

(No Model.)

E. ANDREWS.

MANUFACTURE OF PARCHMENT PAPER OR LEATHEROID.

No. 312,945.

Patented Feb. 24, 1885.

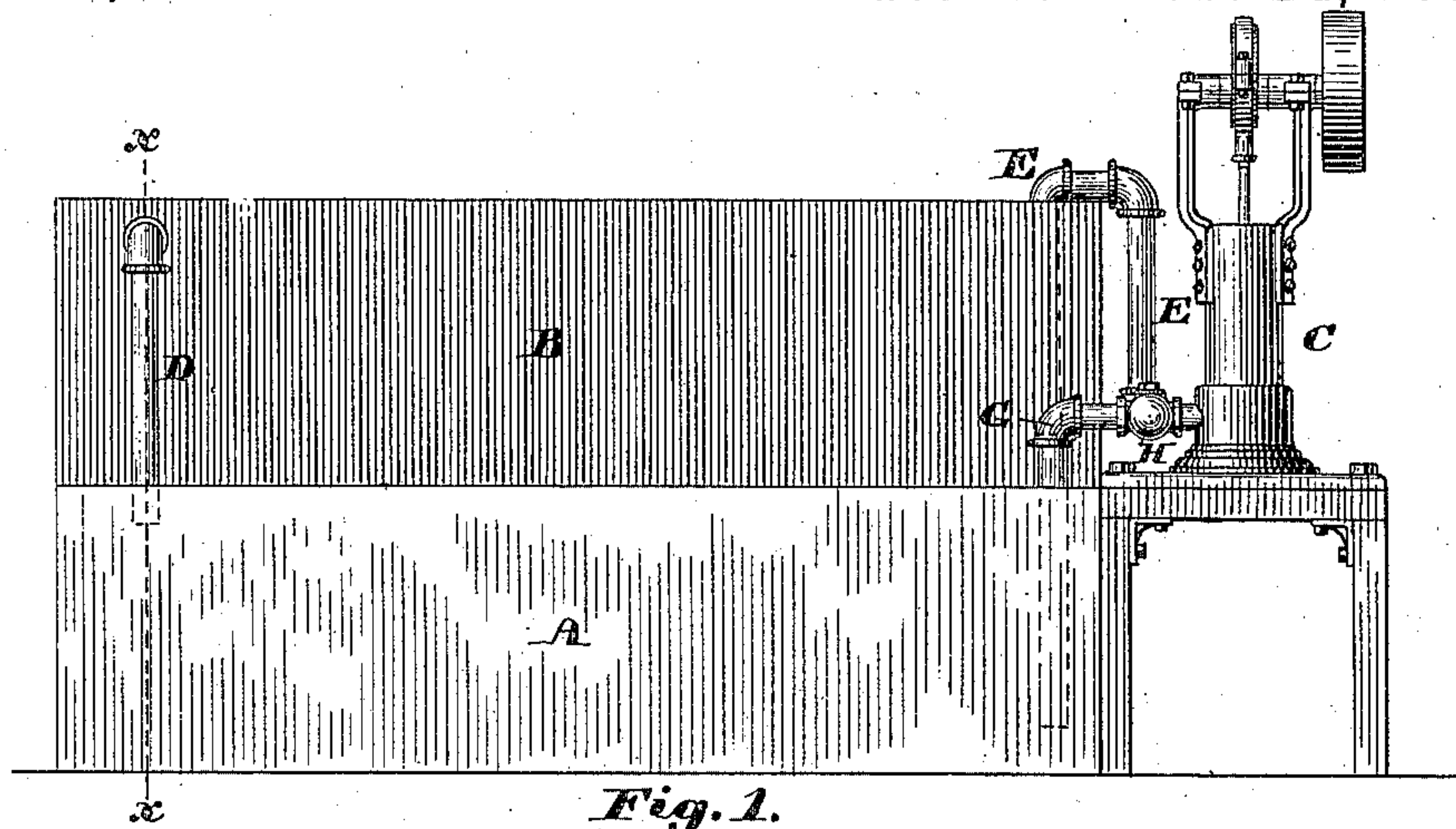


Fig. 1.

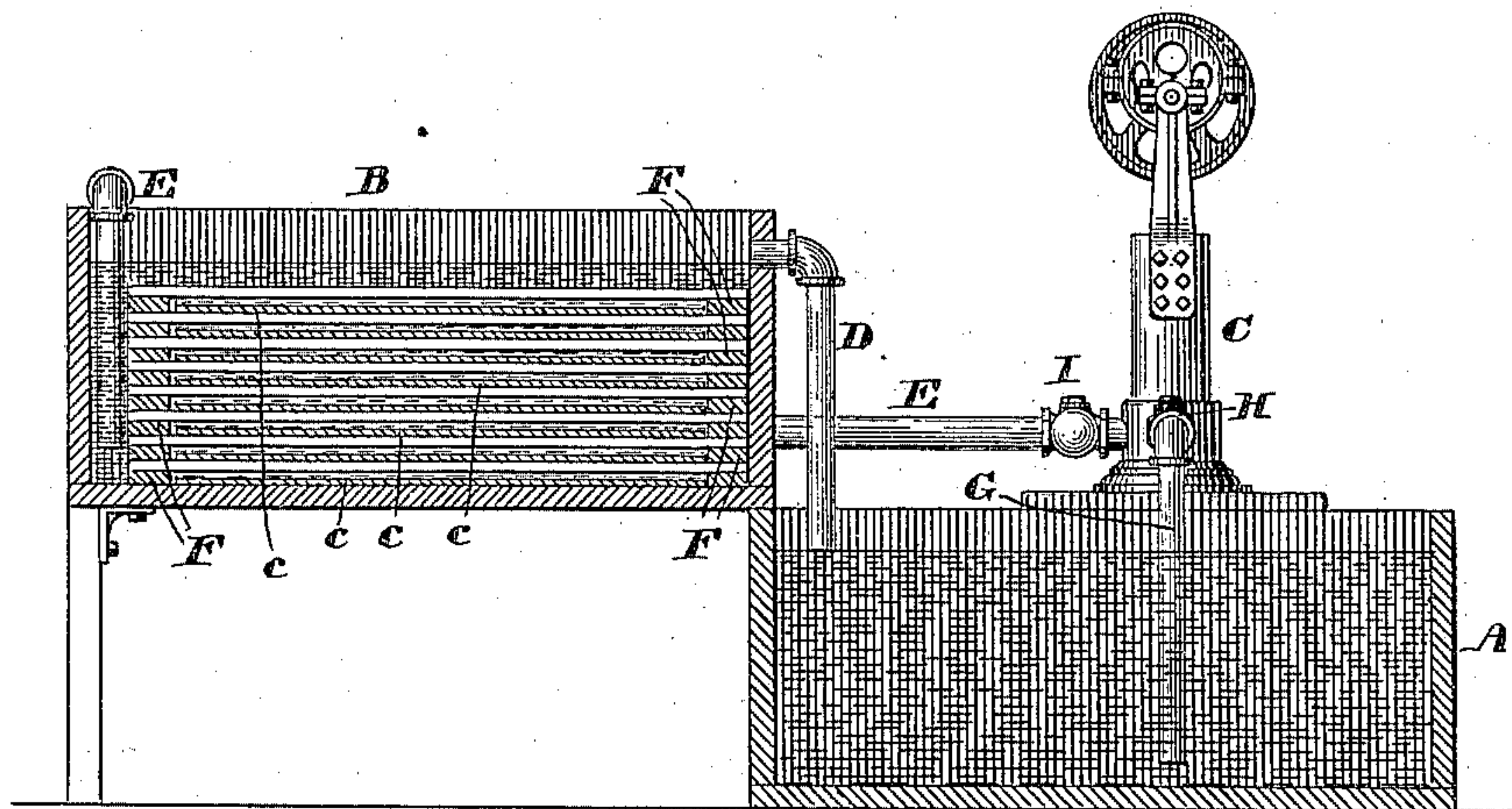


Fig. 2.

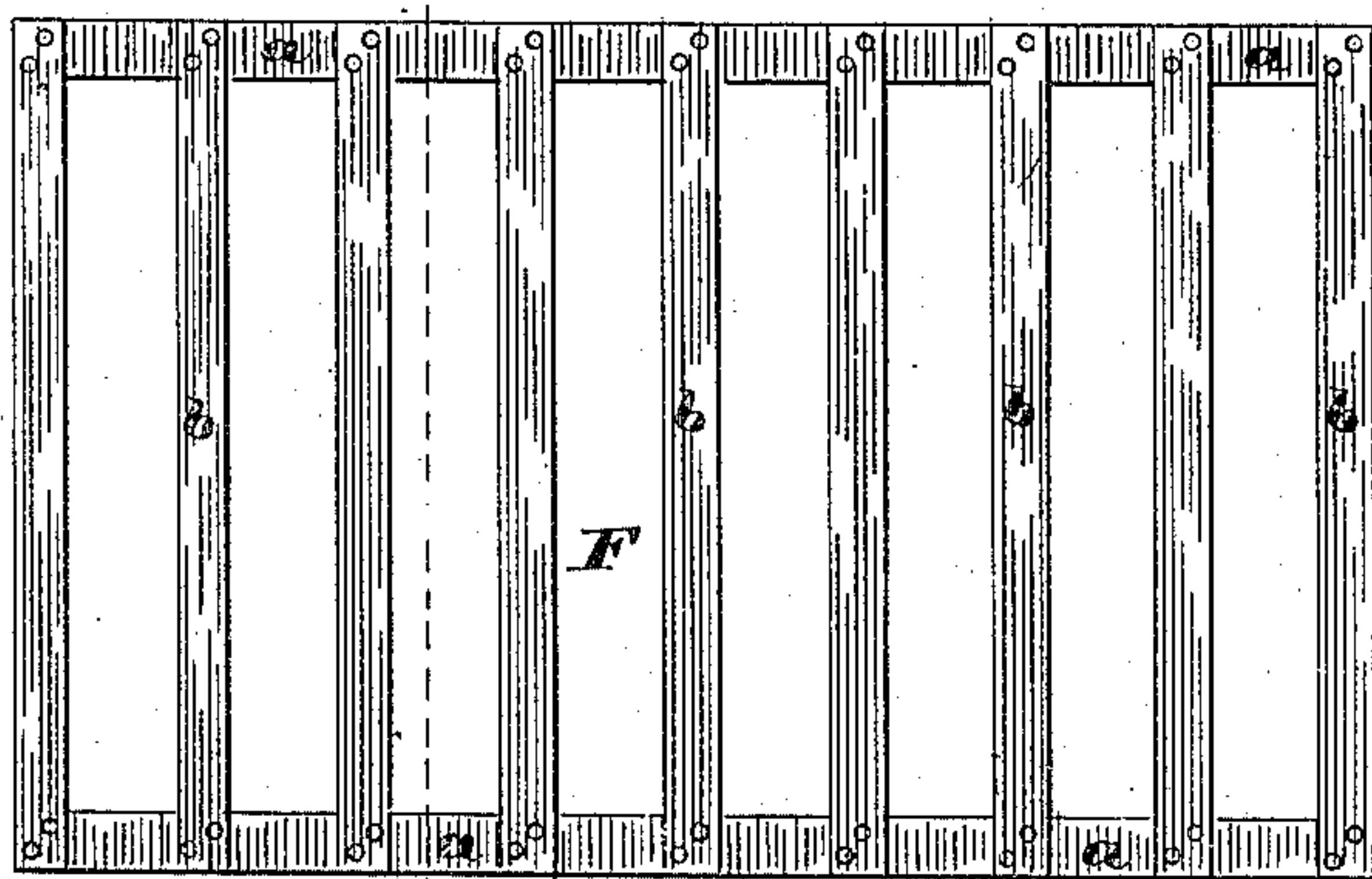


Fig. 3.



Fig. 4.

Witnesses:

Walter E. Lombard.
William H. Parry.

Inventor:

Emery Andrews,
by N. C. Lombard
Attorney.

UNITED STATES PATENT OFFICE.

EMERY ANDREWS, OF KENNEBUNK, MAINE, ASSIGNOR TO THE LEATHEROID MANUFACTURING COMPANY, OF SAME PLACE.

MANUFACTURE OF PARCHMENT-PAPER OR LEATHEROID.

SPECIFICATION forming part of Letters Patent No. 312,945, dated February 24, 1885.

Application filed September 24, 1884. (No model.)

To all whom it may concern:

Be it known that I, EMERY ANDREWS, of Kennebunk, in the county of York and State of Maine, have invented certain new and useful Improvements in the Manufacture of Parchment-Paper or Leatheroid, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to the process of and apparatus to be used in the manufacture of the parchmentized paper material described in Letters Patent No. 198,382, granted to T. and T. S. Hanna on the 18th day of December, A. D. 1877; and it consists, first, in treating paper with acid, forming a laminated board by winding said paper around a cylinder or drum of suitable diameter until the material is of the desired thickness, cutting longitudinally through one side of the paper tube thus formed and flattening out the material to form a sheet, and then subjecting said flat sheet to a bath of refrigerated liquid, preferably at a temperature below 32°, for the purpose of removing the acid.

It further consists in certain novel combinations and arrangements of parts in an apparatus for use in removing the acid from the material, which will be best understood by reference to the description of the drawings, and to the claims, to be hereinafter given.

Figure 1 of the drawings is an elevation of my improved apparatus. Fig. 2 is a vertical section on line *x x* on Fig. 1; and Figs. 3 and 4 are respectively a plan and transverse section of one of the racks or frames for supporting the sheets of material.

A is a tank or reservoir, to be filled with a refrigerated liquid, preferably salt-water with ice immersed therein; and B is another tank, through which said refrigerated liquid is circulated by means of the pump C and pipes D, E, and G.

FFF, Fig. 2, are a series of racks or frames, each made up of two longitudinal bars, *a a*, and a series of lighter bars or slats, *b b*, as shown in Figs. 3 and 4.

In carrying out my invention the sheets of board are formed from acid-treated paper, substantially in the manner described in the before-cited Letters Patent. A sheet of fresh-made material is placed flat in the bottom of

the tank B, and one of the frames F is placed in said tank in such a manner that the bars *a a* shall rest upon the bottom of the tank, upon opposite sides of the sheet of material *c*, and the bars *b b* shall be above said sheet, but not touching it. Another sheet *c* is then placed upon the bars *b b*, and another frame F is placed upon the first one, and so on until the tank B is full or nearly so. The tank A having been previously charged with salt-water and ice, the pump C is set in operation and sucks the refrigerated liquid contained in the tank A through the pipe G and inlet-valve H, and discharges it through the valve I and pipe E into the tank B. When the tank B is full, or nearly so, the liquid will escape therefrom as fast as it is pumped in and fall through the overflow-pipe D into the tank A again, thus maintaining a complete circulation of the refrigerated liquid over and among the several sheets of material contained in the tank B, and at the same time, by virtue of said circulation, maintaining the temperature of the liquid in both tanks at the desired point, preferably below 32°. When the sheets have been subjected to the action of the circulating refrigerated liquid a sufficient length of time to wash out all the acid, the sheets are removed and dried, when they are ready for use.

It is obvious that the tank A must be considerably larger than the tank B, or else both tanks should be filled with salt-water before setting the pump in operation; or the tanks may be of about equal size, and when the tank B has been filled by pumping from tank A a further supply of salt-water must be introduced into the tank A, from which to draw in keeping up the circulation.

It has been found that in washing out the acid in a bath of water of ordinary temperature a gas forms, which causes blisters upon the material, which is very objectionable. This difficulty is entirely overcome by the use of a refrigerated liquid, as herein described.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The process of manufacturing parchmentized paper board by first treating the paper with acid, forming a laminated board by winding said acid-treated paper around a cylinder or drum until the material is of the desired

thickness, cutting longitudinally through one side of the paper tube thus formed and flattening out the material to form a sheet, and then subjecting said flat sheet to a bath of refrigerated liquid, substantially as described.

2. That improvement in the art of making leatheroid or parchmentized paper board which consists in subjecting the laminated sheets, after being laid up, to a bath of refrigerated liquid, substantially as and for the purposes described.

3. The combination of the tanks A and B, racks or frames F F, the pump C, and pipes D, E, and G, all arranged and adapted to operate substantially as described.

4. In an apparatus for washing out sheet material, the combination of the tank B and a series of racks or frames, F F, arranged and adapted to operate substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 19th day of September, A. D. 1884.

EMERY ANDREWS.

Witnesses:

STEPHEN MOORE,
HOMER ROGERS.