

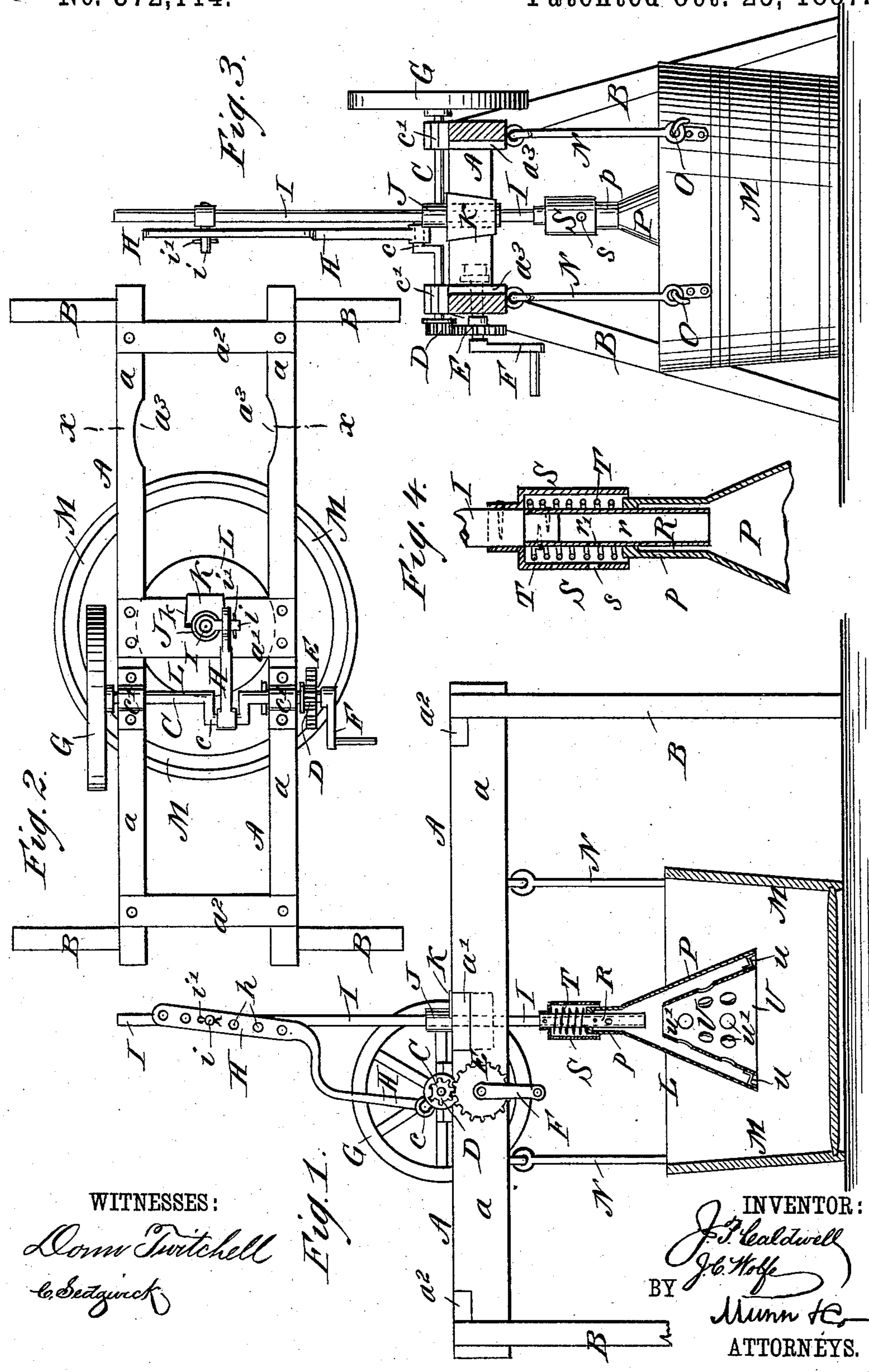
(No Model.)

J. P. CALDWELL & J. C. WOLFE.

WASHING MACHINE.

No. 372,114.

Patented Oct. 25, 1887.



WITNESSES:

Norm Twitchell
C. Sedgwick

INVENTOR:

J. P. Caldwell
J. C. Wolfe
BY *Munn & Co.*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN P. CALDWELL AND JOSEPH C. WOLFE, OF GAINESVILLE, GEORGIA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 372,114, dated October 25, 1887.

Application filed November 23, 1886. Serial No. 219,706. (No model.)

To all whom it may concern:

Be it known that we, JOHN P. CALDWELL and JOSEPH C. WOLFE, of Gainesville, in the county of Hall and State of Georgia, have invented a new and Improved Washing-Machine, of which the following is a full, clear, and exact description.

Our invention relates particularly to washing-machines, and has for its object to provide a simple, inexpensive, and efficient machine of this character, the driving-power of which may be utilized to operate the dasher of a churn or perform other useful work.

The invention consists in certain novel features of construction and combinations of parts of the machine, all as hereinafter fully described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of our improved washing-machine, with the frame-legs partly broken away and the clothes-tub and pneumatic pounder in vertical sectional elevation. Fig. 2 is a plan view of the machine. Fig. 3 is an end view of the machine, with the table in section on the line $x x$, Fig. 2; and Fig. 4 is an enlarged detail sectional view of the upper portion or head of the pounder.

The frame or bed A of the machine, which is supported at convenient height by legs B, comprises parallel side bars, $a a$, connected by a central cross-piece, a' , and end cross-pieces, $a^2 a^2$. In suitable boxes, c' , on the frame A the transversely-ranging driving-shaft C is journaled, and at one end said shaft carries fixedly a pinion, D, with which meshes a gear-wheel, E, journaled on a short shaft or stud at one side of the frame. This gear-wheel E or its shaft carries a crank, F, by which the wheel is revolved to impart a much quicker rotation to the driving-shaft C, which carries at its end opposite the pinion D a heavy balance or fly wheel, G, which assures steadiness of rotation to the shaft and the mechanism driven therefrom, as presently explained.

The shaft C has a crank, c , to which is connected pivotally the lower end of a rod or pitman, H, the upper end or part of which is preferably flattened and is provided with a series of holes, h , into any one of which a pin

or stud, i , held to a dash-rod, I, may be passed and held in place by a cotter-pin, i' . The dash-rod I passes through a tube or sleeve, J, which is held in a vertically-ranging semicircular cavity in the frame cross-bar a' by a wedge-shaped block, K, which is fitted in a correspondingly-shaped recess, k , made in the edge of the cross-bar, and has a semicircular recess or concavity next the sleeve. The block may be easily removed to allow removal of the dash-rod I, with its sleeve J, and when the block K clamps the sleeve to the frame the sleeve forms an efficient guide to insure steady vertical reciprocation of the dash-rod as the crank F is turned in either direction.

The pneumatic pounder L is attached to the lower end of the dash-rod I and operates within a tub, M, into which the clothes to be washed will be placed. The tub is held stationary in proper position below the pounder by rods N, which are linked to the side bars of the frame A, and with which hooks O, fixed to the tub, may be engaged, as shown clearly in Fig. 3 of the drawings.

The pounder L is made as follows: The body of the pounder comprises a main or outer funnel, P, inverted and provided with a tubular neck, p , which fits loosely over a tube or pipe, R, which is fixed at its upper end to the dash-rod I, and projects some distance below the end of the dash-rod to form an air-chamber, r , within the tube. A tubular cap, S, which is fixed at its upper end to the dash-rod, projects downward over the tube R, and is larger than said tube to allow the neck p of the pounder-funnel P to slide upward between said parts R and S, and also give room for a spring, T, which is fixed at one end to the head of the cap S and at its lower end is connected to the top of the funnel-neck p . The spring acts normally to force the funnel P outward or downward until the top of its neck p stands about even or level with the lower end of the cap S, and at which time the lower end of the tube R stands about even with the lower end or part of the neck p or its joint with the body of the funnel P, as most clearly shown in Fig. 4 of the drawings. The cap S and the tube R are provided, respectively, with holes s and r' , allowing free circulation of air to the chamber r of the tube R and the interior of the pounder. The spring T is of suitable form to allow the

neck *p* of the funnel *P* to slide upward within the cap *S* a few inches (more or less) as the lower edge of the funnel is pressed upon the clothes in the tub by the reciprocating movement of the dasher.

The body of the funnel *P* is imperforate, and within it there is held by suitable stays, *u*, an inner funnel or cone shaped structure, *U*, and this inner funnel is open at the top and is perforated, as at *u'*, at its sides, (see Fig. 1,) for the passage of air during the washing process. The lower edge of the inner cone, *U*, stands about level with the lower edge of the funnel *P* and coacts with the outer funnel in pressing or squeezing the clothes in the tub. As the funnel *P* of the clothes-pounder is larger than the space between the side bars, *a a*, of the frame *A*, we notch the frame bars at *a' a'* to allow the pounder to be lifted clear of the frame.

The operation of the machine is as follows: After the tub *M*, containing clothes to be washed and a suitable hot or cold washing-fluid, is placed under the dash-rod *I*, to which the pounder *L* is adjusted, as above described, and the tub is fastened to place by the links or rods *N*, the crank *F* of the driving-shaft *C* will be turned and the pounder will be rapidly raised and lowered, and as the pounder strikes the clothes in the tub on the down-stroke the funnels *P U* will be forced upward together, and on the upstroke the spring *T* will force the funnels downward again, and this up-and-down motion of the funnels will cause a rapid circulation of air through the apertures *s*, *r'*, and *u'*, and whereby a strong suction will be produced, and which, together with the pressing of the clothes by the pounder, will very quickly loosen and remove the dirt from the clothes. The dash-rod *I* may be connected to the pitman *H* by entering the rod-pin *i* into any one of the series of holes *h* in the pitman *H*, to adjust the pounder higher or lower to accommodate the quantity of clothes in the tub.

It is obvious that the clothes-pounder may be removed and a churn-dasher of any approved kind may be connected to the dash-rod *I* for working it within a churn-body, which may be held below the frame by the hook-rods *N* when the clothes-holding tub *M* is removed; hence the machine may readily be converted from a washing-machine to a churn, and for either service the driving-power will operate with like good results.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a washing-machine, a pounder comprising the rod having a cylindrical cap, *S*, at its lower end, the tube *R*, secured to the lower end of the rod and projecting through the cap, the funnel *P*, having a cylindrical neck, *p*, projecting above its upper end, sliding on the tube within the cylindrical cap and normally closing the lower end of the cap, a spiral spring upon the tube within the cap and bearing against the top of the cap and the top of the tube, the inner perforated funnel, and the stays *u*, securing the two funnels together and spacing them apart, substantially as set forth.

2. In a washing-machine, the clothes-pounder made with a dash-rod, as *I*, a tube, *R*, fixed thereto and providing an air-chamber, *r*, and having an aperture, *r'*, a cap, *S*, having an aperture, *s*, and fitted over the tube *R*, a funnel, *P*, having a neck, *p*, fitted to tube *R*, an open-topped funnel, *U*, fitted within the one *P* and provided with apertures *u'*, and a spring, *T*, fitted between the cap *S* and funnel *P*, substantially as described, for the purposes set forth.

JOHN P. CALDWELL.
JOSEPH C. WOLFE.

Witnesses to signature of John P. Caldwell:

E. E. DIXON,
LESTER D. PUCKETT.

Witnesses to signature of J. C. Wolfe:

THOS. P. HUDSON,
CHAS. E. L. ROGERS.