

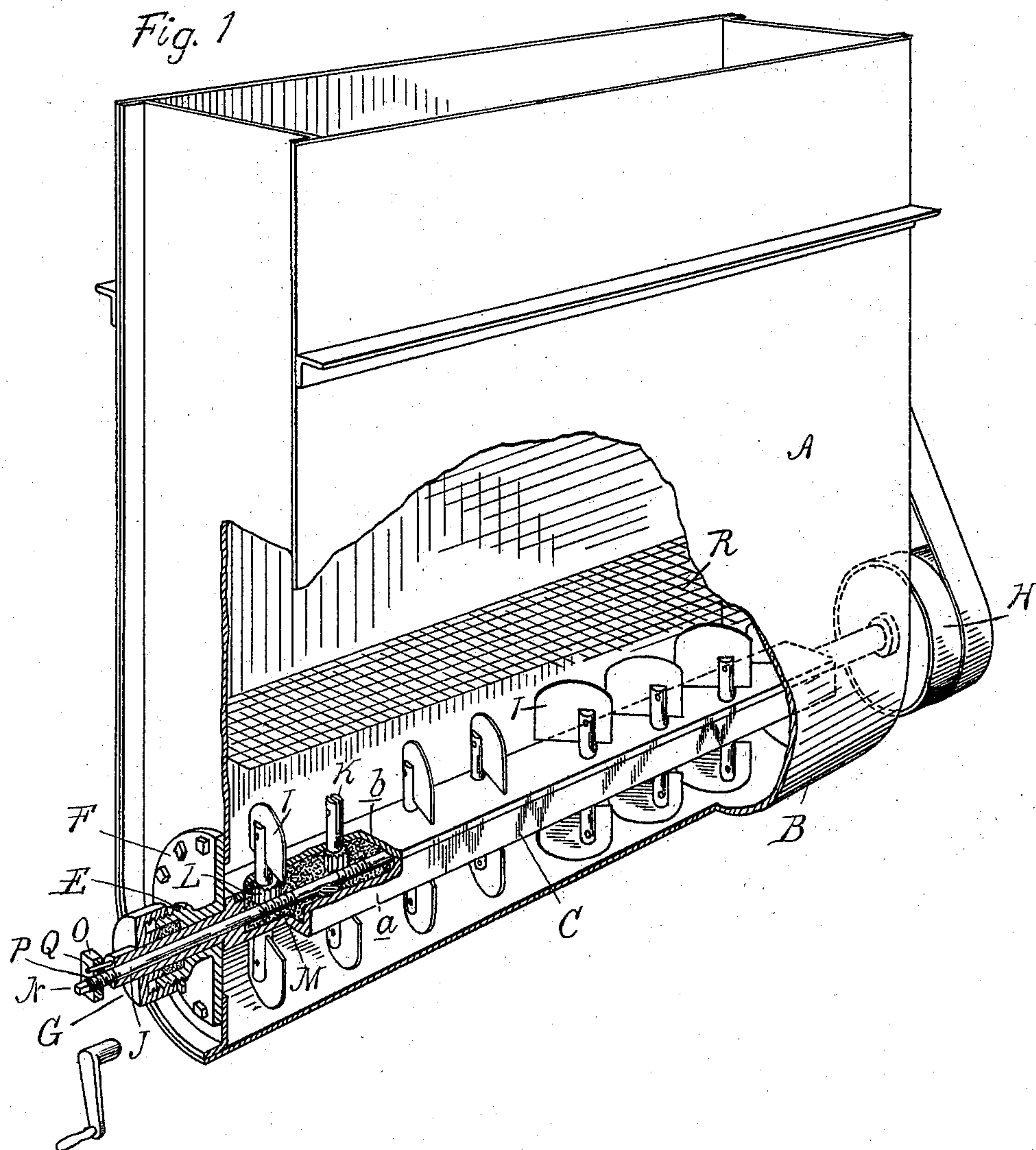
(No Model.)

2 Sheets—Sheet 1.

T. NEAL.
PAINT AGITATOR.

No. 558,738.

Patented Apr. 21, 1896.



Witnesses:
W. F. Barthelet
P. M. Hulbert

Inventor:
Thomas Neal
By M. E. Magner
Attys.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2

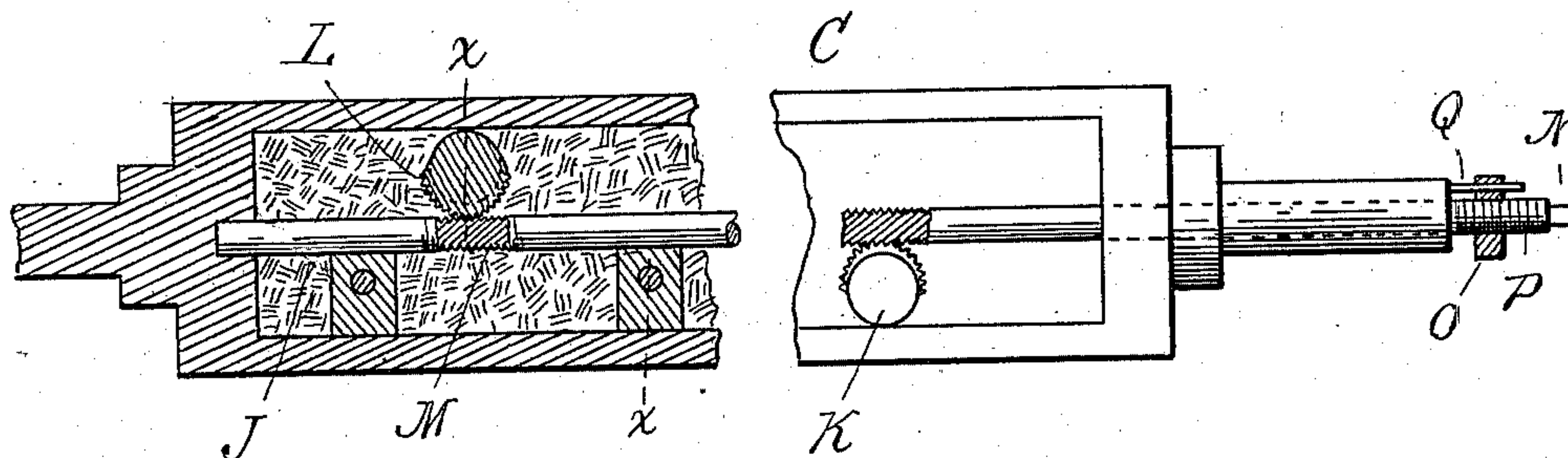
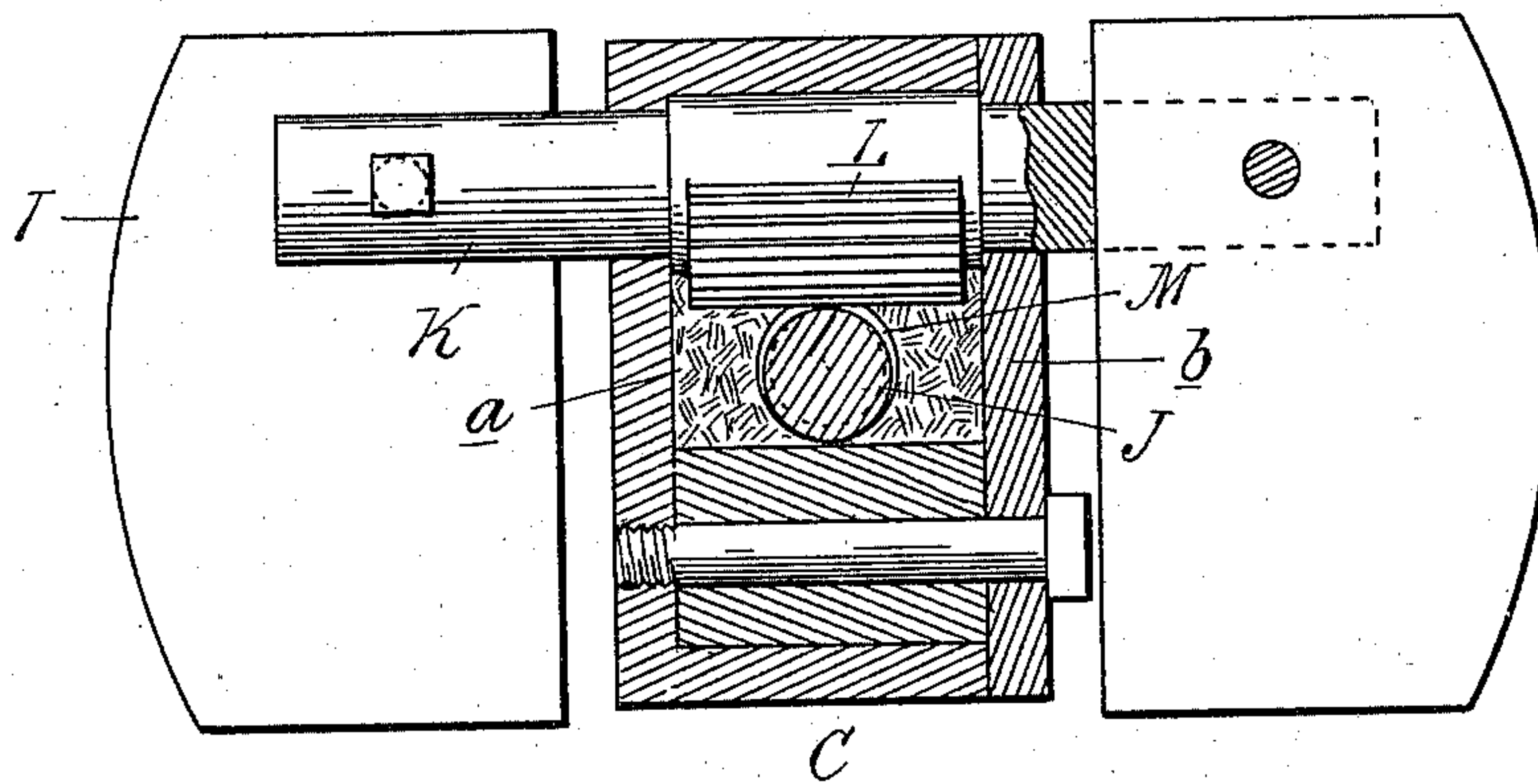


Fig. 3



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UNITED STATES PATENT OFFICE.

THOMAS NEAL, OF DETROIT, MICHIGAN.

PAINT-AGITATOR.

SPECIFICATION forming part of Letters Patent No. 558,738, dated April 21, 1896.

Application filed August 27, 1895. Serial No. 560,650. (No model.)

To all whom it may concern:

Be it known that I, THOMAS NEAL, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Paint-Agitators, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention consists in the construction of an agitator for paints, &c.; and it consists particularly in a receptacle having therein a shaft with a series of paddles or blades secured thereto, with means for adjusting the blades at an angle to or in line with their line of rotation, and further in the peculiar construction, arrangement, and combination of the various parts, all as more fully hereinafter described.

In the drawings, Figure 1 is a sectional perspective view of my improved device. Fig. 2 is a longitudinal section through the stirrer-shaft. Fig. 3 is a cross-section thereof on line *x x*.

In the prior state of the art there have been paint-agitators in which the shaft or a series of paddle-wheels or a screw have been employed to maintain the paint in a thoroughly agitated and mixed condition. In such devices heretofore, however, where the material was allowed to remain for some considerable time, so that the paint became hard, it frequently happened that in starting it with power the blades of the agitator would be broken off. With my device I have arranged these blades so that they may be adjusted, preferably, from the outside of the tank at an angle to or in line with their line of rotation. Thus if the device were left standing, if adjusted so that the blades are in line with the direction of travel, the device may be started without danger of breaking off the blades, and by gradually turning them at an angle the agitator may be set at work without danger of breaking under all conditions.

A is a receptacle preferably having the curved bottom B. Near the bottom I journal a hollow shaft C, its ends being supported in bearings E, formed centrally in the plates F.

G are packing nuts or glands for packing around the bearing of the shaft. On one end this shaft is provided with a drive-pul-

ley H, by means of which it may be rotated. The shaft I preferably form of the lower trough-shaped section *a* and the cap *b* to give ready access to the interior when desired.

I are a series of agitator-blades having means for adjusting them at an angle to or in line with the direction of their travel, these blades being secured to the shaft C. The construction which I preferably employ as to this shaft and the adjustment of the blades is as follows: K are pins journaled in bearings in the shaft C and provided within the shaft with the toothed segment L. In the outer end of the pins are secured the blades I. J is a shaft supported in bearings centrally within the shaft C and extending to the outside thereof at one end. This shaft is provided with a series of spiral threads or worm-gears M, adapted to engage with the gear-segment L for rotating the pins K. The shaft J is provided with means for rotating it—such, for instance, as the squared portion N at its outer end—and may be provided with means for indicating the position of angularity of the blades. I have shown for this purpose a nut O, engaging a screw-threaded portion P on the shaft J, held from rotation with the shaft J by sliding on the pin Q on the end of the shaft C. The position of this nut on the pin Q will indicate the position of the agitator-blades.

The parts being thus constructed their operation is as follows: In the ordinary use of the device the agitator-blades are turned at an angle to the shaft C, power being applied through the pulley H, the paint being agitated by the motion of those blades in the receptacle. When the device is stopped and left standing for a considerable time, the shaft J is rotated until the blades are turned transversely the receptacle, so that in starting their sharp edges will be presented to cut through the partially-solidified paint which has hardened about them. Then as a path is cut the shaft J may be turned to increase the angularity of the agitator-blades to any desired extent. The caps F, when removed, permit of the withdrawal of the agitator-shaft and the blades. The shaft C, I preferably fill with some material to prevent the ingress of the paint. I have found it satisfactory to fill it with tallow. I have also shown part of the

blades arranged upon opposite sides of the shaft J, so as to obtain reverse action of the agitator-blades at different points of the length of the shaft.

5 I may and preferably do arrange a screen R above the agitator.

What I claim as my invention is—

1. In an agitator for paint, &c., the combination with a receptacle, a hollow shaft in the
10 receptacle, means for rotating the shaft, a series of pins having bearings in and projecting through the shaft on opposite sides thereof, a segment on each pin, a blade on each end of each of the pins, a shaft within the hollow
15 shaft, worms thereon meshing with the segments on the pins, means at one end outside the receptacle for rotating it to adjust the blades, substantially as described.

2. In a paint-agitator, the hollow shaft C,
20 comprising the trough-shaped bottom, and a top, a series of adjustable blades on said shaft, actuating mechanism for the blades within the hollow shaft and a filling of tallow or similar compound in the hollow shaft, and actuating means for said shaft C, substantially as
25 described.

3. The combination with the receptacle, the shaft C, adjustable paddles, and the actuating-shaft J, of the nut Q on a screw-threaded end
30 portion of the shaft J and the guide-pin on the shaft C with which the nut has a sliding engagement, and actuating means for said shaft C, as and for the purpose described.

4. In a paint-agitator, the combination with
35 a receptacle having bearings at opposite sides, of a hollow shaft mounted in the bearings, means at one end of the shaft for driving the same, a series of adjustable blades mounted on the shaft, and means at the opposite end
40 of the shaft for adjusting the blades, substantially as described.

5. In an agitator for paint, &c., the combination with a receptacle and a shaft therein having extensions projecting through the

walls thereof at opposite sides, of a series of
45 paddles or blades on the shaft, means at one end for driving said shaft, and rotary means within the shaft for turning the blades extending to the end of the shaft, substantially as described.

6. In a paint-agitator, the combination of a receptacle, a shaft in the receptacle, paddles or blades on two sides of and having bearings in the shaft the blades on one side extending at the same angle from their bearings as those
50 on the other side, and means within said shaft and controlled from without the receptacle for adjusting the angle of the blades relative to their line of rotation, substantially as described.

7. In a paint-agitator, the combination of a receptacle, a shaft therein, means for rotating the shaft, a series of paddles or blades carried by said shaft, a portion of the blades being arranged at an angle to the remainder of the
65 blades on the same side of the shaft, and means within said shaft and controlled from without the receptacle for adjusting the angle of the blades relative to their line of rotation, substantially as described.

8. In a paint-agitator, the combination of a receptacle, a shaft therein, means for rotating said shaft, a transverse pin carried by said shaft, and extending beyond the same on
70 two sides, a paddle or blade on each end of said pin both extending in the same direction, and means within the shaft and controlled from without the receptacle for rotating the pins to adjust the angle of the blades relative to their line of rotation, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS NEAL.

Witnesses:

JAS. WHITTEMORE,
O. F. BARTHEL.