

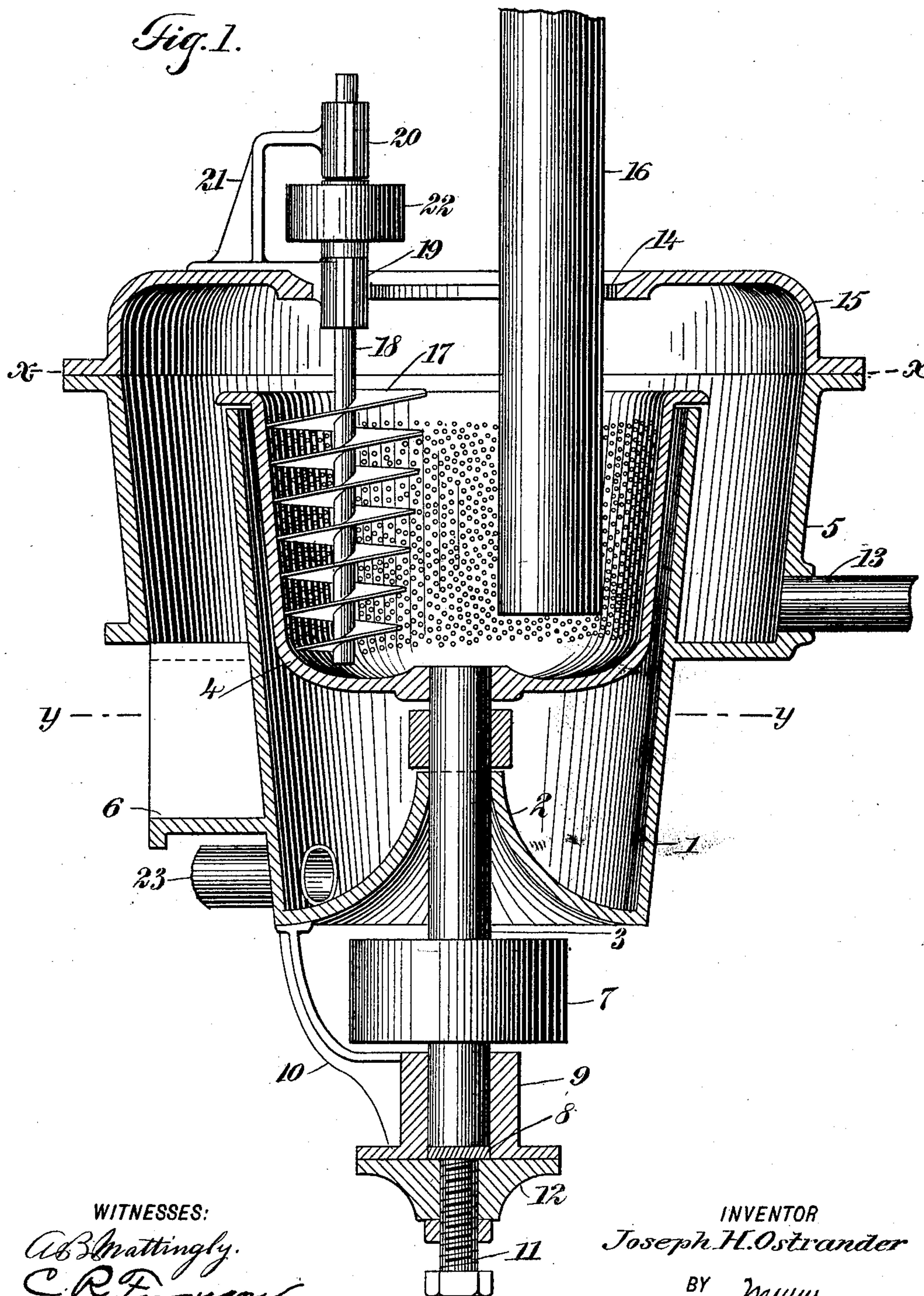
No. 754,796.

PATENTED MAR. 15, 1904.

J. H. OSTRANDER.  
CENTRIFUGAL MACHINE.  
APPLICATION FILED JULY 15, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:  
*A. B. Mattingly.*  
*C. R. Ferguson*

INVENTOR  
*Joseph H. Ostrander*  
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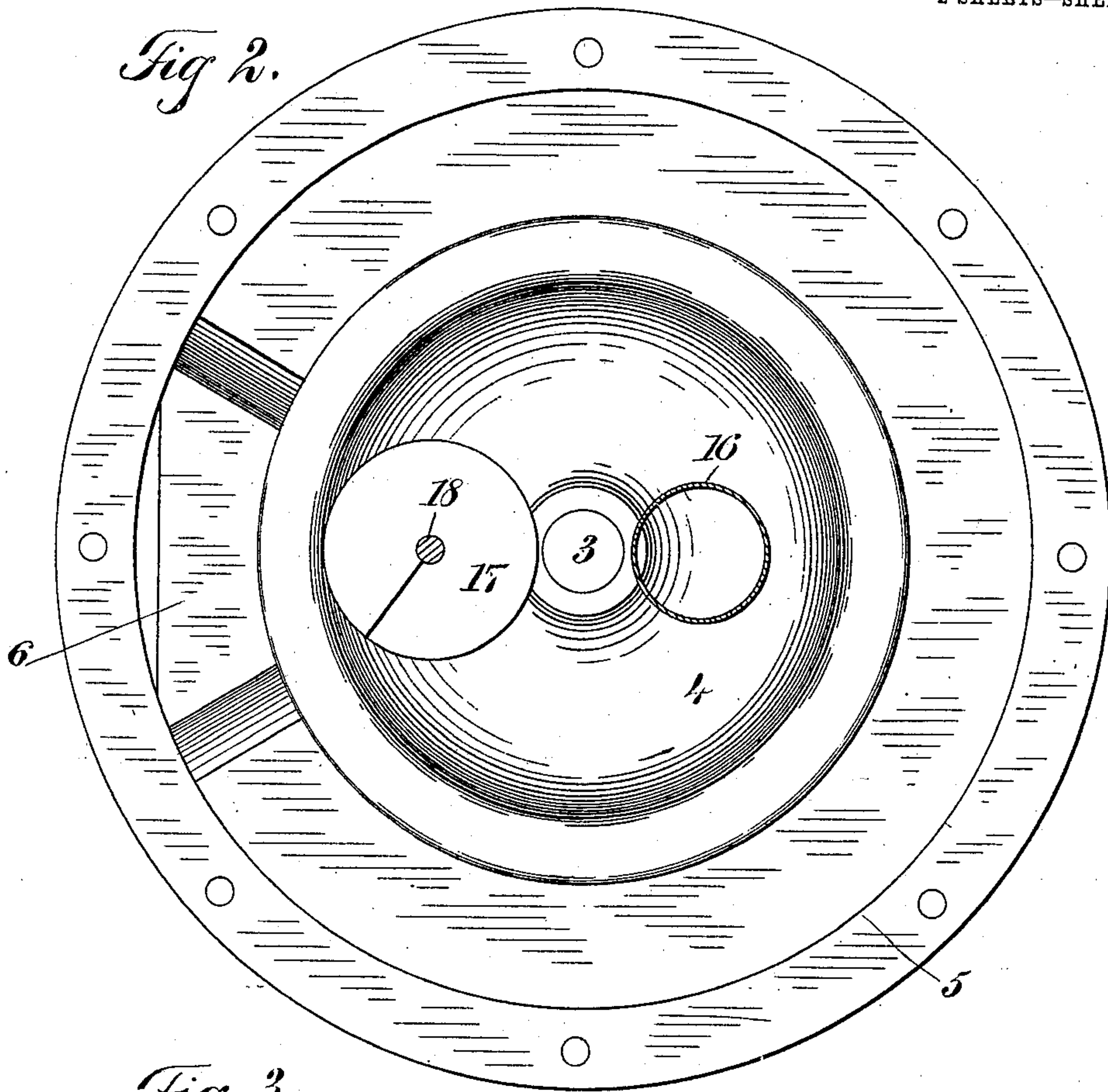
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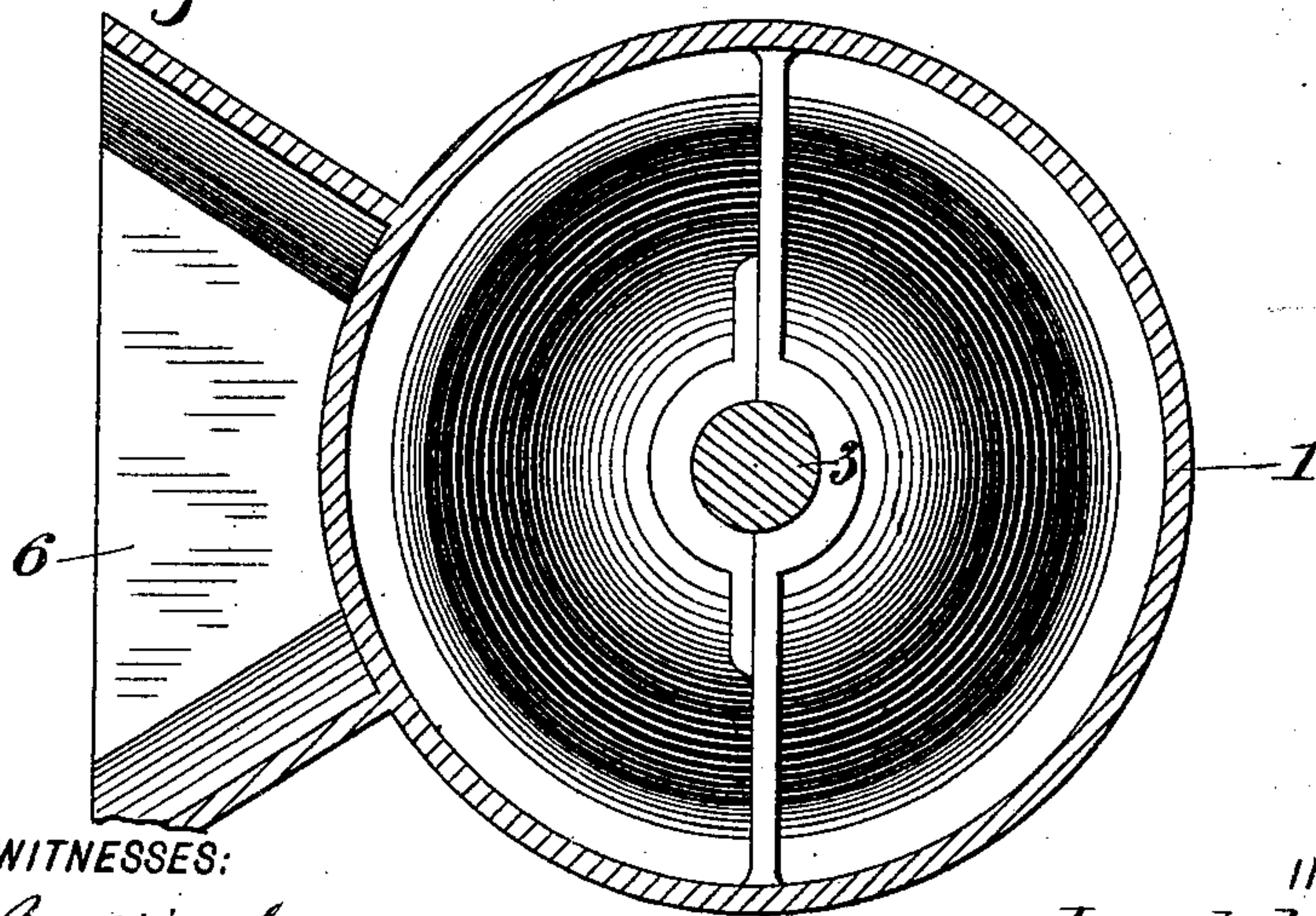
NO MODEL.

2 SHEETS—SHEET 2.

*Fig 2.*



*Fig. 3.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOSEPH H. OSTRANDER, OF TICONDEROGA, NEW YORK.

## CENTRIFUGAL MACHINE.

SPECIFICATION forming part of Letters Patent No. 754,796, dated March 15, 1904.

Application filed July 15, 1903. Serial No. 165,639. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH H. OSTRANDER, a citizen of the United States, and a resident of Ticonderoga, in the county of Essex and State of New York, have invented a new and Improved Centrifugal Separator, of which the following is a full, clear, and exact description.

This invention relates to improvements in centrifugals particularly adapted for use in pulp or chemical fiber mills for separating liquor from pulp, an object being to provide a centrifugal of simple construction and by means of which the work may be quickly and thoroughly done.

I will describe a centrifugal separator embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional elevation of a centrifugal separator embodying my invention. Fig. 2 is a section on the line  $xx$  of Fig. 1, and Fig. 3 is a section on the line  $yy$  of Fig. 1.

Referring to the drawings, 1 designates a tank having a conoidal bottom 2, provided with an opening through which a shaft 3 extends, and mounted on this shaft within the tank 1 is a bowl 4, having perforations through its wall, and it will be noted that the upper edge of the bowl is flanged outward, the said flange extending over the top of the tank, so as to discharge material into a casing 5, surrounding the upper portion of the tank 1 and having an outlet 6 for pulp or the like. A band-wheel 7 is connected to the shaft 3 below the tank, and this shaft has a bearing on a plate 8, arranged in a socket member 9, connected to a hanger 10, depending from the tank. A screw 11, passing through the lower wall 12 of the socket member and engaging with the plate 8, is designed for regulating the parts to take up for wear. At its lower portion the casing 5 has an inlet-pipe 13 for water, and through an opening 14 in the cover 15 of the casing a feed-pipe 16 for material passes, this pipe extending nearly to the bottom of the bowl 4. Arranged in the bowl 4 is a vertically-disposed spiral conveyer 17,

mounted on a shaft 18, having a bearing in a boxing 19, attached to the cover 15, and also having a bearing in a boxing 20 on a bracket 21, extended upward from said cover. Between these two boxings the shaft is provided with a band-wheel 22.

In the operation the stock is fed to the bowl 4 through the pipe 16, and as this bowl rapidly revolves the stock is thrown to the sides, where it is picked up by the spiral or worm conveyer 17 and carried over the top of the bowl and discharged into the casing 5 and out through the outlet 6, the said discharge being aided by the flow of water passing into the casing through the pipe 13, and this flow of water keeps the machine from clogging. The liquor which enters the machine with the pulp escapes through the perforations in the wall of the bowl 4 into the tank 1 and passes out through a pipe 23, arranged at the lower portion of said tank.

It is to be understood that this machine is designed for use in sulfite, pulp, paper, and chemical-fiber mills.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A centrifugal separator comprising a tank, a perforated bowl mounted to rotate therein, a casing surrounding the upper portion of the tank and having an opening in its top and an outlet in its lower portion, a feed-pipe extended through said opening into the bowl and nearly to the bottom thereof, and a conveyer for moving material from said bowl into said casing.

2. A centrifugal separator comprising a tank, a shaft extended through the bottom thereof, a perforated bowl mounted on said shaft within the tank and having its upper edge flared outward to engage over the top of the tank, a casing surrounding the upper portion of the tank and having an outlet, and a worm conveyer arranged in the bowl for discharging material from said bowl into said casing.

3. A centrifugal separator comprising a tank, a perforated bowl mounted to rotate in the tank, a casing surrounding the upper portion of the tank and having an opening in its top and having an outlet in its lower portion,

a feed-pipe extended through said opening into the bowl and nearly to the bottom thereof, and a screw conveyer carried by a vertical shaft for moving material from said bowl into  
5 said casing.

4. A centrifugal separator comprising a tank, having an outlet, a perforated bowl mounted to rotate in said tank, a casing surrounding the upper portion of said tank and  
10 having an outlet at its lower portion, a water-pipe leading into said casing, a feed-pipe leading into said bowl and nearly to the bottom thereof, a vertically-disposed conveyer-screw operated in the bowl, and an outlet-pipe for  
15 said tank.

5. A centrifugal separator comprising a tank having a conoidal bottom provided with an opening, a shaft extended through said

opening, a perforated bowl mounted on said shaft within the tank, means for causing the  
20 adjustments of said shaft and bowl, a casing surrounding the upper portion of the tank and having a water-inlet and also having an outlet for separated matter, a cover on said casing having an opening at the top, a pipe  
25 leading through said opening into the bowl, and a vertically-disposed worm conveyer arranged in the bowl.

In testimony whereof I have signed my name to this specification in the presence of two sub-  
30 scribing witnesses.

JOSEPH H. OSTRANDER.

Witnesses:

FRANK T. LOCKE,  
IRVING C. NEWTON.