

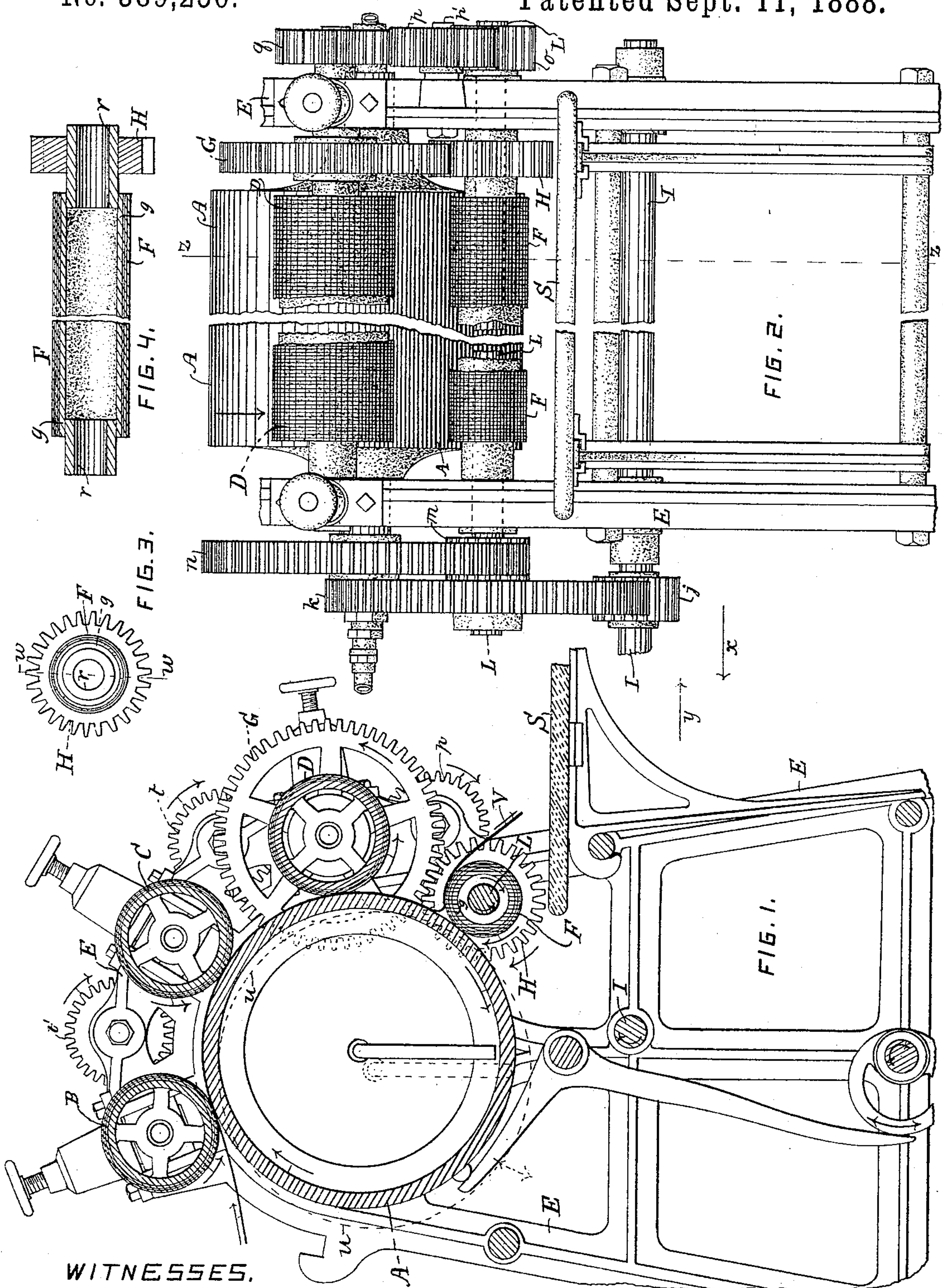
(No Model.)

H. J. SKINNER.

MANGLE OR IRONING MACHINE.

No. 389,256.

Patented Sept. 11, 1888.



WITNESSES.

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MANGLE OR IRONING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 389,256, dated September 11, 1888.

Application filed March 17, 1888. Serial No. 267,542. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. SKINNER, a citizen of the United States, residing in the city of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Mangles or Ironing-Machines, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in such mangles or ironing-machines as have a hard-surfaced heated ironing-roll and one, two, or more feed-rolls, each having an elastic moisture-absorbing surface in contact with the ironing-roll and so geared therewith that the contiguous parts of the surfaces of the ironing-roll and each feed-roll shall move in the same direction.

The primary distinctive feature or part of my invention is the combination, with the combined ironing-roll and feed-roll or feed-rolls, of a stripping-roll having an elastic, yielding, or clothed surface rotating in contact with, in the opposite direction to, and at a faster surface speed than the delivery side of the ironing-roll, so that the stripping-roll shall detach and conduct off from the surface of the ironing-roll the ironed articles as they arrive at the stripping-roll.

In the aforesaid drawings, Figure 1 represents in transverse section and elevation one end portion of a mangle as improved by me, the section being at about the line *z z* in Fig. 2 and viewed in the direction pointed by the arrow *y*. Fig. 2 shows in side elevation some parts of the two end portions of the same mangle as seen in the direction of the arrow *x*. Fig. 3 is an end elevation of the stripping-roll and attached toothed wheel shown in Figs. 1 and 2 and viewed in the direction of the arrow *y*. Fig. 4 is a longitudinal section at the line *w w* in Fig. 3 of the two end parts of the same stripping-roll and toothed wheel.

Like parts are marked by like letters in the several figures, and the directions in which some of the parts move when in use are indicated by adjacent arrows.

A is a hard smooth-surfaced ironing-roll furnished with means for heating it, and BCD are feed-rolls, each having a yielding or elastic moisture-absorbing surface of muslin or

other suitable fabric. These rolls are all mounted to rotate in the frame E, with the feed-rolls in contact with the ironing-roll and geared therewith so that the parts of the surfaces of the feed-rolls in contact with the ironing-roll shall move in the same direction as the contiguous parts of the surface of the ironing-roll, which can be forced or pressed against the feed-rolls and moved out of contact therewith, as indicated by dotted lines at *u* in Fig. 1, all essentially the same as in some mangles made prior to my invention.

F is a stripping-roll, which I mount so that it is in surface contact with the delivery side of the ironing-roll when the latter is in contact with the feed-roll or feed-rolls, and I so gear the stripping roll with the ironing-roll, a feed-roll, or other suitable rotary part of the machine that the part of the surface of the stripping-roll in contact with the ironing-roll shall move in the opposite direction to and considerably faster than the contiguous part of the surface of the ironing-roll, and thereby remove the ironed articles, V, Fig. 1, as they arrive at the stripping-roll. To properly accomplish this result, the speed of the surface of the stripping-roll to the speed of the surface of the ironing-roll may be about as four to three, more or less.

In carrying out the aforesaid primary part of my invention the proper rotary motion may be imparted to the stripping-roll from the ironing-roll, feed-roll, or any suitable rotary part of the machine by means of toothed wheels, friction-gearing, belt or chain and pulleys, or any other suitable known means or gearing for imparting rotary motion from one revolving wheel or shaft to another one. The surface of the stripping-roll may be of any suitable elastic or yielding material, or like the surface of the common feed-rolls in mangles and ironing-machines, and may well consist of a sheet of muslin wound repeatedly and closely upon a felt-covered hard or metallic body, *g*, of the roll.

To provide very inexpensive and efficient means for rotating the stripping-roll in the opposite direction to that in which the contiguous surface of the ironing-roll moves and at a faster surface speed than that of the ironing-roll and the feed-roll D, which is next

forward of the stripping-roll, I make fast to that feed-roll a toothed or gear wheel, G, and have fast to the stripping-roll F a toothed wheel or gear, H, engaging with the wheel G, 5 and have the gears G and H so proportioned in size to each other and to the diameters of the rolls D and F, about as indicated in the drawings, as to impart to the stripping-roll a faster surface speed than that of the feed-roll D and than the surface speed of the ironing-roll with which that feed-roll is geared. 10

In the drawings, I is a primary rotary shaft, from which rotary motion is imparted by the pinion *j* and gear *k* to the driving-shaft L, 15 from which rotary motion is imparted to the ironing-roll A by the pinion *m*, fast on the shaft L, and the gear *n*, fast on the ironing-roll, and to the feed-roll D by the pinion *o*, fast on the shaft L and engaging with a pinion, *p*, 20 which is mounted on a stud, *p'*, on the frame E, and engages with the pinion *q*, which is fast on the roll D, said gears being so proportioned in size in relation to each other and to the diameters of the rolls A and D as to impart the proper equal or somewhat different surface speeds to those rolls, essentially the same as in some mangles and ironing - machines made prior to my invention. 25

To properly mount and rotate the stripping-roll cheaply and without requiring any special or additional shaft for its support, I make that roll with hollow journals *r r*, Figs. 3 and 4, and have the shaft L rotate through the hollow journals, and thereby support the roll F, which is rotated upon and in the opposite direction to that shaft by the engaged gears G and H on the feed-roll D and stripping-roll, respectively. 30

As regards my invention, the machine may 40 have only one feed-roll, as D, or may have two, three, or more feed-rolls against one ironing-roll.

In the machine shown in part by the drawings the pinion *q* on the roll D engages with a pinion, *t*, which turns on a stud on the frame E and engages with a pinion which is fast on the shaft of the feed-roll C, and engages with a pinion, *t'*, which is mounted on a stud on the frame and engages with a pinion fast on the shaft of the feed-roll B, and these pinions and feed-rolls are of such relative diameters that the surface of the roll C turns a little faster than the surface of the roll B and the surface of the roll D rotates somewhat faster 50 than the surface of the roll C, all substantially the same as in some mangles made prior to my invention. 55

S is a table for receiving the ironed articles as they are detached and conducted off from the ironing-roll by the stripping-roll. 60

In some mangles or ironing-machines here-

tofore used a shaving-blade bears at an acute angle against the delivery side of the ironing-roll to loosen the ironed articles from that roll; but such shaving-blade does not have any motion to carry the articles away from the ironing-roll. By my invention, hereinbefore described, all use of a shaving-blade is avoided and the ironed articles, however flexible, are detached and carried away from the ironing-roll, and that roll is simultaneously cleaned and polished, all by the elastic or clothed surface of the stripping-roll rotating in contact with the delivery side of the ironing-roll and in the opposite direction to and faster than the movement of the latter. 65 70 75

What I claim as my invention in a mangle or ironing-machine, and desire to secure by Letters Patent, is—

1. The combination, with the ironing-roll, a feed-roll having its elastic moisture-absorbing surface in contact with the ironing-roll, and mechanism to rotate said rolls with their contact-surfaces moving in the same direction, of the stripping-roll having its elastic surface in contact with the delivery side of the ironing-roll and gearing, substantially as set forth, to rotate the stripping-roll in the opposite direction to and at a faster surface speed than the movement of the contiguous surface of the ironing-roll. 80 85 90

2. The combination, with the ironing-roll, feed-roll D, having an elastic moisture-absorbing surface, and mechanism to rotate said rolls with their contact-surfaces moving in the same direction, of the stripping-roll having its elastic surface in contact with the delivery side of the ironing-roll, the gear G, fast to said feed-roll, and the gear H, fast to the stripping-roll and engaging with gear G, substantially as set forth. 95 100

3. The combination, with the ironing-roll, feed-roll D, having its elastic moisture-absorbing surface in contact with the ironing-roll, driving-shaft L, and gearing to impart from that shaft rotary motion to the ironing-roll and to said feed-roll, substantially as set forth, of the hollow stripping-roll F, mounted to rotate freely on said driving shaft and having its elastic surface in contact with the delivery side of the ironing-roll, the gear G, fast to said feed-roll, and the gear H, fast to the stripping-roll and engaging with gear G, substantially as shown and described. 105 110

In testimony whereof I hereunto set my hand, in the presence of two subscribing witnesses, this 9th day of March, 1888. 115

HENRY J. SKINNER.

Witnesses:

JOS. HARVEY,
H. M. KEITH.