T. TOTHILL, Sr.

SEAM DAMPENING MACHINE.

APPLICATION FILED MAY 8, 1906.

913,245.

Patented Feb. 23, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

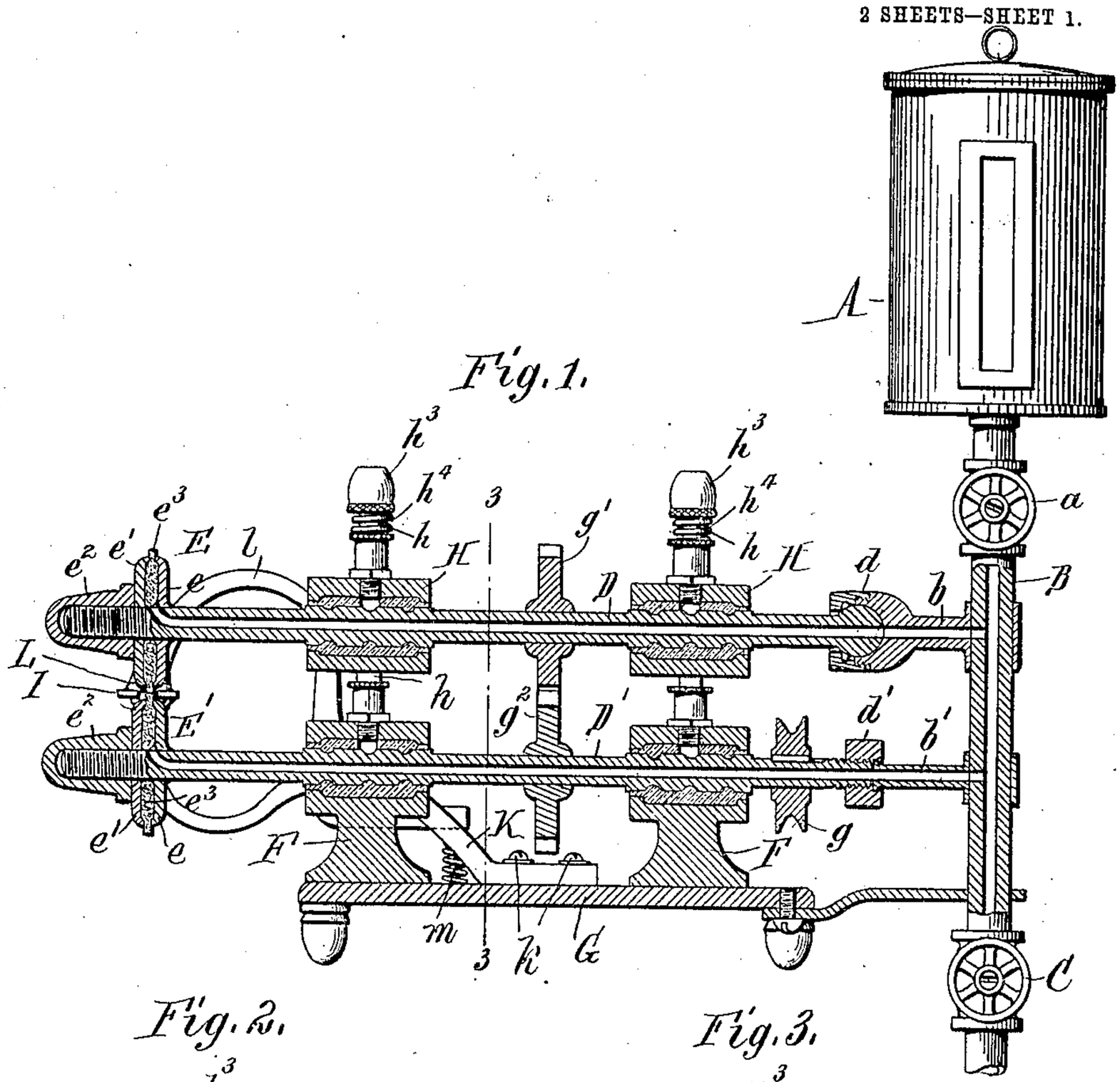


Fig. 2.

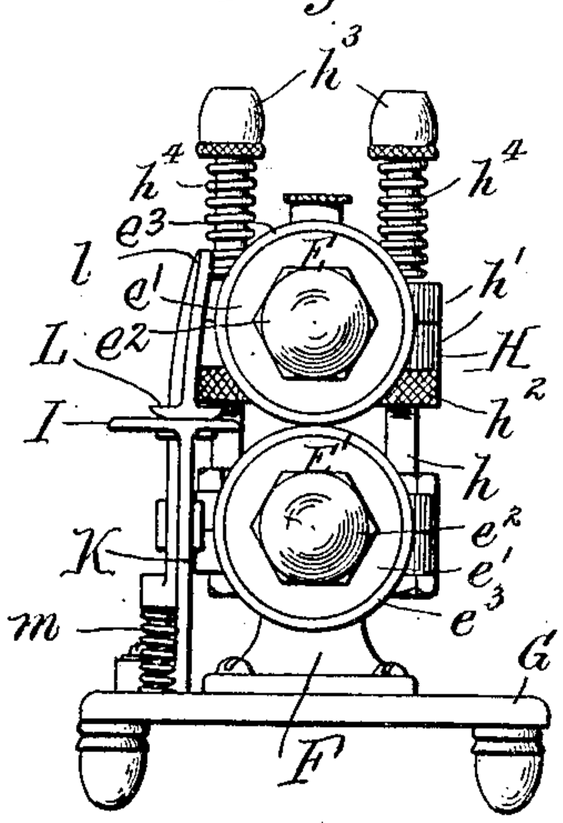
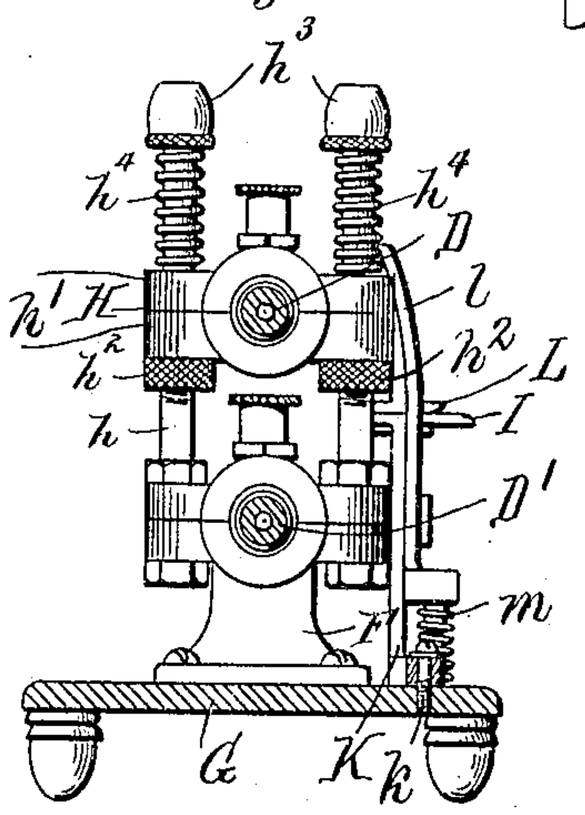


Fig. 3.



Witnesses:-

E. A. Tock.

A. F. Dimond.

Inventor.

Thomas Tothill, Sr.

By Wilkes, Pauley & Hand

Attorneys.

T. TOTHILL, Sr.

SEAM DAMPENING MACHINE.

APPLICATION FILED MAY 8, 1906.

913,245.

Patented Feb. 23, 1909.

2 SHEETS—SHEET 2.

Fig. 4.

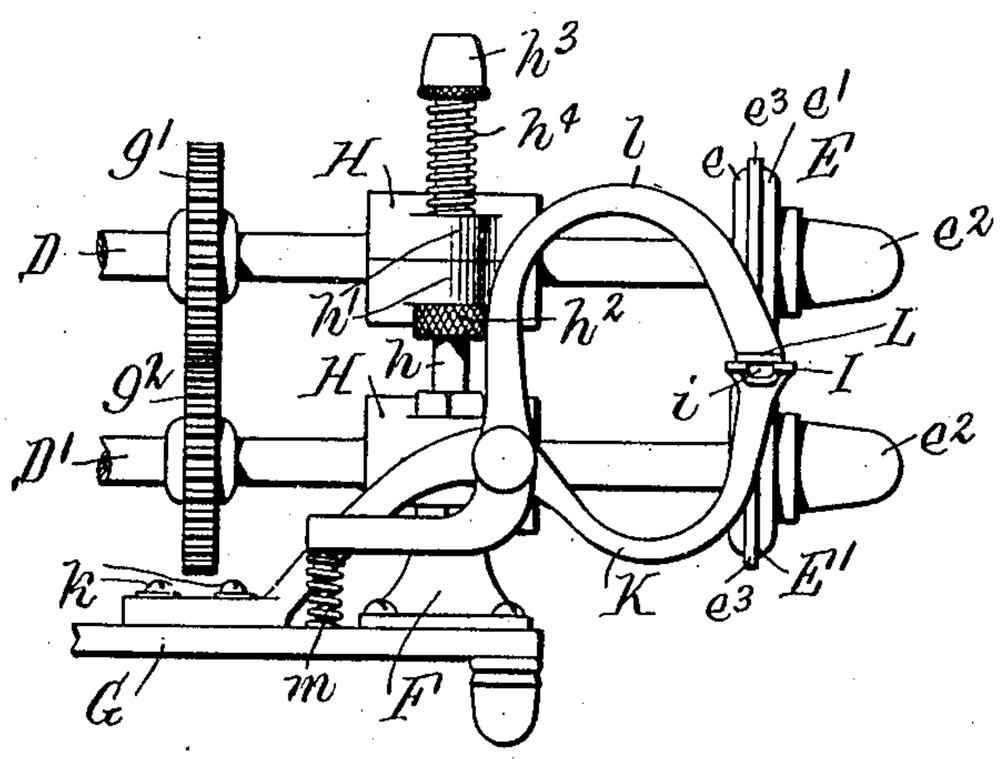


Fig. 5.

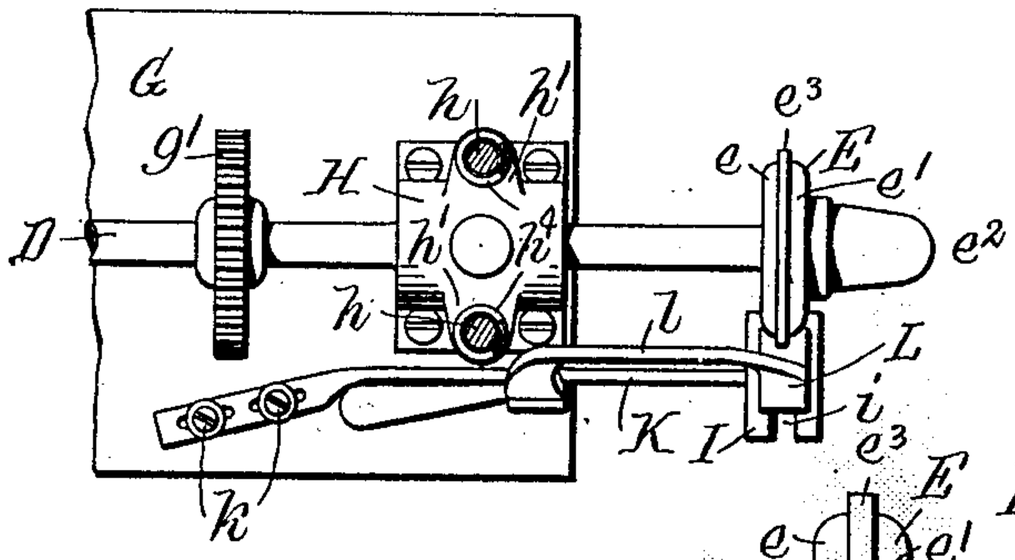


Fig. 6.

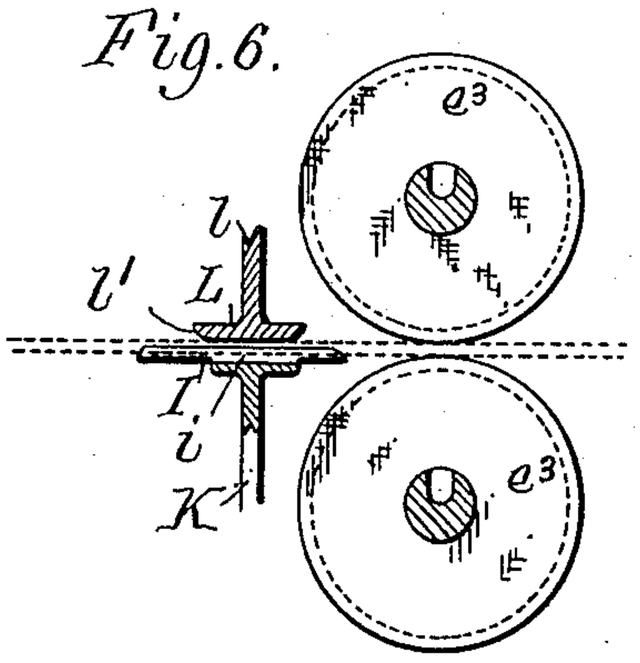
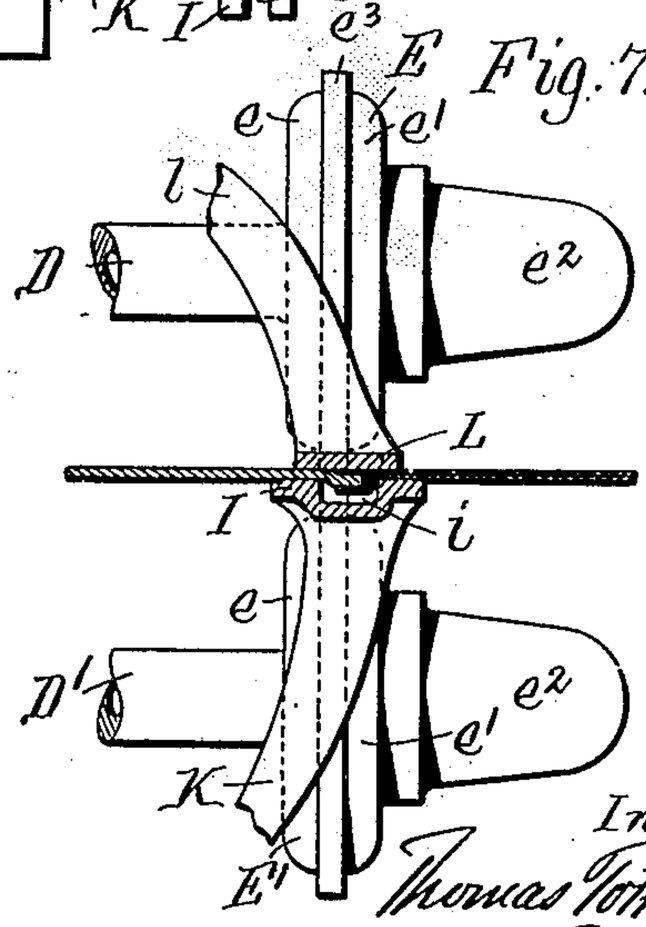


Fig. 7.



Witnesses:
E. A. Volk.
A. F. Dimond.

Inventor.
Thomas Tothill, Sr.,
by Wilhelm, Parker & Hard,
Attorneys.

UNITED STATES PATENT OFFICE.

THOMAS TOTHILL, SR., OF LOCKPORT, NEW YORK.

SEAM-DAMPENING MACHINE.

No. 913,245. Specification of Letters Patent. Patented Feb. 23, 1909.

Application filed May 8, 1906. Serial No. 315,770.

To all whom it may concern:

Be it known that I, THOMAS TOTHILL, Sr., a citizen of the United States, residing at Lockport, in the county of Niagara and State of New York, have invented a new and useful Improvement in Seam-Dampening Machines, of which the following is a specification.

In laundering turndown collars and analogous stiffly starched articles which are folded or creased, it is customary to starch and iron the article flat, then dampen or moisten the ironed article along the seam or line of fold so that it will not break when folded, and finally fold the article and iron the folded edge.

This invention relates to machines employed for dampening the starched articles along the line of fold.

Where thick articles are moistened on one side only, it is necessary for rapid operation to employ hot water, which more readily penetrates starched fabrics, and this necessitates means for heating the water.

The primary object of the invention is to produce an efficient machine of simple and desirable construction which will moisten both sides of the fabric at the same time, thereby enabling the use of cold water, and in which the amount of water applied to the fabric can be regulated by the operator in accordance with the requirements of the articles being dampened.

Another object of the invention is to so construct the machine that the dampening devices will be held in yielding continuous contact with the surfaces of any article which is being passed between them and will conform to any irregularities of such surfaces, and to provide means whereby the distance between these dampening devices can be easily regulated to accommodate articles of different thicknesses.

Another object of the invention is to provide an efficient guide of simple construction which will insure the dampening of the article accurately along the line of fold and will obviate the necessity for a skilled operator for the machine.

In the accompanying drawings, consisting of two sheets: Figure 1 is a longitudinal sectional elevation of a dampening machine embodying the invention. Fig. 2 is a front end elevation thereof. Fig. 3 is a transverse sectional elevation thereof in line 3—3, Fig. 1. Fig. 4 is a side elevation of the front end thereof. Fig. 5 is a plan view, partly in section, of the parts shown in Fig. 4. Fig. 6 is an enlarged fragmentary transverse sectional elevation of the dampening rolls and guide, indicating an article between the rolls by broken lines. Fig. 7 is a side elevation, on an enlarged scale, of the dampening rolls and guide, the latter being partly in section, and an article being also shown in section in the guide.

Like letters of reference refer to like parts in the several figures.

A represents a reservoir for holding the moistening fluid, which is generally cold water, and B a main water supply pipe which leads from the bottom of the reservoir A and from which extend horizontal branch supply pipes *b* and *b'* for the moistening rolls or devices. A suitable valve *a* is provided in the main supply pipe B between the reservoir and the branch pipes for regulating the flow of liquid from the reservoir to the dampening devices as found necessary. A drain cock C is also shown at the lower end of the main supply pipe B for drawing off the water and sediment from the reservoir and branch pipes. This valve is closed when the machine is in use.

Extending from and communicating with the branch supply pipes *b* and *b'* are two hollow shafts D and D' preferably arranged one above the other and carrying at their outer ends dampening devices or rolls E and E'. The shafts are connected to the branch pipes by swivels or unions *d* and *d'* of any suitable sort for providing water tight joints between the rotary shafts and stationary pipes. The lower shaft D' is journaled in suitable bearings F on a base or frame G for the machine. The shafts are driven in opposite directions by suitable means, for example, the lower shaft is provided with a pulley *g* for a drive belt, and intermeshing gear wheels *g'* *g*² are secured to the two shafts at a point between the bearings F for the lower shaft. The upper shaft D is journaled in suitable bearings H which, in the construction shown, are arranged directly over the bearings F for the lower shaft and are supported by upright posts *h* secured to the lower bearings F. These posts pass loosely through side lugs *h'* on the members of the upper bearings H and are provided with adjustable stop nuts *h*² on which the lower members of the upper bearings rest and which limit the downward

movement of said bearings. The posts extend for some distance above the lugs h' of the upper bearing members and are provided at their upper ends with spring adjusting nuts h^3 between which and said bearing lugs are placed coiled springs h^4 surrounding the posts. These springs serve to hold the upper bearings down on the stop nuts and press the upper shaft and its moistening roll down toward the other shaft and roll, but permit the upper shaft with its roll to yield upwardly under pressure, thereby always causing a proper pressure of the rolls against the articles notwithstanding irregularities in the thickness thereof. By turning the spring adjusting nuts the tension of the springs can be increased or diminished to give the desired pressure of the rolls on the articles, and by means of the stop nuts h^2, the minimum distance between the upper and lower dampening rolls can be regulated. The union d connecting the upper shaft D to the branch pipe b is of the universal type or of other construction enabling such movement of the upper shaft and roll. Any other suitable means can be employed for mounting and driving the shafts, connecting them to the branch supply pipes, and regulating the pressure of the rolls on the article.

The moistening rolls E and E′ each consist preferably of a pair of flat circular disks e e' having peripheral clamping lips or flanges projecting toward each other. The inner disk e is fixed to or formed integrally with its shaft while the outer disk e' is movable thereon and is held in position by a nut e^2 which is screwed upon the threaded end of the shaft. Between these disks is placed a flat ring or disk e^3 of felt or some other soft porous material which is of somewhat greater diameter than the disks e and e', so that its edge extends slightly beyond the edges of the disks. The passageways through the hollow shafts D and D′ communicate with the spaces between the roll disks and the water passing through the shafts into these spaces is absorbed by the porous rings e^3 and communicated by the edges of these rings or disks to the opposite surfaces of the article passing between the dampening rolls. By means of the nut e^2 the outer disk e' of each roll can be forced toward the inner disk and the porous rings e^3 can thus be compressed more or less between the lips of the disks, so as to increase or decrease the amount of moisture which will be communicated by the edges of the rings to the fabric.

In operation the article to be dampened is presented between the edges of the rotary dampening rolls, which grip and feed the article between them, the article being guided by hand so that it is dampened only along the seam or line of fold. The rolls simultaneously dampen both sides of the article and the machine is rapid and efficient in operation, notwithstanding that cold water can be employed.

The machine can be operated as just described without any guide means for the articles, but preferably the machine is equipped with a guide for directing the articles between the dampening rolls, which will now be described.

I represents a stationary guide shelf or plate which is supported in front of the receiving side of the rolls about on the horizontal plane of the bite of the rolls, and is provided with a groove or opening i to receive the seam, thickened or creased portion of the article, as shown in Fig. 7. The guide-plate is supported, for instance, by an arm K which is preferably adjustably secured to the base of the machine, by screws k passing through slots in the arm. The seam, or crease of the article is pressed lightly into the guide groove i by a presser foot L, which, as shown, is carried at one end of a lever l pivoted between its ends on the guide supporting arm K, and is pressed toward the guide plate by a spring m between the other end of the presser lever and the base of the machine. The article is placed between the guide plate and presser with its seam in the guide groove and moved forwardly until gripped by the rolls. The rolls will then draw the article through the guide, and the article will be guided by the engagement of the seam or crease in the guide groove. The guide plate is preferably so adjusted that the rolls will engage and dampen the article just to one side of the seam. The receiving end of the presser foot is beveled or rounded, as shown at l' in Fig. 6, so that the end of the article can be readily inserted between the presser foot and guide plate without separately lifting the presser.

I claim as my invention:

1. In a seam dampening machine, the combination of two hollow shafts, stationary bearings in which one of said shafts is journaled, movable bearings in which the other shaft is journaled, springs for pressing said movable bearings toward said stationary bearings, adjustable stops against which said movable bearings are held by said springs, hollow dampening rolls mounted opposite to each other on said shafts and having narrow peripheral strips of pervious material for dampening the opposite sides of an article fed between said rolls, means for driving said rolls to feed the article between them, and means connected to said hollow shafts for feeding fluid into both of said rolls for wetting said dampening strips, said movable shaft having a flexible connection with said fluid feeding means, substantially as set forth.

2. In a seam dampening machine, the com-

bination of a frame, rotary dampening rolls between which the article is fed and dampened, and an article guide comprising a supporting arm adjustably secured on said frame and having a guide plate with a groove to receive the seam or crease of the article to regulate its direction of movement between the rolls, and a spring-pressed arm which is pivoted to said supporting arm and has a presser foot for holding the seam or crease of the article in said groove, said arms being oppositely bowed between their pivot and their guiding parts to provide space for the passage of the article, substantially as set forth.

Witness my hand, this 3rd day of May, 1906.

THOMAS TOTHILL, Sr.

Witnesses:
CHAS. E. SHEARSTON,
EUGENE W. ALLEN.