

(No Model.)

L. A. BRIGEL.
BOTTOM WHEEL FOR WATER ELEVATORS.

No. 555,924.

Patented Mar. 10, 1896.

Fig. 1.

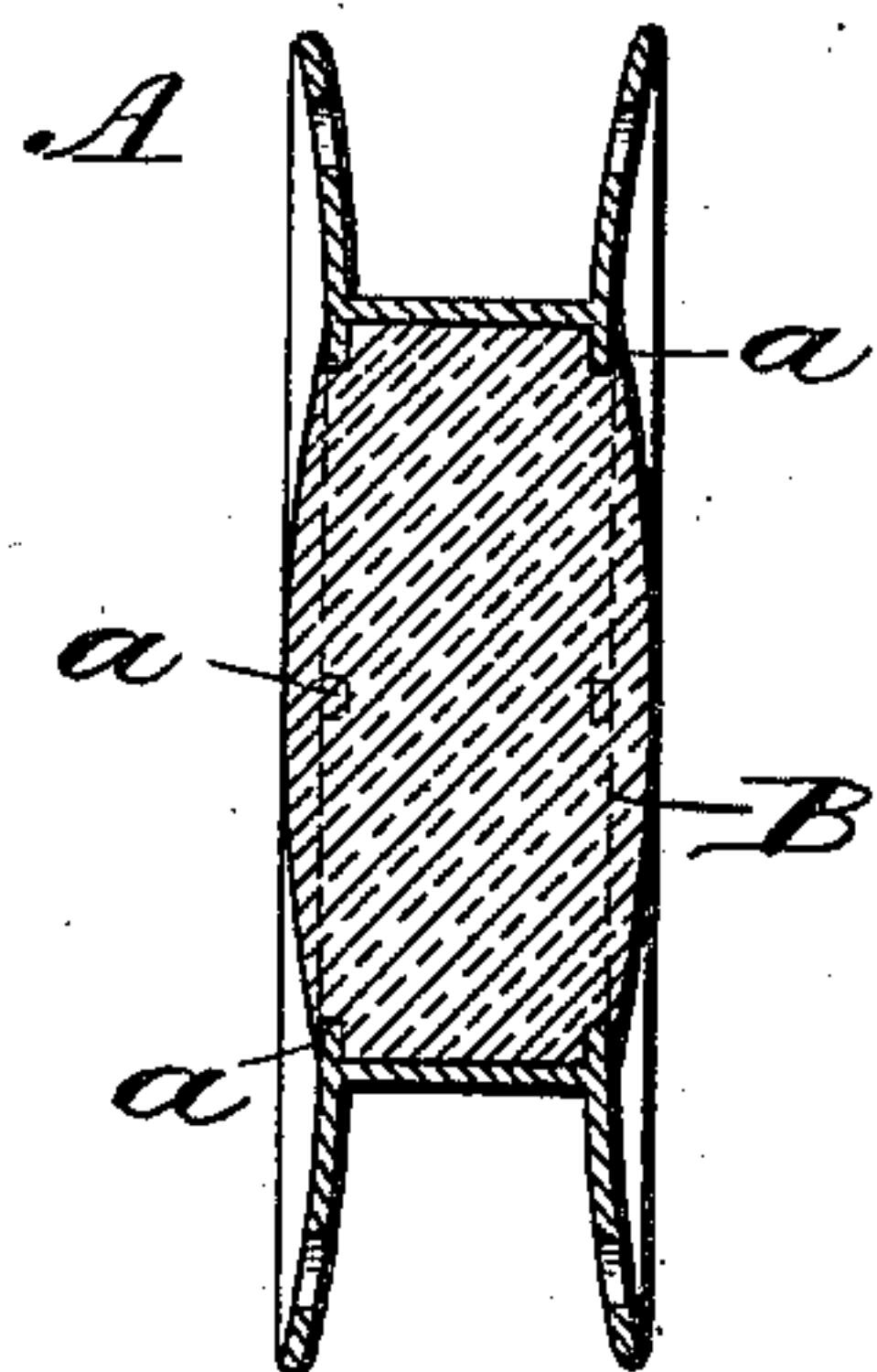


Fig. 2.

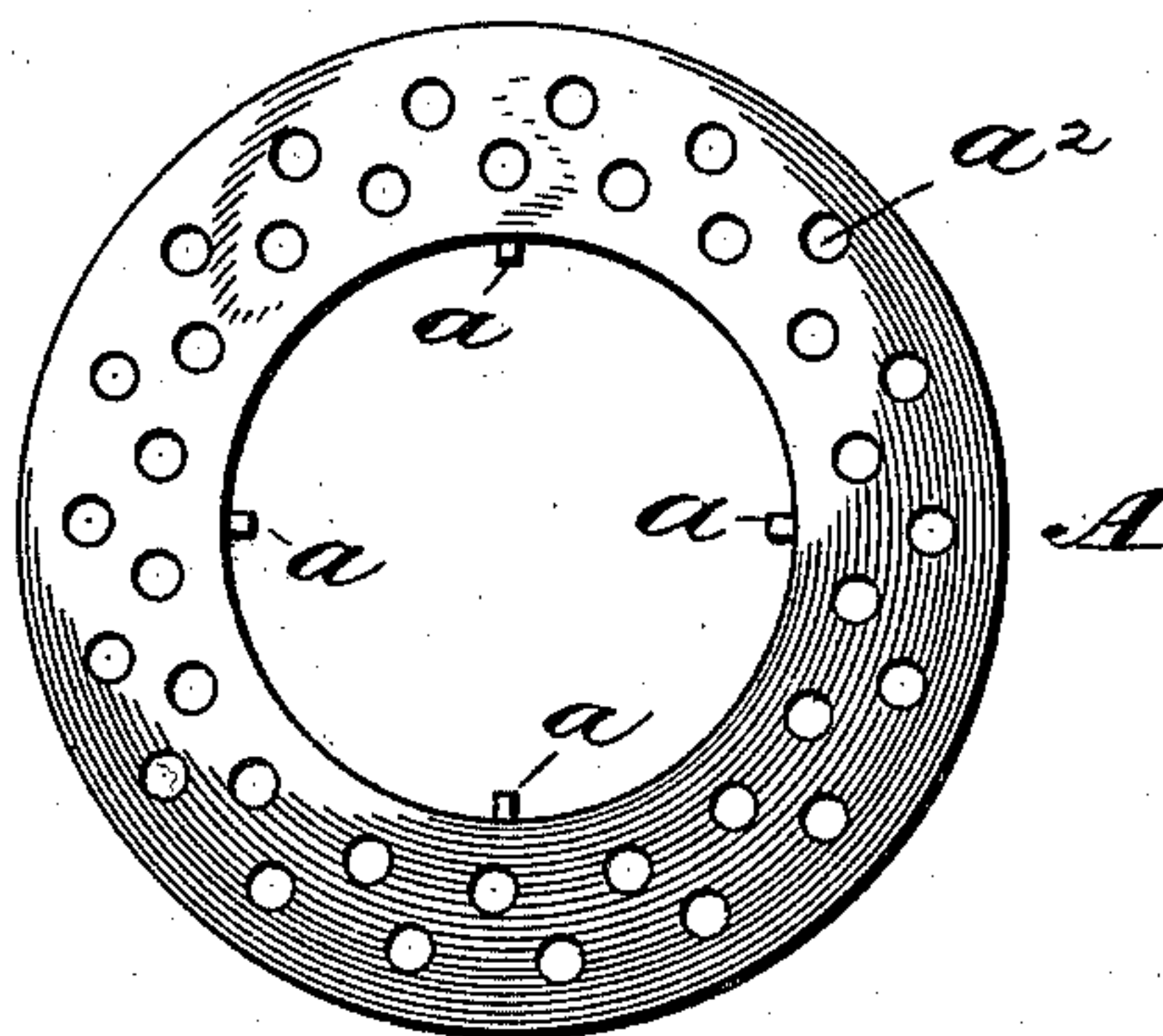


Fig. 3.

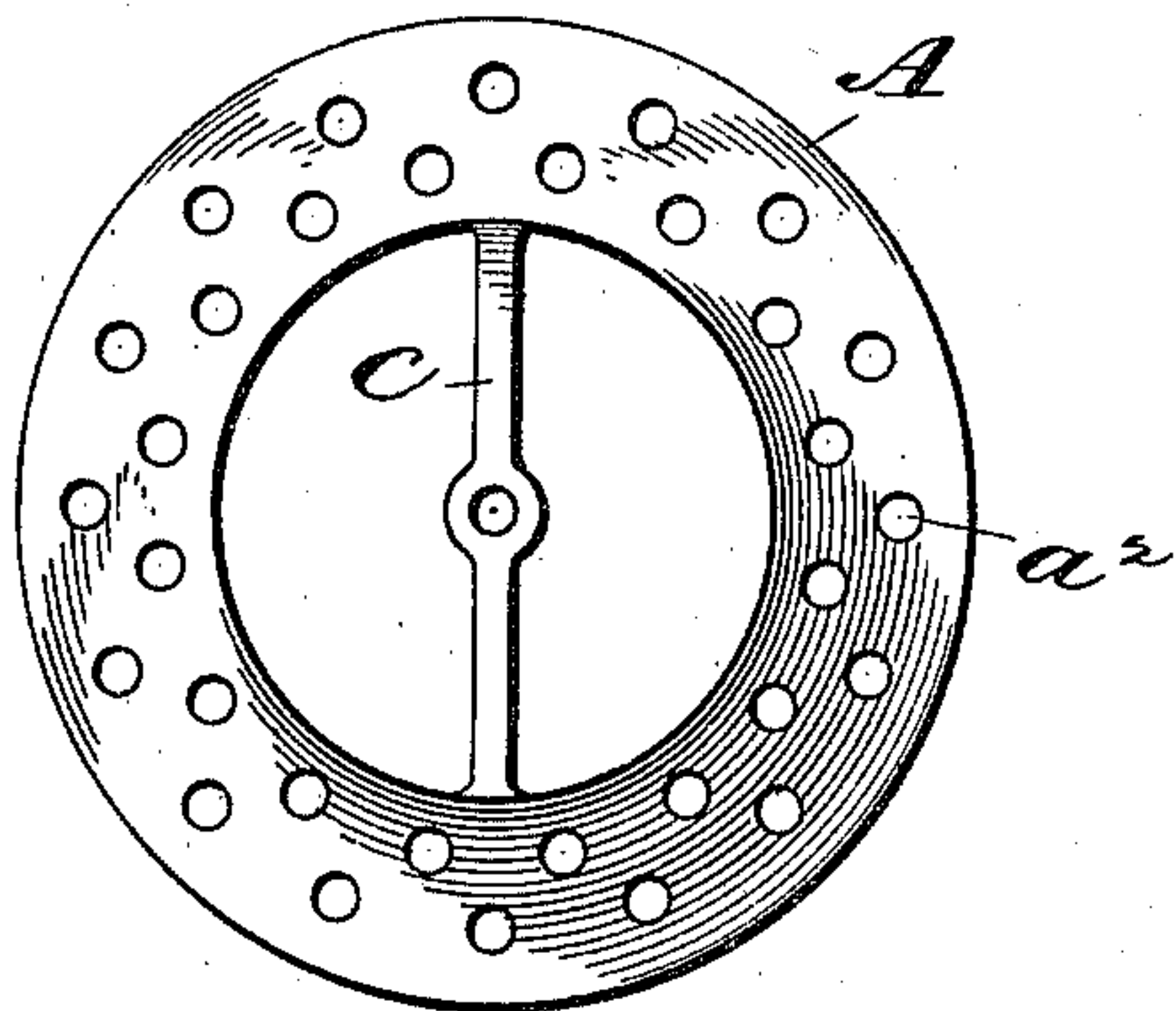
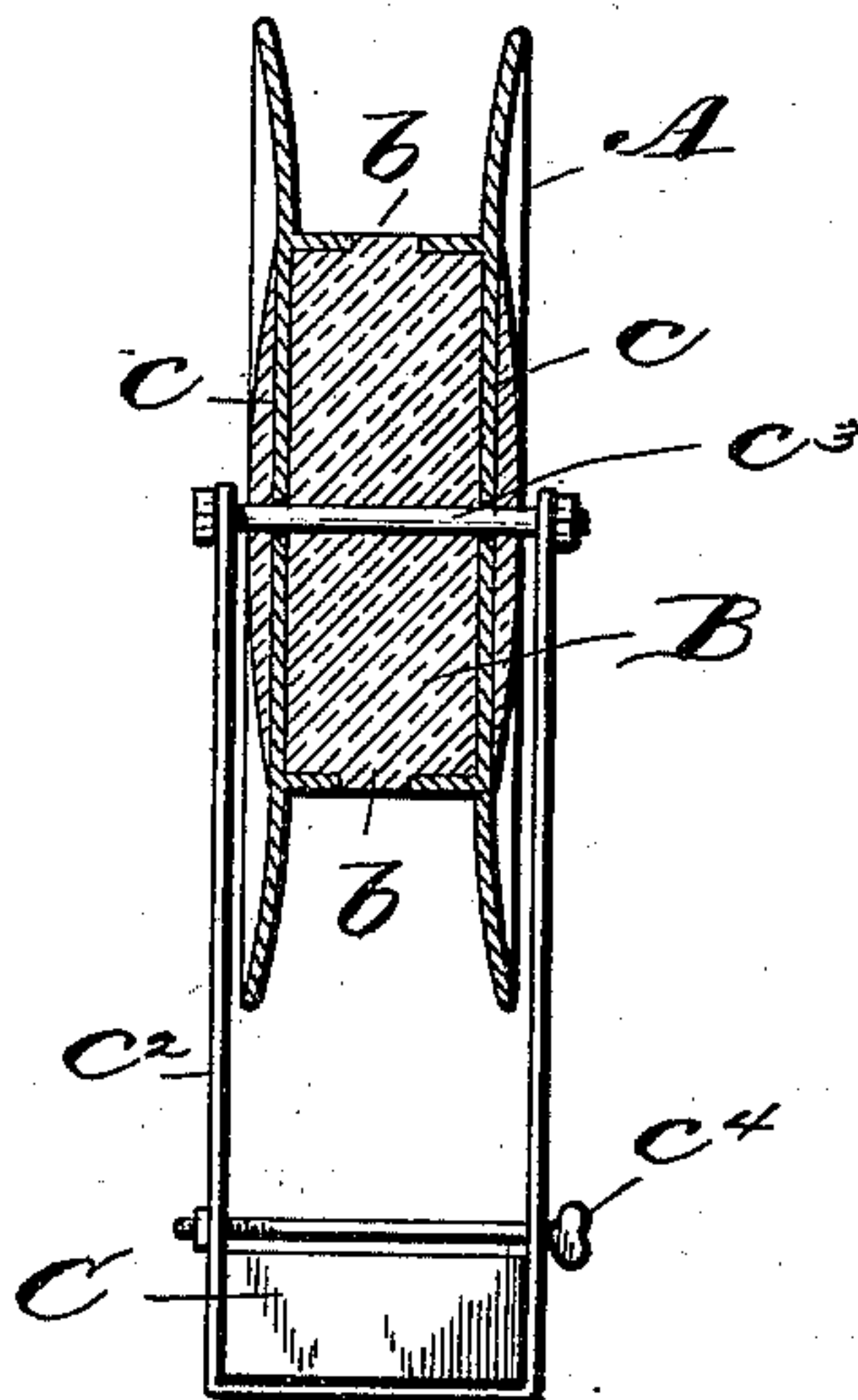


Fig. 4.



WITNESSES:

Thomson Cross.
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INVENTOR

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UNITED STATES PATENT OFFICE.

LEO A. BRIGEL, OF CINCINNATI, OHIO, ASSIGNOR TO THE BUCKET PUMP COMPANY, OF SAME PLACE.

BOTTOM WHEEL FOR WATER-ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 555,924, dated March 10, 1896.

Application filed October 8, 1894. Serial No. 525,264. (No model.)

To all whom it may concern:

Be it known that I, LEO A. BRIGEL, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Bottom Wheels for Water-Elevators, of which the following is a specification.

My invention relates to improvements in bottom wheels for water-elevating devices.

The object of my invention is to provide effective, inexpensive and convenient means for securing weights in and to the bottom wheels of water-elevators in order to hold the endless chain taut in deep wells or bodies of water.

In the drawings, Figure 1 is a sectional view of a cast-iron wheel, showing the filling held in position by retaining-lugs. Fig. 2 is side view showing the hole into which the filling is inserted and the lugs adapted to hold it in place. Fig. 3 shows cross-bars integral with the wheel to support a supplemental weight and hold the filling from coming out of the wheel. Fig. 4 is a sectional view of the wheel, showing the filling retained in position by depressions or holes and also a supplemental weight and means for securing it securely to the wheel.

Similar reference-letters refer to like parts in all the figures.

The cast-metal wheel A is made with a large hole in its center for the reception of the filling B, which is held firmly in place in said hole by the retaining-lugs *a*. I have also shown the filling held in place by forcing it, while in a plastic condition, into the holes or depressions *b*, as shown in Fig. 4. When it is desired to add more weight to the wheel in very deep wells the filling may be secured in position by cross-bars *c* made integral with the wheel and adapted to support weight attached, as shown in Fig. 4 and hereinafter described. The filling, which may consist of any desired composition which will give the required weight, is placed in the large hole in the center of the wheel while in a plastic condition, and when it becomes hard is held securely in place by the means above set forth.

The supplemental weight C is hung in a bar or strip of wrought metal *c*², having the upper ends secured to and depending from a bolt *c*³, as shown in Fig. 4. The weight C, which is preferably a brick, is held securely in place by drawing the vertical portions of the bar *c*² toward each other by the screw or bolt *c*⁴, thus binding the weight and preventing it from falling out.

These bottom wheels are constructed with large flanges to prevent the chain carrying the buckets from coming off, and the flanges have holes *a*² to permit the distribution of air laterally from inverted buckets on the endless chain as they pass round the wheel between the flanges, and also for the purpose of providing places to attach a grapple if the chain should break or for any reason should be dropped into the well.

I am aware that cast wheels having flanges and provided with holes through the center are well known, and that composition filling has been used to make wheels heavier, as shown by my Patent No. 342,325, of May 25, 1886, and I do not, therefore, claim the wheels as such, or the filling placed therein; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. The combination, in a bottom wheel for water-elevators, of the flanged wheel A, retaining-lugs *a* integral with said wheel, and inner filling B, substantially as described and for the purpose specified.

2. The combination, in a bottom wheel for water-elevators, of the cast wheel A, retaining-lugs *a*, cross-bars *c* and inner filling B, substantially as described and for the purpose specified.

3. The combination, in a bottom wheel for water-elevators, of the wheel A, cross-bars *c*, axle *c*³, yoke *c*², supplemental weight C and set-screw *c*⁴, substantially as described and for the purpose specified.

LEO A. BRIGEL.

Witnesses:

A. B. SUDHOFF,
JAMES N. RAMSEY.