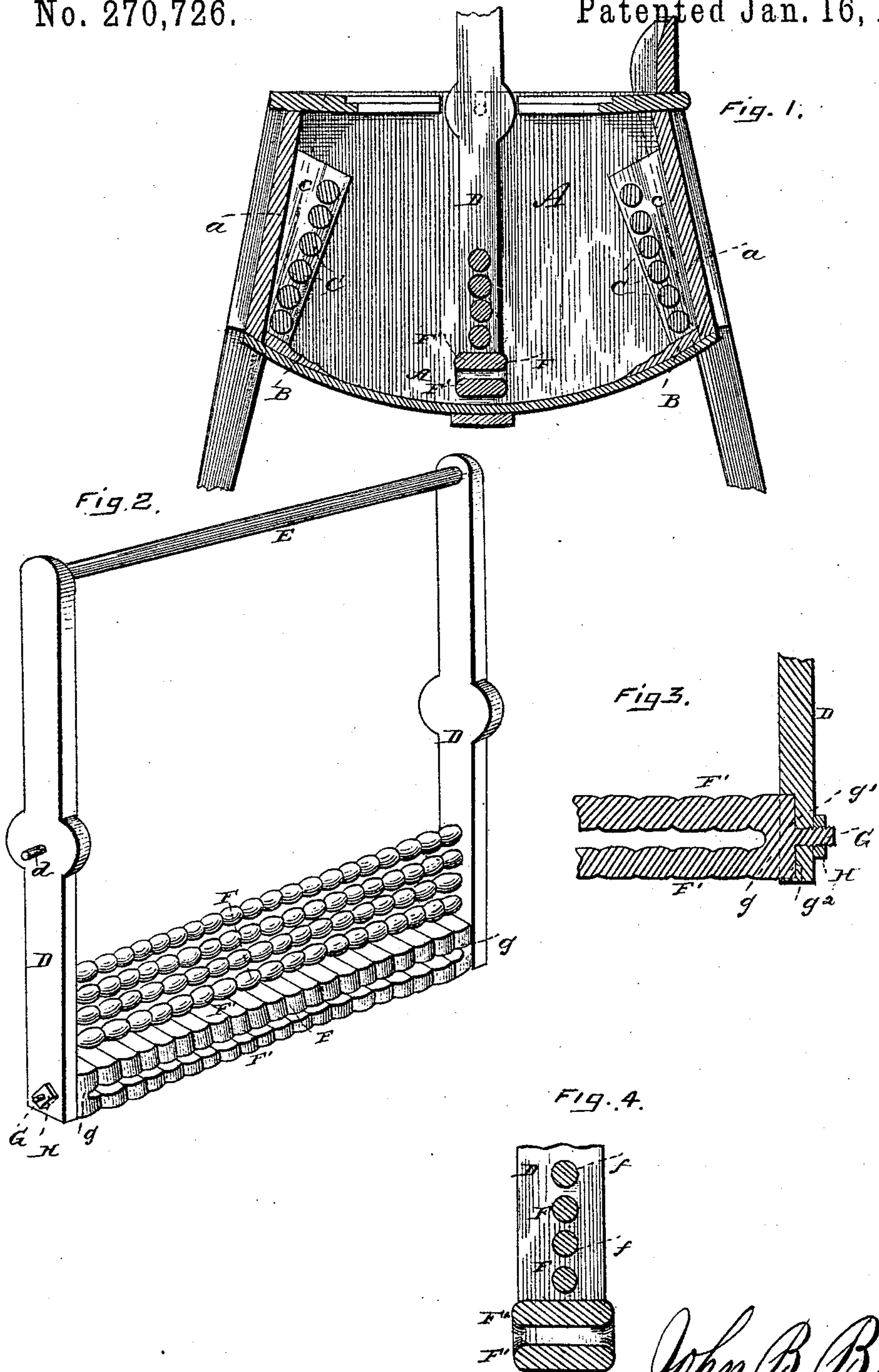


(No Model.)

J. B. BELL.  
CLOTHES WASHER.

No. 270,726.

Patented Jan. 16, 1883.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN B. BELL, OF PITTSBURG, PENNSYLVANIA.

## CLOTHES-WASHER.

SPECIFICATION forming part of Letters Patent No. 270,726, dated January 16, 1883.

Application filed July 29, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN B. BELL, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Clothes-Washers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a vertical cross-section of one of my improved clothes-washers. Fig. 2 is a perspective view of the beater removed from the suds-box of the washer. Fig. 3 is a longitudinal section through the lower part of the same, and Fig. 4 is a cross-section of the lower part of the beater-frame.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to that class of clothes-washers in which a reciprocating beater hung in the sides of the machine is worked in the suds-box or clothes-receptacle; and it consists in the improved construction and combination of parts of a machine of that class, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A represents the suds-box or clothes-receptacle, the concave bottom of which (either smooth or corrugated) has inclined sides *a a*. At the junction of the bottom and sides, on each side of the machine, is fixed a corrugated strip, B, above which stationary beaters C C are placed. These consist of bars or rungs, the ends of which are fixed into cleats in the ends or heads of the suds-box, so as to form slanting walls, leaving an open space, *c*, between them and the fixed sides *a* of the machine of gradually-increasing width toward the top. I prefer to make the rungs C corrugated, of the same construction and shape as the rungs in the beater-frame. (Shown in Fig. 2.) This construction, however, though preferable, as productive of certain advantages, is not essential to the successful operation of the machine.

The beater-frame consists of two parallel side pieces, D D, connected at their upper ends by the handle-bar E and at their lower ends by parallel rungs or bars F. The frame is

hung upon pins or trunnions *d*, working in bearings in the ends of the suds-box. By reference to Figs. 2, 3, and 4 it will be seen that the upper set or series of beater-rungs, F, are made round and corrugated, their tenoned ends *f* being inserted into round boxes bored into the lower part of the sides D D. The last two rungs, F', however, (I prefer to use two, though one will do,) or the pair nearest the bottom, are flattened, so as to give the desired weight and cause less resistance in the water, and cast (of iron or other suitable metal) in one piece, being connected at opposite ends by heads or cross-pieces *g*, which are cast upon bolts G, inserted through the ends of the sides D D, to which they are nipped on the outside by nuts H. To prevent the metal rungs F' F' from turning with their bolts in the beater-frame the heads or connecting-webs *g* are made with lips or flanges *g'*, which fit into mortises or recesses *g''* in the lower part of the side pieces, D, as will be seen more clearly by reference to Fig. 3 of the drawings.

I am aware that it is not new in washing-machines of this class to use a weighted handle on the beater-frame for the purpose of balancing the weight of the lower part of the frame, which is immersed in the suds, as well as to increase the momentum of the beater; but this is only partially effected where the weight is placed outside of the suds-box. By placing the weights F' F' in the lower end of the beater-frame, so that they form part of the beater itself within the suds-box, I not only facilitate the operation of the machine, but also increase the effect of the beater as against the clothes immersed in the suds-box.

The object of the corrugated strips B under the inclined sides, and which operate in conjunction with them, is to cause the clothes in the box to be turned over at each reciprocating motion of the beater, so that a fresh part of each piece of clothing contained in the machine will be subjected to the action of the beater at each reciprocation.

The object of the corrugations or ribs on the rungs or slats F and C is to cause the suds to gush in every direction from the pressure at each stroke. The openings between the fixed side rungs, C, will permit the suds to enter the space *c* between them and the inclined sides *a*



of the machine, from where it gushes out over the clothes, so as to thoroughly immerse and saturate them.

I have found by experience that in a machine of the usual size the weights of the lowest pair of beater-rungs,  $F' F'$ , in the beater-frame should be from fifteen to eighteen pounds, more or less. If made of iron or other metal that will rust, they should be tinned or galvanized, as should also their bolts  $G$  and nuts  $H$ .

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The beater-frame consisting of the side pieces,  $D D$ , connected at their upper ends by the cross-bar  $E$ , and having at their lower ends a series of parallel wooden rungs,  $F$ , and a pair of weighted metal rungs,  $F' F'$ , having solid ends or heads  $g$ , provided with flanges  $g'$ , and bolts  $G$ , adapted to be nutted to the beater-

frame, substantially as and for the purpose set forth.

2. The improved clothes-washer herein shown and described, the same consisting of the suds-box  $A$ , having inclined sides  $a a$ , a concave bottom, bottom strips,  $B B$ , and rungs  $C C$ , forming open spaces  $c$  at opposite sides of the machine, in combination with the beater-frame consisting of sides  $D D$ , having trunnions  $d d$ , handle-bar  $E$ , parallel wooden rungs  $F F$ , and fixed weighted bottom rungs,  $F' F'$ , all constructed and combined to operate substantially in the manner and for the purpose shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JOHN B. BELL.

Witnesses:

JAMES M. BELL,

ANDREW MILLER.