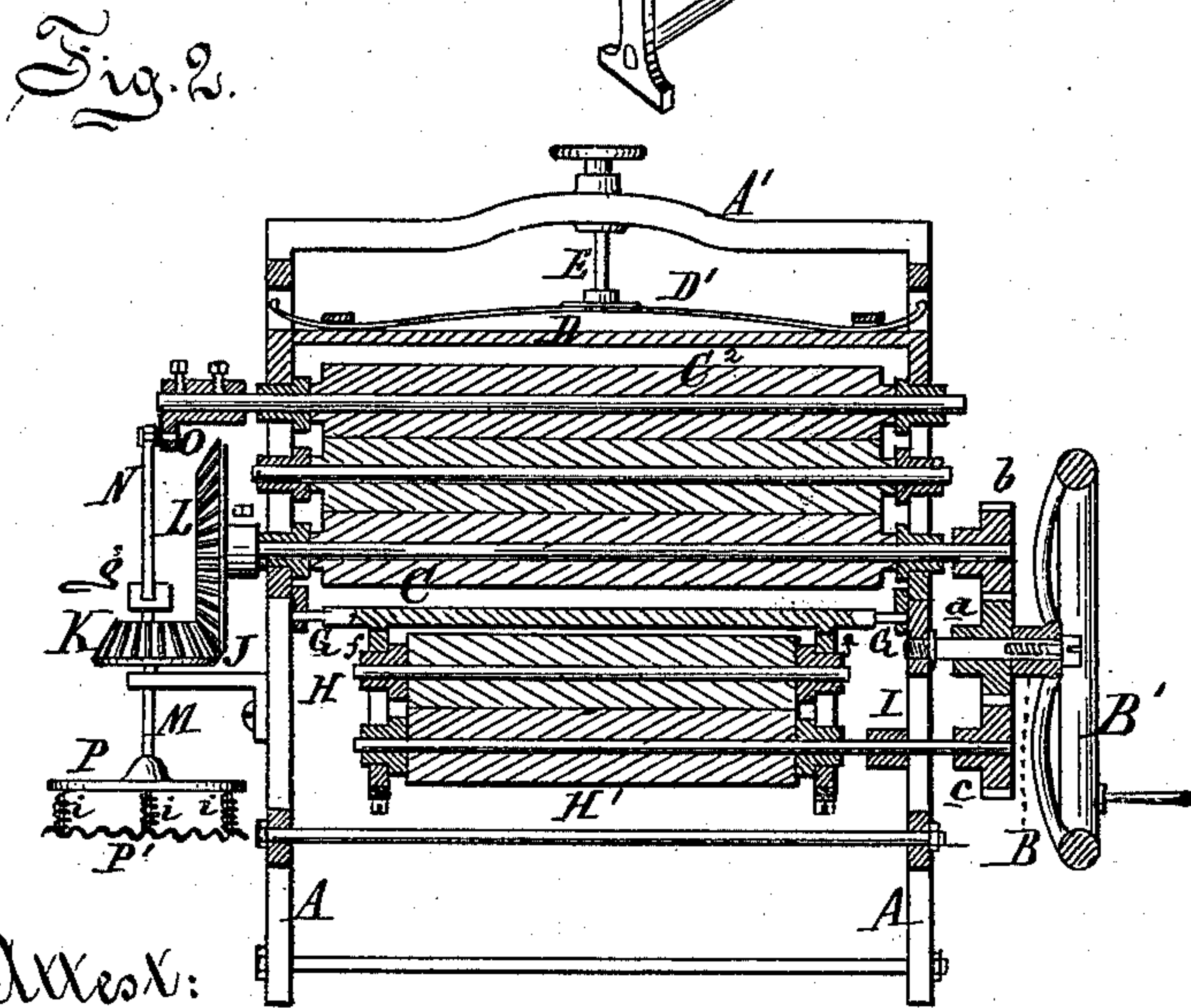
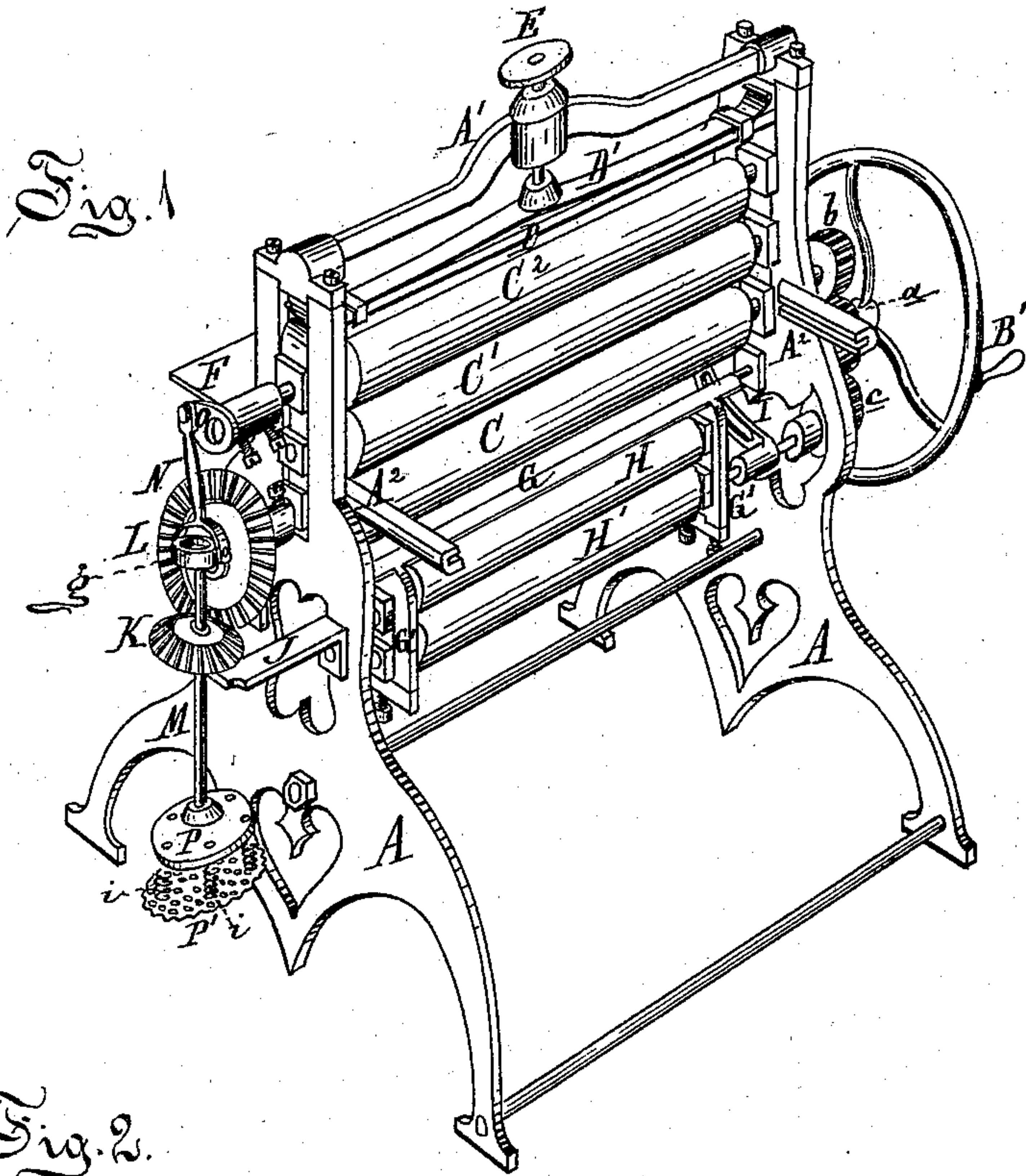


G. WILSON.

COMBINED WASHING-MACHINE AND WRINGER.

No. 174,047.

Patented Feb. 22, 1876.



Attest:
Edward Barthel.
Theo. S. Day

Inventor:
G. Wilson
By Atty
Thos. S. Applegate

UNITED STATES PATENT OFFICE.

GEORGE WILSON, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN COMBINED WASHING-MACHINES AND WRINGERS.

Specification forming part of Letters Patent No. 174,047, dated February 22, 1876; application filed October 5, 1875.

To all whom it may concern:

Be it known that I, GEORGE WILSON, of Brooklyn, in the county of Kings and State of New York, have invented an Improved Combined Washing-Machine, Wringer, and Mangle, of which the following is a specification:

The object of my invention is to combine in a single machine, in the nature of a mangle, a peculiar rotating and reciprocating rubber for cleansing the clothes in a tub placed at the side of the machine, and a wringer for drying them, or, rather, to express from the fabrics the greater part of the moisture.

The invention consists, mainly, in the peculiar construction and combination of the various parts, as more fully hereinafter set forth.

Figure 1 is a perspective view. Fig. 2 is a longitudinal vertical section.

In the drawing, A represents the main frame, composed of two side standards connected by transverse girts. B is a driving-shaft, sleeved on a stud at the side of one of the standards, and is provided with a crank-wheel, B', if the machine is to be driven by hand, or a pulley if it is to be run by power. C is a wooden roll, mounted on a metallic shaft journaled through a housing resting in the bottom of a vertical slot in the upper part of each standard. On one end of said shaft a pinion, b, meshes with and is driven by a spur-gear, a, on the driving-sleeve B. C¹ is a similar roll, whose shaft is journaled in boxes playing freely in the standard-slots, above the lower roll C. C² is a third roll, in like manner journaled through housings playing in the standard-slots. D is a yoke, whose ends rest upon the housings of the top roll, and upon it is placed a strong leaf-spring, D', upon the middle of which impinges the lower end of a set-screw, E, tapped through the top girt A¹ of the main frame, and by means of which screw the pressure of the spring upon the yoke and housings of the top roll may be graduated as circumstances may require. The top roll bears upon the intermediate one, and the latter upon the lower one, and, consequently, if the latter be rotated the others will be put into motion by the friction of their peripheries one upon the other, and then the whole set may be used as an ordinary mangle, the intermediate roll having the usual linen covering. To render its operation as a mangle

more convenient, each side standard is cast with a horizontally-grooved bracket, A², at the plane of the top of the lower roll, and on each side thereof. Into these grooves are slipped the shelves F, to serve as tables at each side of the machine. G is a girt, journaled at the ends in bearings d, in the lower ends of the standard-slots, or directly into bearings drilled in the latter, if preferred. This girt is cast with a pair of pendent lugs, G', slotted to receive the boxes e, which form bearings for a pair of wringer-rolls, H H', whose shafts are journaled therein. The shaft of the lower roll H' extends through an opening in the frame, and has keyed on it a pinion, c, to mesh with and be driven by the pinion a. Above the boxes of the upper roll are placed springs f, to press down the upper roll upon the lower one with sufficient tension to squeeze the water out of the fabric passing between them.

The wringer-pinion is thrown out of and into gear with the driving-pinion a in the following manner: The shaft of the roll H' passes through a sleeve-bearing at one end of a slotted arc, I, through whose slot passes a set-screw, (not shown,) which is tapped into the adjacent standard, and serves to clamp said arc thereto. Using the set-screw as a fulcrum, and the arc as a lever, the outer end of the lower roll may be raised until the roll-pinion meshes with the pinion a; then, by clamping the arc, the pinions will be kept in engagement, so that the wringer may be actuated. When the wringer is not required to be used, the lower roll will drop out of gear by simply loosening the set-screw. Another advantage of this arrangement is, that the wringer-frame may be swung up to the front, out of its perpendicular position, to bring it nearer to and handier for the laundress to operate, the table being, of course, removed from that side of the machine when the wringer is in use.

The remaining element of my invention is a washing apparatus, which I will now proceed to describe.

On one side of the frame is bolted a bracket, J, through a bearing, in which I journal the hub of a horizontal bevel-gear, K, to which motion is given by a bevel-wheel, L, on the end of the shaft of the mangle-roll C. Through the hub of the gear K a vertical shaft, M, is

feathered, connected, by a ball-and-socket coupling, *g*, with the lower end of a connecting-rod, *N*, strapped to the wrist of a crank, *O*, sleeved on the end of the shaft of the upper mangle-roll *C*², and adjustably secured thereon by one or more set-screws. The shaft *M* has then a rotary motion imparted to it by the gearing, and a reciprocatory movement through the crank and its connections. To the lower end of the shaft *M* is secured a wooden disk, *P*, from which is suspended a corrugated galvanized-iron rubbing-disk, *P'*, by means of several bolts which play freely through holes in the former, and in such a manner as to allow the rubbing-disk to rise toward the disk *P*. Between them, however, are interposed springs *i*, spirally coiled about said bolts, for the purpose of forcing the rubber against the bottom of a wash-tub placed below it, or against any fabric therein, within a yielding or elastic pressure.

The action of the washer upon the fabrics is twofold in character—a pounding or beating action, and a grinding or rubbing action, which conjointly cleanse the fabrics in a rapid manner.

By loosening the set-screws of the crank-sleeve the washing mechanism will not be reciprocated, and by loosening the set-screw of its driving-gear wheel it will not be rotated.

What I claim as my invention is—

1. The combination, with a mangle, substantially as described, of the rotary and reciprocatory rubbing-disks, actuated by the roll-shafts of said mangle through the means described, for the purpose specified.

2. The combination, with the shaft *M*, of the disks *P* *P'* and springs *i*, the said shaft having a reciprocatory and rotary movement imparted to it, substantially as and for the purpose set forth.

3. The combination, with the frame and driving-gear of a mangle, substantially as described, of the girt *G*, lugs *G'*, rolls *H* *H'*, pinion *c*, and arc *I*, as and for the purpose set forth.

4. The combination in a single machine of the following elements, to wit: a set of three superposed rolls to serve as a mangle, a reciprocating and rotating rubbing-disk to serve as a washer, and a pair of rolls to serve as a wringer, all actuated by a single crank or pulley, as shown and set forth.

GEORGE WILSON.

Witnesses:

RASTUS S. RANSOM,
CORNELIUS R. SULLIVAN.