

(No Model.)

2 Sheets—Sheet 1.

D. H. SIMPSON, J. WALKER, J. STRANG &
F. FARNWORTH.

MACHINE FOR WASHING PRINTERS' BLANKETS.

No. 604,504.

Patented May 24, 1898.

Fig. 1.

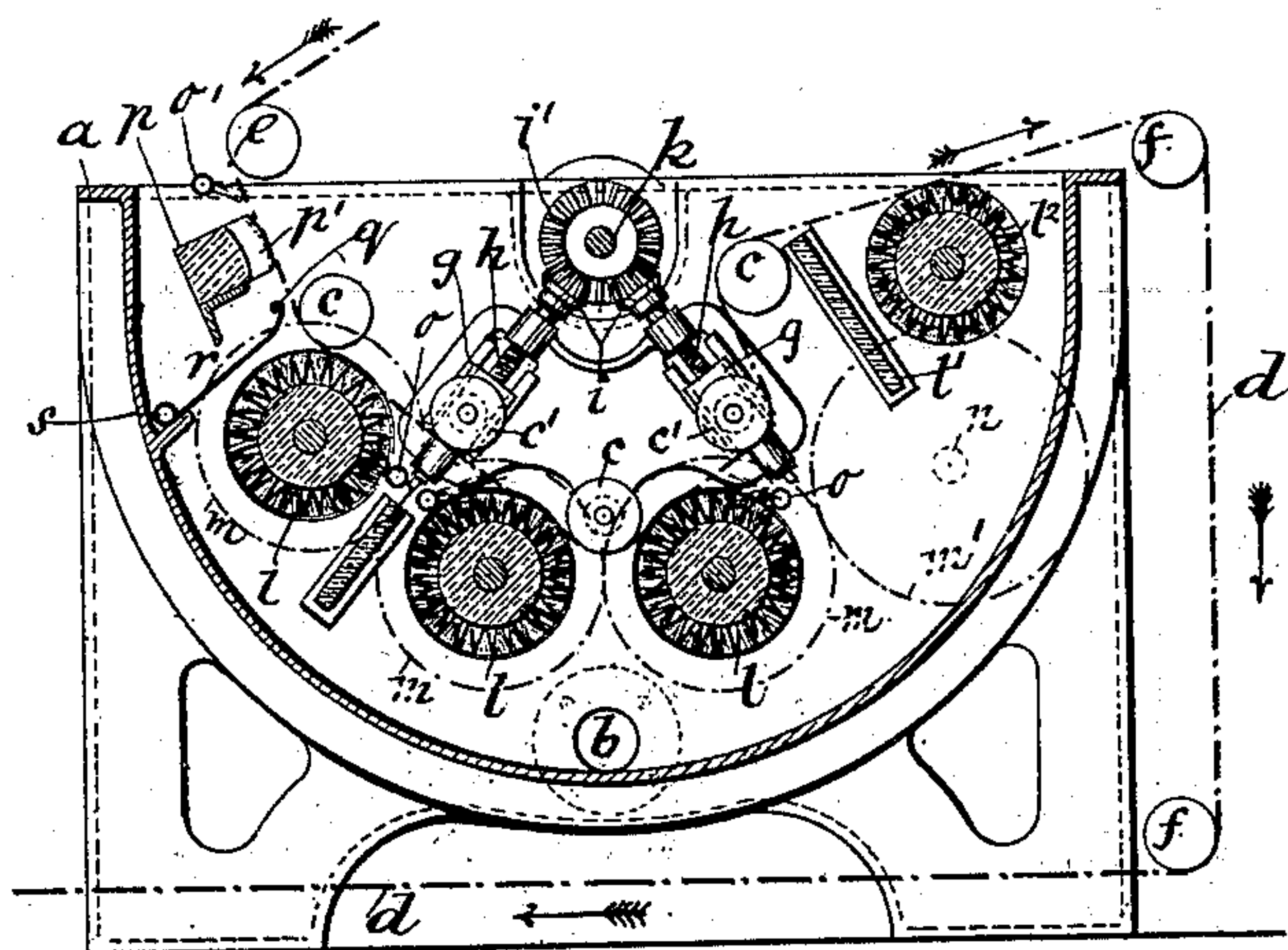
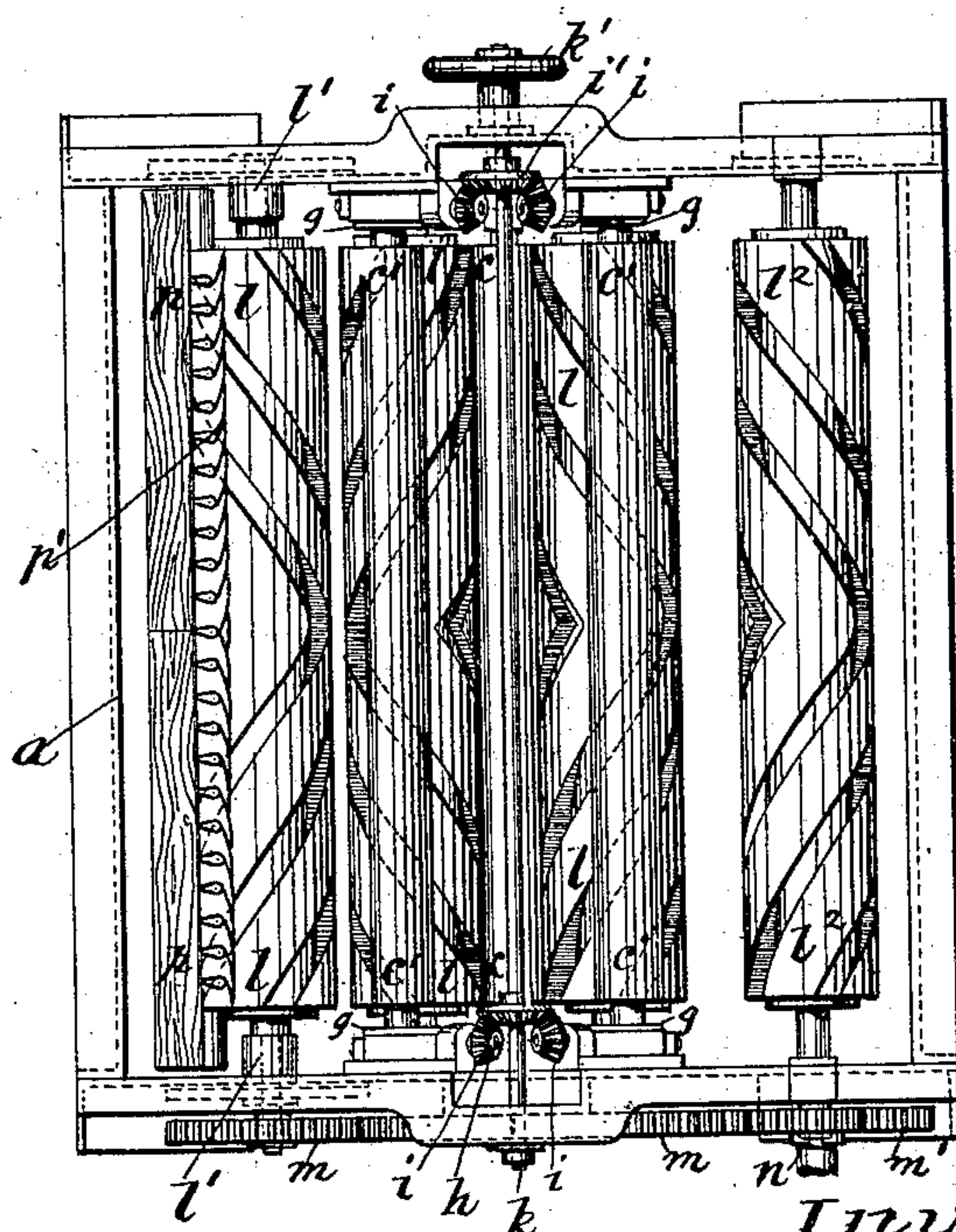


Fig. 2.



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(No Model.)

2 Sheets—Sheet 2.

D. H. SIMPSON, J. WALKER, J. STRANG &
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MACHINE FOR WASHING PRINTERS' BLANKETS.

No. 604,504.

Fig. 3. Patented May 24, 1898.

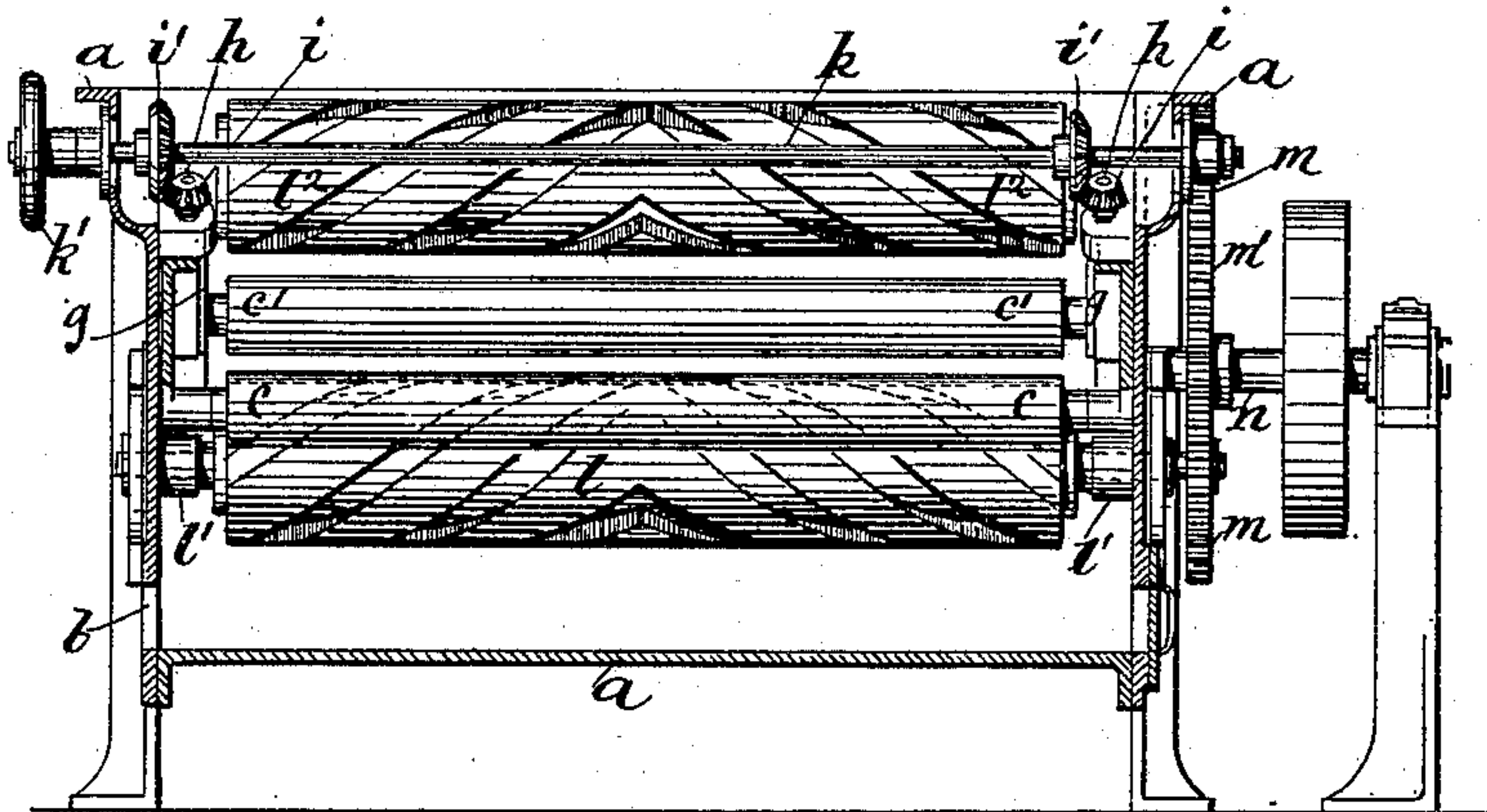
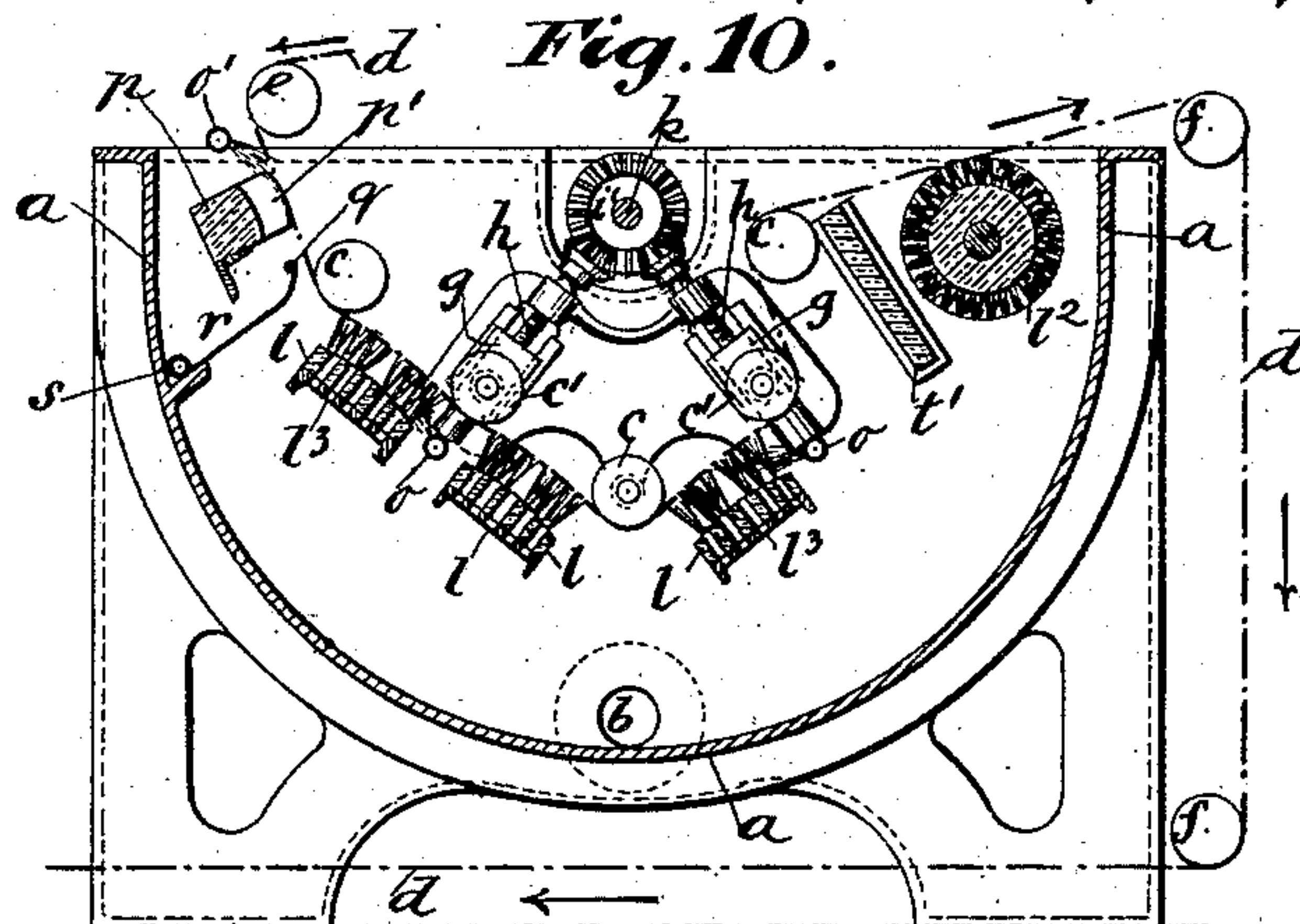
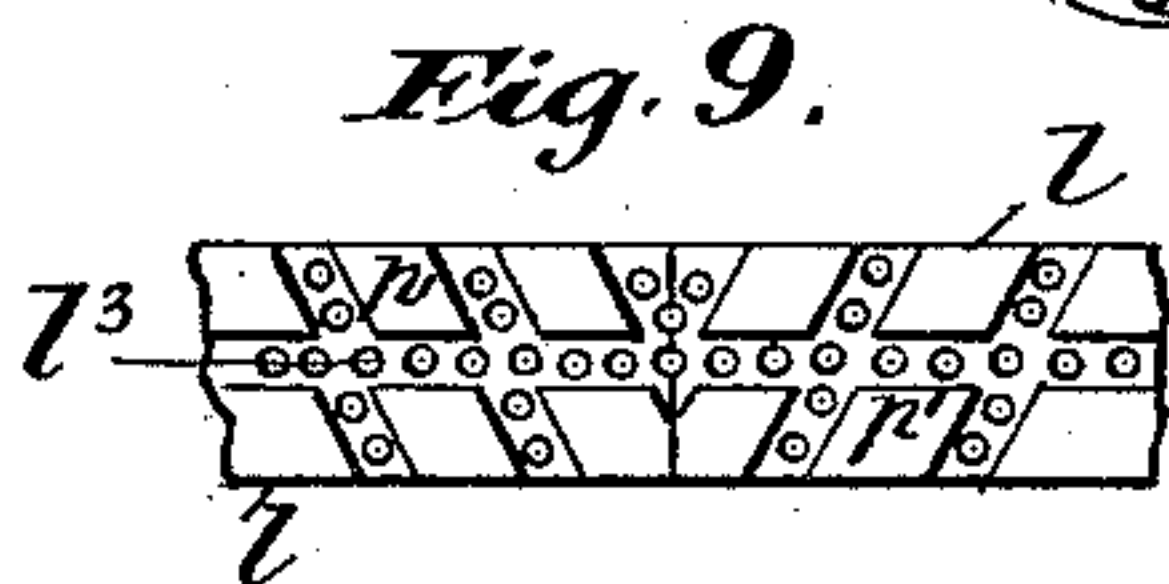
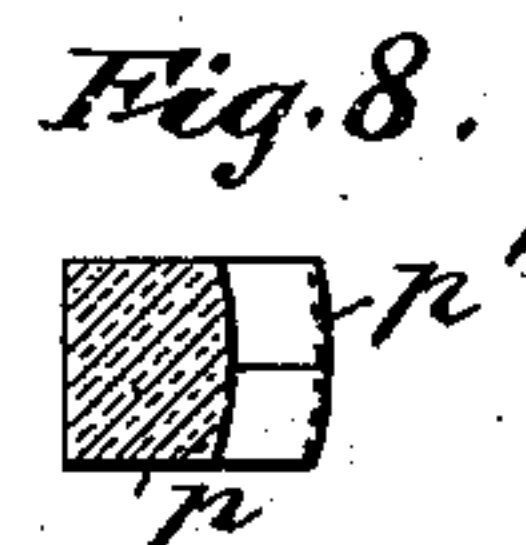


Fig. 4.

Fig. 5.



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UNITED STATES PATENT OFFICE.

DANIEL HARRISON SIMPSON AND JOHN WALKER, OF CHEADLE HULME,
JOSEPH STRANG, OF ENTWISTLE, AND FRANK FARNWORTH, OF
RAMSBOTTOM, ENGLAND.

MACHINE FOR WASHING PRINTERS' BLANKETS.

SPECIFICATION forming part of Letters Patent No. 604,504, dated May 24, 1898.

Application filed April 28, 1897. Serial No. 634,276. (No model.)

To all whom it may concern:

Be it known that we, DANIEL HARRISON SIMPSON and JOHN WALKER, residing at Cheadle Hulme, in the county of Chester,
5 JOSEPH STRANG, residing at Entwistle, and FRANK FARNWORTH, residing at Ramsbottom, in the county of Lancaster, England, subjects of the Queen of Great Britain, have invented new and useful Improvements in
10 Machines for Washing Calico-Printers' Blankets, of which the following is a specification.

The object of our improvements is the construction of a machine for washing calico-printers' blankets which performs its work
15 more effectively and expeditiously, which will not wear the blanket, and wherein the brushes will last much longer than heretofore has been the case. We attain this object by the mechanism illustrated in the accompanying
20 two sheets of drawings, in which—

Figures 1 and 2, Sheet I, are respectively a cross-section and a plan, and Fig. 3, Sheet II, a longitudinal section, of our improved machine for washing calico-printers' blankets.
25 Figs. 4, 5, 6, 7, 8, and 9 are views, on an enlarged scale, of some details; and Fig. 10 is a cross-section of a modification of our improved machine.

Similar letters refer to similar parts throughout the several views.

In carrying out our improvements and referring to Figs. 1, 2, and 3, *a* is the wash-box, having a liquid-outlet *b*, inside of which box are adapted to rotate in close proximity to
35 each other guide-rollers *c c'*, over which the blanket *d* to be washed runs, being guided into and out of the box *a* by means of the carrier-rollers *e* and *f*, respectively. The said guide-rollers are all situated on one side—*i. e.*,
40 at the back of the blanket *d*—the rollers *c* being stationary and the rollers *c'* arranged between the same and rendered adjustable against the back of the blanket by mounting the respective ends in the block-bearings *g*,
45 which are simultaneously adjustable on the ends of the box *a*, so as to cause the rollers *c'* to be set perfectly parallel with the rollers *c* and brushes *l*, hereinafter described, which is a very important feature, as the working

surface of the blanket will be acted upon by 50 the said brushes uniformly across its whole width. This adjustment is effected by means of screws *h*, furnished with bevel-pinions *i*, gearing into bevel-wheels *i'*, fixed upon a shaft *k*, mounted in the ends of the wash-box
55 *a* and rotated by means of a hand-wheel *k'* from the outside. Opposite, between all or a number of the stationary and adjustable guide-rollers *c c'*, we employ a brush *l*, in the present instance a rotary one, mounted in
60 bearings *l'*, also secured to the ends of the wash-box *a* and geared up by spur-wheels *m*, actuated by a wheel *m'*, secured upon the driving-shaft *n* of the washing-machine. In
65 connection with each of the said brushes are employed water-jet pipes *o*, which supply the same with water necessary for washing the blanket *d*. Opposite between the first carrier and guide-rollers *e* and *c* is fixed into the
70 wash-box *a* a stationary brush *p*, consisting of a series of rubber or the like strips *p'*, secured to a wood or other suitable back, or in lieu of the said strips the brush-back may be furnished with rows of bristles. Between the
75 ends of the wash-box *a* is fixed below the brush *p* a board or plate *q*, which forms a trough *r*, having an outlet *s* at one end, and above the brush *p* is employed a water-jet pipe *o'*.

The brush *p* we form in two lengths, as shown 80 in Figs. 4 to 8, which are joined together and rendered reversible to insure equal wear. Its rows of bristles or strips *p'* are formed diagonally in left and right hand fashion, which has the effect of expanding the blanket, 85 and thus free it from creases or scrimps. The said rows or strips may extend across the whole width of the brush, as shown in Figs. 4, 5, and 6, or they may be displaced, as shown in Figs. 7 and 8. Instead of the
90 brushes *p* and *l* having rows of bristles or rubber or the like strips such rows may be used in combination. The said brush and jet-pipe serve to soften and remove the bulk of the dirt adhering to the working surface of the
95 blanket as it enters the wash-box *a* and the said trough to catch and run off the said dirt, and thus prevent same falling onto the adja-

cent brush *l* and mixing with the liquid in the box *a* in cases where a certain quantity is allowed to remain therein and the brushes *l* dip into same. After leaving the brush *p* the working surface of the blanket is subjected to the action of the rotary brushes *l* and water-jets *o*, which thoroughly cleanse it, and before leaving the wash-box the water adhering to the blanket is removed by means of a brush *l*² or other suitable device adapted to rotate in contact therewith, splash-boards *t t'* being arranged, respectively, in connection with the rotary brushes *l* and *l*², which receives the water and dirt removed by same, respectively.

It will be readily seen from the drawings that the disposition of the rotary brushes *l* relative to the guide-rollers *c c'* and the blanket *d* is such as will allow the latter to yield to the pressure of the rotary brushes *l* and that by adjusting the rollers *c'* such pressure can be regulated at will in accordance with the amount of dirt to be removed therefrom—i.e., in the washing of blankets used in heavy printing more pressure is required than for such used in light printing, and the blanket is thus subject to less wear than heretofore has been the case and rendered more durable.

According to a modification of our invention the brushes *l* may be of a stationary type, as shown in Fig. 10, which will reduce the cost considerably, and which form of machine is specially applicable for washing blankets used in light printing. By preference we form the said brushes also in two lengths, as shown in Fig. 9, with a single or double set of rows of bristles or strips and with perforations *l*³ between through the back, which perforations prevent the brush becoming clogged with dirt, and thus render it self-cleaning.

In lieu of arranging the guide-rollers *c'* adjustable relative to the blanket they may be

arranged stationary and the brushes *l* rendered adjustable against the blanket in the same manner as guide-rollers *c'*.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In a machine for washing calico-printers' blankets, a radially-adjustable guide-roller mounted between two stationary guide-rollers adapted to operate upon back of the blanket, in combination with a brush mounted between the said adjustable and one of the said stationary guide-rollers adapted to act upon the face of the blanket, all substantially as and for the purpose set forth.

2. In a machine for washing calico-printers' blankets, in combination with guide-rollers and brushes between which the blanket runs, a stationary brush *p* supplied with liquid and a trough *r, s*, below the same, said trough being adapted to receive the material from the blanket independent of the main wash-box and to convey the same away without entering said wash-box, substantially as and for the purpose specified.

3. In a machine for washing calico-printers' blankets, in combination with the wash-box and guide-rollers over which the blanket runs, stationary brushes *l* and *p* made in two lengths placed end to end and having right and left hand fashioned rows of bristles or strips, said brush extending parallel with the rollers, the said two brush parts abutting against each other and being reversible, all substantially as and for the purpose set forth.

In witness whereof we have hereunto set our hands in presence of two witnesses.

DANIEL HARRISON SIMPSON.

JOHN WALKER.

JOSEPH STRANG.

FRANK FARNWORTH.

Witnesses:

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