

J. SPENLE.

APPARATUS FOR DRYING PROOFED AND LIKE FABRICS OR MATERIALS.

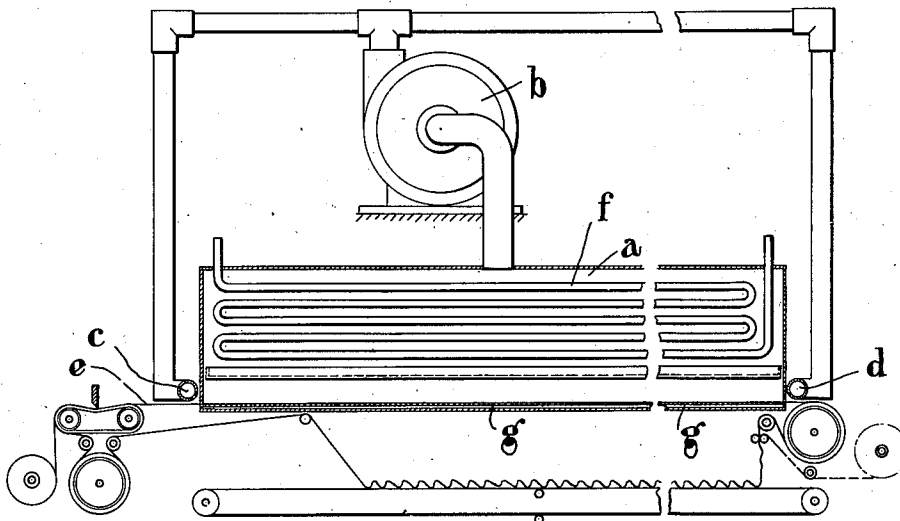
APPLICATION FILED FEB. 6, 1911.

1,018,992.

Patented Feb. 27, 1912.

3 SHEETS—SHEET 1.

Fig. 1.



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Witnesses

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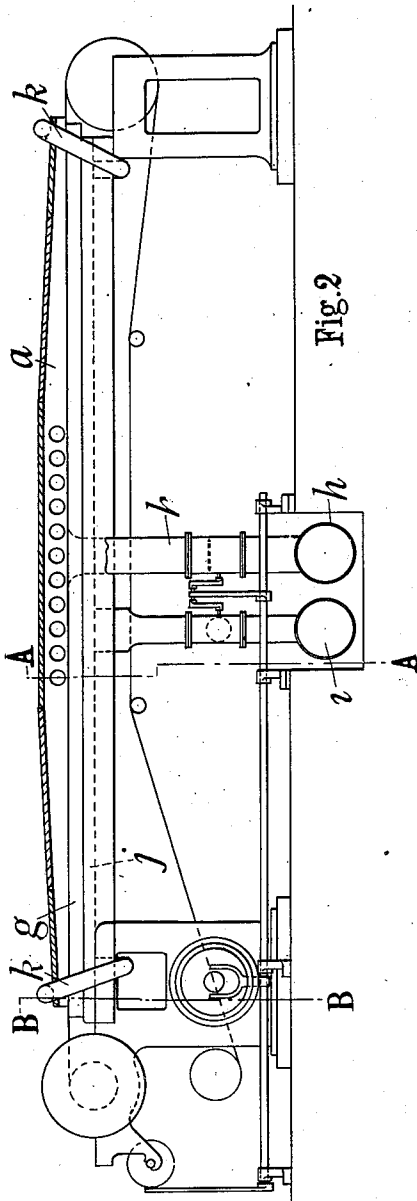
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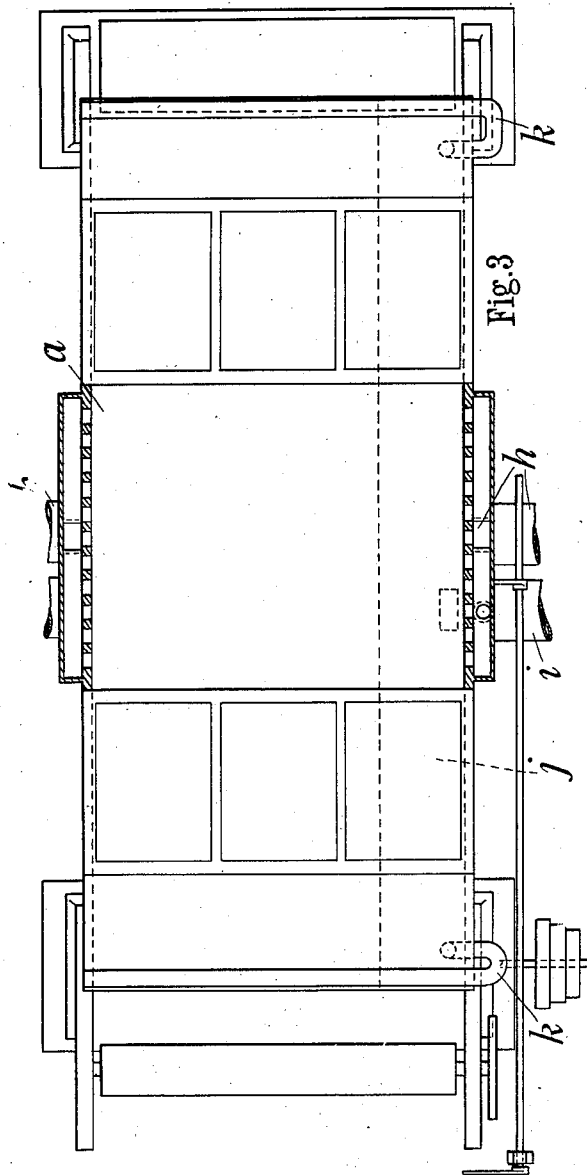
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

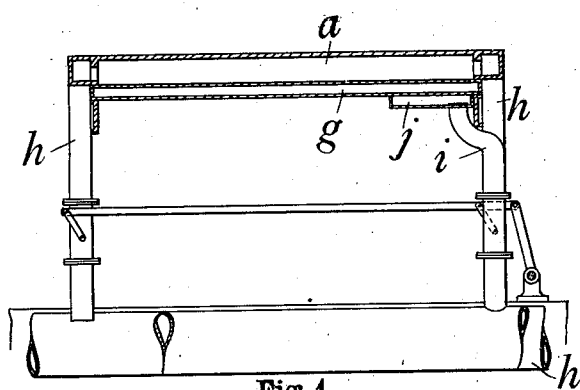


Fig. 4

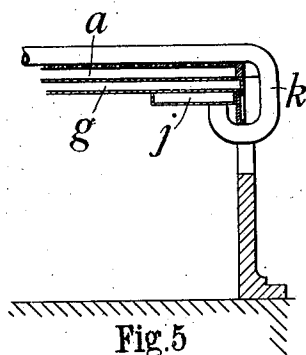


Fig. 5

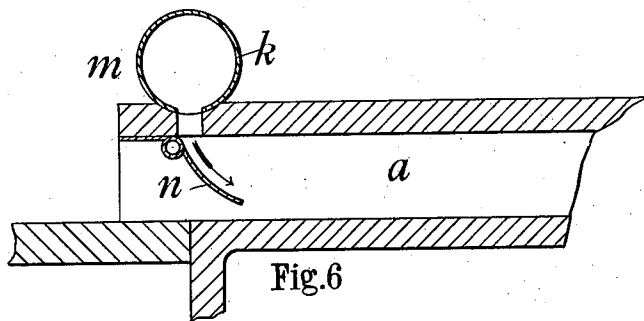


Fig. 6

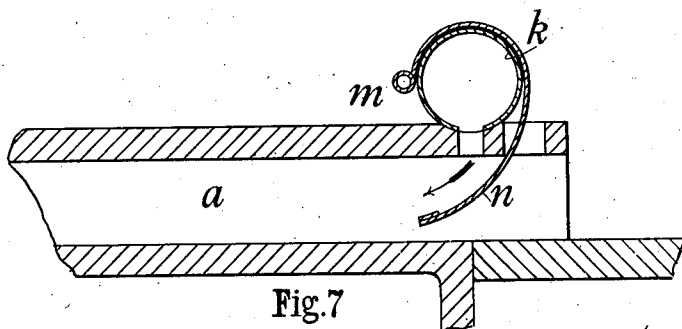


Fig. 7

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UNITED STATES PATENT OFFICE.

JOHN SPENLÉ, OF SALFORD, ENGLAND.

APPARATUS FOR DRYING PROOFED AND LIKE FABRICS OR MATERIALS.

1,018,992.

Specification of Letters Patent.

Patented Feb. 27, 1912.

Application filed February 6, 1911. Serial No. 606,949.

To all whom it may concern:

Be it known that I, JOHN SPENLÉ, of Adelphi Iron Works, Salford, in the county of Lancaster, England, engineer, have invented new and useful Improvements in Apparatus for Drying Proofed and Like Fabrics or Materials, of which the following is a specification.

This invention relates to apparatus for drying proofed and like fabrics or materials of the type in which the fabric is passed through a chamber containing heating and cooling elements for vaporizing and condensing the volatile solvents contained in the fabric, or in which the vapors are collected for subsequent condensation in a separate condenser. With such apparatus there is a tendency for a part of the vaporized solvents to escape from the condensing or collecting chamber at the points where the fabric or material enters and leaves the same, due to disturbing air currents or drafts and to the motion of the fabric.

The object of my present invention is to provide means for preventing the aforesaid escape of vapors from the condensing or collecting chamber and for enhancing the efficiency of the apparatus.

My invention comprises the provision of a jet or jets supplied with air from the condensing or collecting chamber for preventing overflow of vapor from said chamber.

Referring to the accompanying drawings: Figure 1 represents a sectional elevation illustrating an apparatus constructed in accordance with this invention; Fig. 2 is a similar view of another form of the invention; Fig. 3 is a plan view partly in section of the form shown in Fig. 2; Fig. 4 is a sectional elevation taken on the line A—A and looking from the left to the right of Fig. 3; Fig. 5 is a sectional elevation taken on the line B—B of Fig. 2, showing the jet producing arrangement at one end of the drying chamber, certain parts being omitted for the sake of clearness; Figs. 6 and 7 are enlarged detailed views.

The same reference characters indicate the same parts in the different figures.

In the apparatus illustrated in Fig. 1 I provide an outlet at the upper end of the chamber *a* and connect the same to the inlet or suction pipe of a fan or exhaustor *b*, and I provide adjacent to the points where the fabric enters and leaves the chamber, pipes

c, d each having a longitudinal slit or a series of ports therein, so arranged as to direct the air supplied to the pipe on to the fabric *e* as it enters and leaves the chamber. The fabric is dried by the steam heated chest or its equivalent *g*. The pipes *c, d* aforesaid are in communication with the delivery pipe from the fan or exhaustor *b*, so that the air drawn from the chamber is circulated by the fan or exhaustor back again into and through the chamber.

The suction and delivery pipes of the fan *b* are so arranged and proportioned that the air flowing over the cooling elements *f* travels at but a slow rate so as to insure a perfect condensation of the vapors in the air, while the jets at the inlet to and exit from the condensing or collecting chamber are sufficiently strong to prevent any escape of vapors from the chamber *a*. Also, the total area of the air suction aperture or apertures is so proportioned to that of the air delivery apertures, as to insure that there shall be no tendency for air to flow into the chamber *a* from without, such as would result in a dilution of the condensed vapors.

In the arrangement illustrated in Figs. 2 to 7, the vapors are withdrawn from the chambers *a* by means of pipes *h* and are conducted to a separate condenser (not shown). The gases from said condenser return to the drier through a pipe *i* having a chest-like conduit *j* in contact with the underside of the heating chest *g*. From *j* the gases pass by the pipe *k* to the chamber *a* through the apertures *m*. The gas is projected onto the plates *n* (see Figs. 4, 5, 6 and 7) which direct it onto the fabric. In Fig. 6 the directing plate at the entrance to the chamber *a*, is shown and in Fig. 7 the directing plate is shown at the exit from said chamber. With the arrangement above described, the gases returning to the drying chamber are heated before being directed onto the fabric, thus assisting in the drying of the latter.

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

1. In apparatus for drying proofed and like fabrics or materials, in combination, a chamber having an inlet and outlet for the fabric, heating means for drying the fabric in its passage through said chamber, means for passing the fabric adjacent to said heating means, means for drawing off the fluid

content of said chamber and for delivering same at the fabric inlet and outlet, as set forth.

2. In apparatus for drying proofed and
5 like fabrics or materials, in combination, a chamber having an inlet and outlet for the fabric, heating means for drying the fabric in its passage through said chamber, means for passing the fabric adjacent to said heat-
10 ing means, means for condensing the vaporized solvents within said chamber, means for drawing off the gaseous content of said chamber and for delivering same at the fabric inlet and outlet, as set forth.

15 3. In apparatus for drying proofed and like fabrics or materials, in combination, a chamber having an inlet and outlet for the

fabric, heating means for drying the fabric in its passage through said chamber, means for passing the fabric through the chamber 20 over said heating means, means for condensing the solvents vaporized by said heating means and means withdrawing the gaseous content of said chamber and delivering it in jet form at the fabric inlet and outlet, 25 as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN SPENLÉ.

Witnesses:

HENRY F. SMITH,
PAUL BAEREN.