

WILLIAM VAN ANDEN.

Propeller Wheels for Fluid Meters.

No. 125,506.

Patented April 9, 1872.

Fig 1

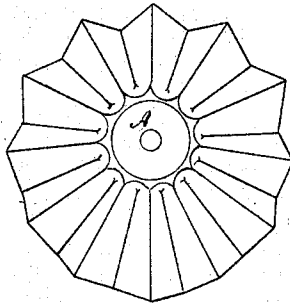


Fig 3

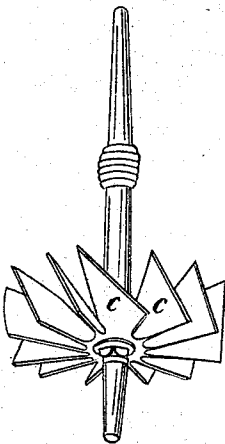
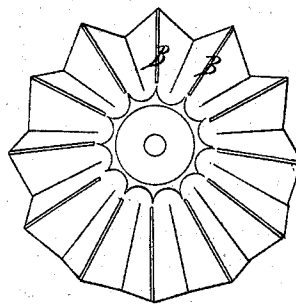


Fig 2



Witnesses:

Jacob B. Jewell
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Inventor.

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UNITED STATES PATENT OFFICE.

WILLIAM VAN ANDEN, OF POUGHKEEPSIE, NEW YORK.

IMPROVEMENT IN PROPELLER-WHEELS FOR FLUID-METERS.

Specification forming part of Letters Patent No. 125,506, dated April 9, 1872.

SPECIFICATION.

I, WILLIAM VAN ANDEN, of Poughkeepsie, in the county of Dutchess and State of New York, have invented certain Improvements in Fluid-Meter Propeller-Wheels, of which the following is a specification:

The nature and object of my invention consists in a propeller-wheel for fluid-meters made from a plate of metal of even thickness, and stamped up or pressed into shape by means of dies, in the ordinary way of shaping metal, for the purpose of stretching the outer edge thereof and giving additional length to the blades or wings made therefrom.

In reference to the accompanying drawing, Figure 1 is a perspective view of the blank-wheel as struck up. Fig. 2 is the same, showing cuts separating the metal which is to be formed into blades or wings. Fig. 3 is a perspective view of the wheel and wheel-shaft when completed.

General Description.

I employ suitable fluted dies, having the flutes converging toward the center, between which the blank A is crimped and also stretched into a scollop-shape, as shown in Fig. 1, after which slits B B are cut into the metal from the edge toward the center and on a line with the flutes, as shown in Fig. 2. It is again pressed in suitable dies, which flattens each section between the slits of the crimped and stretched parts of the plate, and forms them into blades or wings C C and gives them a downward pitch, as shown in Fig. 3, so that the lower edge is on a line with the upper edge of the next, which allows no fluid to pass through without impinging upon the surface of the blades. The metal having been stretched, a great degree of

pitch to the blades has been obtained which otherwise could not have been.

The above method of producing a wheel without adding to it additional parts insures accuracy and uniformity, also a light and well-balanced wheel, the lack of which has been a great defect in the construction of meters.

The wheel varies in speed according to the amount of water or fluid which passes through it; thus, when a large quantity passes through the wheel moves swiftly; therefore, it should be equally balanced to prevent vibration and wear. When a small quantity of water passes through the wheel moves slowly; and unless it is light and properly balanced and very sensitive to the slow movement of the water a portion will pass through without its revolving.

The utility of a meter depends on registering the smallest quantity of water that passes through it without the flow being obstructed.

By my method of stretching the metal you procure the most water-surface and the greatest degree of pitch to the blades, which makes the wheel more accurate and more sensitive to the varying flow or quantity of water that passes through it.

I claim as my invention—

A fluid-meter wheel, made by first crimping and stretching a disk of metal into the fluted form shown in Fig. 1 of drawing; secondly, dividing it into sections on the lines B, shown in Fig. 2; and thirdly, flattening these sections into blades C, having the downward pitch, form, and relative position shown in Fig. 3, all as and for the purpose described.

WILLIAM VAN ANDEN.

Witnesses:

ROBT. N. PALMER,
JACOB B. JEWETT.