

No. 672,953.

Patented Apr. 30, 1901.

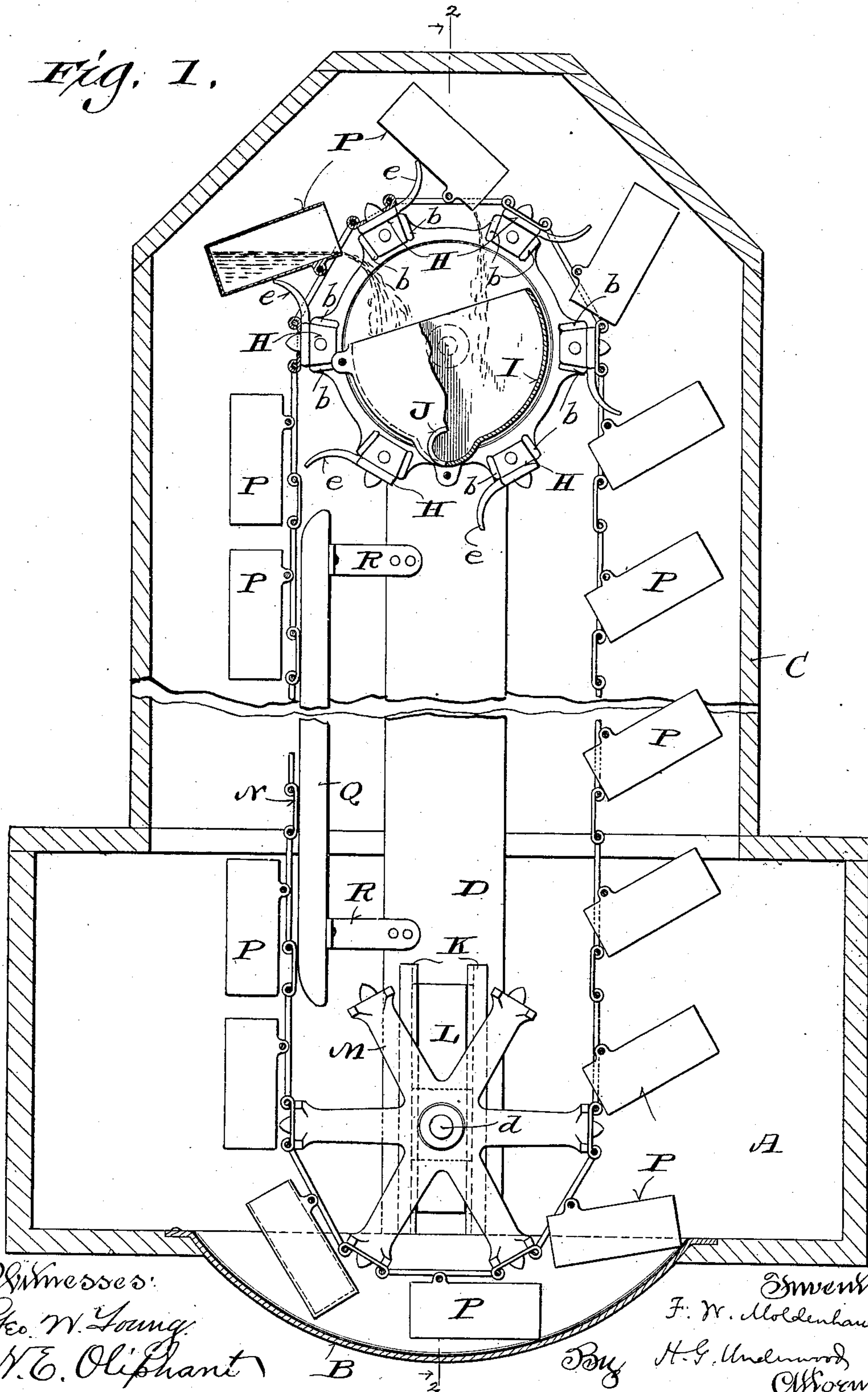
F. W. MOLDENHAUER.
ELEVATOR PUMP.

(No Model.)

(Application filed May 31, 1900.)

2 Sheets—Sheet 1.

Fig. 1.



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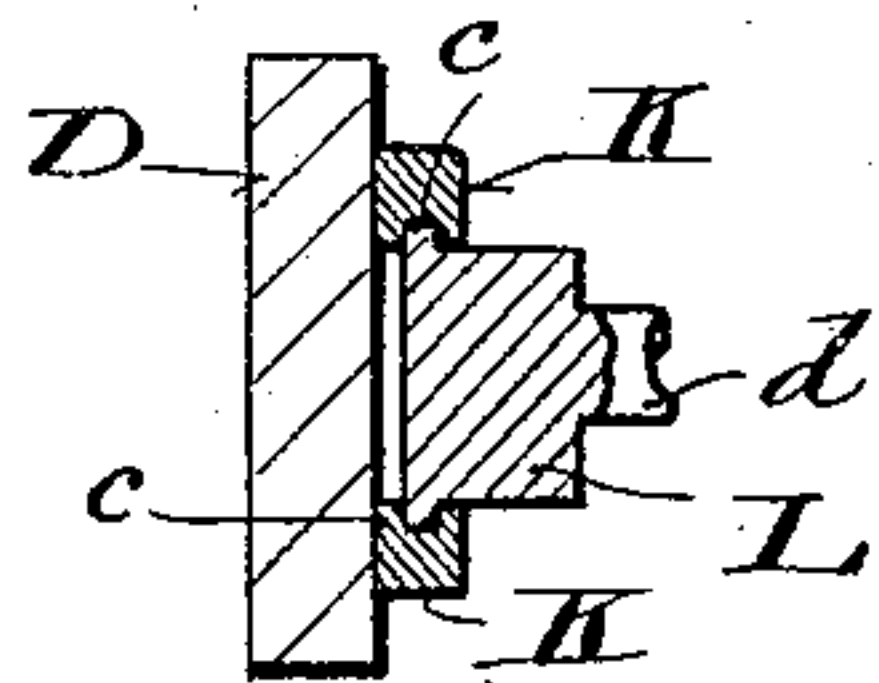


Fig. 4.

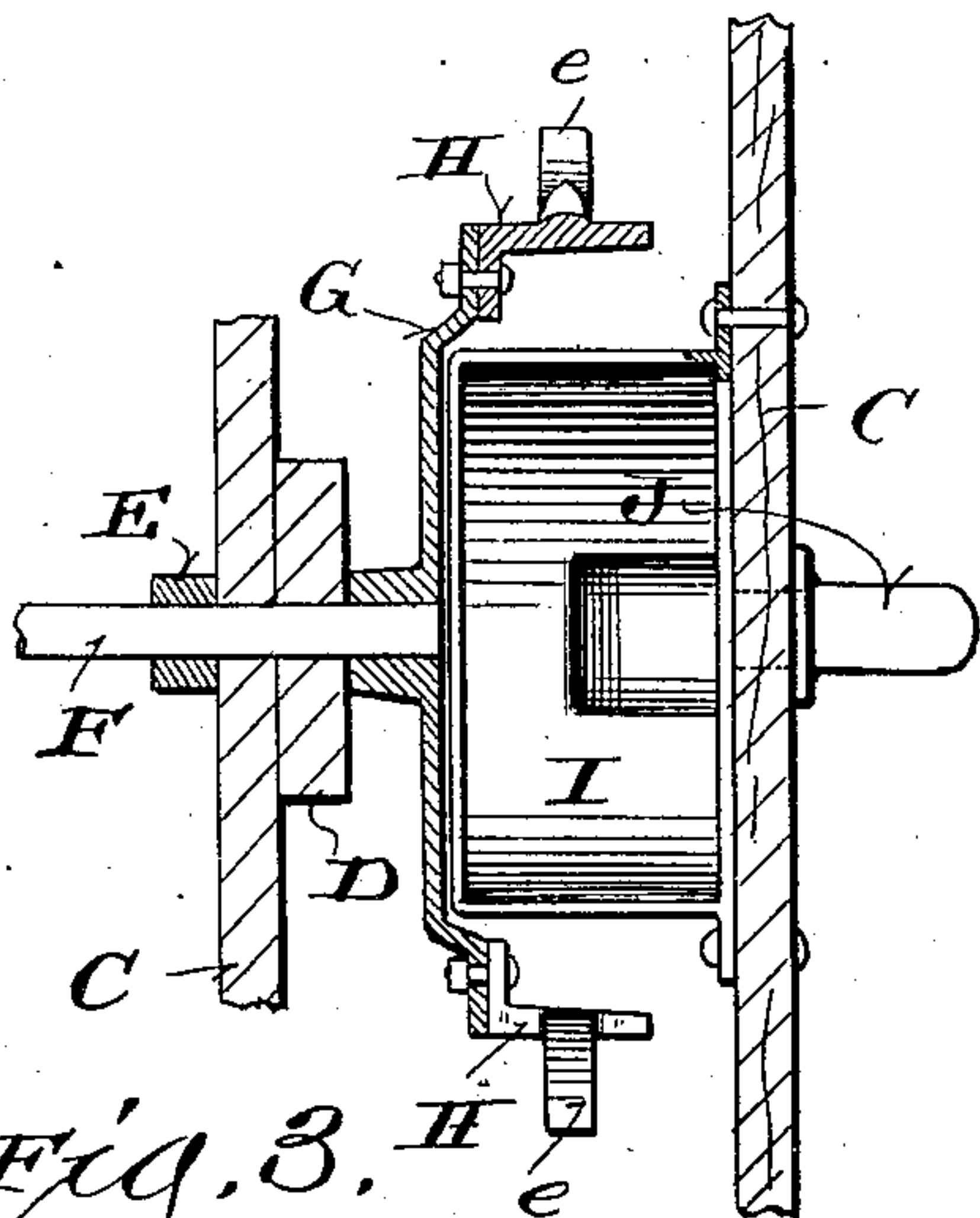
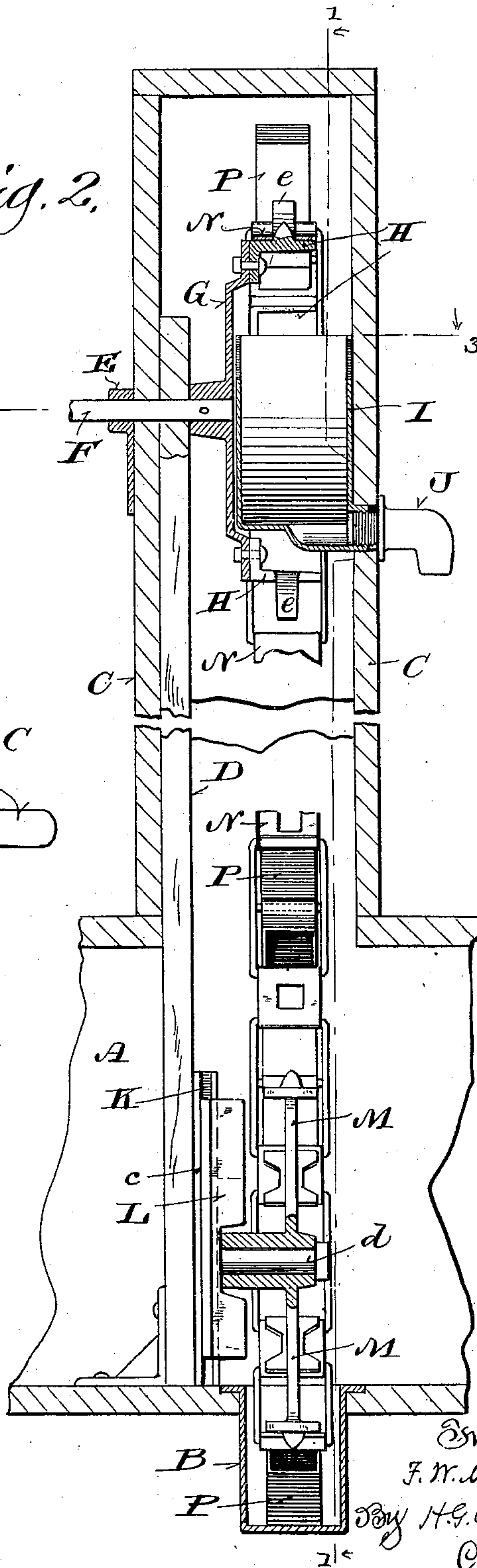


Fig. 3.

Fig. 2.



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UNITED STATES PATENT OFFICE.

FREDERICH W. MOLDENHAUER, OF OCONOMOWOC, WISCONSIN.

ELEVATOR-PUMP.

SPECIFICATION forming part of Letters Patent No. 672,953, dated April 30, 1901.

Application filed May 31, 1900. Serial No. 18,483. (No model.)

To all whom it may concern:

Be it known that I, FREDERICH W. MOLDENHAUER, a citizen of the United States, and a resident of Oconomowoc, in the county of Waukesha and State of Wisconsin, have invented certain new and useful Improvements in Elevator-Pumps; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to provide simple economical elevator-pumps especially designed for the delivery of skim-milk or whey from creamery or cheese-factory waste tanks; and it consists in certain peculiarities of construction and combination of parts hereinafter particularly set forth, with reference to the accompanying drawings, and subsequently claimed.

Figure 1 of the drawings represents an elevation, partly in section, as indicated by lines 1 1 in the second figure, and illustrates my improved elevator-pump, a stationary hopper appearing in this view, having a side thereof partly broken away; Fig. 2, a section on the plane indicated by line 2 2 in the first figure; Fig. 3, a detail plan view, partly in horizontal section, on the plane indicated by line 3 3 in the second figure; and Fig. 4, a similar view of a gravity-sprocket-carrying slide constituting part of the pump mechanism.

Referring by letter to the drawings, A indicates a tank for fluid, such as skim-milk or whey, that constitutes creamery or cheese-factory waste, and as a matter of preference, for the reason hereinafter specified, the bottom of the tank is provided with a depending gutter B, of segmental contour, through which the pump-buckets, also hereinafter specified, have their travel. Surmounting the tank is the curb C of the pump, and a standard D, made fast on the tank-bottom, extends parallel to a wall of the curb, against the same. Extending through the standard, the adjacent curb-wall, and a bearing E on this wall is the upper-sprocket shaft F of the pump, and in practice this shaft will be provided with an outer crank by which to operate said pump. The upper sprocket is shown as consisting of a disk G, fast on shaft F, and tooth-and-finger brackets H, bolted to one side of the disk, between ribs b, arranged thereon in pairs, these brackets and ribs being prefer-

ably convergent toward said shaft. Bolted or otherwise rigidly secured to a wall of the pump-curb, to come within the circle of the tooth-and-finger blocks on the disk G, is a curved hopper I, concentric with said disk. The mouth of the hopper is preferably inclined, as shown in Fig. 1, and a spout J leads from the bottom of said hopper through the adjacent curb-wall.

Fast on the lower portion of the standard D are grooved bars K, and engaging these bars are wings c of a loose gravity-block L, provided with a lateral stud d, that constitutes a bearing for the lower sprocket M of the pump, the block being recessed to obtain clearance for the elongated hub of said lower sprocket. The latter sprocket is herein shown as comprising a series of radial arms having flanged and toothed outer ends.

An endless chain N of alternate long and short links is run on the sprockets aforesaid and kept taut by weight of loose block L and the lower one of said sprockets. In pivotal connection with each long link of the chain midway of its length is a bucket P, and a bar Q, connected by brackets R to the standard D, is in opposition to the full bucket-elevating stretch of said chain to prevent sway of the latter. The teeth of the sprockets engage with the short links of the chain, and in practice the fingers e of the upper sprocket operate to tilt the buckets on their pivots, so that the contents of these buckets are discharged into the hopper I during the time said buckets are in transit over the mouth of said hopper. After discharging into the hopper the buckets remain in tilted position until they again come within the curved gutter B, depending from waste-tank A, this gutter being employed so that approximately all the material in said tank may be elevated.

The buckets are all of the same capacity, and at each turn of the shaft F a known quantity of the tank contents will be discharged into the hopper to find outlet through the spout of same. Hence it is practical to utilize the pump in connection with mechanism for predetermining the number of turns of said shaft.

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

1. An elevator-pump comprising an upper sprocket consisting of a rotary disk having one side thereof provided with ribs arranged in pairs, a tooth-and-finger bracket made fast
5 to the disk between each pair of ribs, a lower sprocket, an endless chain on the sprockets, and buckets in pivotal connection with the chain, the fingers of the brackets aforesaid being operative to tilt the buckets.
- 10 2. An elevator-pump comprising an upper sprocket consisting of a rotary disk having one side thereof provided with ribs arranged in pairs, a tooth-and-finger bracket made fast to the disk between each pair of ribs, a lower

gravity tension-sprocket, an endless chain on 15 the sprockets, and buckets in pivotal connection with the chain, the fingers of the brackets aforesaid being operative to tilt the buckets.

In testimony that I claim the foregoing I 20 have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

FREDERICH W. MOLDENHAUER.

Witnesses:

N. E. OLIPHANT,
B. C. ROLOFF.