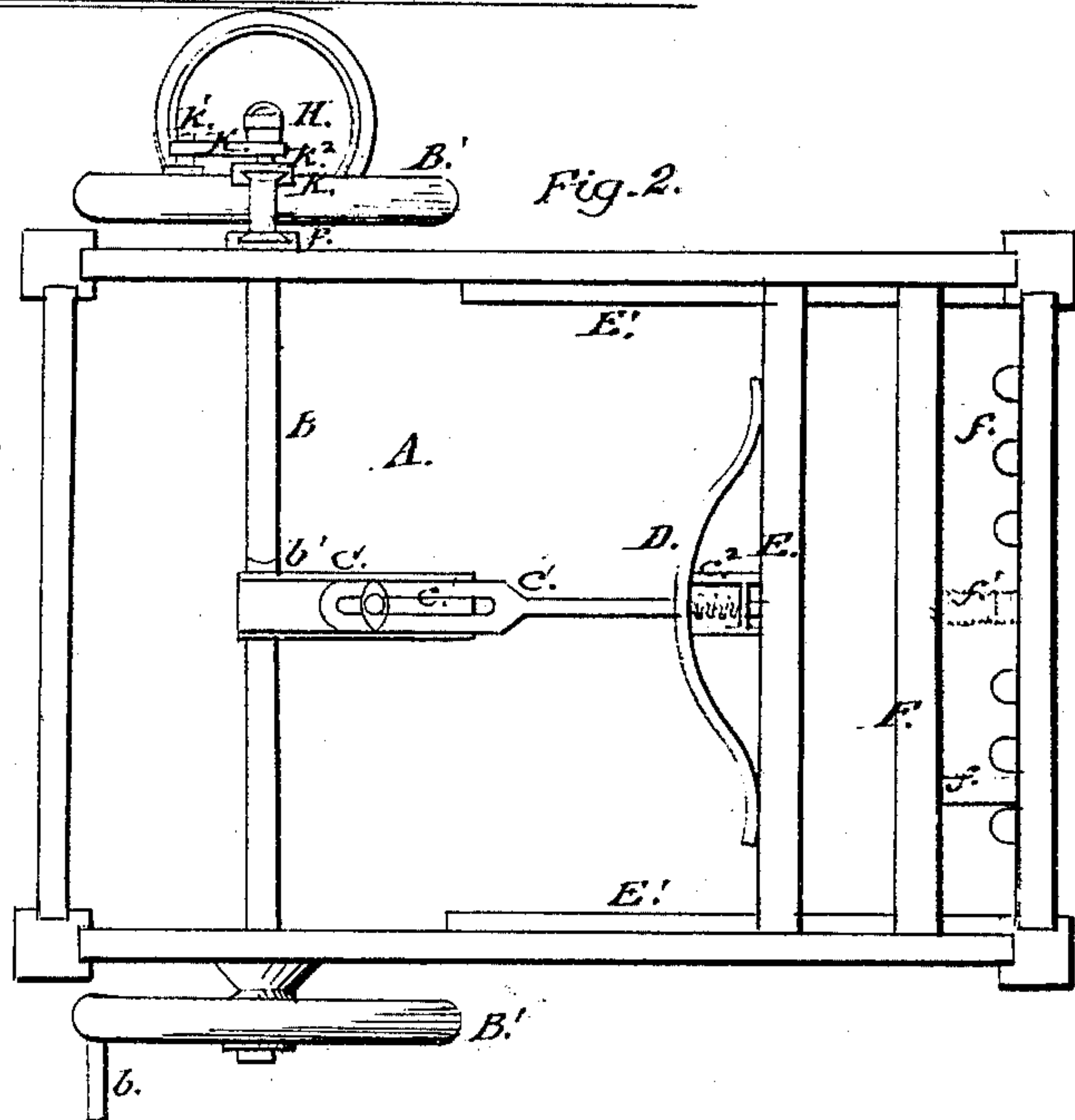
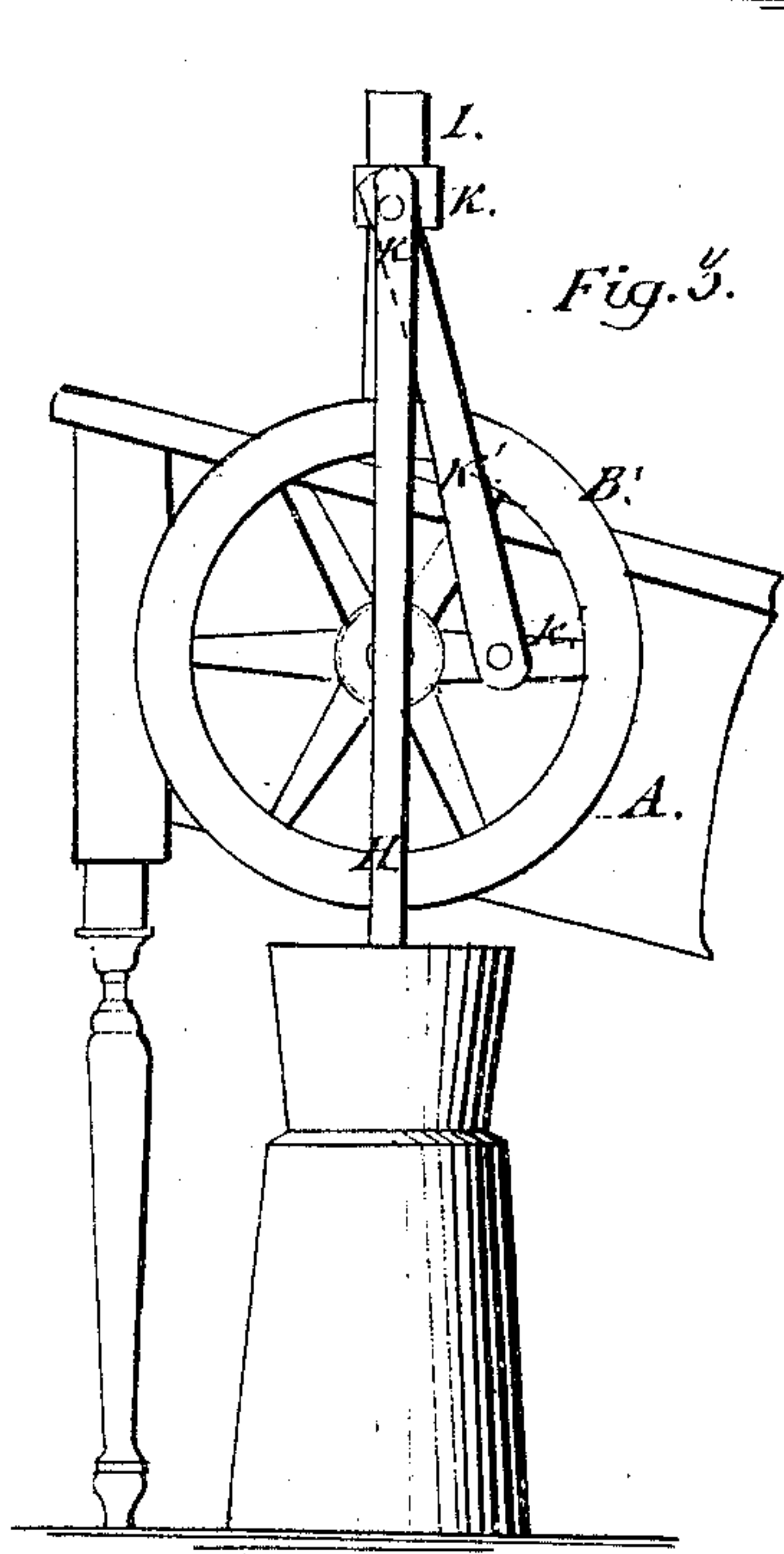
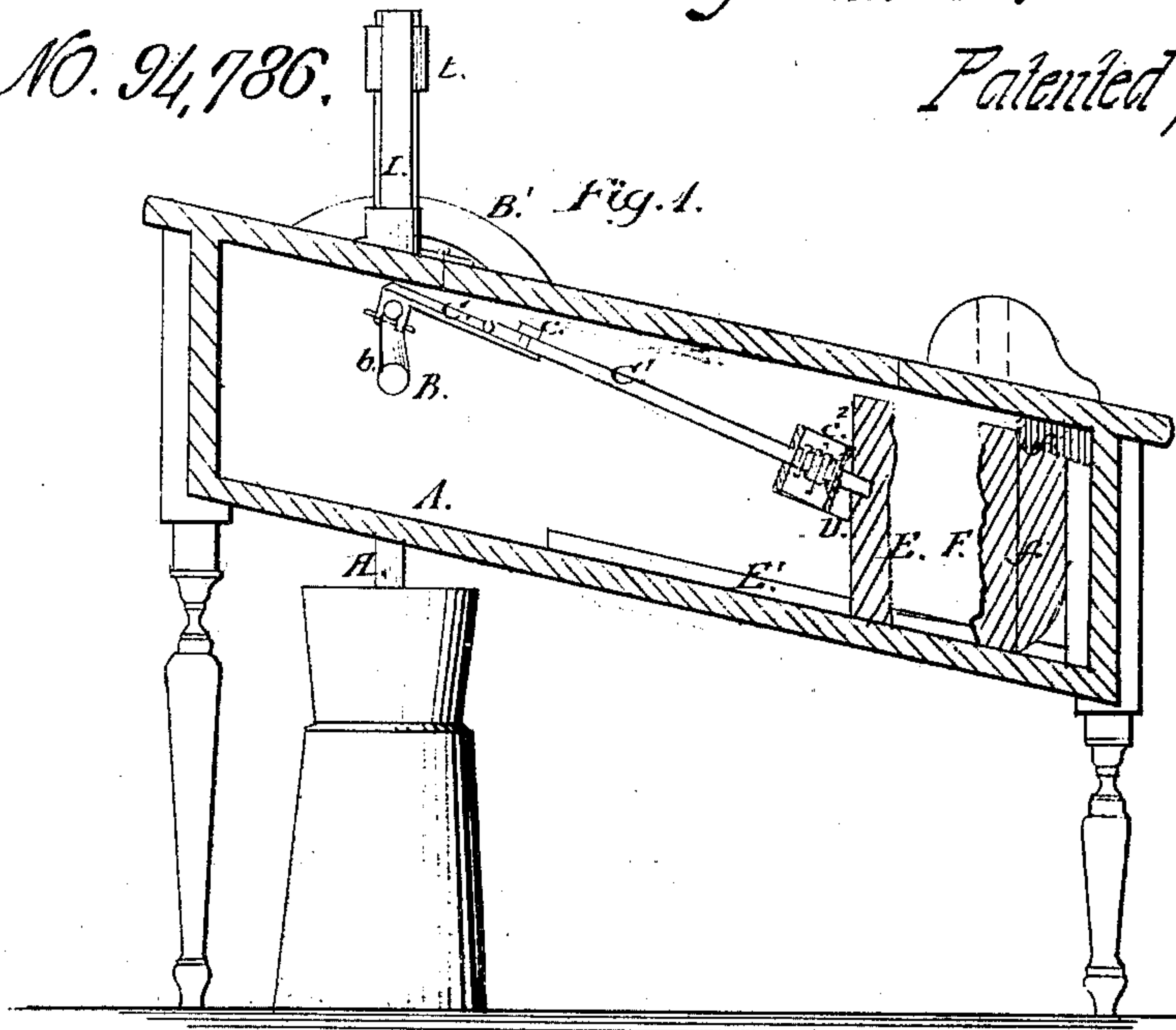


J. Smith,
Washing Machine.

No. 94,786.

Patented Sept. 14. 1869.



Witnesses:

William W. Kerbel
Robert Burns,

Inventor:

Justus Smith
Per. Kerbel & Co.
attorneys.

United States Patent Office.

JUSTUS SMITH, OF ST. LOUIS, MISSOURI.

Letters Patent No. 94,786, dated September 14, 1869.

IMPROVEMENT IN WASHING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JUSTUS SMITH, of St. Louis, in the county of St. Louis, and State of Missouri, have made certain new and useful Improvements in Combined Washing-Machine and Churn; and I do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

The nature of this invention consists in the arrangement of the wash-board and plunger to produce a rocking and kneading movement, to compress and rub the clothes more perfectly.

To enable those herein skilled to make and use my said improvements, I will now more fully describe the same, referring to the accompanying—

Figure 1 as a sectional elevation, to

Figure 2 as a plan, with the washing-machine cover removed, and to

Figure 3 as a side view of the devices operating the churn-dasher.

I construct the vessel or box A of the washing-machine in any desired form, usually resting the same in an inclined position upon the legs, as indicated in fig. 1.

To operate said machine, I arrange at the upper end of said vessel A the driving-shaft B, with fly-wheel B', and handle b.

On said shaft, within the vessel A, I arrange the crank b', and connect hereto the forward end, C, of a connecting-rod.

Said end piece C has a screw, c, which connects this piece with the rear end, C', of the connecting-rod, the set-screw c being adjustable in the slot c' of the end C', in order to lengthen or shorten the rod.

At its lower end the piece C' has a spring, c², pressing upon the bearing-stirrup D, the spring c² being held by a proper pin to the piece C', and being confined in the mortise d, formed by ribs of the stirrup D, the said stirrup will then be carried back and forward and perform an angular vibration at the same time, under the impulse of the crank b'.

Said stirrup D is screwed to the plunger E, which has a ridged surface, to rub and press against the clothes placed before the same.

The plunger E moves on slides E', secured to the bottom of the vessel A.

In order that the clothes may receive from both sides an elastic rubbing pressure, I construct the wash-board F, having the usual ridged surface, and having at its back the rockers f.

A spring, f', is arranged to connect the upper edge of said board with the side of the vessel A.

When the plunger E, moving down, presses the clothes before it against the board F, this is forced back, and, owing to the changing angle of inclination of the plunger E, the board F is caused to make a rotary vibration about a horizontal axis, thus acting to thoroughly knead and compress the clothes between the board and plunger, in a manner highly conducive to the cleansing of the same.

In order to operate a churn-dasher, H, by the shaft B and its fly-wheels, I arrange on the body of the washing-machine a guide, I, upon which the cross-head k is caused to travel by a rod, K, which connects with the pin k', upon the fly-wheel B'.

The connecting-pin k², of the parts k K, is used also as point of attachment of dasher H, and a simple reciprocating motion of the dasher is thus achieved by the operation of the shaft B.

While the operations of the two machines are independent of each other, still it is considered an important economy to use the operating-devices of a washing-machine to operate a churn-dasher.

In order to carry no dead weight, if the washing-machine is not in use, the connecting-rod C C' will be disconnected from the crank b' in operating the churn. Similarly the churning attachment may be disconnected when not in use.

Having thus fully described my invention,

What I claim, is—

The arrangement of the plunger E, moved on ways E' by the rod C C', crank b', and crank-shaft B, the parts being joined to said plunger by the strap D and spring c², combined with the board F, having rockers f and spring f', substantially as set forth.

In witness of said invention, I have hereunto set my hand, in the presence of—

JUSTUS SMITH.

Witnesses:

GEO. P. HERTHEL, Jr.,
WM. W. HERTHEL.