

C. H. WOOD.
Combined Washing and Wringing Machine.
No. 228,239.
Patented June 1, 1880.

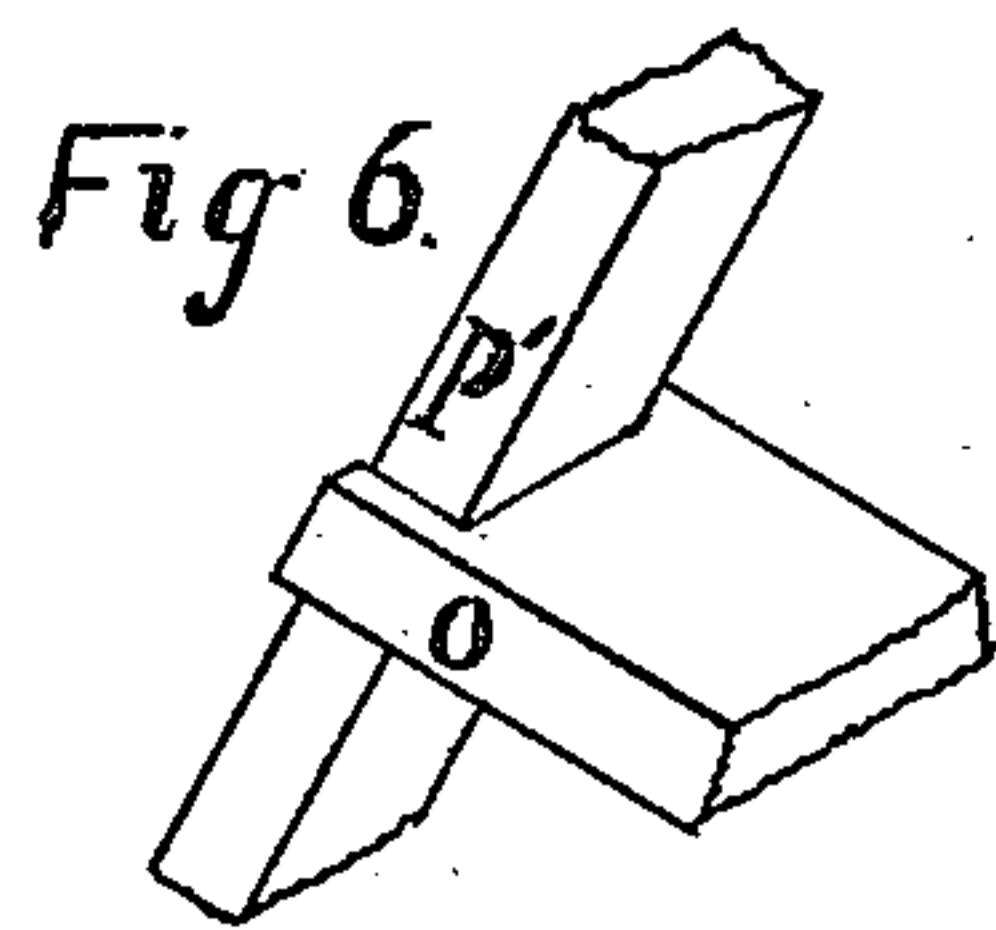


Fig 1

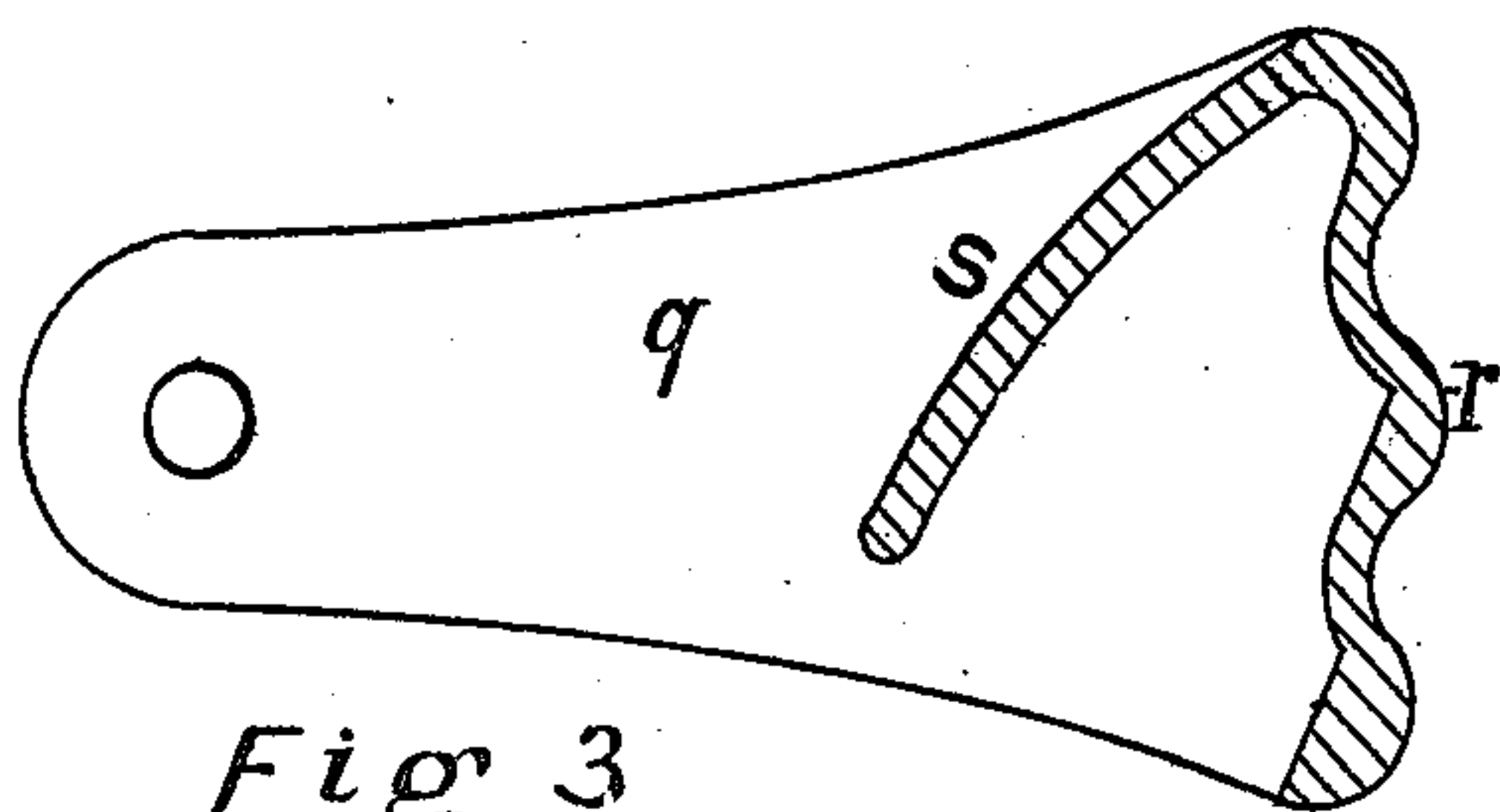
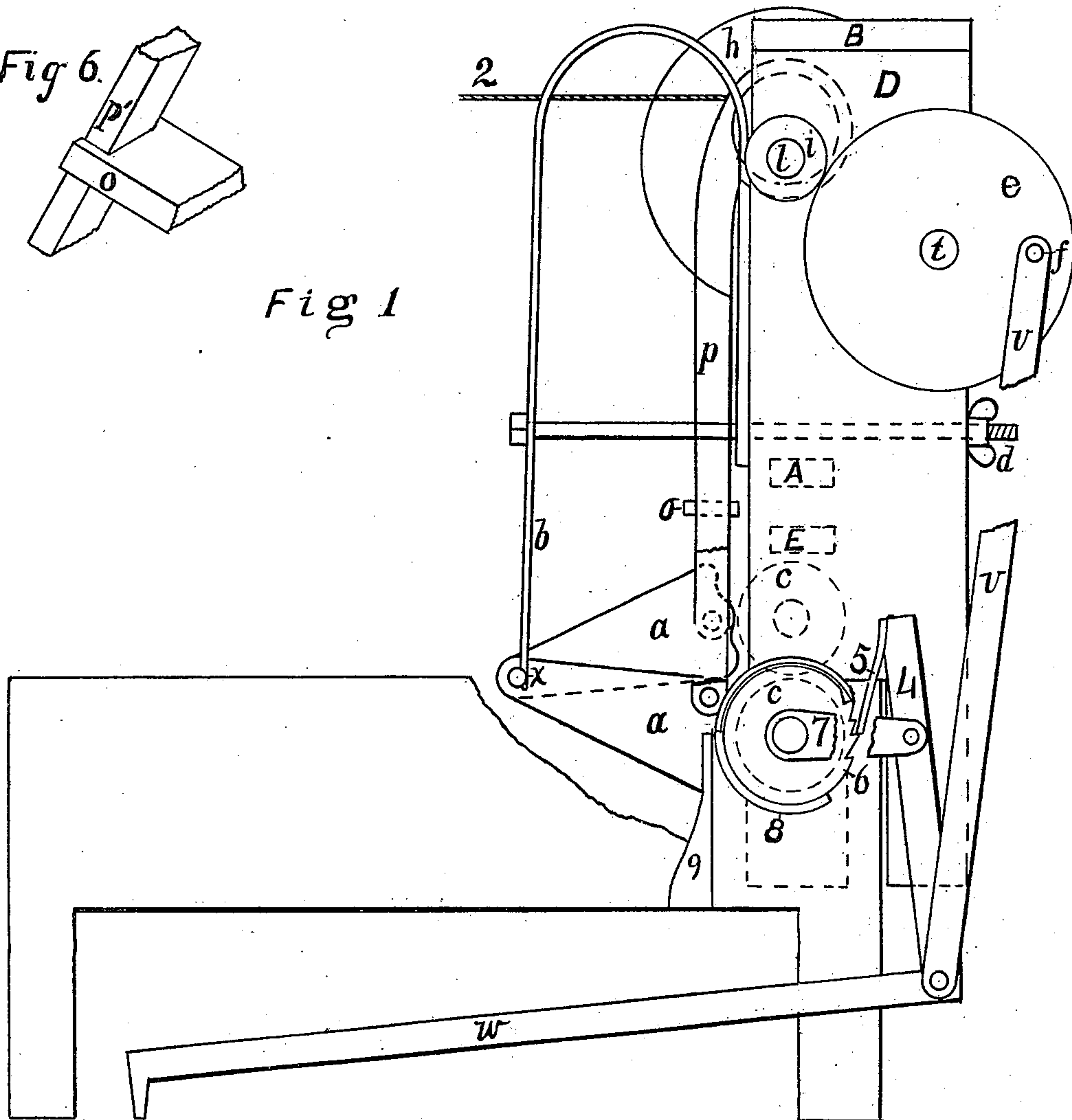


Fig 3

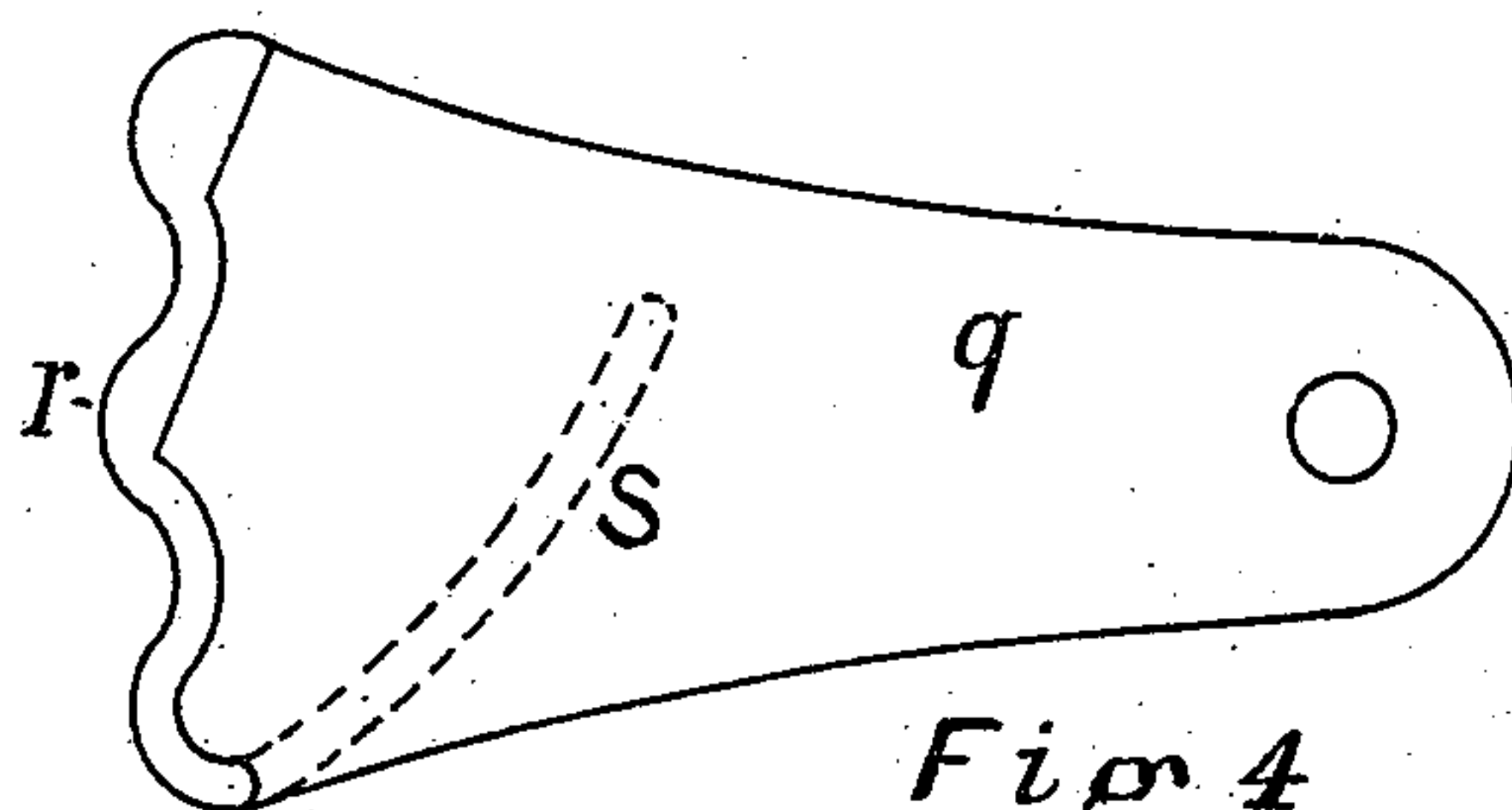


Fig 4

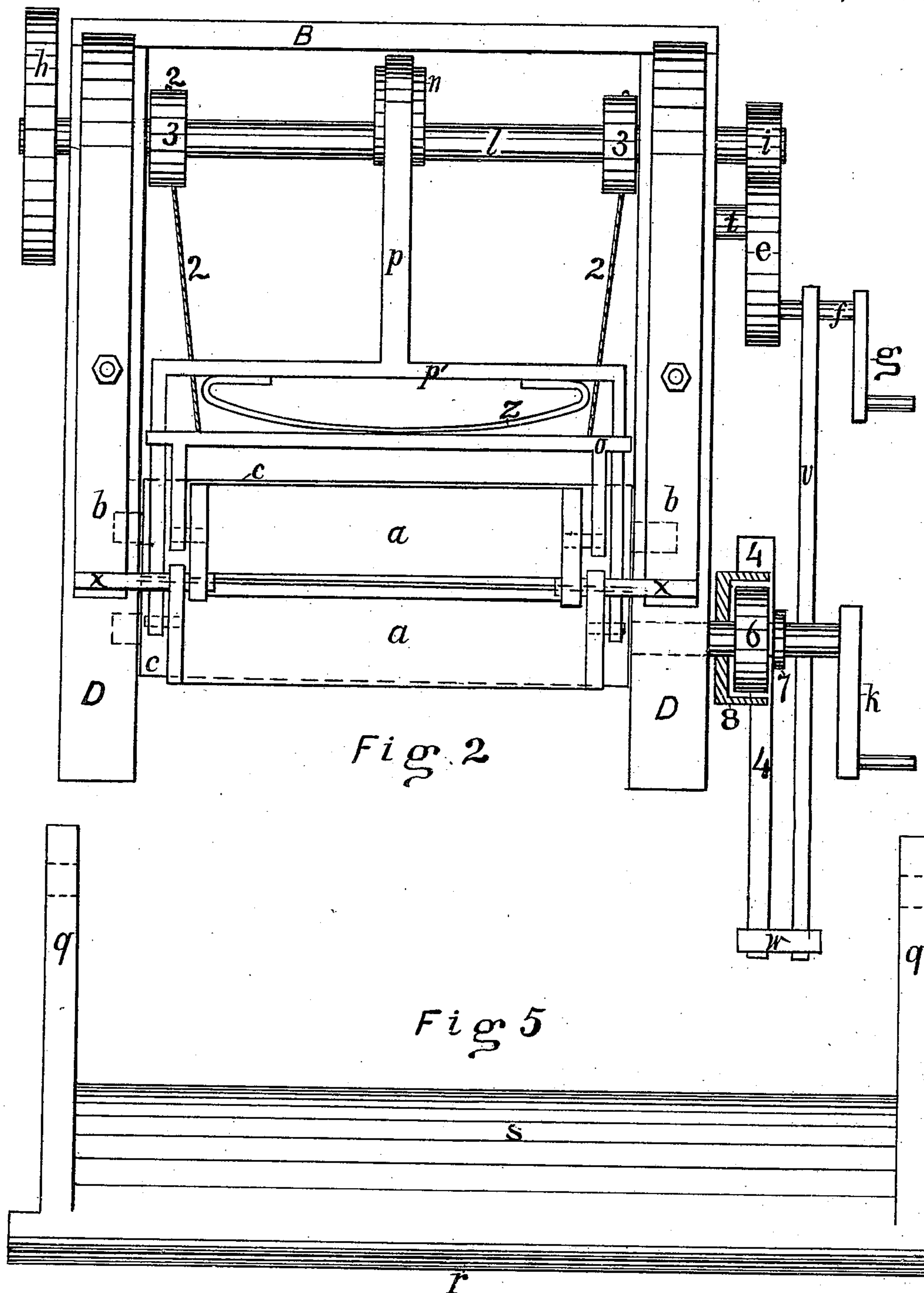
WITNESSES.

Wm Zimmerman
Francis A. Walsh

INVENTOR.

Charles H Wood

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UNITED STATES PATENT OFFICE.

CHARLES H. WOOD, OF CHICAGO, ILLINOIS.

COMBINED WASHING AND WRINGING MACHINE.

SPECIFICATION forming part of Letters Patent No. 228,239, dated June 1, 1880.

Application filed December 29, 1879.

To all whom it may concern:

Be it known that I, CHAS. H. WOOD, of Chicago, Illinois, have invented a new and useful Improvement in Combined Washing and Wringing Machines, of which the following is a specification.

The invention relates to a rubbing attachment for clothes-wringers.

It consists, principally, in combining with the rolls of a clothes-wringer rubbers which are supported upon swinging arms or springs and pressed toward the wringer-rolls with a yielding pressure, while an oscillating reciprocating motion is given to the rubbers by the driving mechanism, in the manner and for the purpose substantially as hereinafter set forth.

It consists, further, in the means employed to hold the rubbers together.

It consists, further, in the means employed for holding the rubbers apart when they are in motion.

In the drawings, Figure 1 is an elevation of one side of my machine. Fig. 2 is a view of the washer side of my machine separated from the box; and Figs. 3, 4, and 5 are full-size detail drawings of the rubbers *a a*, when made of malleable iron, for a full-size machine. Fig. 6 is a perspective view, showing how the yokes *o* and *p'* are loosely held together.

The clothes-wringer is made in the usual manner, except that the side posts, *D*, are extended above the wringer proper to receive and support the shafting and springs of the washing attachment, and the posts are connected by a cross-bar, *B*, at the top.

The cross-bar *A* (shown in Fig. 1 only) is the top of the wringer proper, and *E* represents the pressure-spring of the wringer-rolls.

Upon the side posts, *D*, and above the wringer proper, are properly secured two long springs, *b*, which extend downward, so that their lower ends are opposite the rolls of the wringer, and a pin, *x*, is attached to the lower end of each spring, to form pivots for the rubbers *a a* to oscillate upon. By these means the rubbers are supported in position and pressed against the rolls of the wringer with a pressure which may be regulated by the bolt and thumb-screw *d*, as shown in Fig. 1.

For convenience in making the model, the rubbers are made of wood and arms of sheet

metal are attached to the ends of the rubbers; but for a full-size machine the rubbers and the arms may be made of malleable iron and cast in one piece.

Figs. 3, 4, and 5 are full-size detail drawings for the rubbers, when made of malleable iron, for a full-size machine; but the size, shape, and material of the rubbers may be varied as desired.

The rubbing-face is fluted like a wash-board, and is intended to operate like a wash-board precisely, except in this respect, that the ordinary wash-board is held stationary and the clothes are moved back and forth over it, while in my machine the clothing is held stationary by the rolls of the wringer and the rubbers are oscillated back and forth while pressed against the clothing or the rollers by the springs *b b*, thus producing the same action upon the clothing as rubbing between the hands.

It will be understood that the clothing is passed through or between the rubbers, and then between the rolls *c c*, the rubbing being done between the rubbers *a* and the rolls *c*, which hold the clothing stationary, and, being turned as fast as may be desired, draw the clothing along and bring a new part under the action of the rubbers.

The rubbers *a a* are oscillated by the yoke-pitman *p*, the lower part (yoke *p'*) being connected to the lower rubber, and the upper end being connected to the crank or eccentric *n* of shaft *l*. This shaft is journaled in boxes in or upon the side posts, *D*, of the wringer. The shaft *l* has a balance-wheel, *h*, and a pinion, *i*, which meshes with wheel *e*, and the latter turns upon a stud, *t*, which is properly secured to the side post, *D*. The wheel *e* has a straight round stud, *f*, to receive a pitman, *v*, so as to be operated with the treadle *w*.

When it is desired to turn the machine with the hand the crank *g* is properly secured to the stud *f*, and may be detached when the machine is operated with the foot.

The extreme ends of the horizontal part of yoke *o* are forked, so as to straddle the upright parts of yoke *p'*, as shown in Fig. 6. Thus the yoke *o* is free to move up and down, but lateral motion is prevented, except as the two yokes move together. The lower ends of the yokes

are connected to the rubbers by pins, as shown, and the spring z forces the two horizontal members of the yokes apart, so as to hold the two rubbers together.

5 In the model the parts p and p' are made of separate pieces; but for a full-size machine I prefer to make them of malleable iron and in one piece, as shown in the drawings.

10 The two rubbers may be opened or held apart when they are in motion by pulling upon the straps or cords 2, attached to the yoke o , and passing up over pulleys 3 3, which are loose upon shaft l , or otherwise properly supported in proper position, and are retained in
15 convenient position so as to be grasped by the hand when it is desired to open the rubbers so as to start in a new piece of clothing into the rollers $c c$ without stopping.

20 The wringer-rolls are turned automatically by the treadle w operating pitman 4, which has a spring-pawl, 5, near its upper end, so as to engage with the ratchet-wheel 6, which is fast upon the shaft of one of the rolls c . The arm 7 is loosely secured on the shaft of the
25 ratchet-wheel and connected to pitman 4, so as to hold the latter in position and cause the pawl 5 to remain in contact with wheel 6, except when the movable shield 8 holds the pawl off from the teeth.

30 The shield 8 is loose on the shaft of wheel 6, and may be turned around so as to cover such teeth on the face of the ratchet-wheel as may be desired, so that the pawl may be in contact with wheel 6 during the whole of its
35 downstroke, or during only a portion of it, and thus regulate the feed of the clothing through the rolls of the wringer. Shield 8 is held from turning too easily by the friction-spring 9 bearing upon the circumference of
40 shield 8, and it may be turned around so as to prevent the pawl 5 from engaging with the ratchet-wheel at all, and then the wringer may be turned with the hand by means of the

crank k , which is fast upon the shaft of the wheel 6.

45 One office of the springs b is to support the rubbers so as to allow them to move to or from the rolls, to adapt themselves to the varying thicknesses of the clothing, and yet have but little or no vertical motion. This would
50 be accomplished as well if the parts b were made straight and rigid their entire length, except being jointed near the shaft l or at their upper ends.

Another office of the swing-arms b is to
55 give an elastic pressure of the rubbers against the wringer-rolls. If the parts b were rigid and jointed, as just mentioned, a yielding spring would be necessary in connection with the bolts and thumb-screws d . This rigid
60 and jointed form of the arms b is only a variation in the construction of the machine; but it may prove to be preferable to the construction shown in the model.

I claim—

65 1. The combination of the rolls of a clothes-wringer and rubbers pivoted upon swinging arms or springs and adapted, by means substantially as described, to have an oscillating motion, substantially as and for the purpose
70 set forth.

2. The combination of the rubbers pivoted upon swinging arms or springs with the yokes o and p' and spring z , substantially as set forth.

3. The combination of the rubbers, yokes o
75 and p' , pitman p , shaft l , pulleys 3, and cords 2, arranged to operate substantially as described.

4. The combination of the rubbers a , swing-arms b , yokes o and p' , pitman p , and shaft l ,
80 all constructed substantially as set forth, and combined with the rolls of a clothes-wringer.

CHARLES H. WOOD.

Witnesses:

GEORGE BARTHOLOMAE,
THOMAS A. BANNING.