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PATENTED AUG. 7, 1906.

L. H. CARLETON & M. M. BROOKS.
MACHINE FOR SHRINKING FABRIC.

APPLICATION FILED AUG. 18, 1905.

4 SHEETS—SHEET 1.

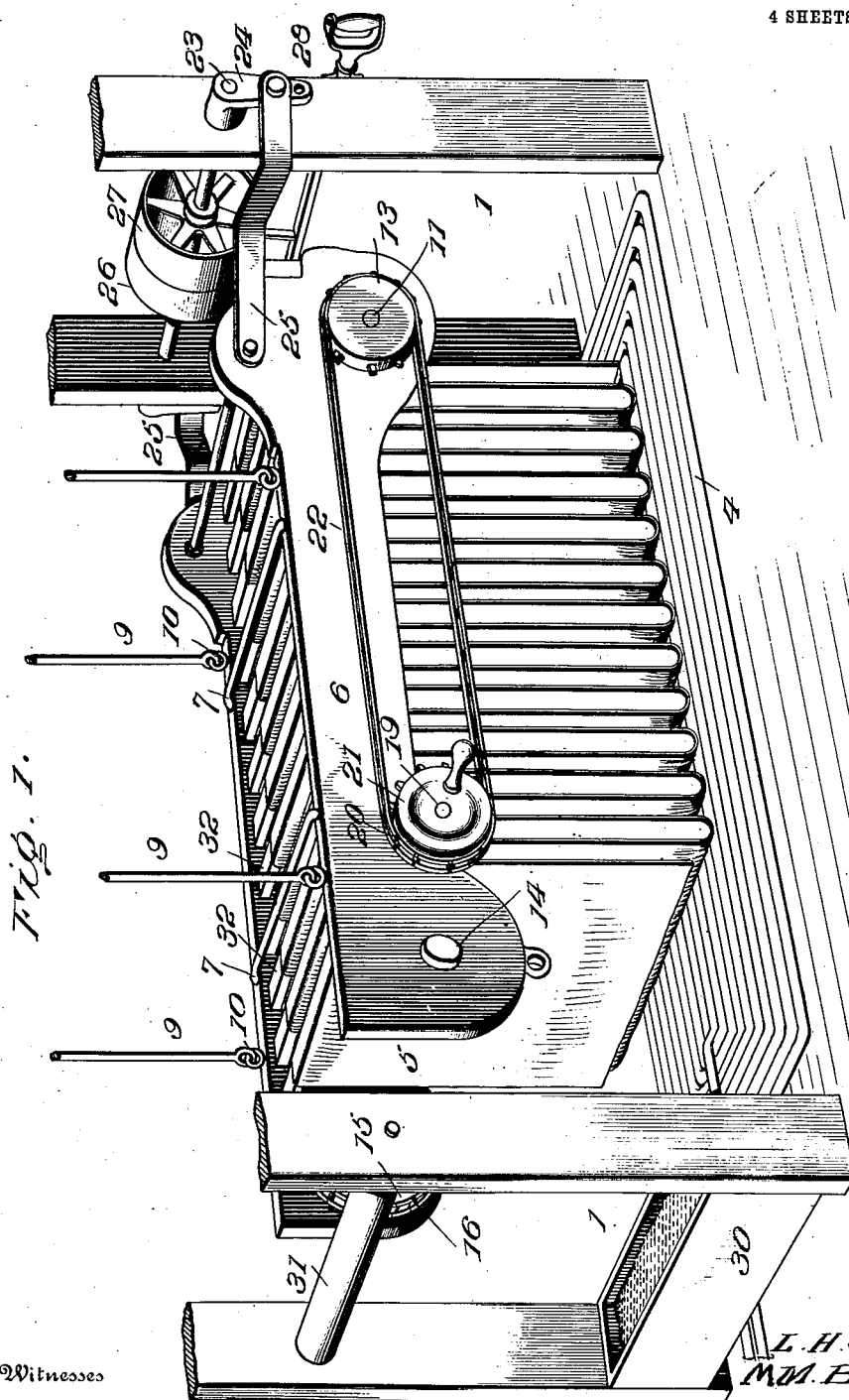


Fig. 1.

Witnesses

Louis H. Schmidt.

A. T. Williams.

By

J. M. Munn Attorney

Inventors
L. H. Carleton
M. M. Brooks

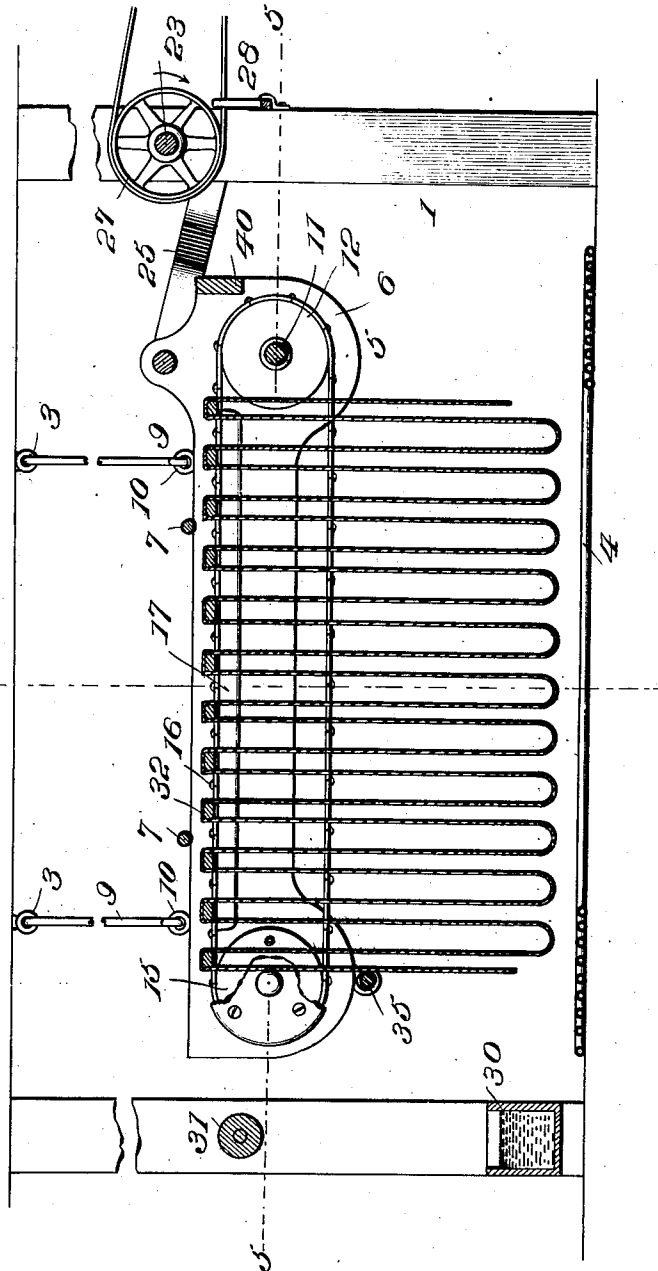
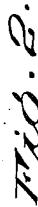
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4 SHEETS—SHEET 2.



Inventors

L. H. Carleton
M. M. Brooks

Witnesses
H. H. Henson.
A. B. Williams

By *McMinn* Attorney

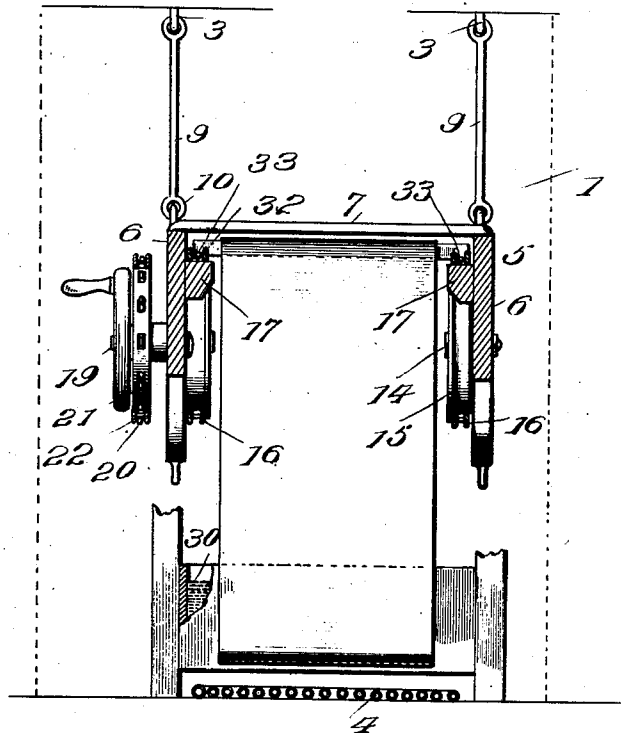
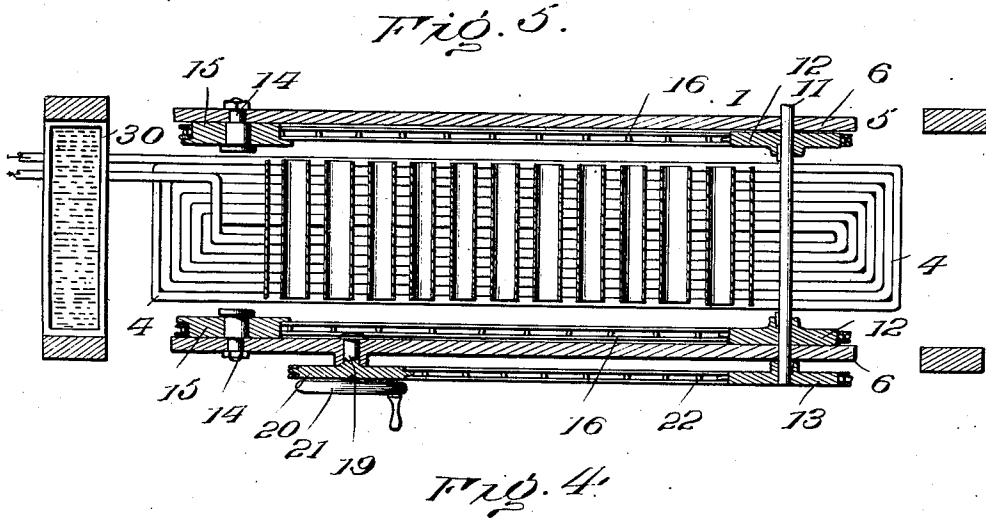
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4 SHEETS—SHEET 4.



Witnesses
H. H. Reason.
R. B. Williams

Inventors
L. H. Carleton
M. M. Brooks
By *J. H. Moore*
Attorney

UNITED STATES PATENT OFFICE.

LESLIE H. CARLETON AND MOSES M. BROOKS, OF TROY, NEW YORK,
ASSIGNORS OF ONE-THIRD TO GEORGE H. LEE, OF TROY, NEW YORK.

MACHINE FOR SHRINKING FABRIC.

No. 828,017.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed August 18, 1905. Serial No. 274,729.

To all whom it may concern:

Be it known that we, LESLIE H. CARLETON and MOSES M. BROOKS, citizens of the United States, residing at Troy, in the county of Rensselaer and State of New York, have invented new and useful Improvements in Machines for Shrinking Fabrics, of which the following is a specification.

This invention relates to an apparatus for shrinking fabric.

In the art it is well known that fabric must be shrunk prior to its being made up for commercial purposes in order that proper and practical results may be obtained. We have therefore designed an apparatus which receives a dampened fabric and holds the same suspended and reciprocate it adjacent a heating medium in a heated compartment to dry and shrink the material.

The object of our invention is to provide a reciprocating frame and supporting-chains which carry detachable fabric-supporting bars and a dampening-trough, all arranged for the purpose of conveniently dampening the fabric and then passing the same to the reciprocating frame, where it is dried and shrunk.

The invention possesses other decided advantages which will hereinafter be set forth, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of our improved shrinking apparatus, parts being broken away to more fully expose the structure. Fig. 2 is a longitudinal section. Fig. 3 is a similar view illustrating the unloading of the fabric after it has been treated. Fig. 4 is a transverse section on the line 4 4, Fig. 2. Fig. 5 is a horizontal section on the line 5 5. Fig. 2.

1 indicates a conventional chamber, which may be in the form of a room, compartment, or the like, from the roof of which depends a series of eyebolts 3 and at the bottom are heating-pipes 4.

5 indicates a reciprocating frame comprising side bars 6 6 and connecting-bars 7, the frame being supported by hangers 9, engaging eyebolts 10 on the bars 6 and the eyebolts 3. At one end of the frame 5 is a cross-shaft 11, on which is mounted two sprocket-wheels 12 12 inside the frame and adjacent the side bars 6 6, while on the outside of the frame the shaft carries another sprocket-wheel 13. At the opposite end of frame 5

are stub-shafts 14 14, carrying grooved wheels 15 15, and around these wheels and sprocket-wheels 12 12 pass sprocket-chains 16 16, the latter being supported between the wheels by tracks 17 17. A stub-shaft 19 is mounted on the frame, and it carries a sprocket-wheel 20 and hand-wheel 21, a chain 22 passing around the sprocket-wheels 13 and 20. A shaft 23 is mounted at one end of the room 1, and it is provided with crank-arms 24 24, connected by links 25 25 with the frame 5. The shaft is also provided with fast and loose pulleys 26 and 27 and a shifter 28 for the purpose of controlling the movement of the frame, as will be hereinafter explained. At the receiving end of the room 1 and near the bottom thereof is a trough 30, in which the fabric is dampened previous to its introduction to frame 5, and above the trough is an idle roller 31, over which the fabric is guided to the frame.

In operation the fabric is first placed in the trough 30 and dampened, from whence it is passed over the roller 31, and then over one of a series of detachable bars 32. Bars 32 have depending lugs 33, designed to engage the links of the chains 16, as best seen in Fig. 4 of the drawings. The fabric being now passed over the first bar 32, the hand-wheel 21 is turned and the chain is advanced one step, the fabric being drawn out considerably to form a loop, when another bar 32 is placed on adjacent chain-links to support the fabric at another point, after which the chain is advanced another step. This operation is continued until the required length of the fabric to be shrunk is supported, as shown in Fig. 2. A stop-bar 40 at the end of the frame prevents the overcrowding of the bars 32, as will be readily understood. The room is now closed and the frame is ready to be reciprocated. The operator will operate the shifter and throw the belt to the fast pulley and the frame is reciprocated through the means hereinbefore described. Of course it is understood that the heat is turned on to heat the room to a very high temperature and by reason of the reciprocation of the fabric it does not take long to absorb the moisture and shrink the fabric. The drying of the fabric once dampened to shrink it is well known in the art and further comment of this action is believed to be unnecessary. After the fabric has been treated sufficiently to accomplish the desired end the

shifter is operated to throw the power to the loose pulley, which stops the reciprocation of the frame. The hand-wheel is turned in a reverse direction and the fabric and supporting-bars are moved toward the open end of the frame, where it contacts with an interposed bar 35 and the bars 32 fall to the floor. This operation is continued until the chains are free of the bars, when the fabric will be supported by bar 35, the bars 32 being removed, also bar 35, when the fabric can be conveniently carried to another point for further handling.

This invention is extremely simple and durable and by reason of the convenient arrangement of parts the fabric can be readily and quickly treated.

What we claim is—

1. In an apparatus of the class described the combination with a reciprocating frame, means for reciprocating the frame, bars carried by the frame, and means for moving the bars independently of the reciprocation of the frame.
2. In an apparatus of the class described, the combination with a reciprocating frame, means for reciprocating the frame, chains carried by the frame, supporting-bars mounted on the chains, and means for moving the chains and supporting-bars independently of the reciprocating movement of the frame.
3. In an apparatus of the class described, the combination with a frame, chains carried by the frame, detachable bars mounted on the chains, means on each bar for engagement with the chains, means for moving the chains, and means for reciprocating the frame.
4. In an apparatus of the class described, the combination with a frame, a shaft extending across one end of the frame and having wheels mounted thereon, stub-shafts at the opposite ends of the frame to form a space therebetween, wheels mounted on the stub-shafts, chains passing around said wheels and the wheels on the shaft which extends across the frame, bars supported by the chains, means for moving the bars toward the said cross-shaft to load the frame with material to be treated, and in a reverse direction toward the space between the stub-shafts to unload the frame, and a detachable bar in the path of the material to receive the latter in folds when the movement of the frame is reversed.
5. In an apparatus of the class described, the combination with a reciprocating frame normally open at one end, means for reciprocating the frame means carried by the frame for supporting material to be treated, mechanism for operating said means to load and unload the frame, a detachable bar adapted to be placed across the open end of the frame whereby when the movement of the operating mechanism is reversed the material having

been treated will be supported in folds by said detachable bar.

6. In an apparatus of the class described, the combination with a compartment, means for heating the compartment, a dampening-trough, a frame in the compartment, detachable bars carried by the frame, means for reciprocating the frame, and means for moving the bars independently of the reciprocating movement of the frame to receive material from the dampening-trough.

7. In an apparatus of the class described, the combination with a compartment, means for heating the compartment, a dampening-trough, a series of bars in the compartment, means for moving the bars to receive material from the dampening-trough, and means for reciprocating the bars.

8. In an apparatus of the class described, the combination with a compartment, means for heating the compartment, a frame, hangers supporting the frame, means for reciprocating the frame, chains carried by the frame, means for moving the chain independently of the reciprocating movement thereof, and dampening means for dampening the material to be treated previous to its introduction to the frame.

9. In an apparatus of the class described, the combination with a reciprocating frame, means for reciprocating the frame, means for controlling said reciprocating means, chains carried by the frame, detachable bars supported on the chains, means for moving the chains, and a detachable bar which supports the material having been treated when the movement of the chains has been reversed.

10. In an apparatus of the class described, the combination with a frame, means for reciprocating the frame, a shaft extending across the frame and having three wheels, two stub-shafts at the opposite end of the frame each of which is provided with a wheel, chains passing around said latter wheels and two of the wheels on the cross-shaft, a stub-shaft extending from the side of the frame and having a wheel and an operating device, a chain passing around said wheel and the wheel on the cross-shaft, and means for dampening the material previous to its introduction to the bars on the chain.

11. In an apparatus of the class described, the combination with a reciprocating frame, means for reciprocating said frame, bars carried by the frame, manually-operated means for moving said bars in line with but independently of the reciprocation of the frame.

12. In an apparatus of the class described, the combination with a frame which is normally open at one end, means carried by the frame for supporting a series of spaced-apart bars on which material being treated is supported, means for operating the carrying means, and a detachable bar at the open end of the frame on which the material having

been treated is suspended when the operating means have been reversed, and means for reciprocating the frame.

13. In an apparatus of the class described, 5 the combination with a series of supports to permit the material being treated to be suspended in folds, means for reciprocating the folded material, and means for moving the folded material independently of the recip- 10 rocating movement.

14. In an apparatus of the class described, the combination with bar-supporting means, a series of detachable bars carried thereby to

receive material, means for reciprocating the bar - supporting means and the bars, and 15 means for moving the bar-supporting means independently of the reciprocating movement.

In testimony whereof we have affixed our signatures in presence of two subscribing wit- 20 nesses.

LESLIE H. CARLETON.
MOSES M. BROOKS.

Witnesses:

MARY R. BRADY,
JAMES CAVEN.