

E. MARSLAND.
Water-Meters.

No. 126,974.

Patented May 21, 1872.

Fig. 1.

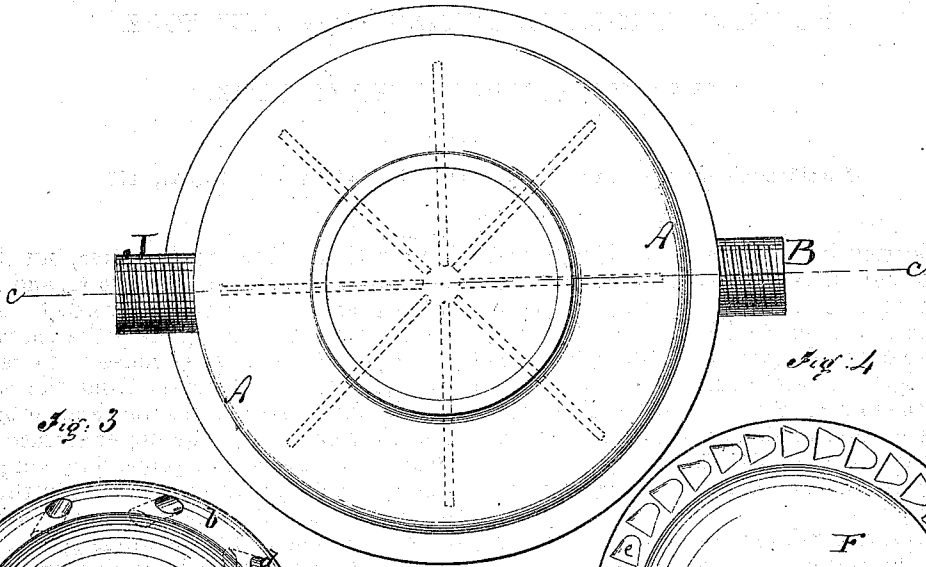


Fig. 3.

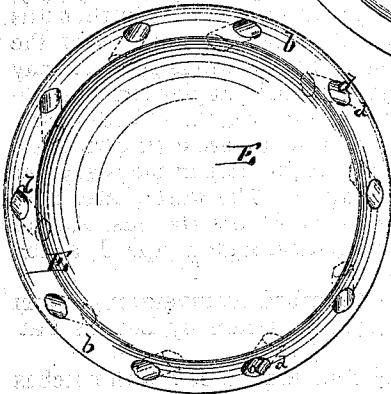


Fig. 2.

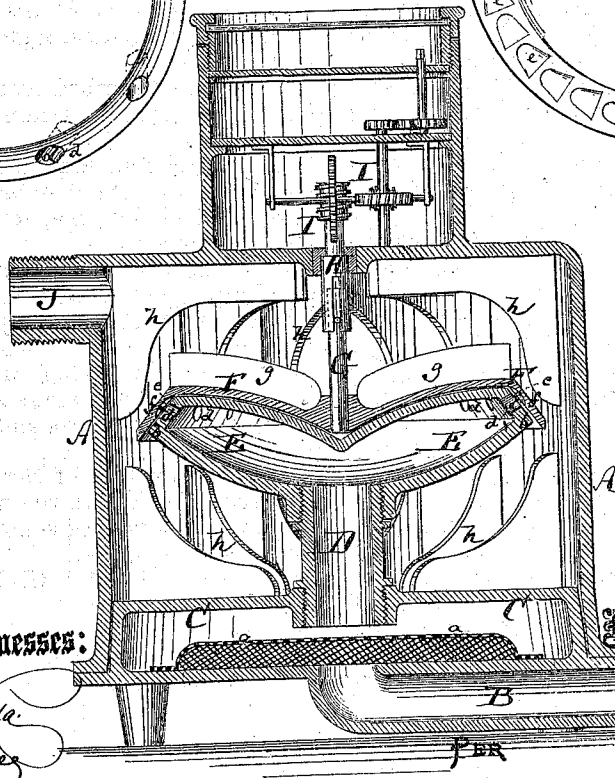
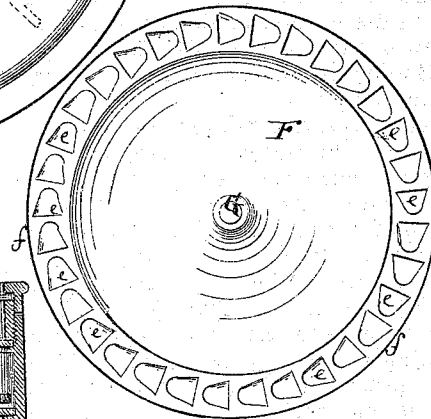


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

EDWARD MARSLAND, OF SING SING, NEW YORK.

IMPROVEMENT IN WATER-METERS.

Specification forming part of Letters Patent No. 126,974, dated May 21, 1872.

Specification describing a new and Improved Water-Meter, invented by EDWARD MARSLAND, of Sing Sing, in the county of Westchester and State of New York.

Figure 1 is a top view of my improved water-meter. Fig. 2 is a vertical central section of the same on the line *c c*, Fig. 1. Fig. 3 is a top view of the discharge-chamber; and Fig. 4, a bottom view of the revolving-wheel.

Similar letters of reference indicate corresponding parts.

This invention relates to a new water-meter, in which the water is conveyed in spiral jets against the recessed edge of a wheel, revolving the same in exact ratio to the volume brought against it, and balancing it at the same time, to reduce friction. The invention consists, principally, in the respective arrangement of said wheel and the chamber whence the water emanates, and also in the application of projecting wings or fans to the wheel and case, for regulating the motion of the same and making it conform to the head of water.

A in the drawing represents the outer case of the meter, made of cylindrical form, and receiving the water at the bottom through a pipe, B, into a chamber, C. The entrance to the chamber C is protected by a sieve, *a*, to keep impurities away from the meter. In a pipe, D, that projects vertically from the center of the chamber C, the water is conducted into a circular chamber, E, whose inclined or beveled edge *b* is perforated at regular intervals, the apertures *d d* being inclined and oblique, as indicated in Figs. 2 and 3. Through these apertures the water leaves the chamber E in spiral jets, which are propelled against notches or buckets *e e* formed in the overhanging annular flange *f* of a wheel, F. The wheel F is mounted upon an axle, G, which is connected with the hollow shaft H of the recording mechanism I, said shaft H being suspended through the top of the case A, as shown. The shaft G is so connected with H that it can slide up and

down without affecting the latter, but that its rotations will be transmitted to H, and thence to the gearing I, for being recorded. As the jets of water emanating from the chamber E strike the wheel F they cause it to revolve, and also lift it sufficiently from the seat or chamber E to reduce friction and to balance it entirely on water. The upper surface of the wheel F has a series of projecting wings, *g g*, which, in passing through the water that fills the entire case A, retard the motion of the wheel. By means of these wings *g*, which may be made larger or smaller, at pleasure, the motion of the wheel can be regulated with exactness. There may also be projecting ridges *h h* within the case A for similar purpose; but these may be omitted. The water, after having turned the wheel F, fills the case A, and is finally discharged through a pipe, J, at the top of the case.

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

1. The wheel F having flange *f* with notches *e*, combined with the chamber E having beveled edge *b* and oblique apertures *d*, as and for the purpose described.

2. The wheel F having notches or buckets *e e*, and applied over the chamber E, to be revolved and supported by the jets of water that are discharged from said chamber, as set forth.

3. The water-receiving case A, combined with wheel F having wings *g* projecting into the water of said case, as and for the purpose described.

4. The combination of the case A, pipe B, and chambers C E with the wheel F, shaft G, and pipe J, all arranged substantially as herein shown and described.

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Witnesses:

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