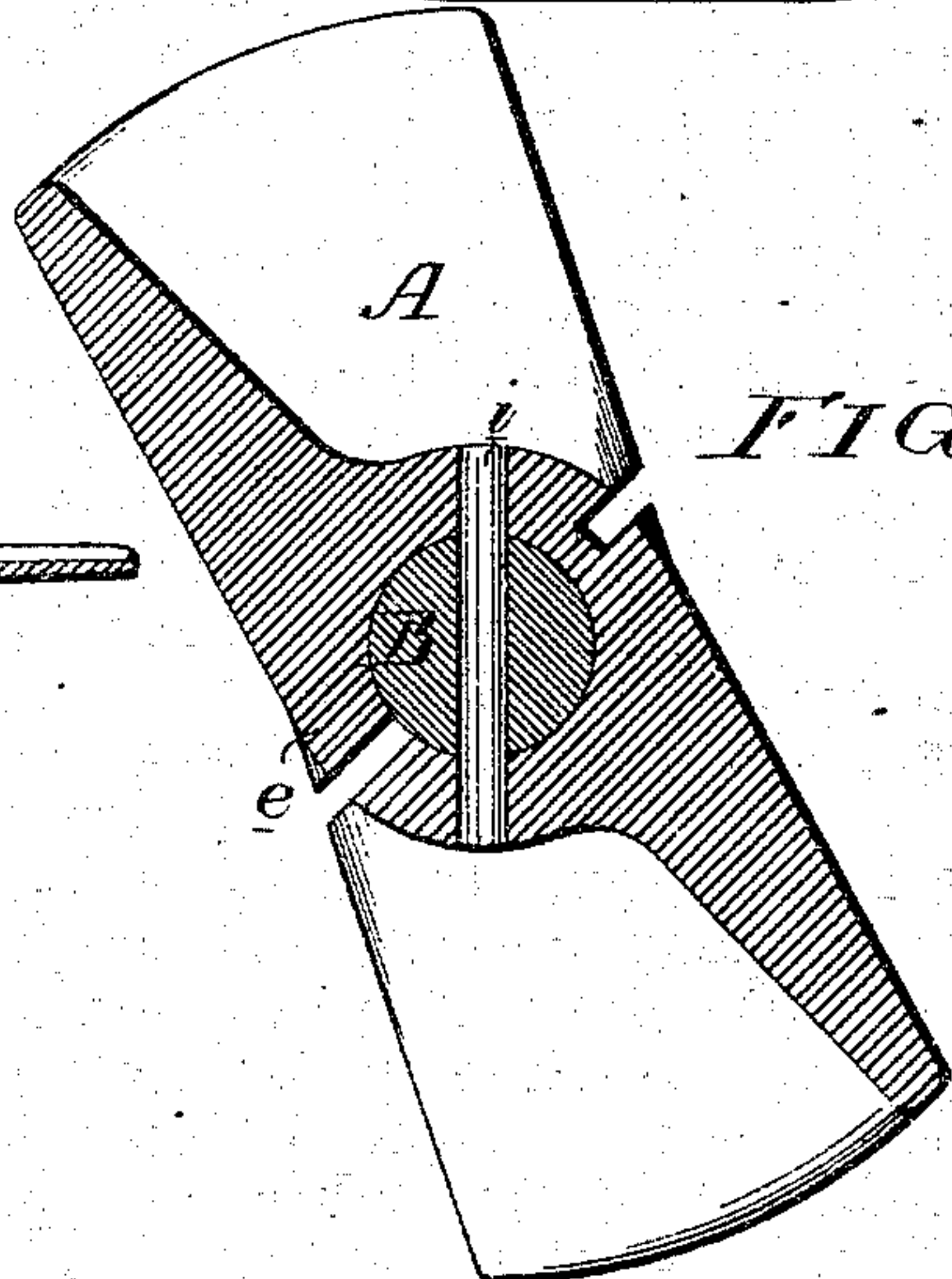


FIG. 5.



Witnesses, Harry Smith
Thomas McIlvain

Geo. S. Follensbee
by his Atty.
Howson and Son.

UNITED STATES PATENT OFFICE.

GEORGE S. FOLLENSBEE, OF LEWISTON, MAINE.

IMPROVEMENT IN ROTARY PUMPS.

Specification forming part of Letters Patent No. **158,480**, dated January 5, 1875; application filed June 20, 1874.

To all whom it may concern:

Be it known that I, GEORGE S. FOLLENSBEE, of Lewiston, Androscoggin county, Maine, have invented an Improvement in Rotary Pumps, of which the following is a specification:

My invention relates to that class of rotary pumps in which the fluid is elevated by the revolution of propellers within a casing; and the main object of my invention is to force the water directly upward through the casing, and to counteract the whirling motion usually imparted to it by the propellers—an object which I attain by securing the propellers A to two parallel shafts, B B', caused to revolve in the same direction within a casing, D, of the oblong or elliptical sectional form, (best observed in the sectional plan view, Fig. 2,) on the line 1 2 of the sectional elevation, Fig. 1, of the accompanying drawing. Further objects of my invention are to facilitate the packing of the joints of the casing.

The casing D consists of two or more flanged sections, *b* and *b'*, secured together by bolts *c*, the adjoining faces of the said sections being longitudinally grooved in the manner best observed in Figs. 1 and 2 for the reception of rope or other round packing *d*, which, when thus secured, not only prevents leakage, but permits adjustment of the sections toward and from each other, and thus insures their parallelism. The shafts B and B' turn in suitable bearings *j* within the casing, and are arranged to be simultaneously and rapidly rotated in the same direction by any suitable system of gearing not shown in the drawing. The propellers A are arranged at intervals upon the shafts, and at points directly opposite each other, a partition, *a*, of the casing extending between the propellers of each pair, so that each propeller shall act independently of the others, and within a cylindrical portion

of the casing, as best observed in Fig. 3, which is a sectional plan on the line 3 4, Fig. 1. The portions *x* of the casing, however, above and below the propellers, are entirely open in the center, and are of the oblong or elliptical sectional form shown in Fig. 2, so that, although the water is separated into two columns at the point where it passes each pair of propellers, and has an upward-whirling motion imparted to it by the latter, these columns freely communicate with each other in the oblong portion of the casing immediately above the said propellers, and become thoroughly commingled therein, the whirling movement being thus counteracted, and the water passing directly upward to the next pair of propellers, by which it is again elevated, and so on to the outlet. The propellers may be secured to their shafts in any suitable manner, but I prefer the plan represented in the drawings, but not herein claimed, as it will form the subject of a separate application for Letters Patent.

I claim as my invention—

1. The combination of the casing D of oblong or elliptical sectional form, its partitions *a* and parallel shafts B B', carrying propellers A A, arranged adjacent to the said partitions, substantially as described.

2. The combination of the flanged sections *b b'* of the casing, the longitudinal grooves formed in the same, and the rope packing *d*, adapted to said grooves, all as and for the purpose described.

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

GEORGE S. FOLLENSBEE.

Witnesses:

FRED. KELLEY,

FRED. E. BICKFORD.