(No Model.)

E. R. BARNES.

WASHING MACHINE.

No. 257,839. Patented May 16, 1882.

Fig. 1.

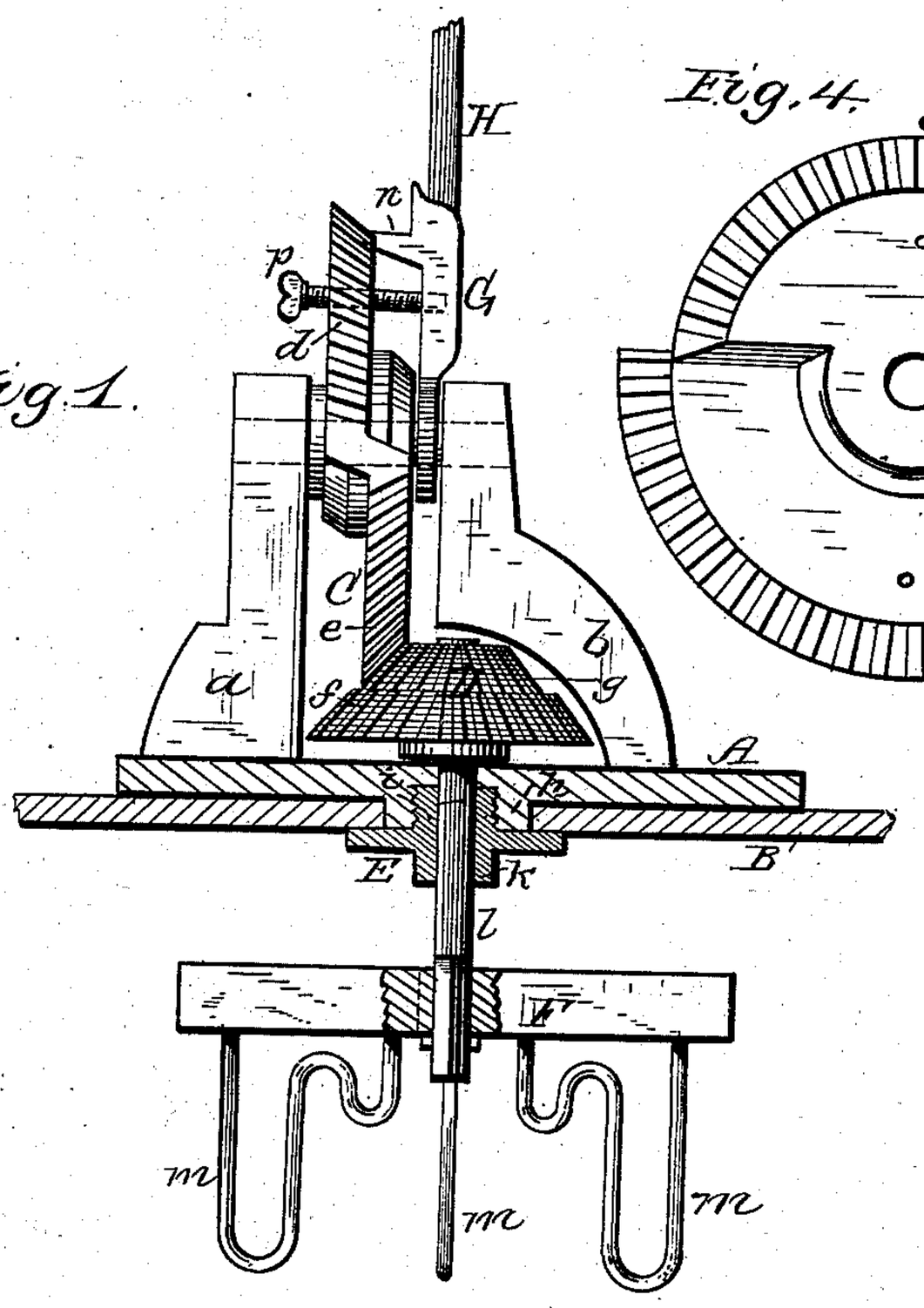

Fig. 4.

Fig. 2

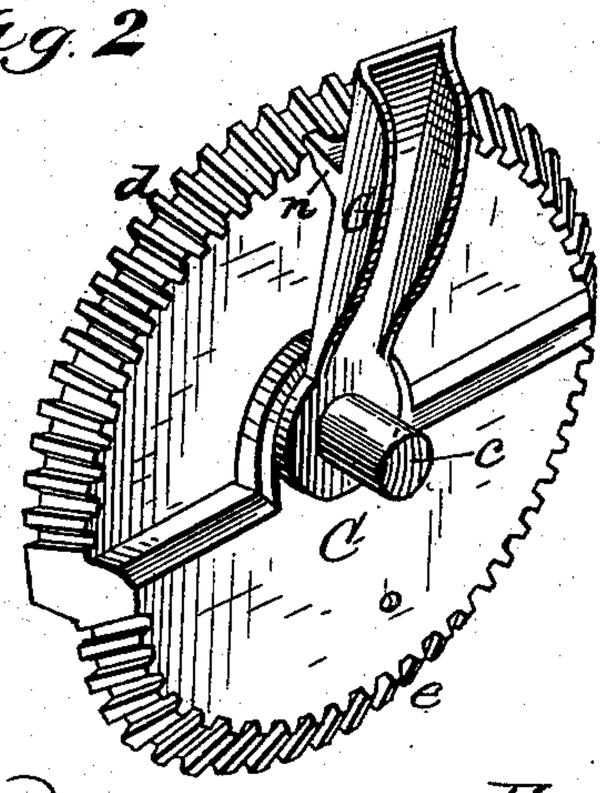

Fig. 3.

WITNESSES

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EUGENE R. BARNES, OF OSKALOOSA, IOWA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 257,839, dated May 16, 1882.

Application filed February 8, 1882. (No model.)

To all whom it may concern:

Be it known that I, EUGENE R. BARNES, a citizen of the United States, residing at Oskaloosa, in the county of Mahaska and State of Iowa, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 is a side elevation of my invention, partly in section. Fig. 2 is a perspective view in detail of the driving gear-wheel. Fig. 3 is an end view of the seat for connecting the handle. Fig. 4 is a plan view of the driving gear-wheel.

The present invention has relation to certain new and useful improvements in washing-machines; and it consists in the details of construction, substantially as shown in the drawings and hereinafter described, and pointed out in the claims.

In the accompanying drawings, A represents the cast-metal plate for attaching to the cover B of a washing-machine. The plate A has standards *a b*, which form bearings for the ends of a short horizontal shaft, *c*, said shaft having keyed or otherwise rigidly connected to it a driving-wheel, C. This driving-wheel has two sets of teeth, *d e*, each of which describes a segment of a circle on different vertical planes and of different radii, so that the teeth *d* may be brought in position to engage with the teeth *f* of a bevel-gear wheel, D, or the teeth *e* made to engage with the teeth *g* of said wheel when found necessary to change the speed of the agitator in the suds-box. The plate A is cast with an internal screw-threaded collar, *h*, upon its under side, which passes through an opening of circular form in the cover B.

A disk, E, clamps the plate A and holds it and the cover firmly together without the use of screws or bolts, as heretofore, which greatly weakened the cast-metal plate A and rendered it liable to break. The clamping-disk E upon its upper side has a screw-threaded extension, *i*, for engaging with the screw-threaded collar *h*, and upon the under side of the clamping-disk is a square or equivalent form shoulder, *k*, to receive a suitable wrench for screwing up or removing the clamping-disk.

The bevel-gear wheel D is rigidly connected to the upper end of the agitator-shaft *l*, said shaft passing down through holes in the plate A and disk E. The lower end of the shaft *l* is formed square for rigidly connecting thereto the agitator-arms F; or they may be secured in any suitable manner, so long as they are rigid and will not turn upon the shaft.

The agitator may be of any suitable construction or form; but I prefer to employ the wire-rods *m*, bent as shown, and connected to the cross-arms F, thereby greatly increasing the strength of the agitator and rendering it more serviceable.

The shaft *c*, upon which the driving-wheel C is mounted, has loosely connected to it a seat, G, cast with teeth *n*, which engage with the teeth upon the wheel C to hold it steady and firmly to the wheel. A thumb-screw, *p*, passes through the wheel C, seat G, and into the handle H, which also firmly connects them together.

In the drawings the teeth *e* are shown as engaging with the teeth *g* of the bevel-gear wheel D, thereby enabling the agitator to be more rapidly revolved; but should a less speed of the agitator be preferred, in case where delicate fabrics—such as laces—are being washed the thumb-screw *p* is removed and the wheel C turned so that the teeth *d* will engage with the teeth *f*, and the teeth *n* upon the back of the seat G engage with the teeth *e*, after which the thumb-screw *p* is replaced as before.

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

1. In a washing-machine, the combination, with the agitator thereof, having connected to its shaft a bevel-gear wheel with two sets of teeth, of a driving gear-wheel connected to a horizontal shaft, said wheel having two sets of teeth, each of which describes a segment of a circle on different vertical planes and of different radii, and an operating-lever adjustably connected to the said wheel, substantially as and for the purpose set forth.

2. In a washing-machine, the combination, with the gear-wheel D, having teeth *f g*, for operating the agitator, of the wheel C, constructed, as shown, with the teeth *d e*, and the seat G, having teeth *n*, and means for connecting it to the wheel, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

EUGENE R. BARNES.

Witnesses:
H. H. JONES,
W. C. BEANS.