No. 887,755. PATENTED MAY 19, 1908.

D. H. BENJAMIN.

DAMPENING MACHINE.

APPLICATION FILED AUG. 12, 1905.

3 SHEETS—SHEET 1.

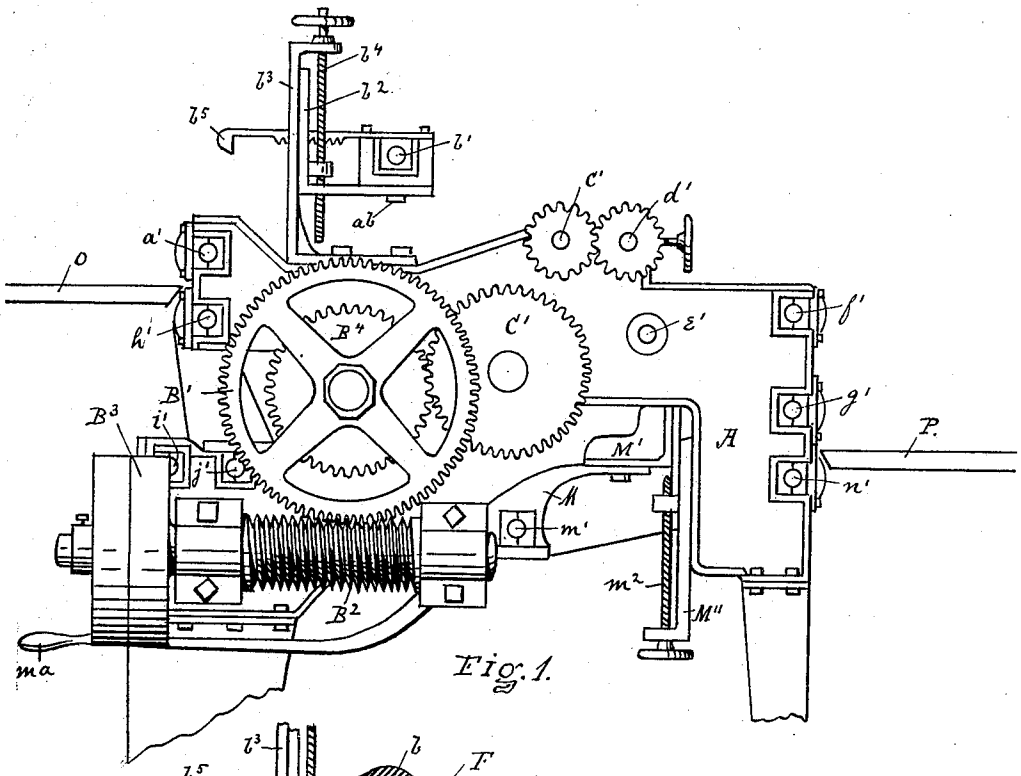


Fig. 1.

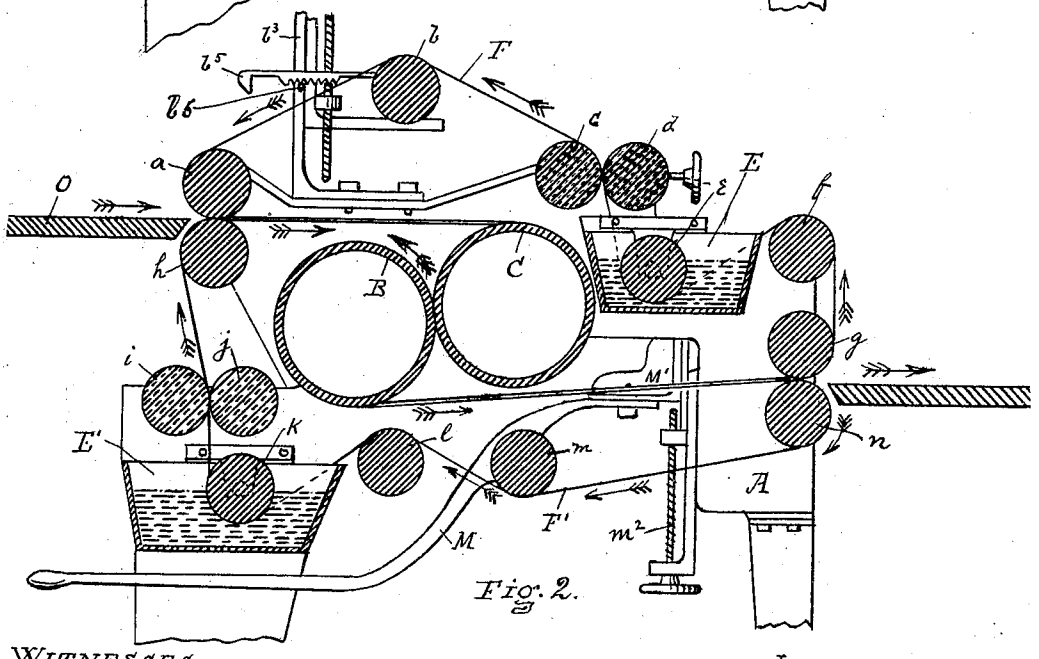


Fig. 2.

WITNESSES
Rich. A. George
E. T. DeGiorgi.

INVENTOR
DANA H. BENJAMIN.
BY Riley & Love
ATTORNEYS.

THE NORRIS PETERS CO., WASHINGTON, D. C.

No. 887,755. PATENTED MAY 19, 1908.

D. H. BENJAMIN.

DAMPENING MACHINE.

APPLICATION FILED AUG. 12, 1905.

3 SHEETS—SHEET 2.

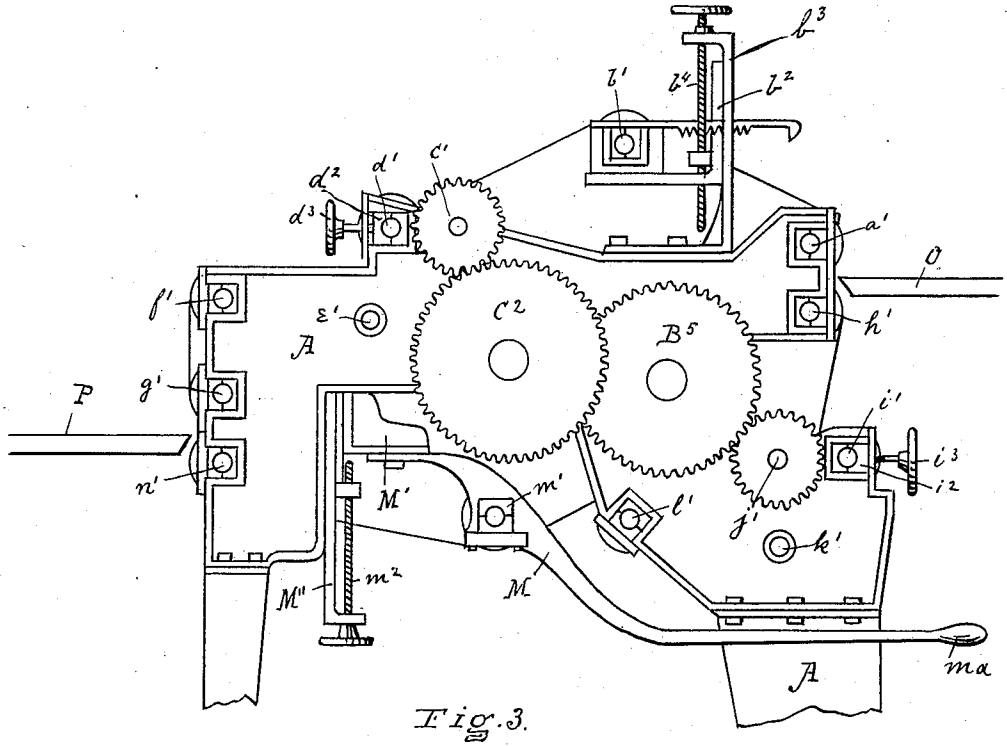


Fig. 3.

WITNESSES
Rich. A. George
E. T. De George

INVENTOR
DANA H. BENJAMIN
BY Ridley & Love
ATTORNEYS.

THE NORRIS PETERS CO., WASHINGTON, D. C.

No. 887,755. PATENTED MAY 19, 1908.

D. H. BENJAMIN.

DAMPENING MACHINE.

APPLICATION FILED AUG. 12, 1905.

3 SHEETS—SHEET 3.

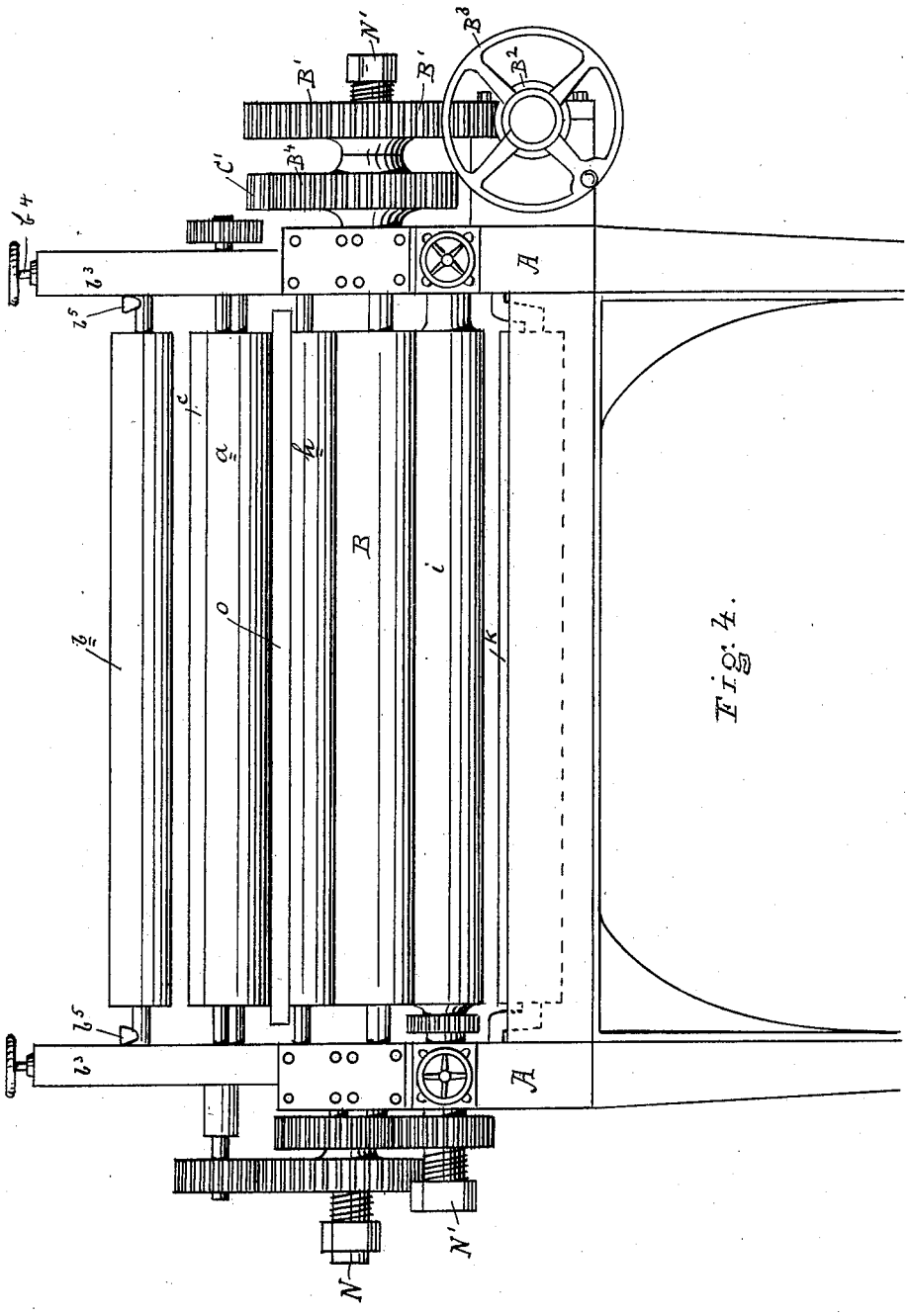


Fig. 4.

WITNESSES
Rich. A. George
E. T. De Giorgi.

INVENTOR
DANA H. BENJAMIN
BY Risley & Love
ATTORNEYS.

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

DANA H. BENJAMIN, OF LEBANON, PENNSYLVANIA.

DAMPENING-MACHINE.

No. 887,755. Specification of Letters Patent. Patented May 19, 1908.

Application filed August 12, 1905. Serial No. 273,867.

To all whom it may concern:

Be it known that I, DANA H. BENJAMIN, citizen of the United States, residing at Lebanon, in the county of Lebanon and State of Pennsylvania, have invented certain new and useful Improvements in Dampening-Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to an improved dampening machine, and I declare that the following is a full, clear, concise and exact description thereof sufficient to enable one skilled in the art to make and use the same, reference being had to the accompanying drawings in which like letters and numerals refer to like parts throughout.

My invention is applied to a class of machinery which is used in laundries for dampening collars, cuffs and similar articles before ironing them, and among the particular features of the invention is the application of heat to the surfaces of moistened aprons having the goods between them so that the goods are dampened evenly from both sides at once and as rapidly as they can be passed through the machine, the dampening members of which can be regulated for the most satisfactory work. The heat drives the moisture instantly through the goods making them perfectly and evenly dampened.

I do not attempt to state all the advantages of my invention, as they will appear from the application and will be apparent to those skilled in the art.

In the drawings, Figure 1 is an end view of my machine, and Fig. 2 is a cross-section view in the same position. Fig. 3 is an opposite end view, while Fig. 4 is a front view.

The various details of construction will be apparent to any practical machinist and will be comprehended from an examination of the drawings.

The frame of the machine is represented by A and comprises side plates and standards or legs. The side plates can be suitably connected by bars or stays as may be desired. The machine comprises two heated cylinders, stationary or movable, or other mechanical construction whereby heat may be applied to the surface of the moistened aprons, together with rollers. The cylinders are shown by B and C respectively and are supported on suitable journals at each end. At one end, as seen in Fig. 1, roller B has a gear B^1 mounted to mesh with the worm B^2 which is turned by means of power applied to pulley B^3 adjacent to which is an idle pulley. On the end of the cylinder, shown in Fig. 1, is mounted a gear B^4 which meshes with gear C^1 on cylinder C. At the other end of the cylinder B is mounted, as seen in Fig. 3, gear B^5, and on a corresponding end of the cylinder C is mounted gear C^2.

The rollers are arranged in two sets and are designed to pass around and between the rollers of each set a cloth or other suitable apron. The rollers of the upper set are shown by *a*, *b*, *c*, *d*, *e*, *f* and *g*, each of which is supported on a proper journal at each end of the frame of the machine as indicated by a^1, b^1, c^1, d^1, e^1, f^1 and g^1.

E represents a tank partially filled with water in which roller *e* is immersed. The cloth which is used on the upper rollers is indicated by F, Fig. 2, in which the arrows indicate the direction of travel, and it will be seen that it passes around the various rollers and through the tank and around cylinders C and B. It however, passes between rollers *c* and *d* where the superfluous moisture is expressed.

As seen in Fig. 3, roller *c* is actuated by the gear C′ meshing with gear C^2, and at the other end of rollers *c* and *d* are cogs *c′*, *d′* which transmit power from the roller *c* to roller *d*. As will be seen in Fig. 3, roller *d* is mounted in a bearing at each end made up of two parts, the outer one, d^2, being adjustable by wheel and screw shaft d^3 to regulate the relative position of rollers *c* and *d* and the amount of moisture to be left in apron F. In order to adjust the tension of apron F each journal which supports roller *b* is mounted on bracket-arm b^2 adapted to slide up and down on standard b^3 and adjusted by screw and wheel b^4. In order to make the adjustment perfect, horizontally as well as vertically, and to keep the apron running true without any creeping toward either side the journals b^1 are slidably mounted on brackets b^2 and have notched arms b^5 extending across the standards b^3 which has thereon lugs b^6 to engage with the notches and hold the journals in proper horizontal position.

Referring to the lower apron F′ which travels in the direction indicated in Fig. 2, it is supported on rollers *h*, *i*, *j*, *k*, *l*, *m* and *n* suitably supported on journals h^1, i^1, j^1, k^1, l^1, m^1 and n^1; the other roller *j* being actuated

by gear thereon from gear B^5 and in turn actuating roller *i* in the same manner as the roller *c* is actuated.

E represents a tank partially filled with liquid and in which roller *k* is partially submerged to dampen the cloth. The roller *i* is mounted in the same way as is roller *d* above, having the bearing i^2 at each end adjustable by means of the wheel and shaft i^3 to press superfluous moisture from the apron F′ after it comes from the bath. This apron also passes around cylinders B and C, as indicated. The roller *m* has its journals mounted in a forked arm M which is pivotally mounted on bracket M′ which is slidably mounted on the arm M″ to be moved up and down by screw m^2, the raising or lowering of which effects tension on the lower apron F′. The bracket M′ is mounted about the middle of the machine, and the forked support M for the roller *m* extends forwardly to handle *ma* so that the swinging of the forked arm is effective to keep the apron in true course as it passes around the rollers and cylinders.

The design and scheme of my invention is to feed steam or heating medium through the cylinders B and C, as indicated, through ordinary stuffing boxes N and N′. The goods are fed into the machine from the shelf O and pass between the dampened aprons, as indicated in Fig. 2, around the heated cylinder C which dampens one surface and thence around the cylinder B which dampens the other surface and then outward onto shelf P.

By the means illustrated I practice the method which is included in my invention and which consists in dampening fabrics for ironing by applying moisture first to aprons which are dampened evenly and to the desired degree after which heat is applied to the aprons converting the moisture of the aprons into vapor which instantaneously penetrates the fabrics that are fed therebetween and from each side thereof. This insures the even dampening of the fabrics to the proper degree, the fabric being fed to the aprons and carried by and between them to the heating members and passed around the same to subject each face of the fabric thereto and being delivered by the aprons from the machine.

I have merely illustrated one method of applying my invention and do not desire to be limited to the details of such showing.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is:

1. In a machine of the character described, a plurality of rollers arranged in two sets, each set including a dampening roller, a roller adjustably mounted and a heated cylinder, and an endless apron mounted on each set of rollers, the two heated cylinders being mounted with their surfaces adjacent with the aprons therebetween, and being mounted to revolve in opposite directions whereby to apply heat to each side of a fabric carried by said aprons substantially as shown and described.

2. In a machine of the character described, roller members arranged in series, heat-applying cylinders and an apron on each series of rollers and mounted to pass together around one cylinder in one direction of revolution, between the adjacent surfaces of the cylinders and therefrom around the other in the opposite direction of revolution, and means for moistening the aprons to a desired degree whereby fabrics fed between the aprons may be evenly and instantly moistened from each side, substantially as shown.

3. In a dampening machine having heating cylinders adjacent each other and rollers for carrying dampening aprons, dampening aprons mounted to be carried on the rollers and carried around the major part of each cylinder and disposed parallel to each other for a distance before and behind said cylinders to carry fabric to and from the same, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

DANA H. BENJAMIN.

Witnesses:
E. E. RISLEY,
E. T. DE GIORGI.