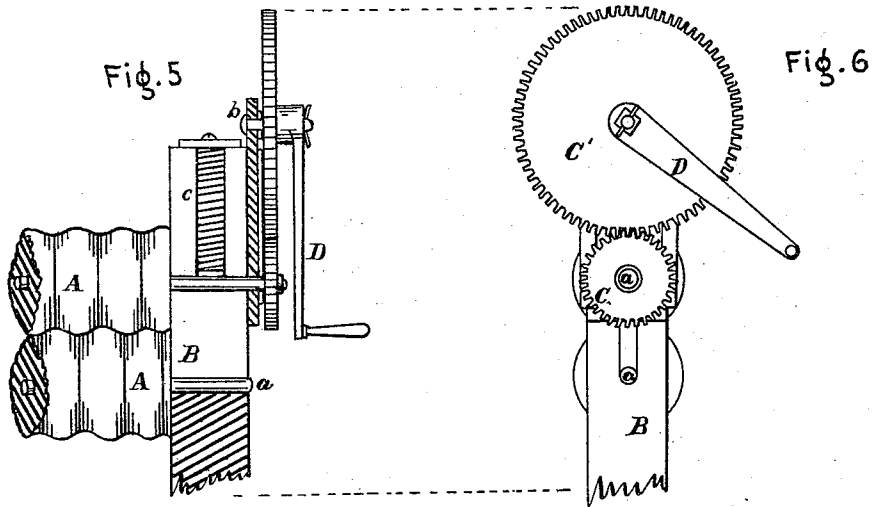
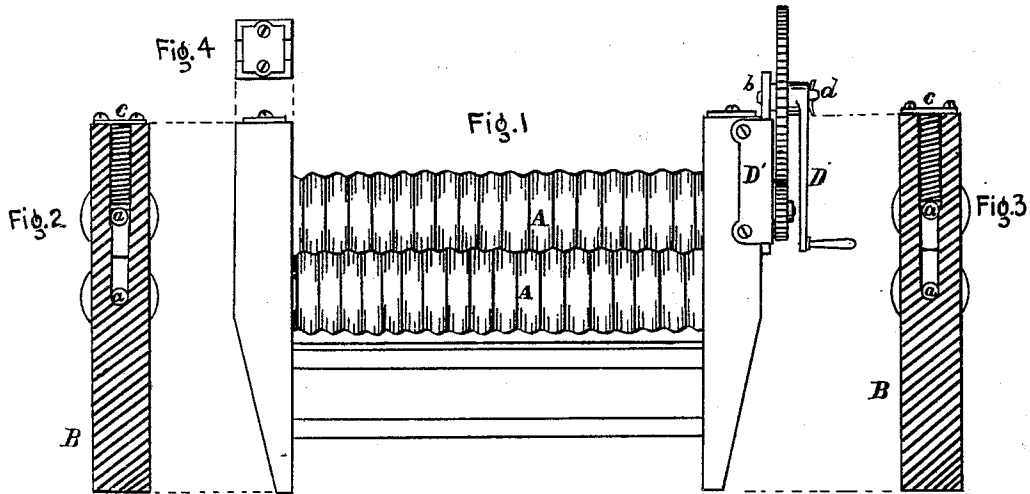


C. A. WERDEN.
Washing-Machines.

No. 153,692.

Patented Aug. 4, 1874.



— Witnesses —

C. J. Shipley
R. D. Bowersoll.

— INVENTOR —

Cyrus A. Werden.
Per Bowersoll & Co. attys

UNITED STATES PATENT OFFICE.

CYRUS A. WERDEN, OF WAUKEGAN, ILLINOIS, ASSIGNOR TO HIMSELF AND
WILLIAM B. WERDEN, OF SAME PLACE.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **153,692**, dated August 4, 1874; application filed
March 3, 1874.

To all whom it may concern:

Be it known that I, CYRUS A. WERDEN, of Waukegan, in the county of Lake, State of Illinois, have invented new and useful Improvements in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which my invention relates to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a front view; Fig. 2, end section of post; Fig. 3, end section of post; Fig. 4, top view of post; Fig. 5, sectional view of gearing; Fig. 6, end view of gearing.

My invention relates to that class of washing-machines that are operated by means of gearing. At the present time the gears are placed upon the end of the shafts, and in order that they may accommodate themselves to the vibration of the rollers, the cogs are cut coarse and deep, and when at extreme vibration the cogs are liable to be broken.

In the accompanying drawing, A represents the rollers, between which the clothes are passed for washing. These rollers are provided with journals *a*. These journals run in slotted posts B. The lower one journals in the wood or metal boxes. One end of the upper roller-shaft passes through the plate *b* and journals in the same. Over each journal of the upper roller is placed the spring *c*. The end of the shaft that passes through the plate *b* is

provided with the pinion C. Attached to the plate *b* is the pin *d*, and running upon the same is the gear-wheel C', the same engaging the pinion C, having the handle D attached to the same. The plate *b* fits in grooves formed by angle-plates D', the same being secured upon each side of the post; or it could be cast in one piece and secured to the post in such a manner as to allow the plate to work freely up and down, as the articles pass through the rollers varied in thickness.

The operation of my invention is as follows: When the clothes are passed in between the rollers A the same are forced apart. The end of the shaft passing through the plate *b* must raise the same with it, the plate sliding in the grooves formed by the angle-plates D'. When the clothes are removed, the springs *c* force the roller back to the former position, the shaft drawing the plate back at the same time.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination, in a washing-machine, of the gear-wheels C and C', plate *b*, angle-plates D', and spring *c*, substantially as and for the purpose specified and described.

The above specification of my invention signed by me this 24th day of February, 1874.

CYRUS A. WERDEN.

Witnesses:

FRANCES E. CLARKE,
J. ROW. BULLOCK.