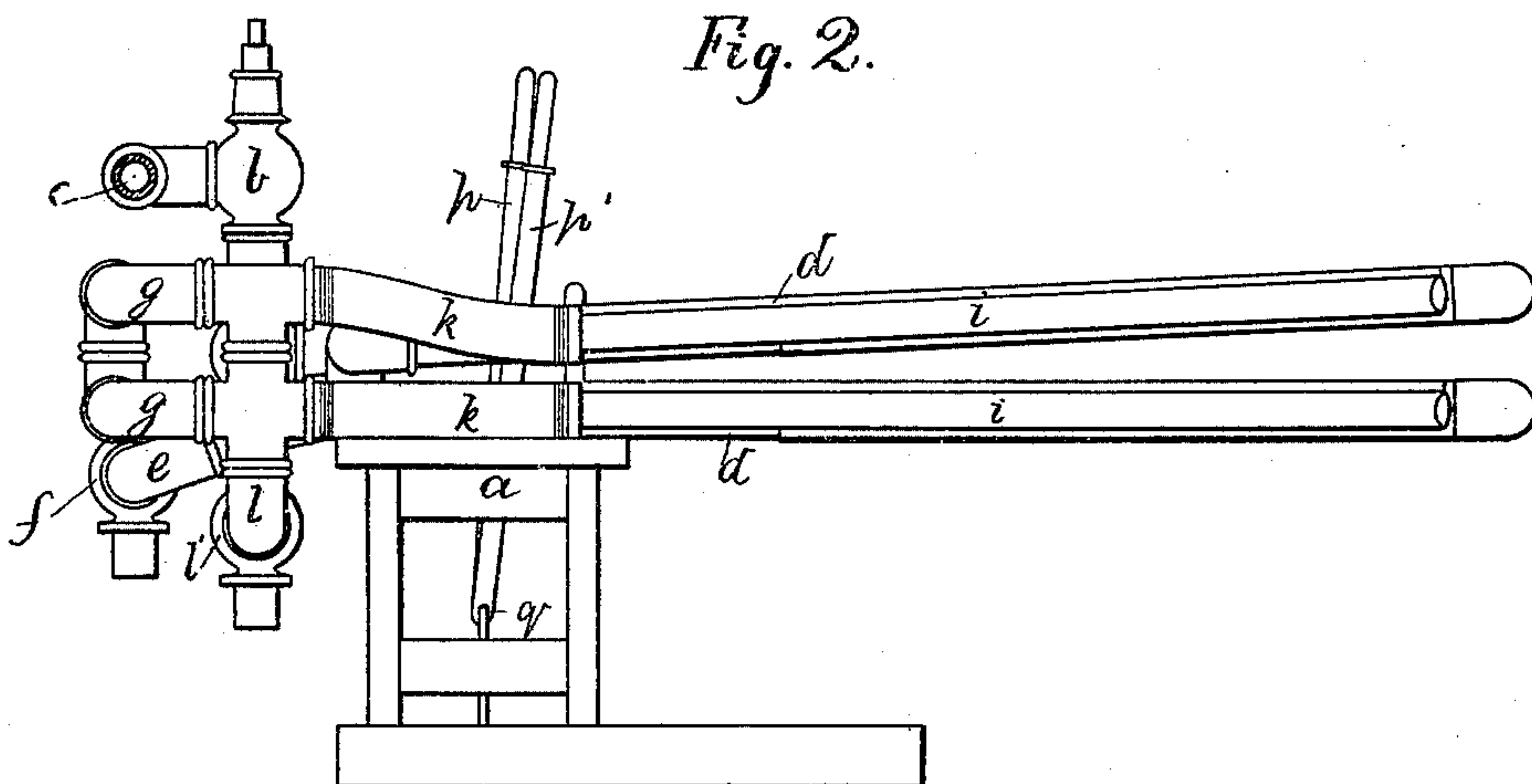
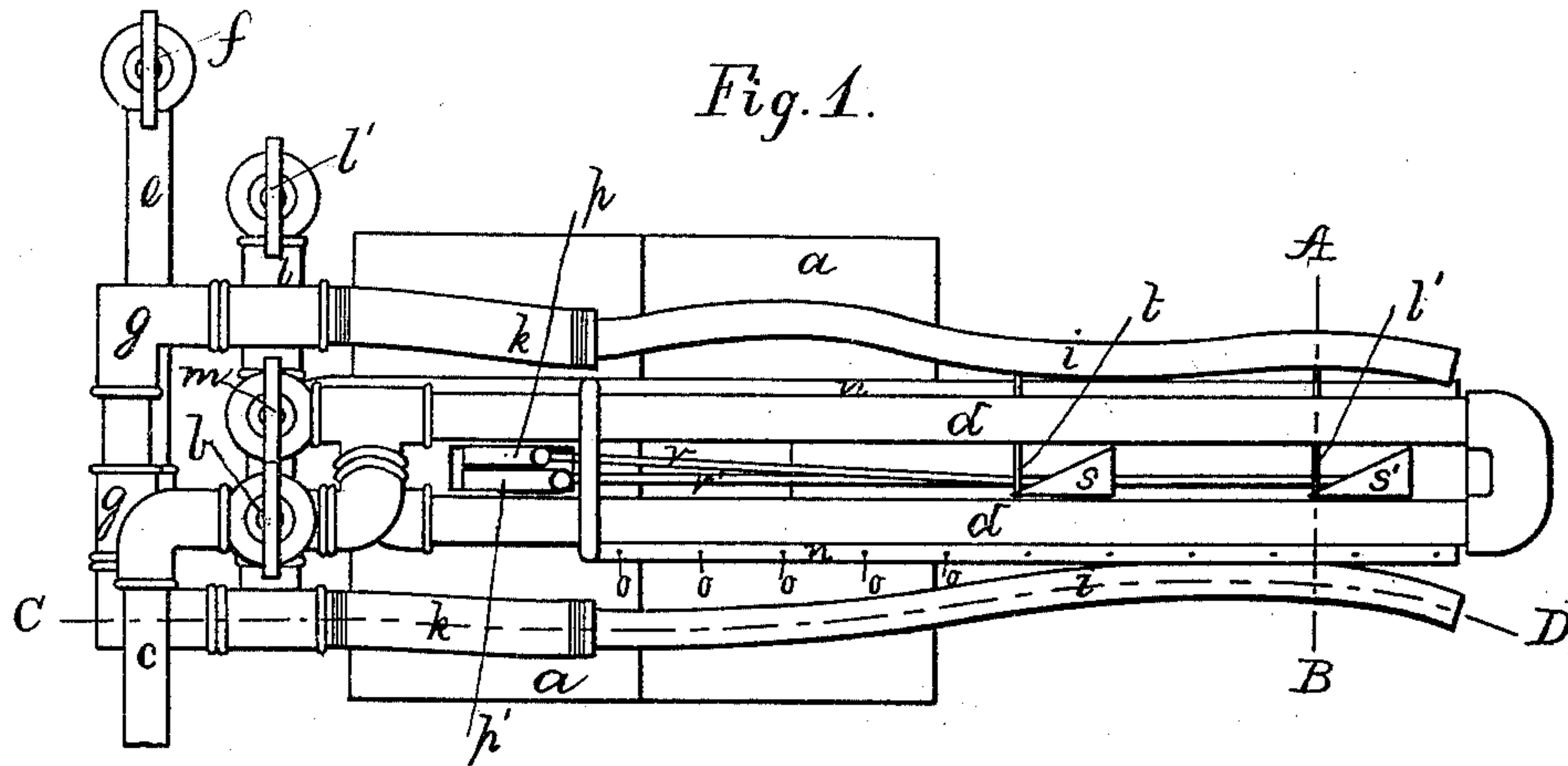


P. HOWE.

APPARATUS FOR SHAPING PANTALOONS.

No. 176,178.

Patented April 18, 1876.



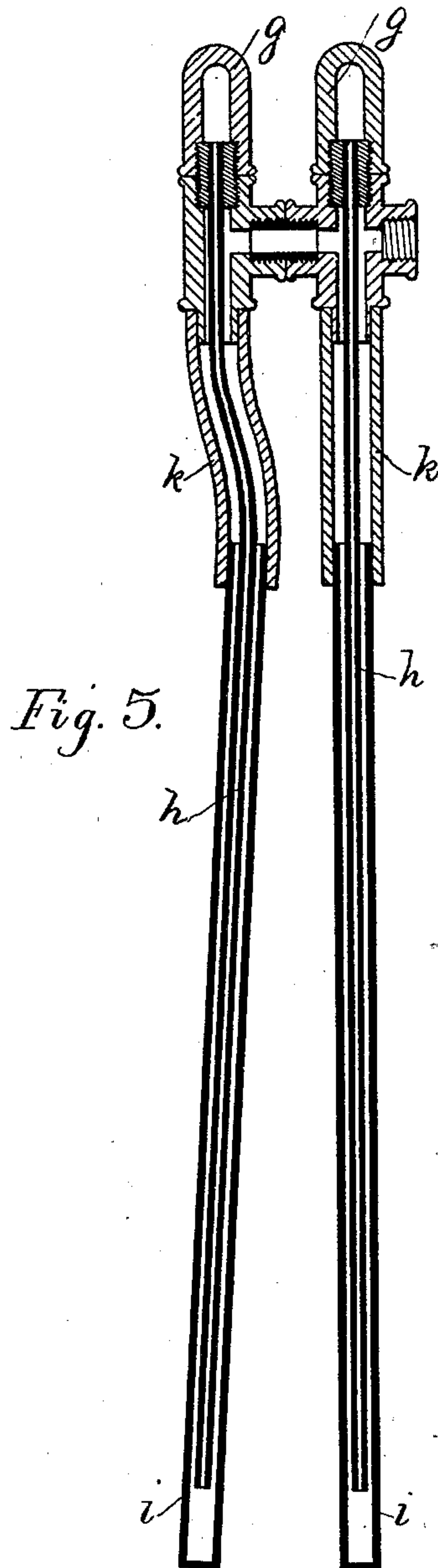
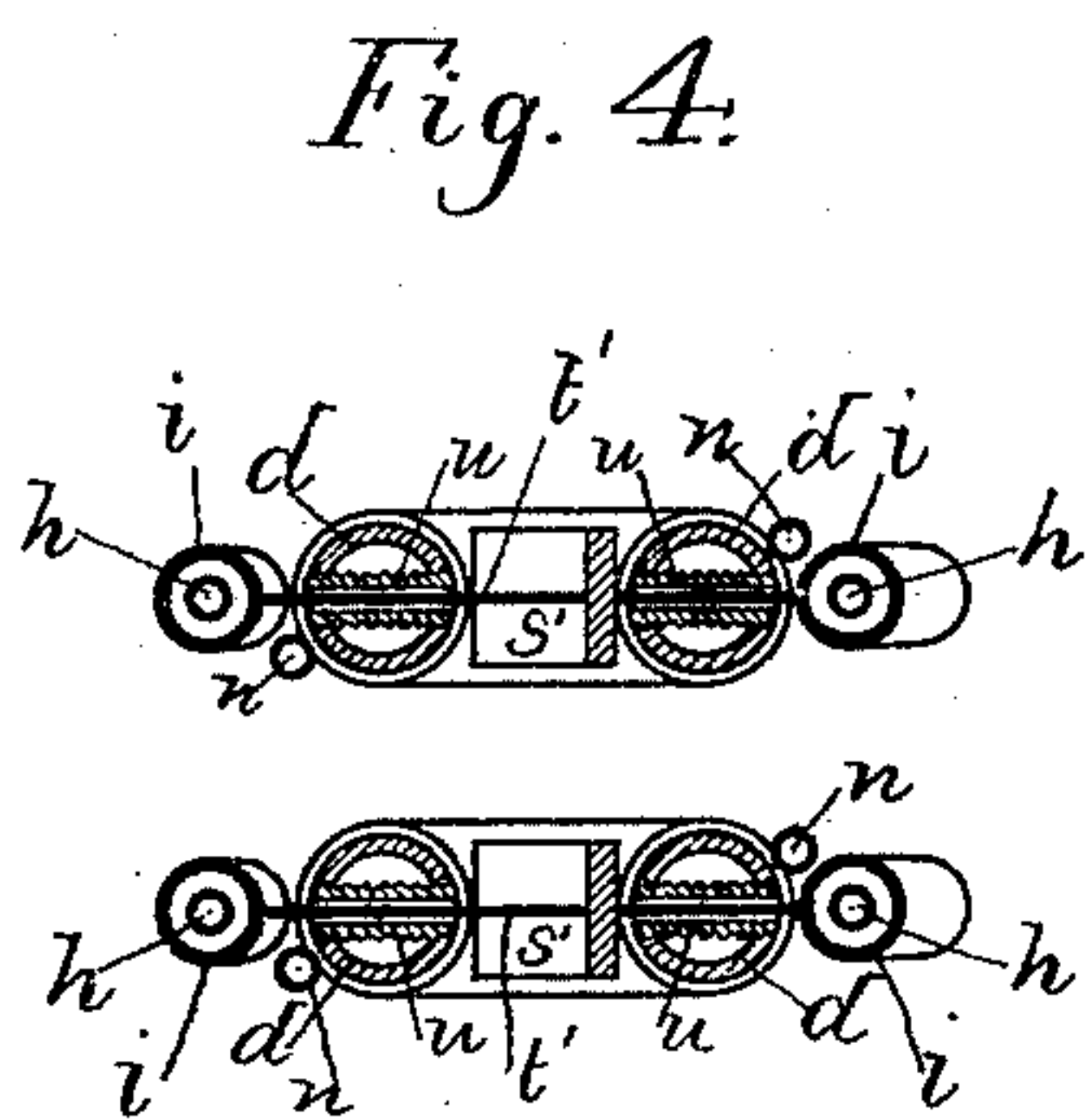
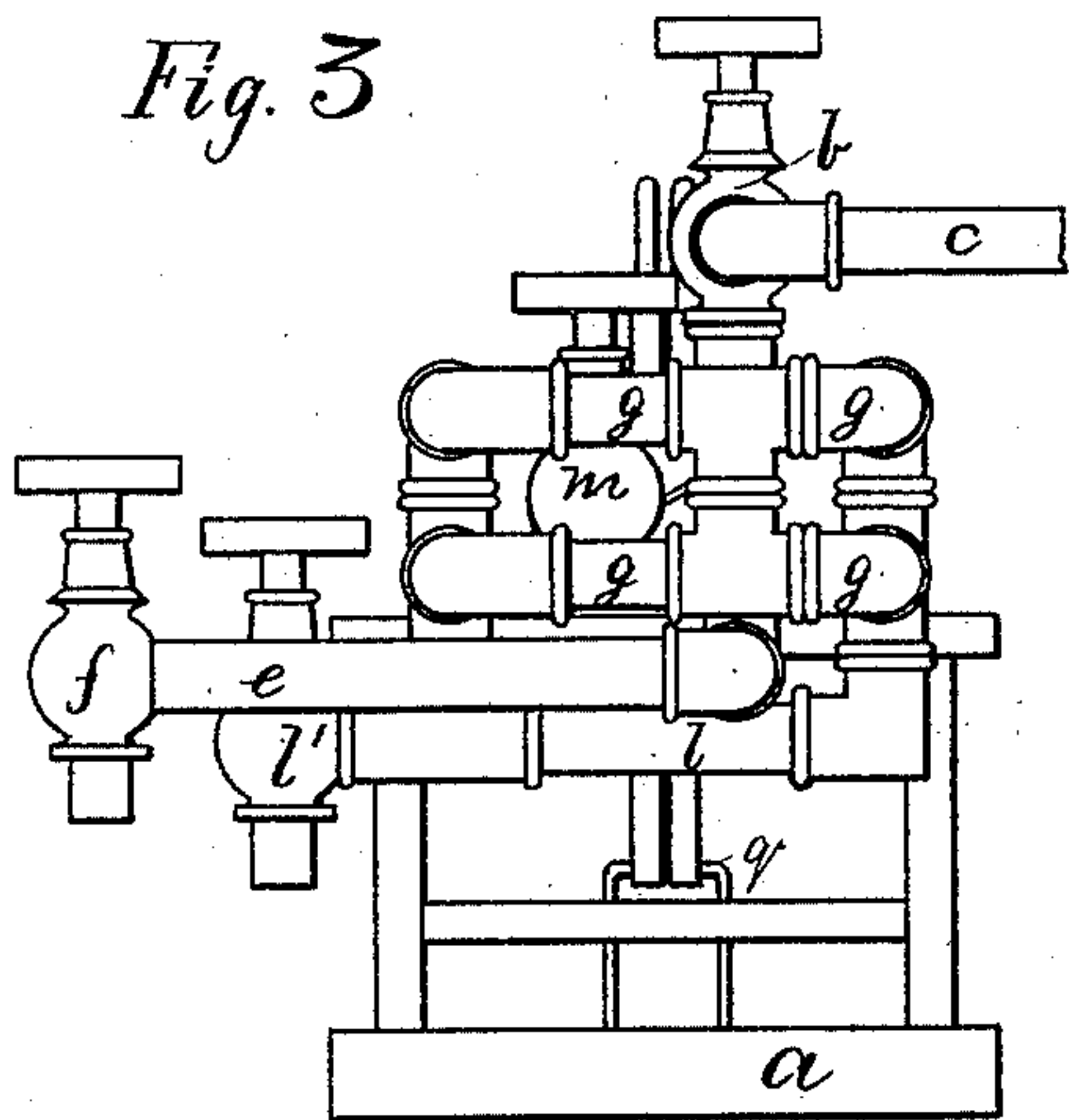
Witnesses:

Henry Chadbourne.
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Inventor:

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UNITED STATES PATENT OFFICE.

PATRICK HOWE, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO ISAAC FENNO,
OF SAME PLACE.

IMPROVEMENT IN APPARATUS FOR SHAPING PANTALOONS.

Specification forming part of Letters Patent No. **176,178**, dated April 18, 1876; application filed
March 23, 1876.

To all whom it may concern :

Be it known that I, PATRICK HOWE, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Pant Shaping and Shrinking Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification :

My invention relates to improvements in shaping and shrinking machines for pants, and consists in the combination of the following particulars, viz: Stationary drying-pipes through which steam is circulated; adjustable shaping and drying pipes, inside of which are located smaller circulating-pipes; and, lastly, perforated pipes, through the perforations of which steam is allowed to escape against the inside or wrong side of the pants.

The aforesaid adjustable shaping and drying pipes are made to move toward and from each other in a lateral direction by means of levers jointed to rods having wedges or inclines attached to their ends, which wedges or inclines act upon pins or projections secured to the shaping-pipes. Said pins or projections pass loosely through bushings or small tubes secured to and projecting laterally through the stationary drying-pipes. The admission of the steam and its return is regulated by means of valves, cocks, or cut-offs in the usual manner. The manner in which I proceed to shape, shrink, and dry pants with my improved machine, is as follows :

I turn on the steam for circulation both through the main drying-pipes and the shaping-pipes, and insert the latter in a pair of pants, after which I turn on the steam into the perforated pipes that are located inside of the pants when the latter are in their position on the machine, and thereby force the steam through the perforations aforesaid against the wrong side of the material, which is a great advantage compared with machines in which the steam comes in immediate contact with the right side of the goods, as in the latter

case the original finish of the goods is impaired in looks and lay of the nap. After the pants have been properly steamed from within I apply pressure on suitable levers, acting on inclines and pins or projections on the shaping-pipes, by which the latter are moved out laterally against the inside of each pant, where they are held for a short time till the pants are shaped to the desired form, after which the pants are removed and their place taken by another pair to be shaped and shrunk in the same manner, and so on.

On the accompanying drawings, Figure 1 represents a ground plan of my invention. Fig. 2 represents a side elevation. Fig. 3 represents an end view seen from C in Fig. 1. Fig. 4 represents a cross-section on the line A B seen in Fig. 1; and Fig. 5 represents a longitudinal section on the line C D, also shown in Fig. 1.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

a represents a suitable support on which the machine is resting. *b* represents a valve or cut-off by which the steam supplied from the steam-pipe *c* is regulated and conducted to the main steam drying pipes *d d d*, that are stationary, and through which the steam circulates previous to its escape through the drip-pipe *e* and its valve or cut-off *f*, as shown in Fig. 3. From the valve or cut-off *b* the steam is also conducted and regulated to the branches *g g g*, from which the steam is forced through the small pipes *h h h h*, located each inside one of the movable shaping and drying pipes *i i i i*. *k k k k* represent flexible connections between the shaping-pipes *i i i i* and the stationary branches *g g g*, although for an ordinary size machine these flexible joints may be dispensed with on account of the sufficient elasticity of the shaping-pipes themselves. After the steam has passed through the circulating-pipes *h h h h*, it returns through the shaping-pipes *i i i i* to the drip-pipe *l l* and its valve or cut-off *l'*, as shown in Figs. 2 and 3.

It will thus be seen that a proper circulation of the steam is obtained through the shaping-pipes *i i i i* in this manner, as the steam enters through the small central pipes

h h h h and is forced on its return against the inner surface of the said shaping-pipes. *m* represents a valve or cut-off, through which the steam is regulated and supplied to the small perforated steam-pipes *n n n n* having perforations *o o*, through which the steam escapes against the wrong side of the pants when the latter are placed in their positions. *p* represents a lever, movable around the fulcrum *q* and having a link or connecting-rod, *r*, the outer end of which is secured to a wedge or incline, *s*, by means of which, when the latter is moved backward, the pin or projection *t* secured to one of the shaping-pipes *i i* is forced outward, and thereby forcing the shaping-pipes *i i i i* away from each other in a lateral direction against the inside of the pants that are placed in position over the said drying and shaping pipes. The pin or projection *t* is made to move loosely through the small tube or bushing *u*, inserted steam tight through the main drying-pipe *d*, as shown in section in Fig. 4. A similar lever, *p'*, with its link or connecting-rod *r'*, and wedge or incline *s'*, acting on the pin or projection *t'* located a little farther up the leg of the pants, is used in a similar manner for the purpose of forcing the shaping-pipes *i i i i* out in a lateral direction at or near the place indicated in the drawings, so as to be able to obtain the proper and necessary shape of the pants. I prefer to

make the wedges or inclines *s s'* single—that is, inclined on one side only; but I may to equal advantage make them double—that is, with inclines on both sides, so as to act upon pins or projections *t' t'* on all of the shaping-pipes *i i i i*, although for ordinary use it is sufficient to move only one-half of the number of shaping-pipes.

Having thus fully described the nature, construction, and operation of my invention I wish to secure by Letters Patent, and claim—

1. The combination of the adjustable hollow shaping and drying pipes *i i i i*, with their inner circulating-pipes *h h h h*, the stationary drying pipes *d d d d*, and the perforated steam-pipes *n n n n*, as and for the purpose set forth and described.

2. In combination with the adjustable shaping and drying pipes *i i i i* of the rods *r r'*, wedges *s s'*, projections *t t'*, and bushings *u u'*, as and for the purpose set forth and described.

In testimony that I claim the foregoing as my own invention, I have affixed my signature in presence of two witnesses.

PATRICK HOWE.

Witnesses:

ALBAN ANDRÉN,
HENRY CHADBOURN.