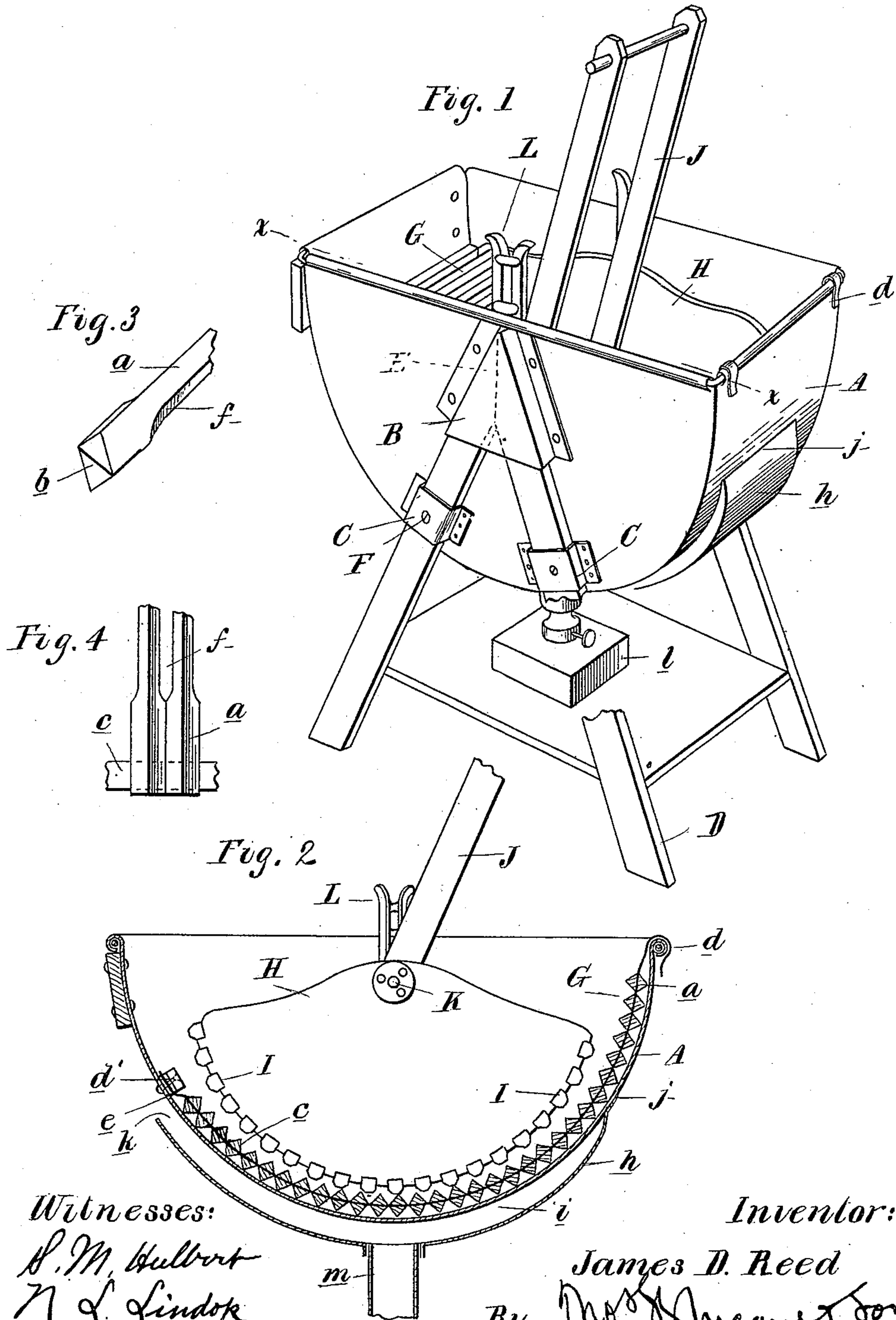


(No Model.)

J. D. REED.
WASHING MACHINE.

No. 472,227.

Patented Apr. 5, 1892.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES D. REED, OF EAGLE, MICHIGAN.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 472,227, dated April 5, 1892.

Application filed September 5, 1891. Serial No. 404,808. (No model.)

To all whom it may concern:

Be it known that I, JAMES D. REED, a citizen of the United States, residing at Eagle, in the county of Clinton and State of Michigan, have
5 invented certain new and useful Improvements in Washing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful
10 improvements in washing-machines; and the invention consists in the peculiar construction of the rubbing-surface and the rubber; further, in the peculiar construction of the tub and its means of support, and, further, in
15 the peculiar construction and arrangement of a heating device for such tub, all as more fully hereinafter described.

In the drawings, Figure 1 is a perspective view of my improved washing-machine. Fig.
20 2 is a vertical longitudinal section there-through on line $x x$. Fig. 3 is a detached perspective view of one end of one of the rubbing-slats; and Fig. 4 is a detached plan view of such slats, showing details of construction.
25

A is a semicircular metallic tub provided on its sides, centrally at the top, with the triangular boxing B and the brackets C at the lower edge, in line with the sides of the boxing B.
30

D are legs adapted to be inserted through the brackets C and having the beveled ends C, adapted to be wedged into the boxing B at their upper ends and to be secured therein in
35 any suitable manner, such as by means of the screws F, which form a firm support for the tub.

Within the tub I detachably secure a rubbing-surface G, which I form as follows: A series of slats a , preferably squared or rectangular in cross-section, are provided at each end with a slot or saw kerf b , arranged diagonally across such slats. Into the saw-kerfs at each end is forced a piece of band-iron c ,
40 which is of a width about equal to the depth of the slot. I preferably use galvanized iron of such thickness as to give considerable flexibility, so that when laid in the tub the rubbing-surface G will assume the shape of the
45

interior of the tub, as plainly shown in Fig. 50
2. In case one of the slats should be broken it may be readily detached and the remaining slats be pushed along upon the strip c to fill up the space, or a new one may be added by engaging the ends of the strip c into the saw-
55 kerfs of the new piece and sliding it along until it comes in contact with the sides of the end strips of the rubbing-surface. On one end of the strips c I preferably form hooks d , adapted to engage over the side of
60 the tub to support the rubbing-surface, and the other end I extend beyond the rubbing-surface, as shown at e , beneath a cleat d' , permanently secured within the tub.

The rubber consists of two segmental cir-
65 cular heads H, connected by the rubbing-slats I and having a handle J centrally secured thereto, pivot-pins K being provided, which engage in guide-brackets L in the side, to allow of detaching the same and rocking it
70 to rub the clothes which may be placed in the tub between the rubber H and the rubbing-surface G. The slats a I preferably cut away between the ends, as shown at f , to allow of
75 free access of the water beneath, so that I can draw it out through the exit-aperture. I make the rubbing-surface G detachable, so that the tub may be thoroughly cleansed at any time, and the rubbing-surface also.

In order to keep the water in the tub hot, 80
I secure upon the under side of the tub a concentrically-arranged wall h , forming between it and the bottom of the tub a heating-chamber i . This wall at one end is secured to the under side of the tub, as shown at j ,
85 and at the other end is provided with an exit-flue or open mouth k to allow the products of combustion from the lamp l to pass therefrom, a depending chimney m being preferably secured to the wall H. This allows of
90 the operator standing at one end without receiving any of the ill effects from the products of combustion and of keeping the water hot by means of the lamp while the device is in use.

What I claim as my invention is—

A washing-machine consisting of a semicircular metallic tub, a rubbing-surface within
95

the tub, consisting of slats having diagonal
kerfs therein, metallic connecting-strips *c*,
with which said slats slidingly engage, hooks
formed at the ends of the strips, extensions
5 at the opposite ends of the strips, and bind-
ing-cleats engaging said extensions, substan-
tially as described.

In testimony whereof I affix my signature in
presence of two witnesses.

JAMES D. REED.

Witnesses:

M. B. O'DOHERTY,
N. L. LINDOP.