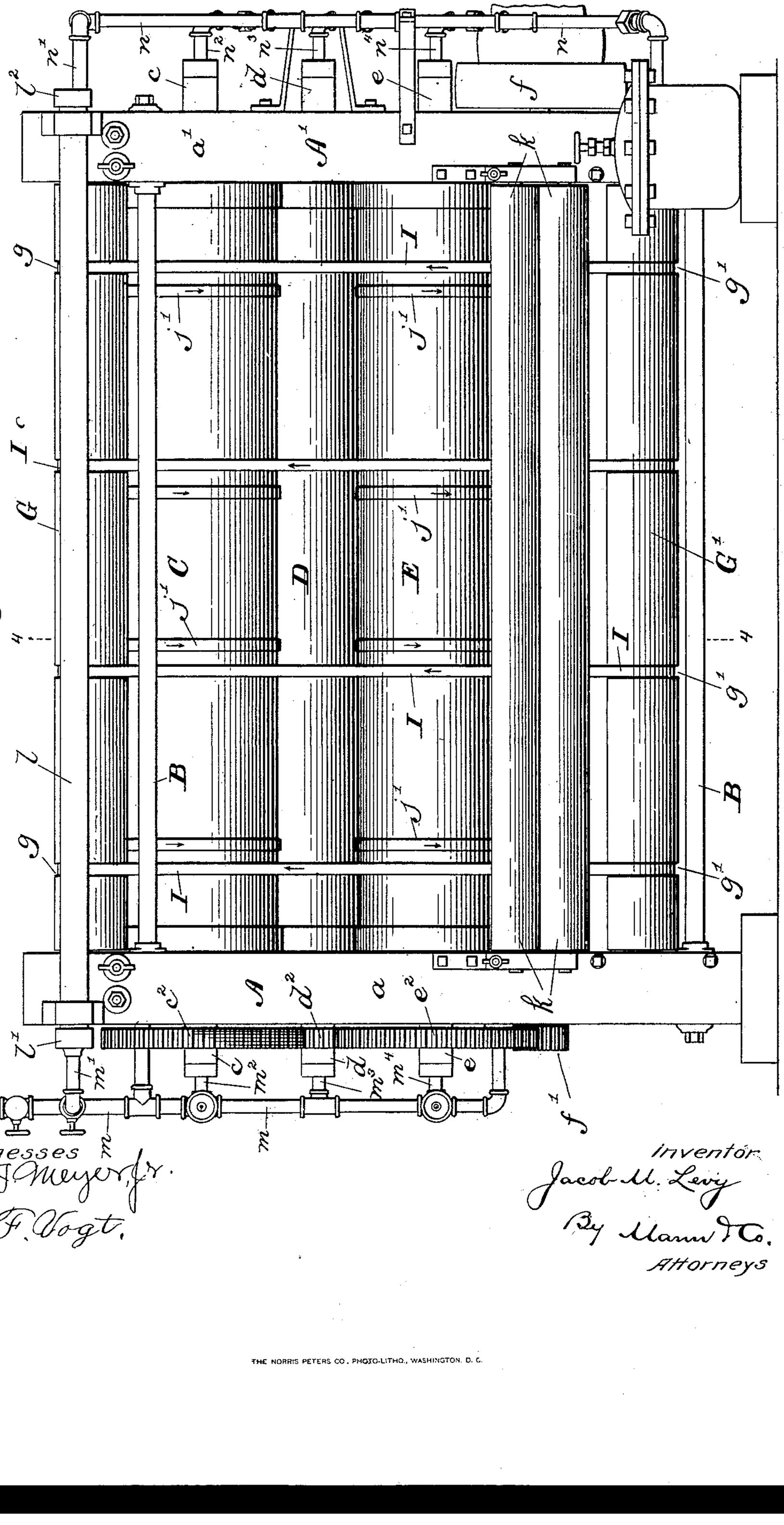
No. 733,224. PATENTED JULY 7, 1903.

J. M. LEVY.

MACHINE FOR DRYING FABRICS.

APPLICATION FILED APR. 18, 1903.

NO MODEL. 3 SHEETS—SHEET 1.



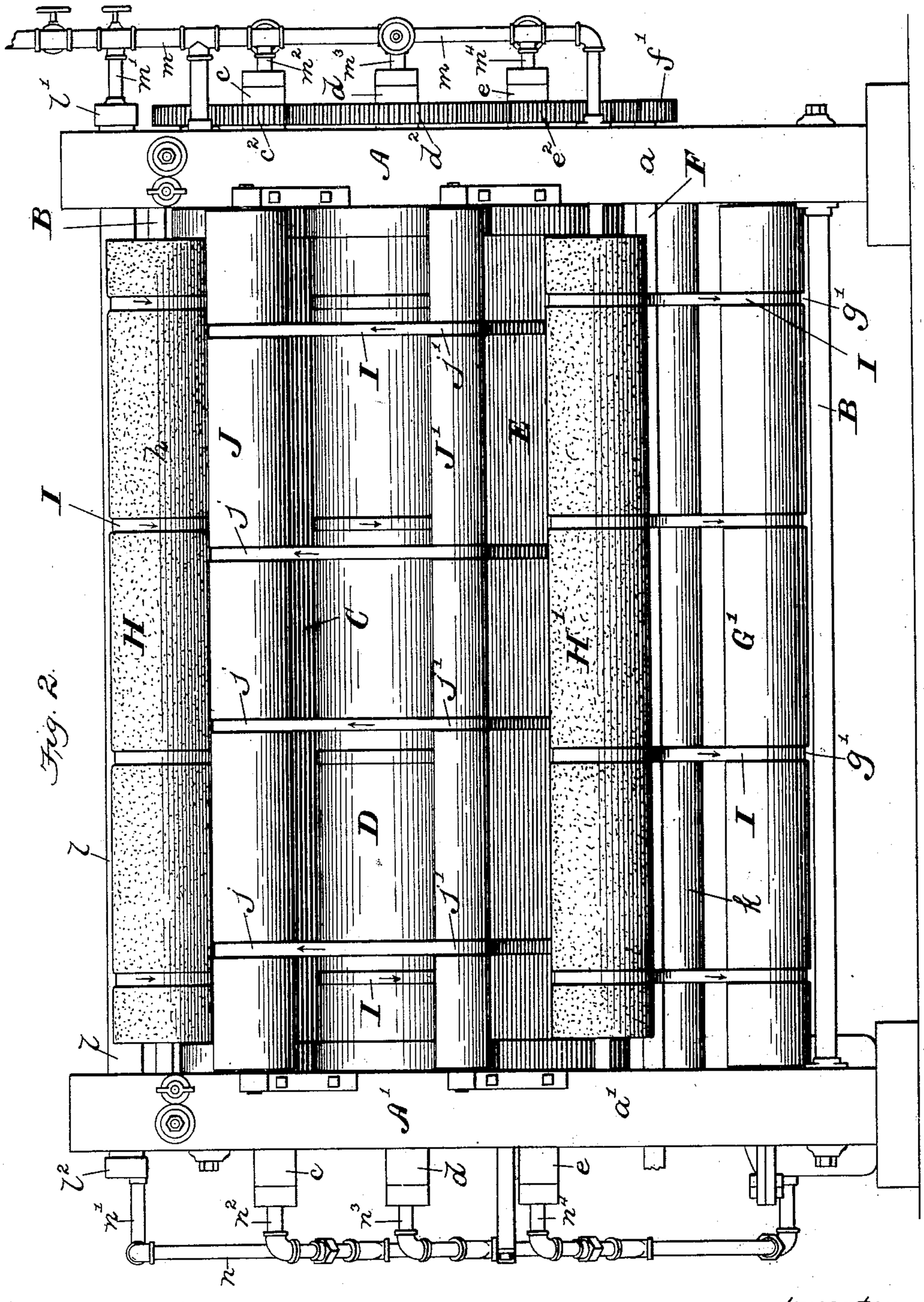
No. 733,224. PATENTED JULY 7, 1903.

J. M. LEVY.

MACHINE FOR DRYING FABRICS.

APPLICATION FILED APR. 18, 1903.

NO MODEL. 3 SHEETS—SHEET 2.



Witnesses
H. F. Meyer Jr.
G. F. Vogt.

Inventor
Jacob M. Levy
By Mann & Co.
Attorneys

No. 733,224. PATENTED JULY 7, 1903.

J. M. LEVY.

MACHINE FOR DRYING FABRICS.

APPLICATION FILED APR. 18, 1903.

NO MODEL. 3 SHEETS—SHEET 3.

Fig. 4

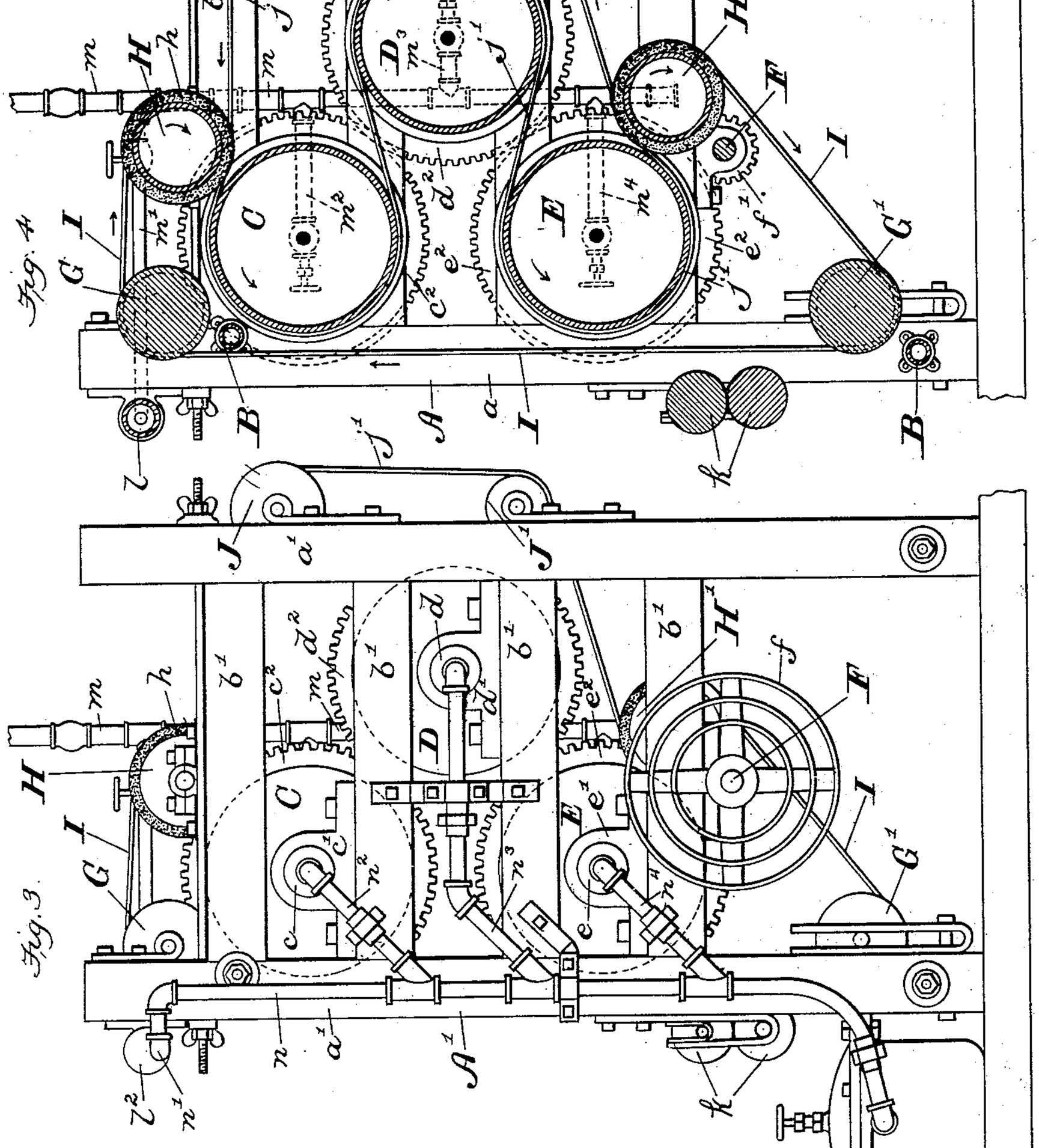
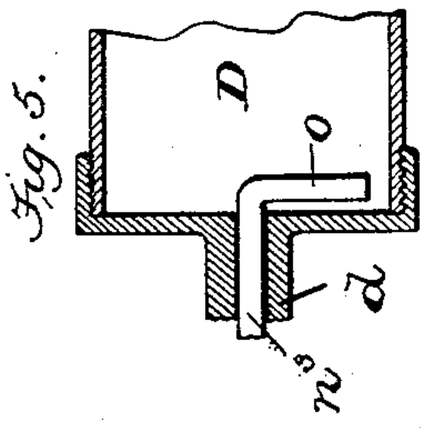


Fig. 3.

Fig. 5.



Witnesses
H. F. Meyer, Jr
G. F. Vogt

Inventor
Jacob M. Levy
By Mann & Co.
Attorneys

No. 733,224. Patented July 7, 1903.

UNITED STATES PATENT OFFICE.

JACOB M. LEVY, OF BALTIMORE, MARYLAND.

MACHINE FOR DRYING FABRICS.

SPECIFICATION forming part of Letters Patent No. 733,224, dated July 7, 1903.

Application filed April 18, 1903. Serial No. 153,199. (No model.)

To all whom it may concern:

Be it known that I, JACOB M. LEVY, a citizen of the United States, residing at Baltimore, State of Maryland, have invented certain new and useful Improvements in Machines for Drying Fabrics, of which the following is a specification.

This invention relates to a machine for drying fabrics.

The object of the invention is to provide a machine which will quickly and evenly dry fabrics which have previously been wet; and the machine is particularly designed for drying fabrics which have been wet for the purpose of shrinking before being made up into clothing.

The invention is especially adapted for drying long pieces of fabrics, such as linings.

The accompanying drawings illustrate the invention, in which—

Figure 1 illustrates a front elevation of the machine; Fig. 2, a rear elevation of same; Fig. 3, an elevation of one end, and Fig. 4 illustrates a vertical section on the line 4 4 of Fig. 1. Fig. 5 is a sectional detail view of one of the cylinders and illustrates the discharge-tube extending through the shaft and projecting downwardly in said cylinders.

Referring to the drawings by letters, A and A′ designate two vertical frames comprising two corner-posts *a* and *a′* and horizontal cross-bars *b* and *b′*. Suitable tie-rods B connect the two frames A and A′ and securely hold the same in position parallel with each other.

Three metal cylinders C, D, and E are each provided with shafts *c*, *d*, and *e*, which latter are supported in bearings *c′*, *d′*, and *e′*, which are secured on the cross-bars *b* and *b′*. These cylinders are arranged in differing horizontal planes, and the cylinders C and E have position in the same vertical plane, while the cylinder D is arranged in a different vertical plane. Adjoining the frame A are three gears c^2, d^2, and e^2, one on each of the said shafts *c*, *d*, and *e*, and the gear d^2 meshes with the gears c^2 and e^2.

A shaft F is supported in bearings on the lower cross-bars *b* and *b′*, and said shaft extends longitudinally of the machine beneath the cylinder E, and one end of said shaft is provided with a cone driving-pulley *f*, while the opposite end is provided with a pinion *f′*, which meshes with the gear e^2 and transmits motion to the cylinders C, D, and E. It will be seen that the cylinders C and E will be revolved in the same direction, while the cylinder D will be revolved in a reverse direction.

A roller G, preferably of wood, is supported between the frames A and A′ at the front of the machine above the cylinder C, and a tension roller G′ is supported between said frames at the bottom of the machine below the cylinder E. Each of these rollers G and G′ are provided with a plurality of circumferential grooves *g* and *g′*. A roller H, having a covering of felt *h* or other suitable soft material, has position between the two frames and above the cylinder C, and another felt-covered roller, H′, is supported between the said frames beneath the cylinder D and at the rear of the cylinder E. These two rollers press and smooth out the fabric as the latter passes around them.

A plurality of metallic endless bands I are fed through the grooves *g* of the wood roller G over and partly around the felt-covered roller H, then over the metal cylinders C, D, and E, then up over the top and partly around the felt-covered roller H′, and from the latter roller down through the grooves *g′* of the roller G′ and up and back over the first roller G.

At the rear the machine is provided with a wooden roller J, which is supported at each end by the frames A and A′, and said roller is provided with a plurality of circumferential grooves *j*. Another wooden roller J′ is supported at each end by the frames, and said roller has position beneath the roller J.

A plurality of endless bands *j′* are fed through the grooves *j* over the top of the roller J, then beneath the felt-covered roller H, over and around the cylinders C, D, and E, then up over the felt-covered roller H′ and beneath and partly around the roller J′.

It will thus be seen that two sets of endless bands are employed and that both sets of said bands are fed around the cylinders C, D, and E.

Two fabric tension-rolls *k* are supported by the corner-posts *a* and *a′* at the front of the machine, and the fabric to be dried is passed between these rolls, as will be hereinafter de-

scribed. A tube l is secured in brackets at opposite ends to the corner-posts a and a' in front of the roller G, and said tube is provided at each end with a cap l' and l^2.

A steam-supply pipe m extends vertically at one end of the machine and is provided with four branches m', m^2, m^3, and m^4. The branch m' enters the cap l' of the tube l and supplies steam thereto for heating the latter, and the branches m^2, m^3, and m^4 pass through the shafts c, d, and e into the cylinders C, D, and E and supply steam for heating each of said cylinders from the interior. A discharge-pipe n extends vertically near the frame A', and said pipe is provided with branches n', n^2, n^3, and n^4. The branch n' is in communication with the tube l and projects through the bottom of the cap l^2, and the branches n^2, n^3, and n^4 are each in communication with the interior of the cylinders C, D, and E, and these branches serve to carry off the water of condensation from the interior of the said cylinder and the tube l. These branches, after entering the cylinders, are each provided with a projecting end o, which projects downwardly from the center of the cylinders, where they enter nearly to the bottom or circular wall, as seen in Fig. 5. The discharge-pipe n terminates in a steam-trap of any desired make, and the waste of steam is thereby prevented.

The operation of the machine is simple and as follows: The fabric to be dried is first fed between the tension-rolls k at the front of the machine, then up over the heated tube l, which applies heat to one side or surface of the fabric and takes off the surplus moisture and at the same time removes the wrinkles. The fabric is then passed over the top of the grooved wooden roller G and rests on the metallic bands I as it is conveyed back and around the felt-covered roller H. As the fabric passes around the roller H it is pressed and smoothed out and is then deposited on top of the endless band j', and is thereby clamped between the bands I on one surface and the bands j' on the other surface, and while so clamped both bands and the fabric are pressed around the heated cylinder C, where the heat is again applied to the fabric, but on the opposite surface from that which was first heated. The fabric remaining clamped between both bands is then passed over the heated cylinders D and E, and in passing over these two cylinders first one side and then the other of the fabric is brought in contact with the heated surfaces. The fabric and both bands then pass from beneath the cylinder E up over the felt-covered roller H', where the course of the two sets of endless bands part and said roller H' presses and smooths out the dried fabric as the latter is disch arged at the bottom of the machine.

It is to be understood that while I have shown but three metal cylinders I may employ more.

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

In a machine for drying fabrics, the combination of a frame; a plurality of cylinders supported by said frame in different horizontal planes; means for revolving said cylinders; a tube secured to the frame above the uppermost cylinder; a steam-supply pipe at one end of the frame and having branch pipes which communicate with each cylinder and said tube; a discharge-tube at the opposite end of said frame and having branch pipes which are in communication with said cylinders and tube at the ends opposite from the steam-supply pipe; a padded roller, H, adjoining the uppermost cylinder; a padded roller, H', adjoining the lowermost cylinder, said two rollers serving to smooth and press the fabric; a band, I, passing around the upper padded roller, H, and the heated cylinders and also passing around the lower padded roller, H', and a band, j', passing beneath the roller, H, and around the heated cylinders and also over the roller, H', substantially as described.

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

JACOB M. LEVY.

Witnesses:

CHARLES B. MANN, Jr.,

G. FERDINAND VOGT.