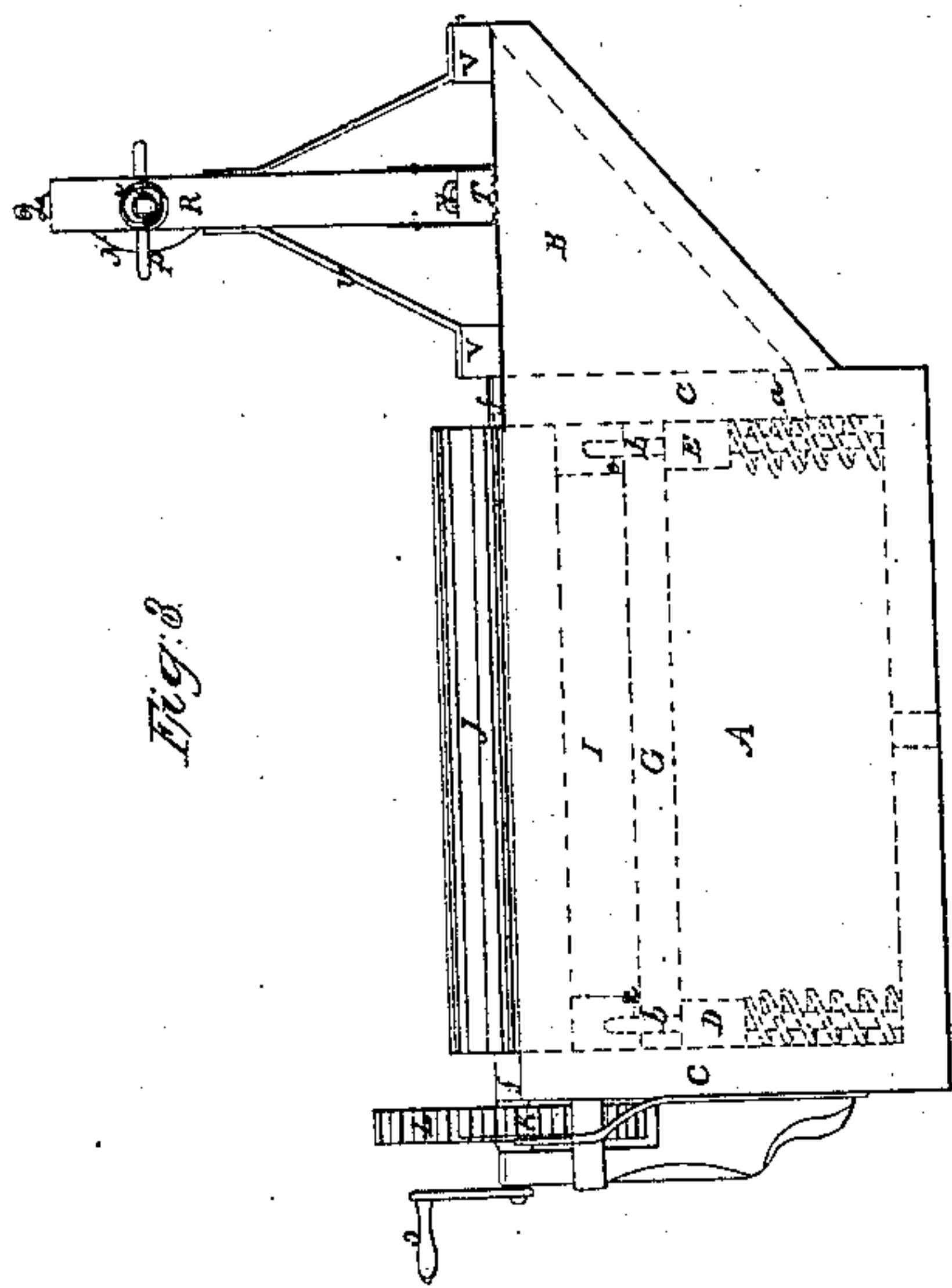
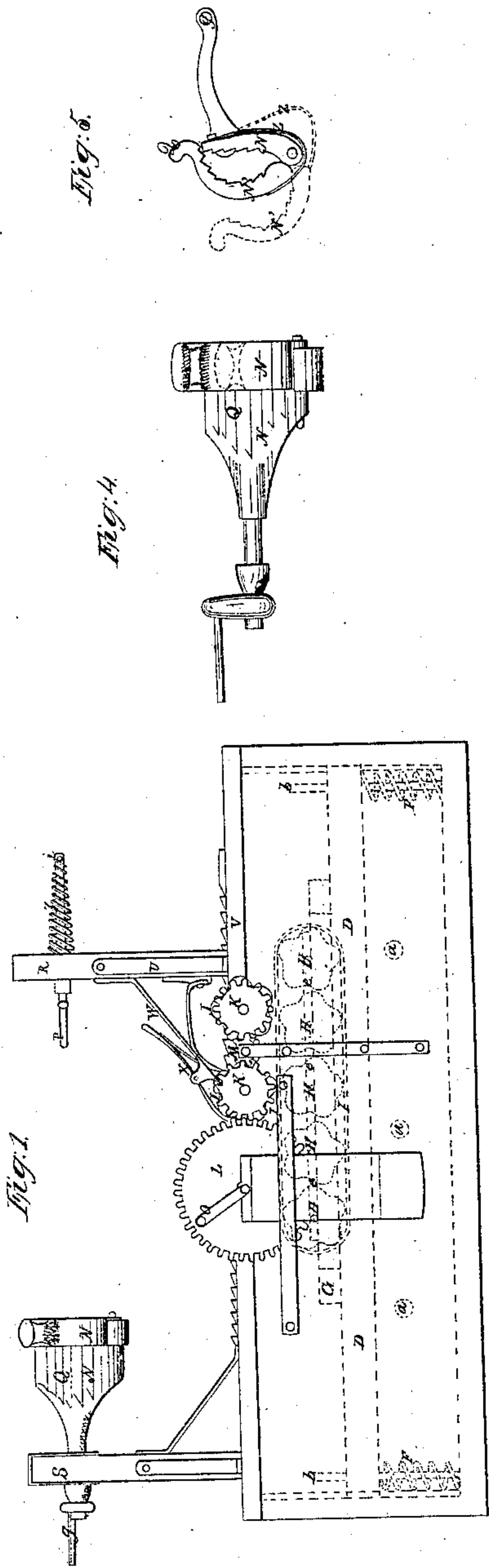


J. R. & J. S. Haldeman,

Washing Machine,

N^o 22,555.

Patented Jan. 11, 1859.



Witnesses
James H. Hanning
Norman Webb

Inventors:
J. R. Haldeman
J. S. Haldeman

UNITED STATES PATENT OFFICE.

J. R. HALDEMAN AND J. S. HALDEMAN, OF BLOOMINGTON, ILLINOIS.

WASHING-MACHINE.

Specification of Letters Patent No. 22,555, dated January 11, 1859.

To all whom it may concern:

Be it known that we, J. R. HALDEMAN and J. S. HALDEMAN, of Bloomington, in the county of McLean and State of Illinois, have invented a certain new and useful Improvement in Washing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing of the same, making a part of this specification, in which—

Figure 1 represents a side elevation of a machine embracing our improvements in which the internal parts are represented in dotted lines; Fig. 2 a plan, and Fig. 3, an end view of the same. Fig. 4 represents a plan of the clasp detached from the machine and Fig. 5 an end view of the same.

The first branch of our improvement relates more particularly to that class of washing-machines in which the operation of washing is effected by means of fluted rolls between which the clothes are passed for the purpose, by means of an endless apron, and it consists in a new and effective mode of mounting the rolls on which the endless apron is placed by means of which any member of fluted rolls may be used without the aid of more than four springs, and by which the requisite degree of pressure for washing is maintained, and the rolls still left free to accommodate any unusual thickness of the clothes, without injury to the latter or the machine.

The second branch of our improvement relates to the apparatus for wringing the clothes after being washed, and it consists in a new and effective arrangement and combination of devices by means of which that operation is materially facilitated, and the apparatus adapted to any particular length of clothes.

To enable others skilled in the art to make, construct and use our invention we will now proceed to describe its parts in detail, omitting a particular description of such parts of the machine and its operation as is common to others.

The machine as delineated in the drawings has the general form of an oblong box or trough divided longitudinally into two compartments (A and B) the larger (A) of which is devoted to the operation of washing, and the smaller one (B) to the wringing of the clothes, the latter having an inclination on its underside toward the bottom of the former. In the partition

(C) which divides the two, and at or near the bottom of the smaller chamber B is pierced one or more holes (*a*) for the purpose of allowing the water wrung from the clothes to run back again into the chamber (A) in which the operation of washing is effected.

In the ends of the washing chamber and situate at the angles are formed four grooves (*c*) for the reception of the ends of two beams (D and E) supported upon four coiled springs (F) one at either end of the beams, these springs being held in place by means of a standard (*b*) passing through their center, the end of the beams (D E) and bottom of the box. These side beams (D E) act as elastic supports for the frame (G) of a series of fluted rolls (H) around which the endless apron (I) is passed, the rolls having their bearings either in the frame itself, or in standards (*e*) erected on either side of the frame for that purpose.

Immediately over the rolls (H) and at a suitable distance apart from them are mounted two or more rolls (J) having their bearings (*i*) secured to the upper side of the box or otherwise formed in its side as the case may be. On the axis of each of these rolls (J) is mounted a pinion (K) one of which is made to gear with the cogs of a large driving wheel (L) supported and operated, between this pinion and the pinion of the next roll is mounted an intermediate pinion (M) meshing into both, by means of which motion is communicated to the second pinion in the same direction as the former, and so with any other pinion roller which may be mounted, but two as a rule is deemed sufficient.

When it is desired to wash, the frame (G) in which the lower series of fluted rolls is mounted, is withdrawn from under the upper series and the clothes placed upon the endless apron and properly secured thereto, if deemed necessary, and again brought under the action of the upper rolls (J), and motion communicated to the latter by means of a crank (O) applied to the end of the shaft of the driving wheel (L) for a time sufficient to effect the desired result, when they may be transferred from the apron to the wringing apparatus. The wringing, operation may be effected in one or two ways—to wit, either by transferring the clothes to a bag of suitable shape and size for their reception and then hooking it on

at one end to the hook (P) and placing the other end in the clasp (Q) and afterward rotating the latter by means of the crank (g) until it has expelled the water by pressure. But as too much pressure may be exerted and consequent rupture of the bag ensue were some device not provided to prevent such—the hook (P) is so arranged and constructed as to yield to the pressure, when too great, for which purpose a coiled spring (h) of suitable power is arranged over its rear end, having its bearings formed respectively against the side of the standard (R) in which the hook is mounted, and a pin (i) or other suitable contrivance secured on the rear end of the hook (P), which permits the latter to slide toward the clasp whenever the pressure is sufficient to overcome the resistance of the spring (h). Another way of effecting the wringing operation is to take one or more of the pieces and double them in the center and hook them over the hook (P) and put the ends in the clasp (Q) and twist it as before until the water has been expelled, but as by following this course it is necessary to provide the apparatus with suitable means to compensate for the varying lengths of the articles being wrung the standard (R) in which the hook (P) is secured, is mounted so as to be free to slide toward or from the clasp (Q) which on the contrary is mounted in a standard (S) rigidly secured and braced to the machine, for which purpose the lower end of the hook standard (R) is provided with a clasp (r) which embraces the beam (T) on which both are mounted, and has sliding braces (V) secured to the standard (R) and pressing against the sides of two other beams (V) to prevent lateral strain, and also with a guide brace (W) in front. On the upper side of the brace (W) is secured a spring pawl (X) the forward end of which is made to engage with the teeth of a rack bar (Y) secured on the upper side of the beam (T), by means of which the hook can be adjusted to any required distance apart

with respect to the clutch, thereby enabling the wringing apparatus to be accommodated to long or short articles as the case may be.

The clasp (Q) consists of two plates (N and N') of metal or other suitable substance, the smaller one (N') hinged to the other (N) at the side, the larger plate (N) being provided with an arm that passes through the standard (S), on the outer end of which is secured a crank handle (g) by means of which a rotary motion is communicated to the clasp. The smaller plate (N') is curved, and like the side of the plate (N) next to it, fluted or grooved so as to take hold of the clothes to prevent them from turning when being twisted or wrung. To the large plate (N) is secured a spring plate (Z), the end of which is made to overlap and press upon the upper side of the hinged end of the small plate, for the purpose of yielding the necessary pressure to hold the clothes while being wrung, the whole being so arranged and combined as that the more the clothes are twisted the tighter the clasp will hold.

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

1. The arrangement of the springs (F) and supporting beams (E) in connection with the sliding frame (G) that carries the lower series of fluted rolls (H) for the purposes set forth.

2. The clasp (Q) as constructed and operated for the purposes set forth.

3. The sliding standard (R) or its equivalent in combination with the rack bar (Y) and pawl (X) the whole being arranged and operated in the manner and for the purposes substantially as set forth.

In testimony whereof, we hereunto set our hands to this specification.

J. RILEY HALDEMAN.
J. S. HALDEMAN.

Witnesses:

JAMES H. CUMMING,
NORMAN WEBB.