

(No Model.)

J. SCHROEDER.
MEANS FOR OPERATING WASHING MACHINES.

No. 535,465.

Patented Mar. 12, 1895.

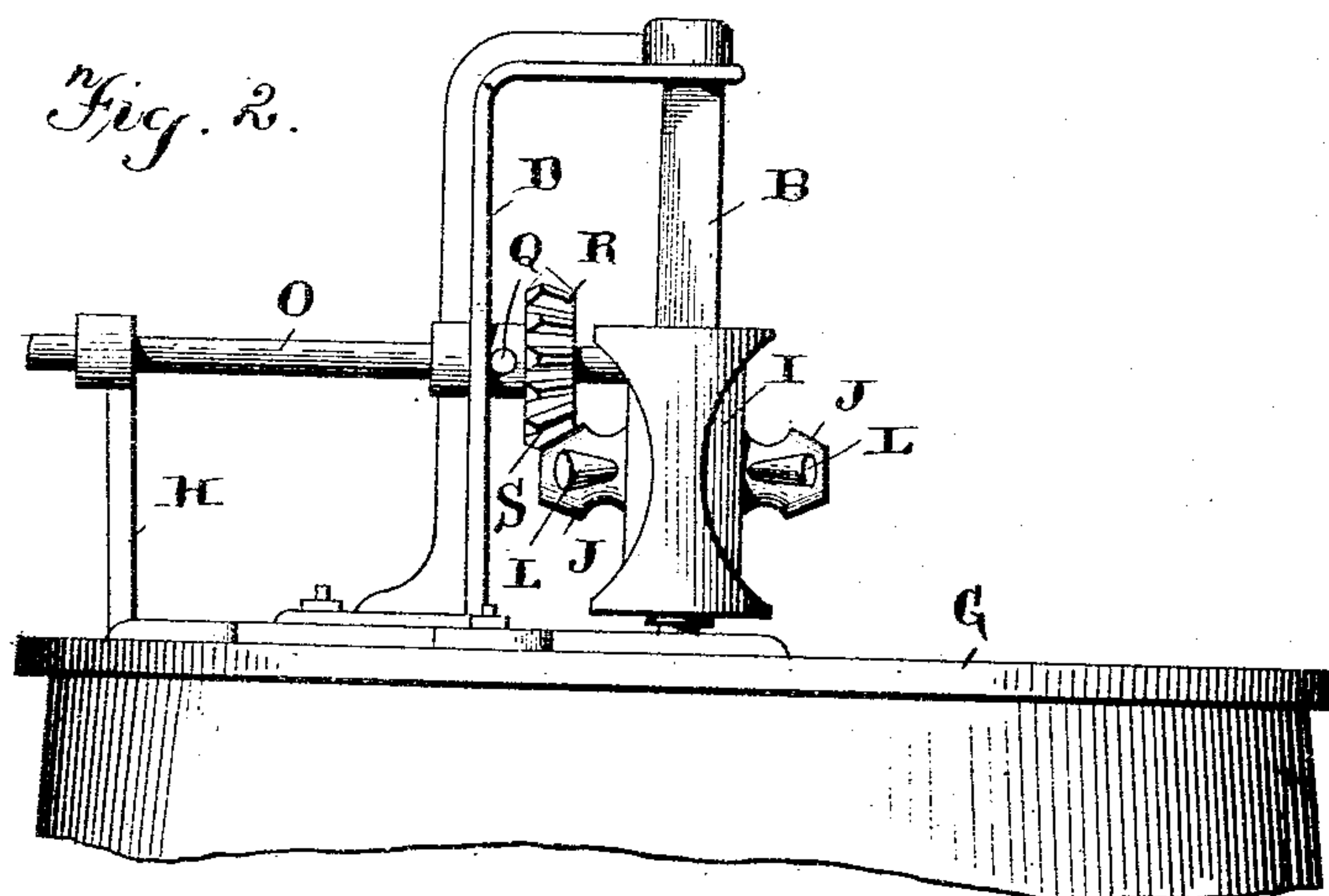
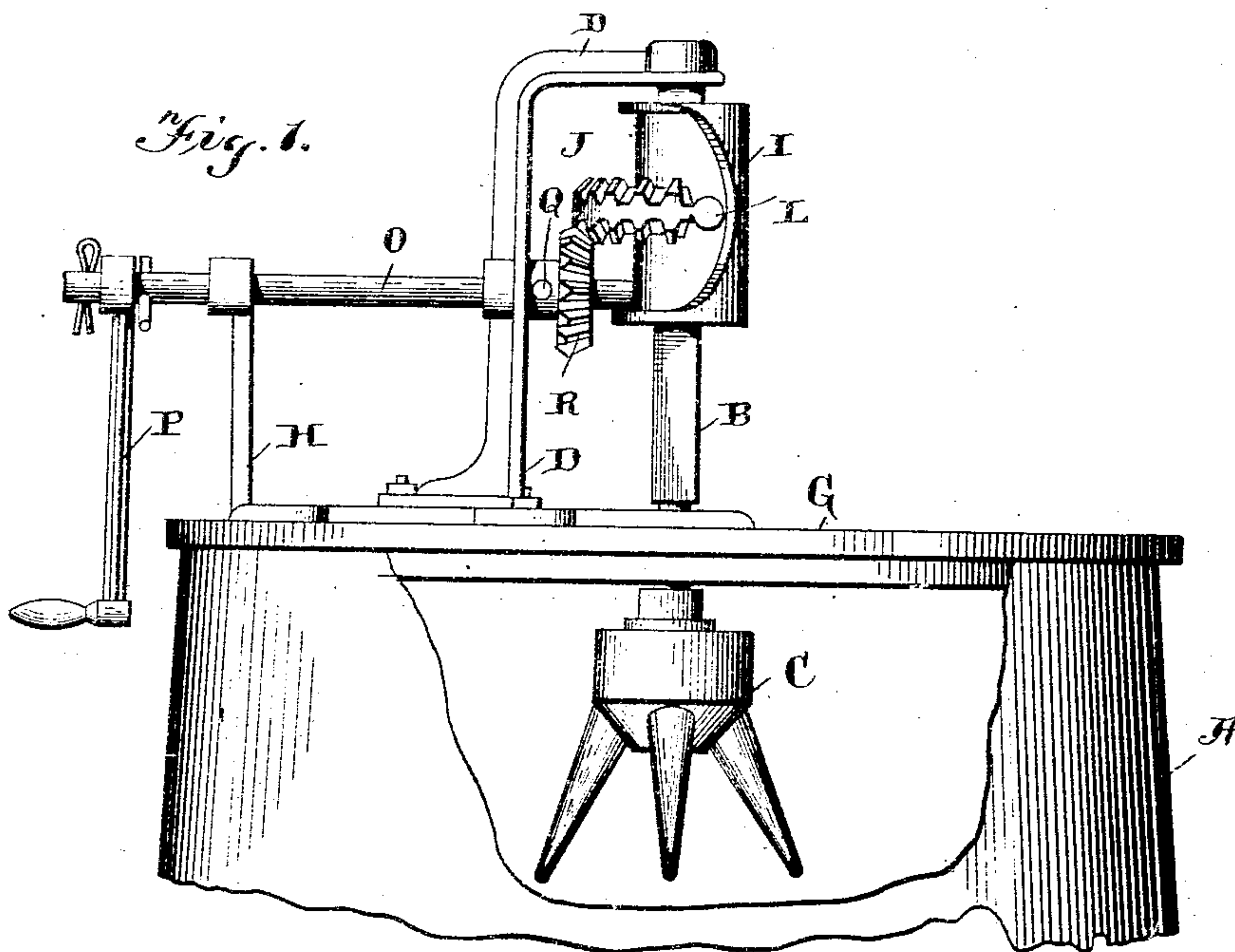


Fig. 3.

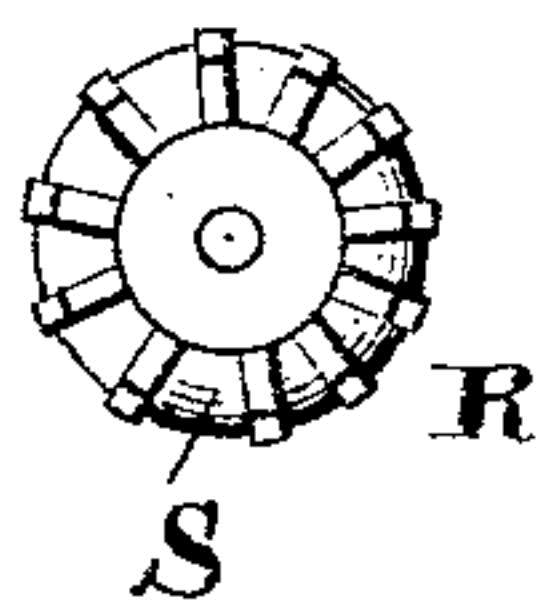
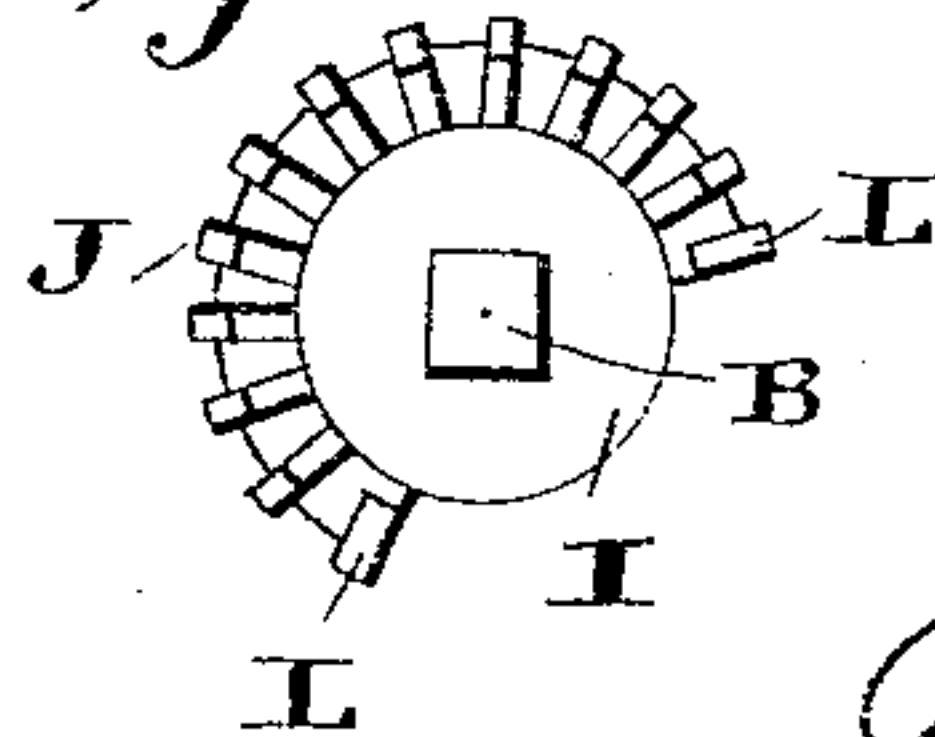


Fig. 4.



Witnesses
Geo. C. Frech,
J. A. Lehmann

Inventor.
J. Schroeder,
by *L. G. Susemuhl,*
Attorney

UNITED STATES PATENT OFFICE.

JOHN SCHROEDER, OF AMITY, IOWA.

MEANS FOR OPERATING WASHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 535,465, dated March 12, 1895.

Application filed October 23, 1894. Serial No. 526,770. (No model.)

To all whom it may concern:

Be it known that I, JOHN SCHROEDER, a citizen of the United States, residing at Amity, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Means for Operating Washing-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in means for operating washing machines, and it consists in a shaft which is revolved continuously in one direction by the operator, combined with an angular revolving shaft, which is made to revolve first in one direction and then in the other, and a vertically moving cylinder placed upon the angular shaft, and which is provided with a double row of teeth or cogs which extend partially around the cylinder, and which mesh with the pinion upon the driving shaft for the purpose of causing the angular shaft to revolve, all of which will be more fully described hereinafter.

The object of my invention is to provide a mechanism for reciprocating rotary washing machines, whereby when the driving shaft is revolved continuously in one direction a rotary reciprocating motion is imparted to the operating shaft, the latter being provided with a pronged head which causes the clothes to move first in one direction and then in the other, in the frame of the washing machine.

Figures 1 and 2 are side elevations of a washing machine which embodies my invention. Fig. 3 is a detail view of the driving wheel. Fig. 4 is a plan view of the cylinder detached.

A represents the body or frame of the washing machine, and B the operating shaft which has the pronged head C secured to its lower end inside of the frame A, for the purpose of moving the clothes around first in one direction, and then in the other, as is customary with this class of machines. The shaft B has its upper end journaled in the frame D, and is supported by the cover G and casting H at that portion where it is reduced in size and passes through them. Between the top of the

casting H, and the upper portion of the frame D, the shaft is made square or angular, for the purpose of being revolved by the cylinder I, which is placed thereon and has a vertical movement on the shaft, as shown in Figs. 1 and 2. This cylinder will preferably be made in the form here shown, and provided with a double row of cogs or teeth J, which extend partially around its side, and which cogs or teeth terminate in a single tooth or cog L, and which is placed midway between the two rows. The number of cogs or teeth will be proportioned to the distance that the head C shall be revolved in both directions. The driving shaft is mounted in the vertical portion of the casting H, which is secured directly to the top of the cover, and in the frame D which is made separate from but is bolted down upon the top of the casting H. To the outer end of this shaft O is secured the handle P, which is to be turned continuously in the same direction by the operator, and to the inner end of the shaft is fastened by means of a pin or other suitable device Q, the driving wheel R. The teeth of this wheel are made to mesh with the two rows of teeth or cogs upon the side of the cylinder I, and thus cause the cylinder and the shaft B, upon which it is placed to revolve first in one direction and then in the other. One of the recesses between two of the teeth or cogs upon the wheel R, is made larger than the other spaces between the teeth, and this space or recess S is made sufficiently large to catch over the single tooth or cog L. The number of teeth upon the wheel R corresponds to the number of teeth or cogs in either the upper or lower row J, upon the cylinder, and hence the recess S has the single tooth L at each end of the double row of teeth J to catch in it only when the wheel R has made a complete revolution and reached the end of the double row J. If the cylinder I is in the raised position shown in Fig. 1 when this recess S reaches the end of the row J, the single tooth L catches in the recess S, and the cylinder is forced downward upon the shaft B without stopping its rotary motion in the slightest. Should the cylinder I be in the position shown in Fig. 2 and the recess S in the wheel reaches the end tooth L, the cylinder is raised by the recess catching under the tooth L, and forcing it up into the position shown

in Fig. 1, so that the teeth upon the wheel will engage with the lower row of teeth J.

While the cylinder I has a vertical movement from the position shown in Fig. 1, to that shown in Fig. 2 at every two revolutions of the wheel R, the continuous reciprocating rotary motion of the shaft B is even and regular, and there will be no jerks nor jarring in the movement of the parts when the wheel R, passes from the upper to the lower row of teeth upon the side of the cylinder. The operator has only to continuously revolve the handle in either direction, and the shaft B will be driven first in one direction and then in the other.

As will be seen, the parts consist of only the driving shaft provided with a wheel and the operating shaft B, provided with the vertically moving toothed cylinder I.

Having thus described my invention, I claim—

1. An operating shaft having a rotary reciprocating motion, a cylinder placed upon the shaft and having a sliding movement thereon, and through which cylinder motion is alone

communicated to the shaft, and a double row of teeth or cogs upon the cylinder extending at an angle to the shaft, combined with a driving shaft having means for revolving it at 30 attached to one end, and a wheel for engaging the teeth on the cylinder at the other, the driving shaft being driven continuously in one direction, substantially as shown.

2. The driving shaft provided with a handle, and a toothed driving wheel provided with an enlarged space between two of its teeth, combined with a vertically moving cylinder, having a double row of cogs upon its side and a single tooth at each end of the double row of cogs adapted to enter said enlarged space in the driving wheel; and the operating shaft upon which the cylinder is placed, substantially as described.

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

JOHN SCHROEDER

Witnesses:

T. A. MURPHY,
H. JARCK.