

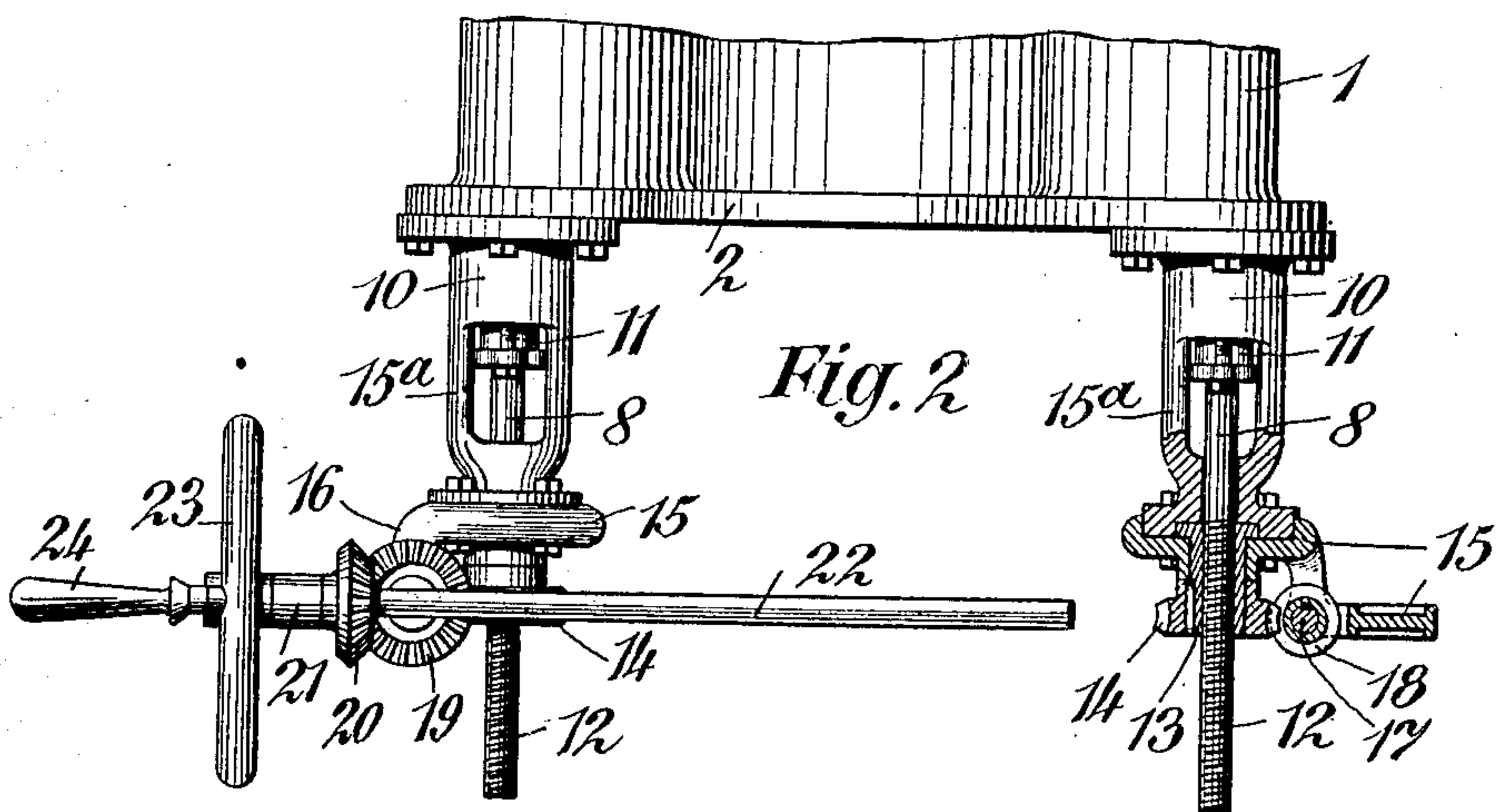
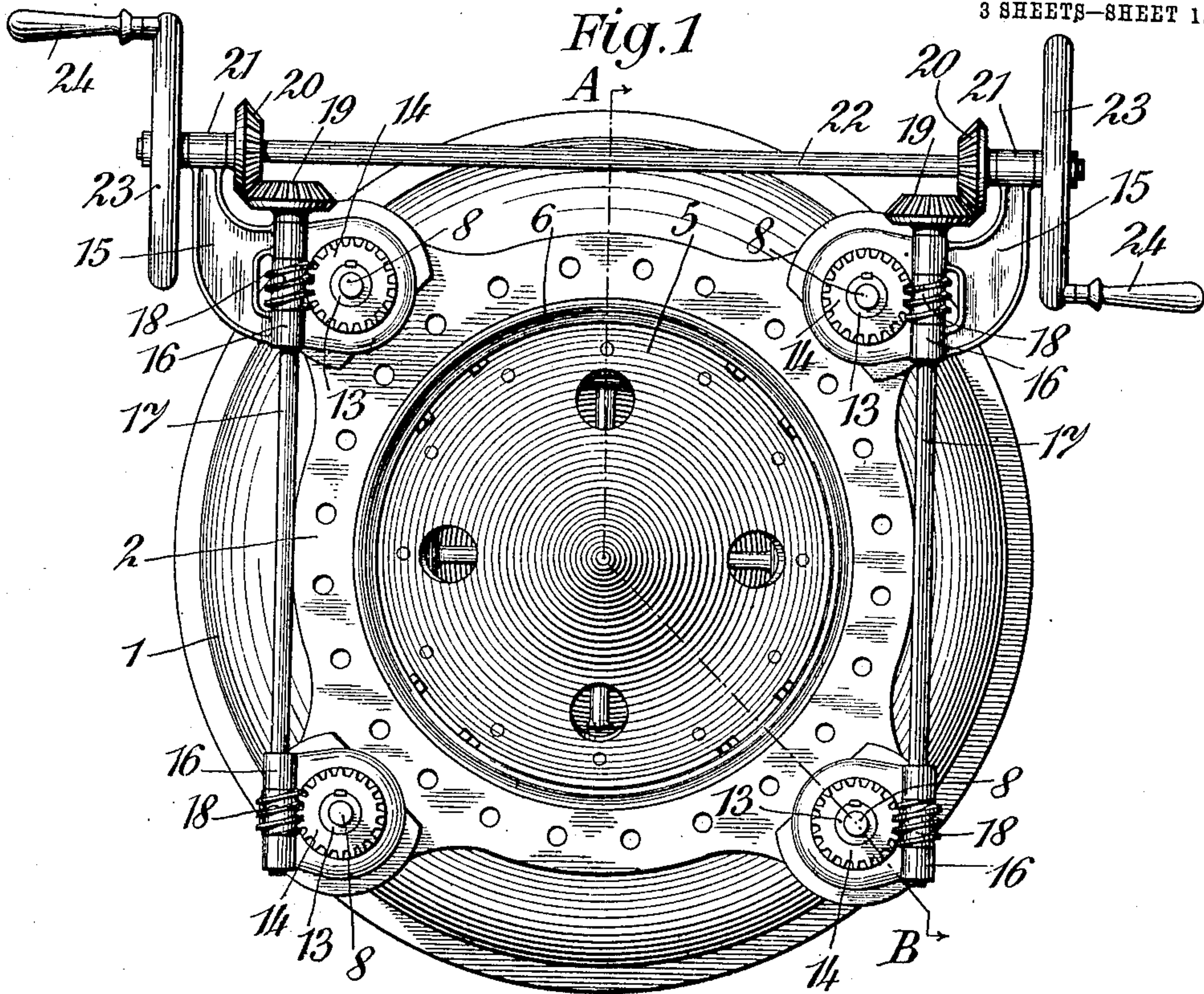
F. CACHIN.
STOP VALVE.

APPLICATION FILED JAN. 20, 1908.

913,356.

Patented Feb. 23, 1909.

3 SHEETS—SHEET 1.



Witnesses:

Jesse N. Lutton.

B. Kommer

Inventor:

François Cachin

by Henry Orth
attg.

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STOP VALVE.

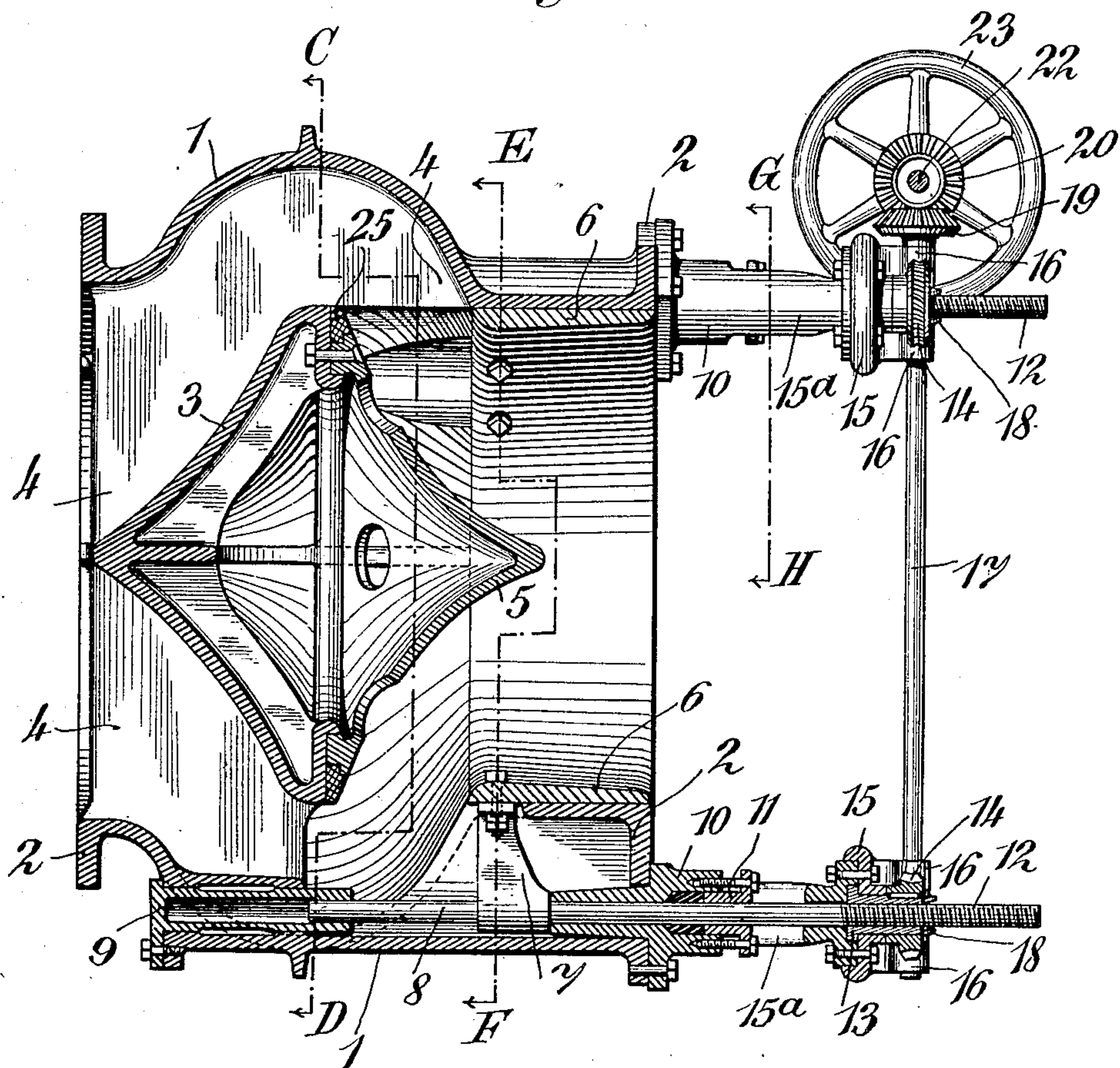
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3 SHEETS—SHEET 2.

Fig. 3



Witnesses:

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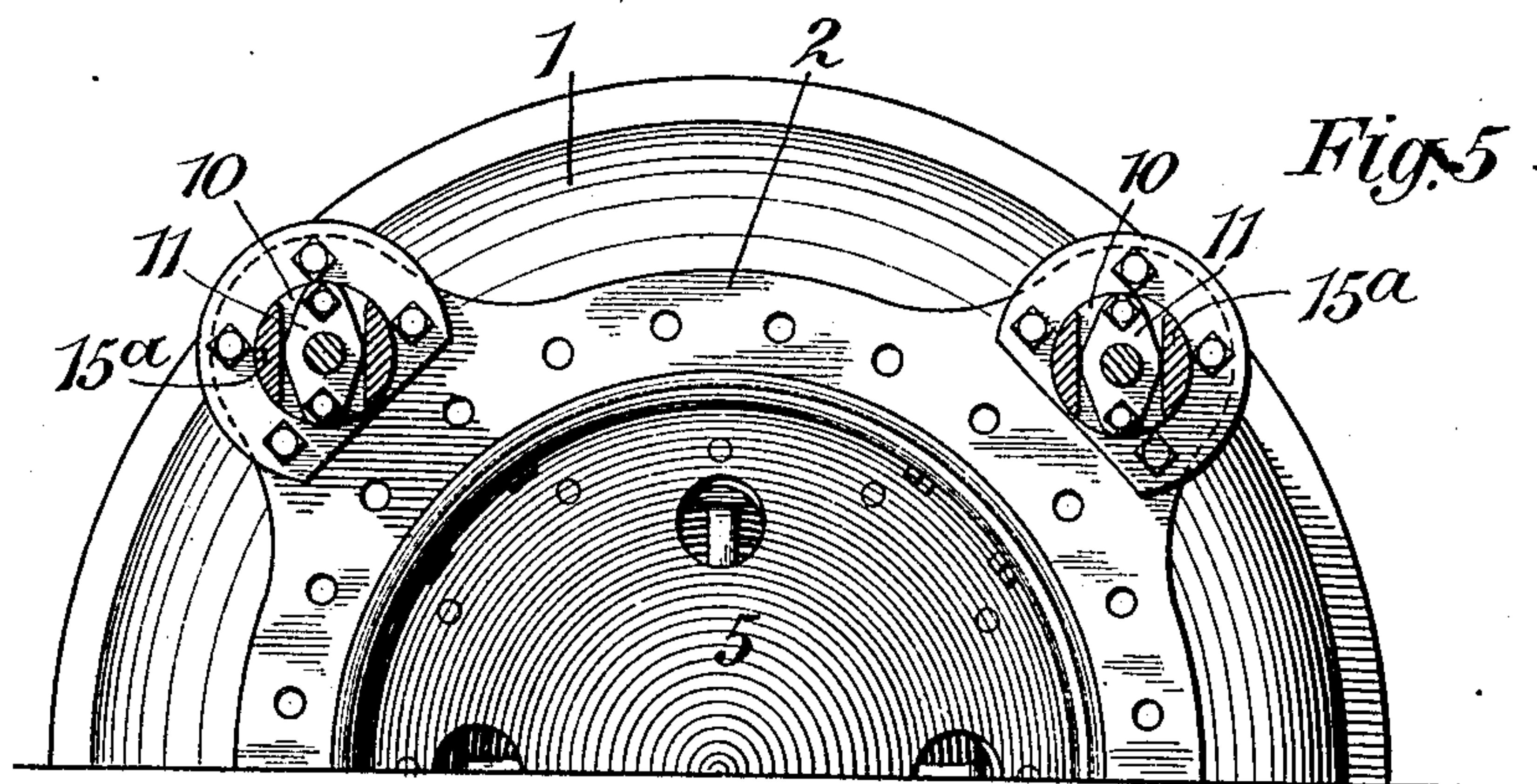
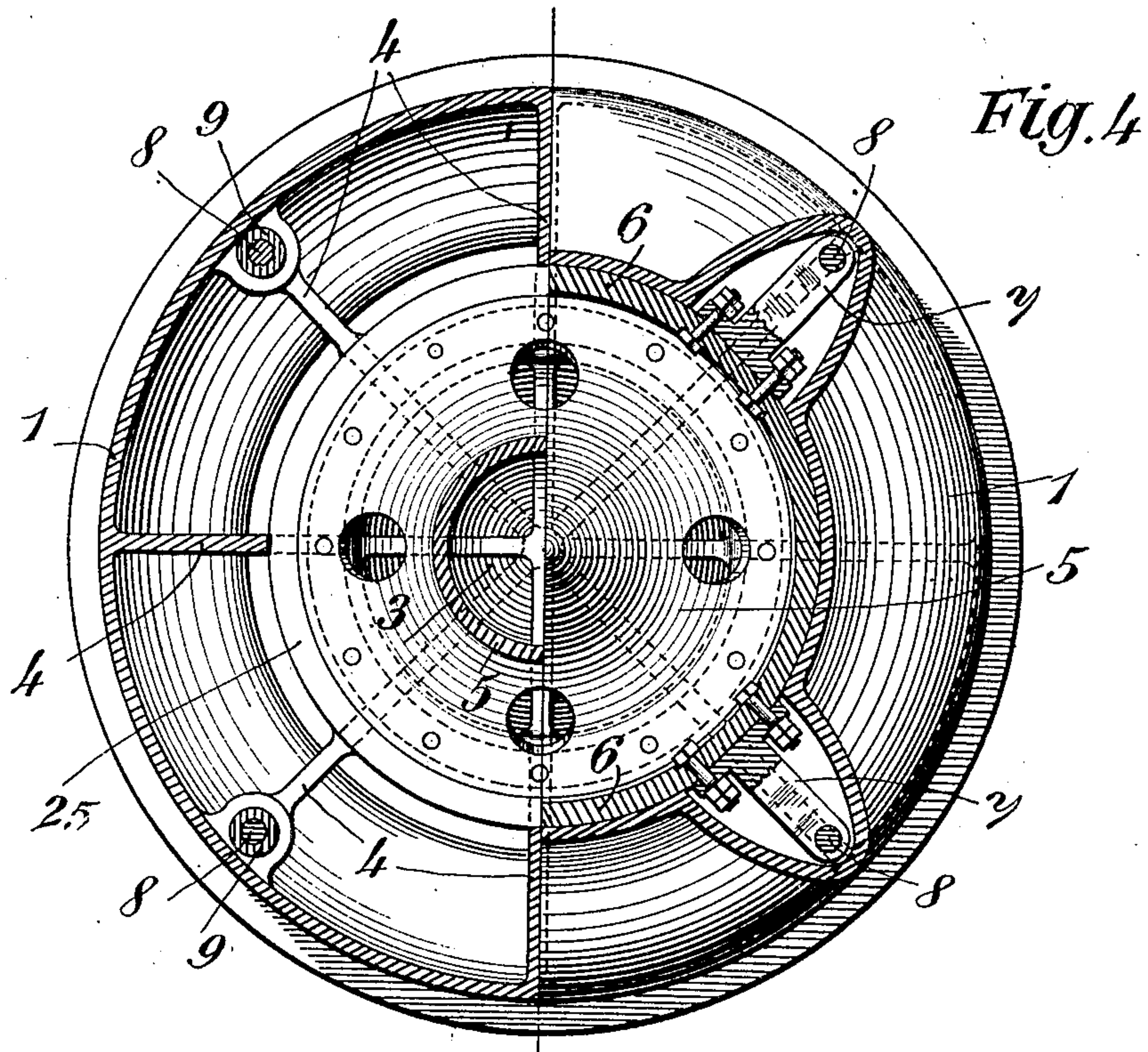
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3 SHEETS—SHEET 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

FRANÇOIS CACHIN, OF ZURICH, SWITZERLAND.

STOP-VALVE.

No. 913,356.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed January 20, 1908. Serial No. 411,716.

To all whom it may concern:

Be it known that I, FRANÇOIS CACHIN, a citizen of the Republic of Switzerland, residing at Zurich, in Switzerland, have invented certain new and useful Improvements in Stop-Valves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

The subject of my invention is a stop valve whose operative member is an axially moving annular slide.

For the purpose of enabling exact axial motion of the slide means are provided which engage the latter at at least three points, whereby jamming of the slide on motion is prevented. The contrivance for actuating the slide is located entirely outside the valve casing.

One form of construction of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation, and Fig. 2 a plan and part section of a portion of the valve. Fig. 3 is a section on the line A—B of Fig. 1. Fig. 4 shows on the left a section on the line C—D of Fig. 3, and on the right a section on the line E—F of Fig. 3. Fig. 5 is a section on the line G—H of Fig. 3.

1 is the valve casing, which is provided with flanges 2 for connecting the valve in piping.

3 is a hollow cone, which is joined to the valve casing by ribs 4. To this cone 3 there is secured a second cone 5, which presses the gasket ring 25 against the cone 3.

6 is the annular slide constituting the actual valve body or operative member. At four points of the slide 6, lying in a square, arms 7 are attached, to each of which there is secured a spindle 8 forming an integral part with it. The spindles 8 are mounted in the valve casing 1 parallel to the central axis of the valve by means of tail-guides 9 and stuffing-boxes 10 having glands 11. The outer ends 12 of the spindles 8 are threaded and receive nuts 13 to which worm wheels 14 are affixed. The nuts 13 have a shoulder and are loosely embraced by parts of the brackets 15. In the bearings 16 of the latter, which are connected with the stuffing-

boxes 10 by pieces 15^a there are mounted two parallel shafts 17, carrying worms 18. These latter engage with the worm wheels 14 on the nuts 13. At their one end the shafts 17 are provided with bevel gears 19 meshing with like gears 20 carried by a shaft 22 mounted in the bearings 21 of the brackets 15. At the ends of the shaft 22 there are secured wheels 23 having crank-handles 24.

When the shaft 22 is rotated all the nuts 13 turn simultaneously and the annular slide 6 is thus moved axially by force applied at four places at the same time and in this manner is brought from the open into the closed position, or vice versa, from the closed into the open position.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:

1. In a stop valve, in combination, a valve casing, an axially sliding valve body located therein, a plurality of spindles arranged in a rectangle engaging the valve body, and means located outside the valve casing for simultaneously actuating the spindles, substantially as described.

2. In a stop valve, in combination, a valve casing, an annular valve body axially slidable therein, a number of arms greater than two attached to the valve body and arranged symmetrically about the axis thereof, spindles affixed to the arms and located parallel to the central axis of the valve, and means located outside the valve casing for actuating the spindles simultaneously.

3. In a stop valve, in combination, a valve casing, an axially sliding annular valve body located therein, arms attached to the latter at four points lying in a square, spindles affixed to the arms and located parallel to the central axis of the valve, and means located outside the valve casing for actuating the spindles simultaneously in axial direction, substantially as described.

4. In a stop valve, in combination, a valve casing, an axially sliding annular valve body located therein, arms attached to the latter at four points lying in a square, screw threaded spindles affixed to the arms and located parallel to the central axis of the valve, nuts on the spindles, and means for turning the nuts simultaneously and thus actuating the spindles in axial direction, substantially as described.

5. In a stop valve, in combination, a valve casing, an axially sliding annular valve body located therein, arms attached to the latter at four points lying in a square, screw
5 threaded spindles affixed to the arms and located parallel to the central axis of the valve, nuts on the spindles, two parallel shafts mounted on the valve casing and each carrying two worms, worm wheels secured
10 on said nuts and each engaging with one of said worms, and means for rotating the said shafts simultaneously, substantially as described.

6. In a stop valve, in combination, a valve
15 casing, an axially sliding annular valve body located therein, arms attached to the latter at four points lying in a square, screw threaded spindles affixed to the arms and lo-

cated parallel to the central axis of the valve, nuts on the spindles, two parallel
20 shafts mounted on the valve casing and each carrying two worms and a bevel gear, worm wheels mounted on said nuts and each engaging with one of said worms, a transverse
25 shaft, and bevel gears mounted thereon and meshing with said first bevel gears, and means for rotating the transverse shaft, substantially as described.

In testimony that I claim the foregoing as my invention, I have signed my name in
30 presence of two subscribing witnesses.

FRANÇOIS CACHIN.

Witnesses:

ERNST FISCHER,
A. LIEBERKNECHT.