

W. P. BROOKS.  
Washing-Machines.

No. 135,318.

Patented Jan. 28, 1873.

Fig. 1.

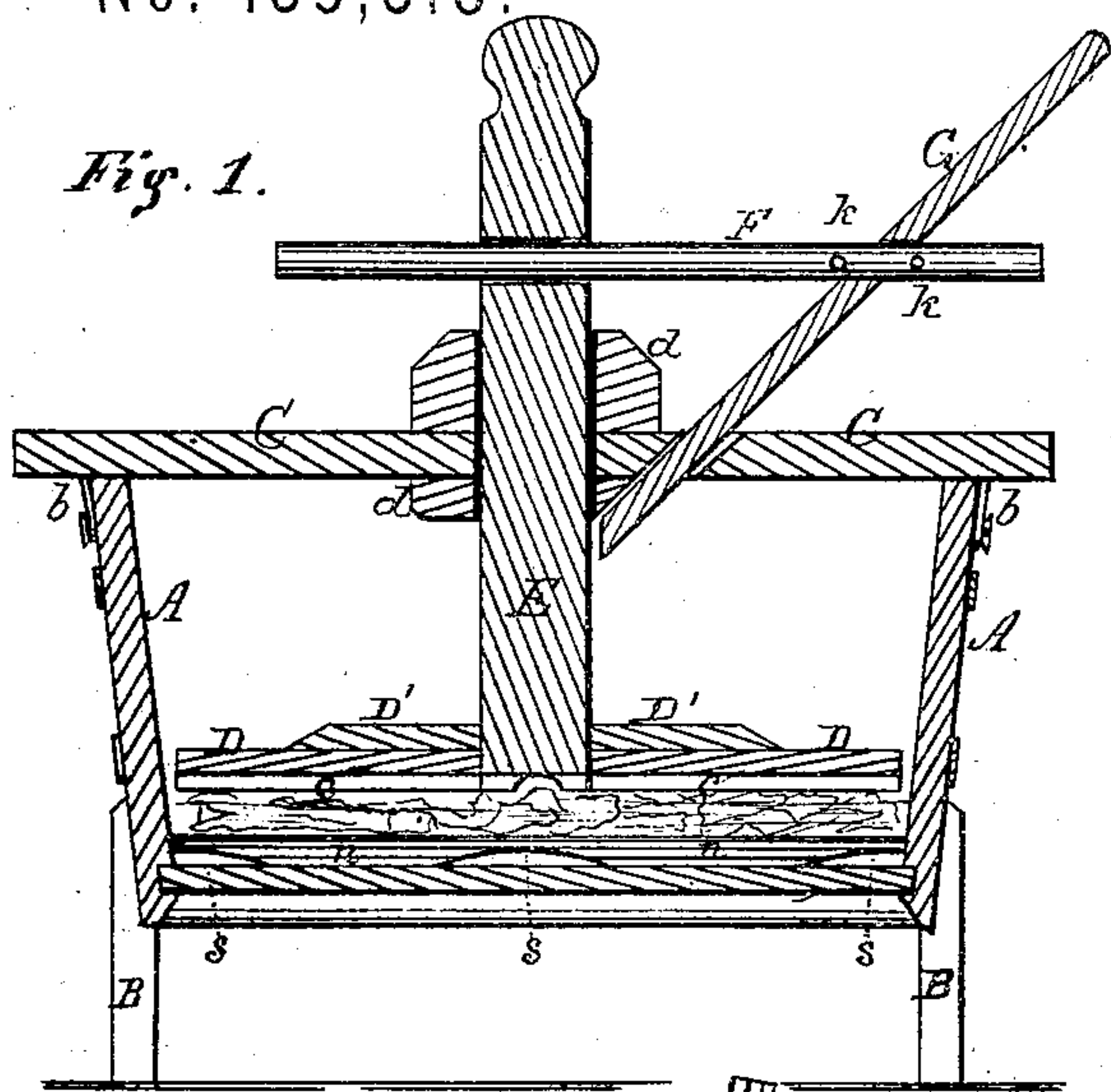


Fig. 2.

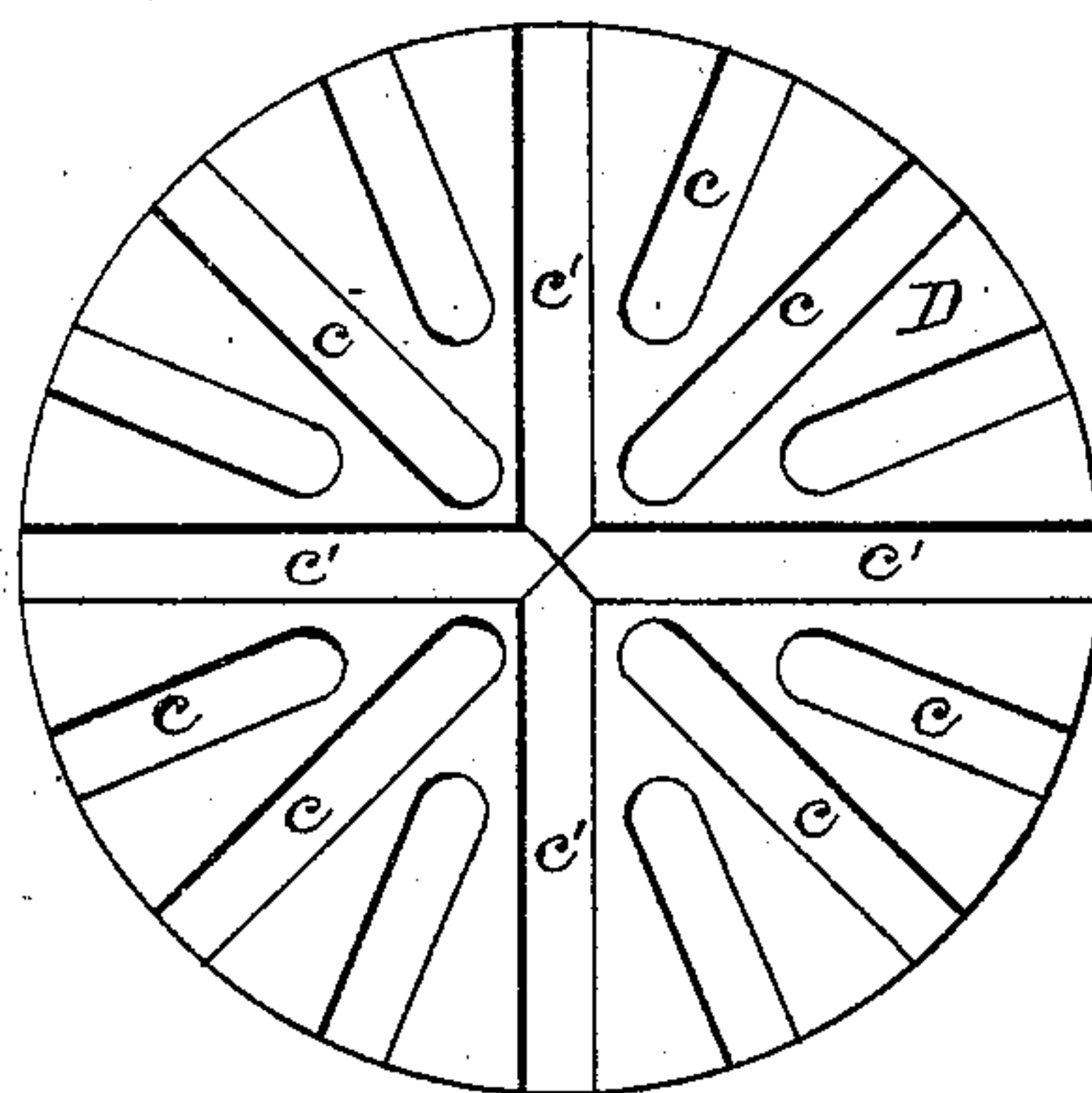


Fig. 3.

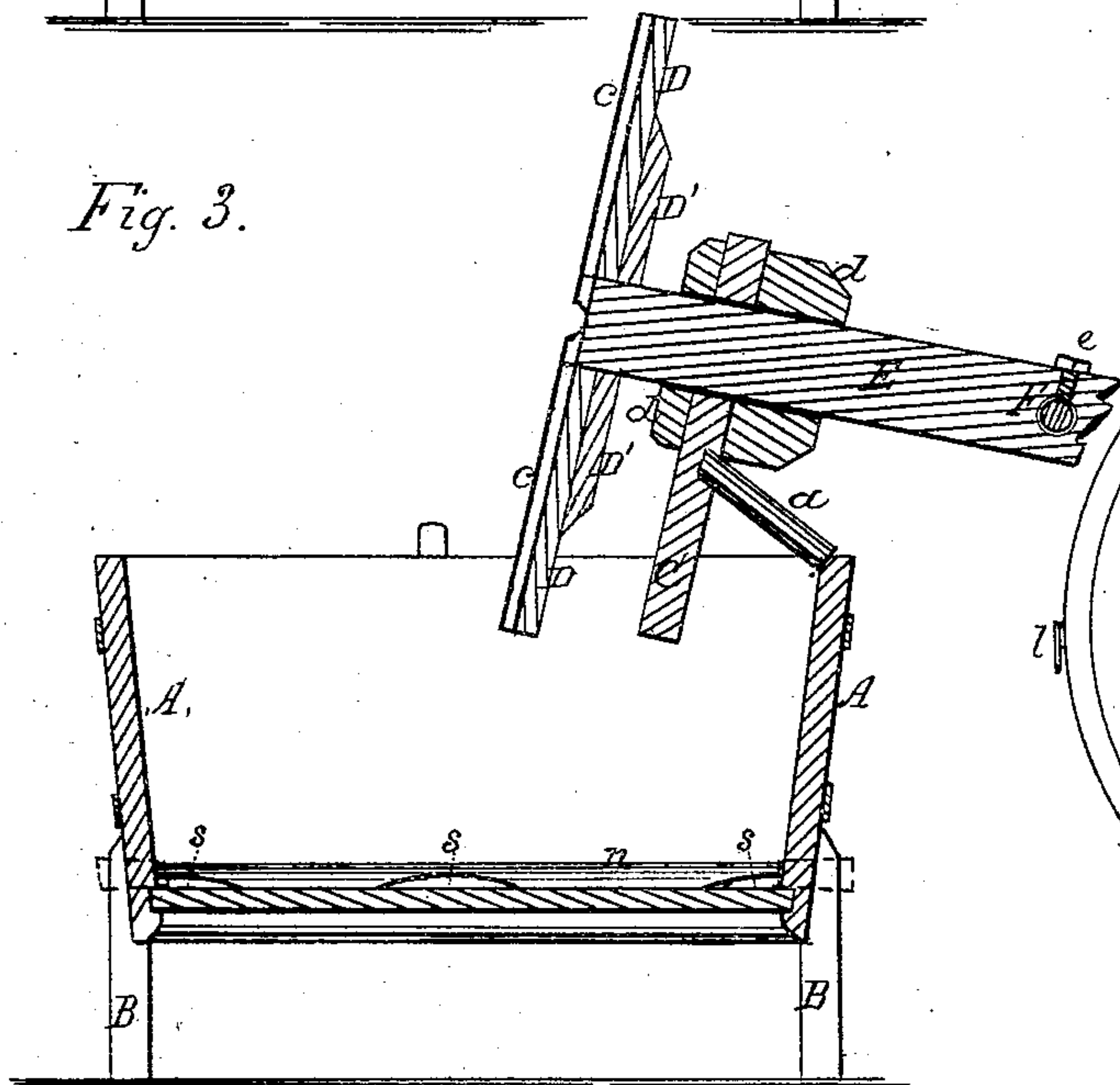


Fig. 4.

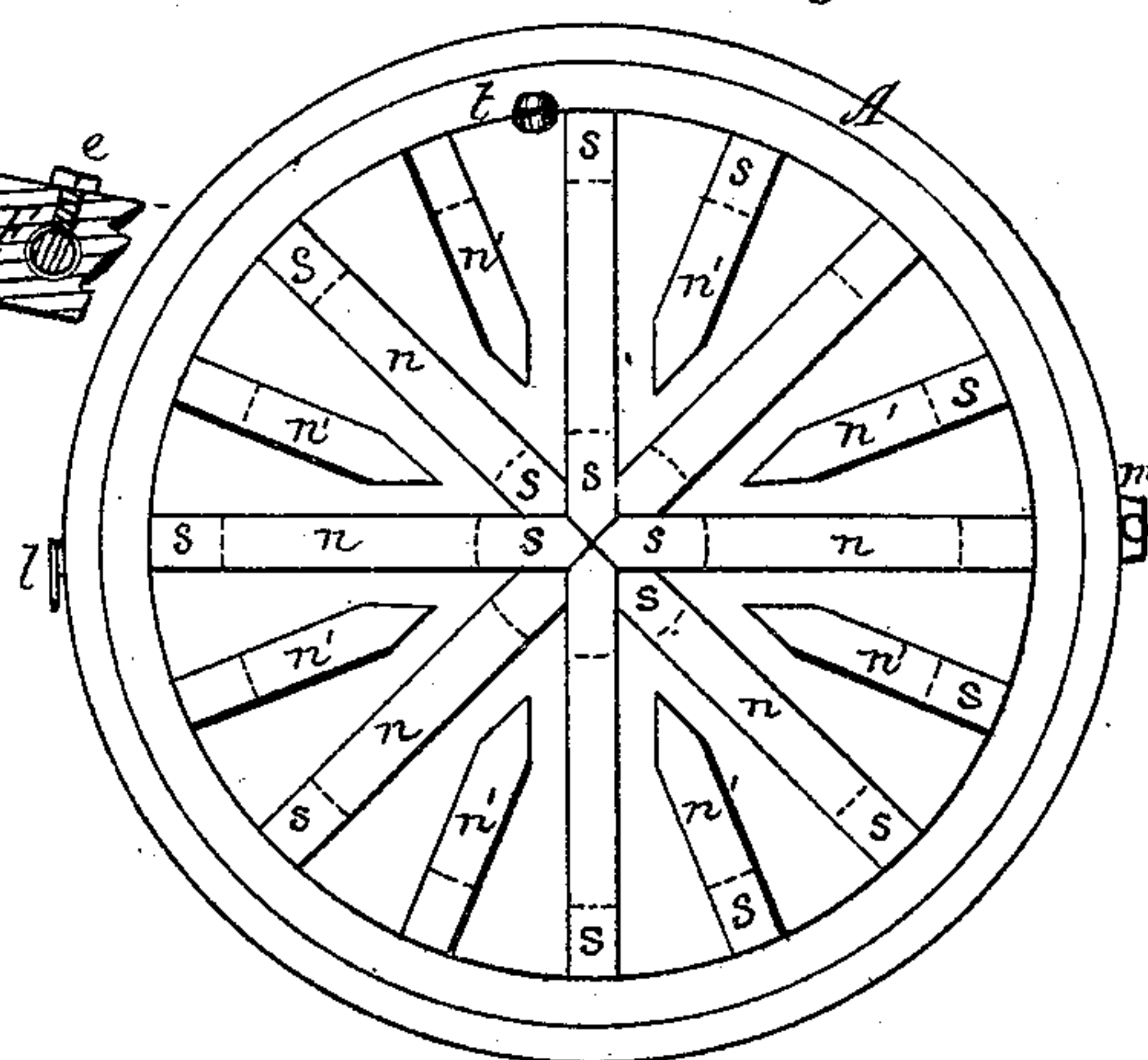
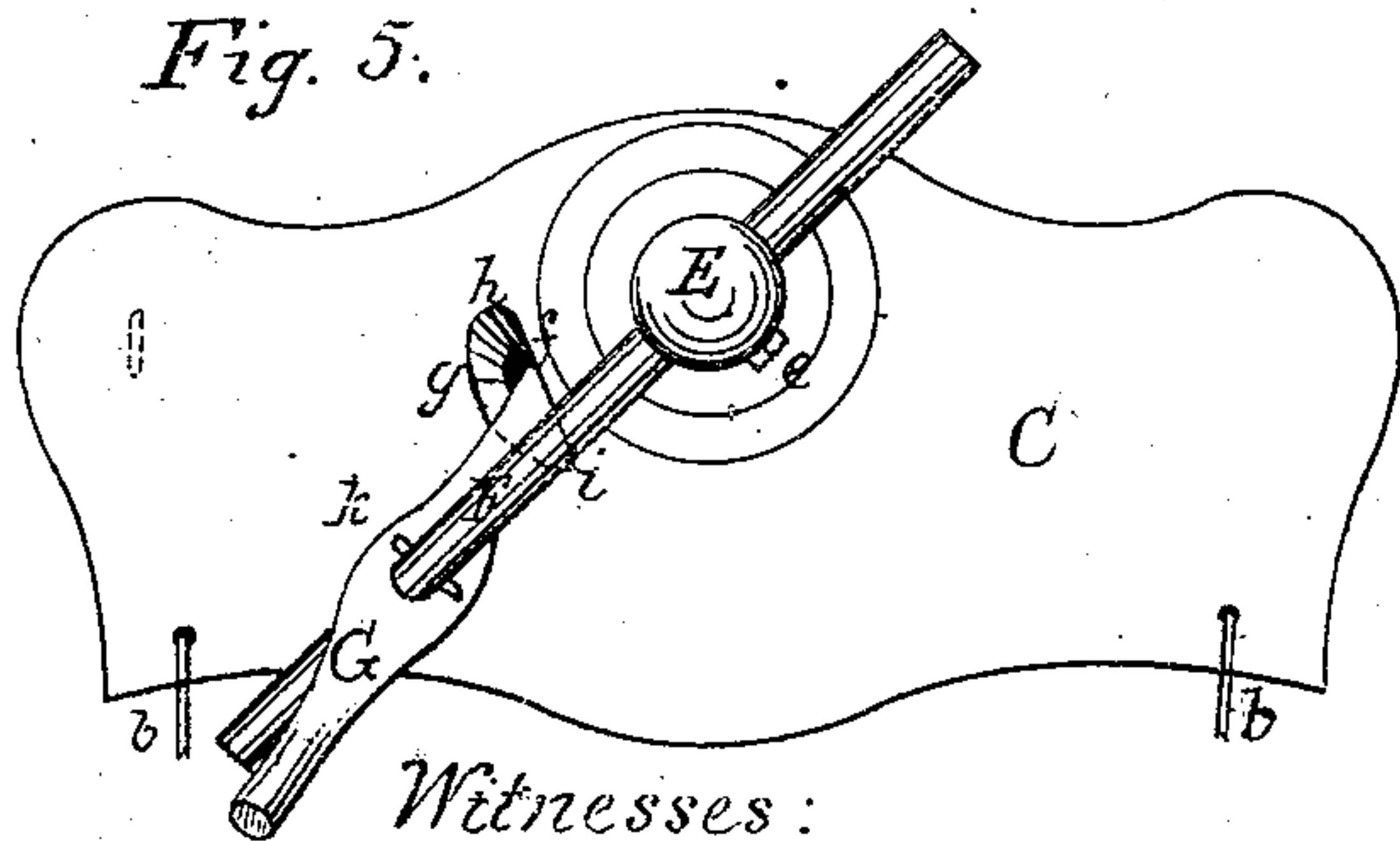
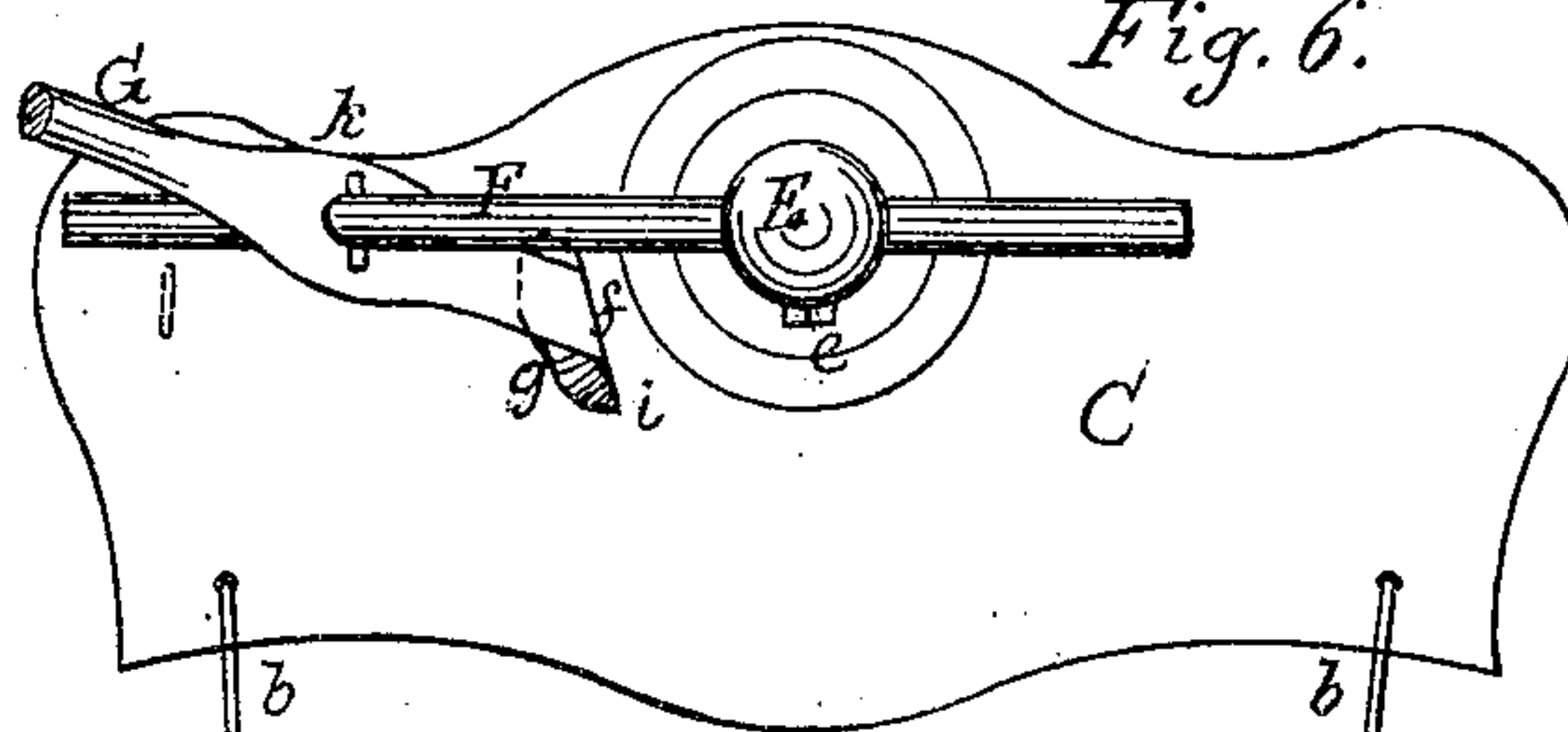


Fig. 5.



Witnesses:  
West Wagner.  
Aug. 24, 1872.

Fig. 6.



Inventor:  
Willard P. Brooks  
By Johnson, Mauck & Co.  
his Attorneys



# UNITED STATES PATENT OFFICE.

WILLARD P. BROOKS, OF LAWRENCE, KANSAS.

## IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 135,318, dated January 28, 1873.

*To all whom it may concern:*

Be it known that I, WILLARD P. BROOKS, of Lawrence, in the county of Douglas and State of Kansas, have invented a new and useful Improvement in Washing-Machines, of which the following is a specification:

My invention relates to that class of washing-machines in which the washing device is attached to an ordinary tub; and my said improvements consist in the construction and method of operating a disk-follower fitting within the tub, and turned back and forth by a peculiar arrangement of hand-levers, which, by the connection of one end with an opening in the hinged board of the tub, causes the follower to have a slight up-and-down movement simultaneous with its oscillating movement, thereby giving the follower a variable pressing action upon the clothes in connection with its rubbing action; also, in the construction and arrangement of the several parts of the washing-machine for operation, as will be more fully hereinafter specified.

In the accompanying drawing, Figure 1 represents a vertical section of a tub washing-machine with my improvements applied thereto. Fig. 2 represents a similar view, the follower being raised and tilted back. Fig. 3 represents the grooved bottom of the follower. Fig. 4 represents the ribbed bottom of the tub. Fig. 5 represents a top view of the hinged board, showing the levers at the back limit of their movement; and Fig. 6 represents a view of the same, showing the levers at the front limit of their movement.

The tub A is mounted upon legs B, in any suitable manner, and the washing device is mounted in a cap or board, C, hinged to the top of the tub near one side, so that when turned back it will rest upon the tub by means of a pin, *a*, extending from the cap C, and leave the tub of free access in manipulating the clothes, the position of the hinges *b* being such as to let the follower D down into the tub when turned down for operation. The follower is a thick circular piece of wood, D, provided with radial grooves *c* on its under side of different lengths, two of which, *c'* *c'*, cross the surface entirely at right angles, and to its upper side a smaller disk, D', of wood, is secured, so that the grain of the two will run opposite each other to prevent the disk

from warping. The follower is secured to a stem, E, in any suitable manner. The stem passes through the hinged cap C, which is provided with a guide-piece, *d d*, on its upper and lower sides, so as to form a broad guide and bearing for the follower-stem, and, being placed with their grain opposite, prevent the hinge-cap C from warping, and the long bearing—the follower-stem—from wobbling. The stem is provided with a horizontal arm, F, which may be adjusted and secured to a greater or less length by means of a screw, *e*, and the follower may be oscillated by this lever. The limit of the oscillation of the follower is effected by means of an oblique lever, G, having a swiveling connection with the horizontal arm F of the follower-stem, and a loose connection with the hinged cap C into a bevel-opening, in which the lower end of the oblique lever G extends, and allows said lever to vibrate back and forth with the movement of the follower, and may serve as the means for effecting such movement in connection with the lever F of the stem, according to the height of the person operating. The connection of the oblique lever G with the follower-stem F and hinge-cap C is peculiar, and has the effect of raising and lowering the follower as it is oscillated. This action arises from the peculiar shape of the opening in the cap for the oblique lever, and the position of the latter upon the horizontal lever F, said opening being straight on its inner side *f*, and beveled inward from the top and curved on its outer side *g*, and beveled upward from the bottom, forming a figure resembling a semicircle, with one corner, *h*, flattened. The under side of the oblique lever G is convex, and its upper side flat to match the corresponding side *f* of the opening in which it works, and it forms a stop to limit the extent of the oscillations of the follower, in connection with the lock formed by the two levers F G, at the end of each vibration of the oblique lever. In vibrating the oblique lever G, it also has an up-and-down movement in the opening of the cap C corresponding with that of the follower, and the action of this lever is such that, when turned backward toward the hinges *b* of the cap C and into the sharp corner *i* of the opening, the follower will descend and press gradually upon the clothes during that stroke of its oscil-



lation; but when the oblique lever G is moved forward into and against the flattened corner *h* of the opening, with its bearing upon the upward beveled side thereof, it gives to the follower a gradual upward movement during the forward stroke of its oscillation; and thus is produced with each movement of the follower a gradual increase and release of the pressure thereof upon the clothes during each back and forward rubbing movement of the follower. The connection of the two levers F G is made by an opening in the oblique lever G, which is held in place upon the horizontal arm F by pins *k* in a manner to allow the oblique lever to have a slight sliding movement upon the horizontal lever E, between the pins *k*. The follower-stem E should be of sufficient diameter to afford a steady working of the parts, and the hinged cap is held in place by a hook, *l*, and pin *m*, as shown in the drawing. The bottom of the tub is provided with radial ribs *n n'*, of unequal length, arranged in a corresponding manner to the grooves of the follower. These ribs are beveled at the under sides of their outer ends, and also at their ends which join at the center to form spaces *s* to allow a free passage of the water under

the ribs to empty the tub without tilting it over. The water may be let out through an opening, *t*, in the tub, closed by a plug. The horizontal lever F may be adjusted in the follower-stem so as to obtain the exact adjustment of the oblique lever G, to obtain the best and easiest working of the follower.

Having described my invention, I claim—

1. The combination of the oblique hand-lever G with the horizontal hand-lever F, connected to each other and to the hinged cap C, as described, with an oscillating follower, D, of a washing-machine, essentially as and for the purpose described.

2. In a washing-machine, the combination of the grooved oscillating follower D, hinged cap C, oblique and horizontal levers F G, beveled opening, and the tub constructed with ribs *n n'*, as described, the several parts being constructed and arranged for operation substantially as described.

In testimony whereof I have hereunto set my hand this 23d day of August, 1872.

WILLARD P. BROOKS.

Witnesses:

GEO. S. HAMPTON,

GEO. W. SMITH.