No. 891,433. PATENTED JUNE 23, 1908.

J. O'CONNOR.

HOUSE TANK CLEANER.

APPLICATION FILED JUNE 14, 1907.

Fig. 1.

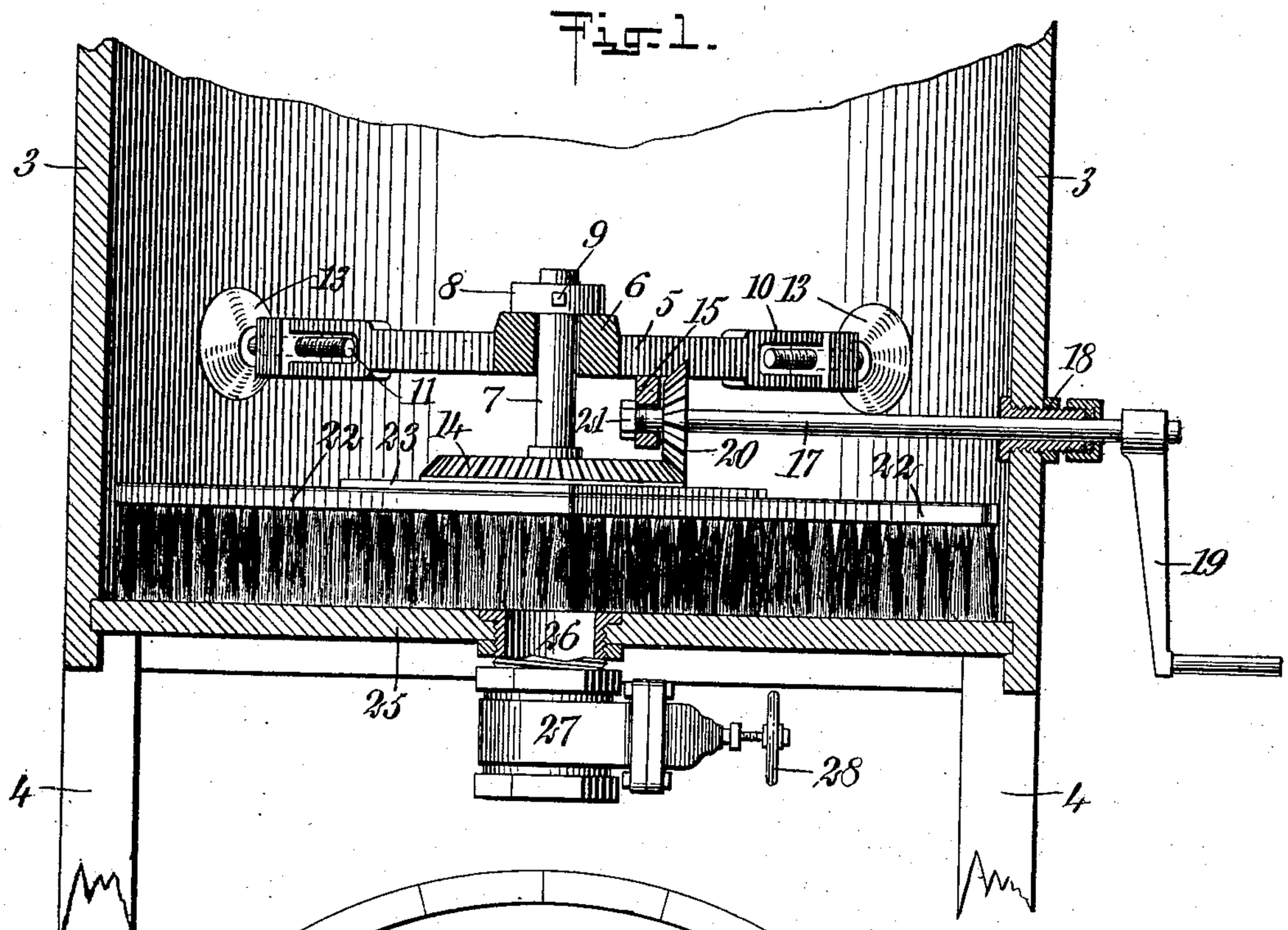
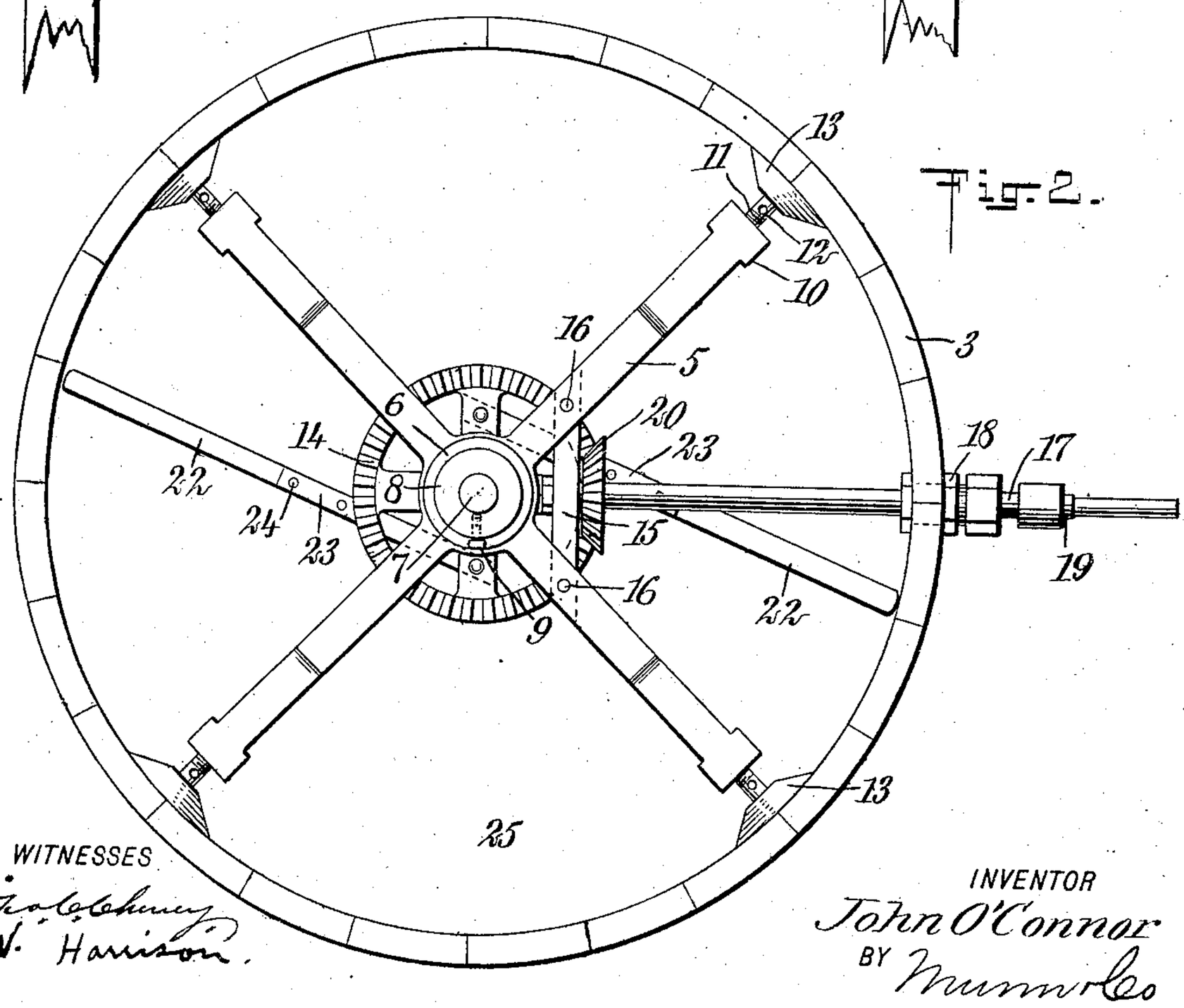


Fig. 2.



WITNESSES

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JOHN O'CONNOR, OF NEW YORK, N. Y.

HOUSE-TANK CLEANER.

No. 891,433. Specification of Letters Patent. Patented June 23, 1908.

Application filed June 14, 1907. Serial No. 378,994.

To all whom it may concern:

Be it known that I, JOHN O'CONNOR, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved House-Tank Cleaner, of which the following is a full, clear, and exact description.

My invention relates to tank cleaners, my more particular object being to produce a portable device which may, at a comparatively small expense, be readily attached to tanks already in existence, and which provides a simple and efficient construction for accomplishing the work.

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 both figures.

Figure 1 is a central vertical section through a house tank cleaner made in accordance with my invention, and showing the arrangement of the revoluble brushes, the spider for supporting the same, and the gearing used to actuate the brushes; and Fig. 2 is a plan view of the tank with the spider mounted therein and held by its own pressure against the inner walls of the tank so as to support the revoluble brushes and various other movable parts.

The tank is shown at 3, and is mounted upon a support 4. A spider 5 is provided centrally with a sleeve 6 serving as a bearing. A stub shaft 7 extends vertically through this bearing, and is provided with a collar 8 secured to the shaft by a set screw 9. The spider 5 is substantially X-shaped, and is provided at its outer ends with enlarged portions 10. Fitting into each of these, is a screw 11 provided with a hole 12 whereby it may be turned by a suitable instrument. Each screw 11 is swiveled upon a foot 13, the outer surface of which is curved so as to approximate the curvature of the inner surface of the tank.

To mount the spider in position, it is placed down in the tank near the bottom, and the screws 11 are turned so as to force the feet 13 outwardly, as will be understood from Fig. 2. The pressure of the feet against the inner surface of the tank, supports the spider.

The shaft 7 carries a bevel gear 14. A beam 15 is secured to the spider 5 by fastenings 16, and a shaft 17 extends through the beam 15, the latter thus serving as a bearing therefor. The shaft also passes through a stuffing-box 18 in the side of the tank. A hand crank 19 is mounted upon the shaft 17, and is used for the purpose of rotating the same. A bevel gear 20 mounted upon the shaft 17, meshes with the bevel gear 14, and causes the latter to turn whenever the hand crank 19 is rotated. A collar 21 mounted upon the end of the shaft 17 serves as a limiting stop for the latter, and maintains it in proper working relation to the beam 15. The bevel gear 14 supports two revoluble brushes 22, and for this purpose is provided with plates 23. By aid of pins 24 or screws, the brushes 22 are detachably secured in position. The bottom 25 of the tank is provided with a discharge pipe 26. Secured upon the latter is a gate valve 27 opened or closed at will by aid of a hand wheel 28.

The operation of my device is as follows: The parts being mounted as above described, any desired quantity of water or washing fluid is poured into the tank, and the hand crank 19 is rotated, motion being transmitted through the shaft 17 and gears 20 and 14. The brushes 22 are rotated and caused to scour the bottom of the tank. At intervals during the process, if desired, the screws 11 may be loosened, the spider lowered slightly, and the crank again turned. In this way the pressure of the brushes against the bottom of the tank may be increased at will. At any desired stage of the operation, the liquid contents of the tank, including all dirt, may be discharged through the discharge pipe 26, by simply opening the gate valve 27.

It should be noted that the brushes 22 are substantially tangential in relation to the gear 14. As the direction of rotation of the brushes 22 is in a clockwise direction according to Fig. 2, the impurities brushed up from the bottom are forced toward the center and more readily discharged through the pipe 26. Aside from this point, however, the direction of rotation is immaterial.

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

1. The combination of a tank, a spider located therein, feet connected with said spider and movable outwardly, a beam mounted upon said spider, a shaft supported by said beam and by said tank, a gear wheel mounted upon said shaft, a second gear wheel meshing with said first mentioned gear wheel, and

brushes controllable by movements of said second mentioned gear wheel for the purpose of cleaning said tank.

2. The combination of a tank having its casing vertical, a spider mounted within said tank and provided with means for detachably engaging the internal surface thereof, said spider being thereby adjustable to different elevations relatively to said tank, brushes mounted within said tank and adapted to clean the same, and a gear supported partially by said tank and partially by said spider for the purpose of turning said brushes.

3. The combination of a tank, a spider to be mounted therein, a beam connected with said spider, a revoluble shaft supported partly by said beam and partly by said tank, brushes revolubly mounted upon said spider, a gear connecting said revoluble brushes for the purpose of turning said brushes.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN O'CONNOR.

Witnesses:

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