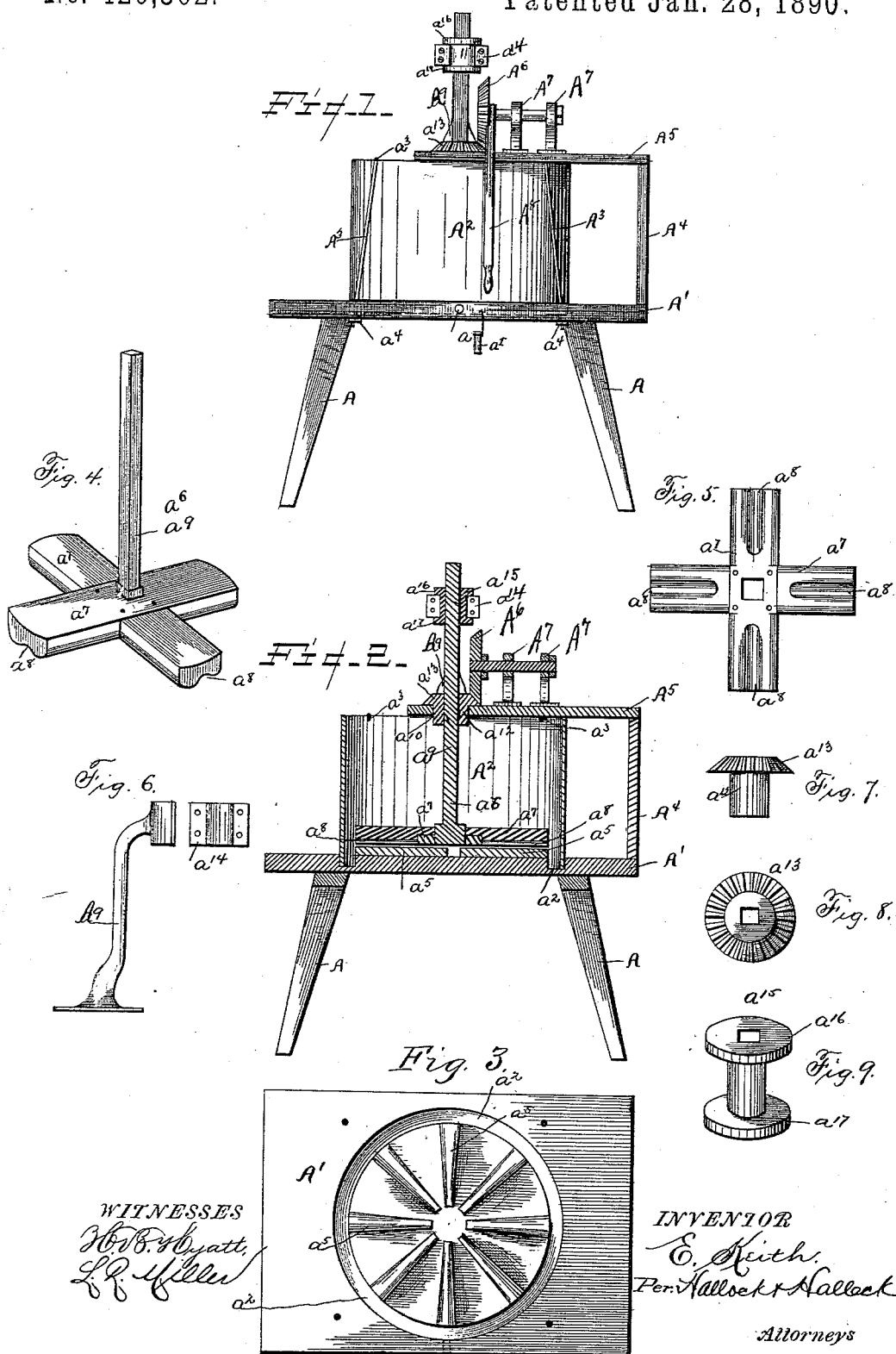


(No Model.)

E. KEITH.
WASHING MACHINE.

No. 420,302.

Patented Jan. 28, 1890.



UNITED STATES PATENT OFFICE.

ELI KEITH, OF HAGERSTOWN, INDIANA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 420,302, dated January 28, 1890.

Application filed August 3, 1889. Serial No. 319,615. (No model.)

To all whom it may concern:

Be it known that I, ELI KEITH, a citizen of the United States, residing at Hagerstown, in the county of Wayne and State of Indiana, have invented certain new and useful Improvements in Washing-Machines; and I do hereby 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.

My invention relates to that class of washing-machines known as "agitators." The object of the invention is to improve upon the general construction of the same.

The invention therefore consists of constructions and combinations, all as will hereinafter be described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 represents a side elevation of the machine; Fig. 2, a section of Fig. 1, taken longitudinally; Fig. 3, a top plan of the bottom board; Fig. 4, a perspective of the rubber and agitator and its shaft; Fig. 5, a bottom plan of the rubber; Fig. 6, a detail showing the bracket; Fig. 7, an elevation of a bevel gear-wheel; Fig. 8, a top plan of same, and Fig. 9 a perspective of a guide-spool.

A represents the legs; A', the bottom board, having an annular groove and the waste-water opening *a*, closed by plug *a'*; A², the cylinder, made of zinc or galvanized iron and seated in the annular groove *a*² in the bottom board; A³, the rods, having hooks *a*³ on their upper ends to embrace the rim of the cylinder and passing down through the bottom board, to which they are secured by nuts *a*⁴, which also clamp the cylinder in the groove when screwed and set close to the under side of the bottom board.

*a*⁵ are radial blocks secured to the upper side of the bottom board.

*a*⁶ is the rubber or agitator, having radial arms *a*⁷, provided with grooves *a*⁸; and *a*⁹ in the shaft of the same, said shaft being square or rectangular in cross-section. To one end of the bottom board is secured an upright A⁴, having a horizontal piece A⁵, projecting over part of the cylinder A² and forming part

of the cover for the same. In this piece A⁵, or in an extension of the same, is an opening *a*¹⁰ for the round shank *a*¹² of the bevel gear-wheel *a*¹³ to revolve in. This shank has an opening similar in cross-section to the shaft *a*⁹, which moves up and down in and revolves with the bevel gear-wheel, when the latter is oscillated by the miter or bevel wheel A⁶, journaled in the standards A⁷ on the part A⁵, and provided with a handle A⁸. Upon part A⁵, or an extension thereof, is a bracket A⁹, which extends upward and over the bevel-wheel *a*¹³. The upper end is provided with a detachable section *a*¹⁴, for the insertion of the revolving guide-spool *a*¹⁵, having flanges *a*¹⁶ *a*¹⁷ to prevent it from coming out of the bracket when the shaft *a*⁹ is moved up or down.

The operation of the machine is as follows: The clothes are placed in the tub formed by the bottom board and the cylinder and the cover placed over the same. The rubber is now reciprocated or oscillated by means of the gear and the clothes rubbed and agitated by means of the same. The smooth inner periphery of the cylinder prevents the clothes from getting choked in the tub, and the rubber, by means of the sliding shaft, adjusts itself to the different thicknesses of the clothes in the tub.

What I claim as new is —

1. In a washing-machine, the combination of a bottom board having the annular groove, a bottomless cylinder resting in said groove, the clamping-rods secured to the top of the cylinder and bottom board, and a rubber having mechanism for operating it.

2. In a washing-machine, the combination of a bottom board having the annular groove and the radial ribs, a bottomless cylinder resting in said groove, clamping-rods secured to the cylinder and bottom board for holding the cylinder in place, and a rubber having mechanism for operating it.

Intestimony whereof I affix my signature in presence of two witnesses.

ELI KEITH.

Witnesses:

JOHN H. TEETER,
WILL H. PORTER.