(Model.) 2 Sheets—Sheet 1.

S. A. & A. M. CASE.

Machine for Drying Tubular Fabrics.

No. 231,269. **Patented Aug. 17, 1880.**

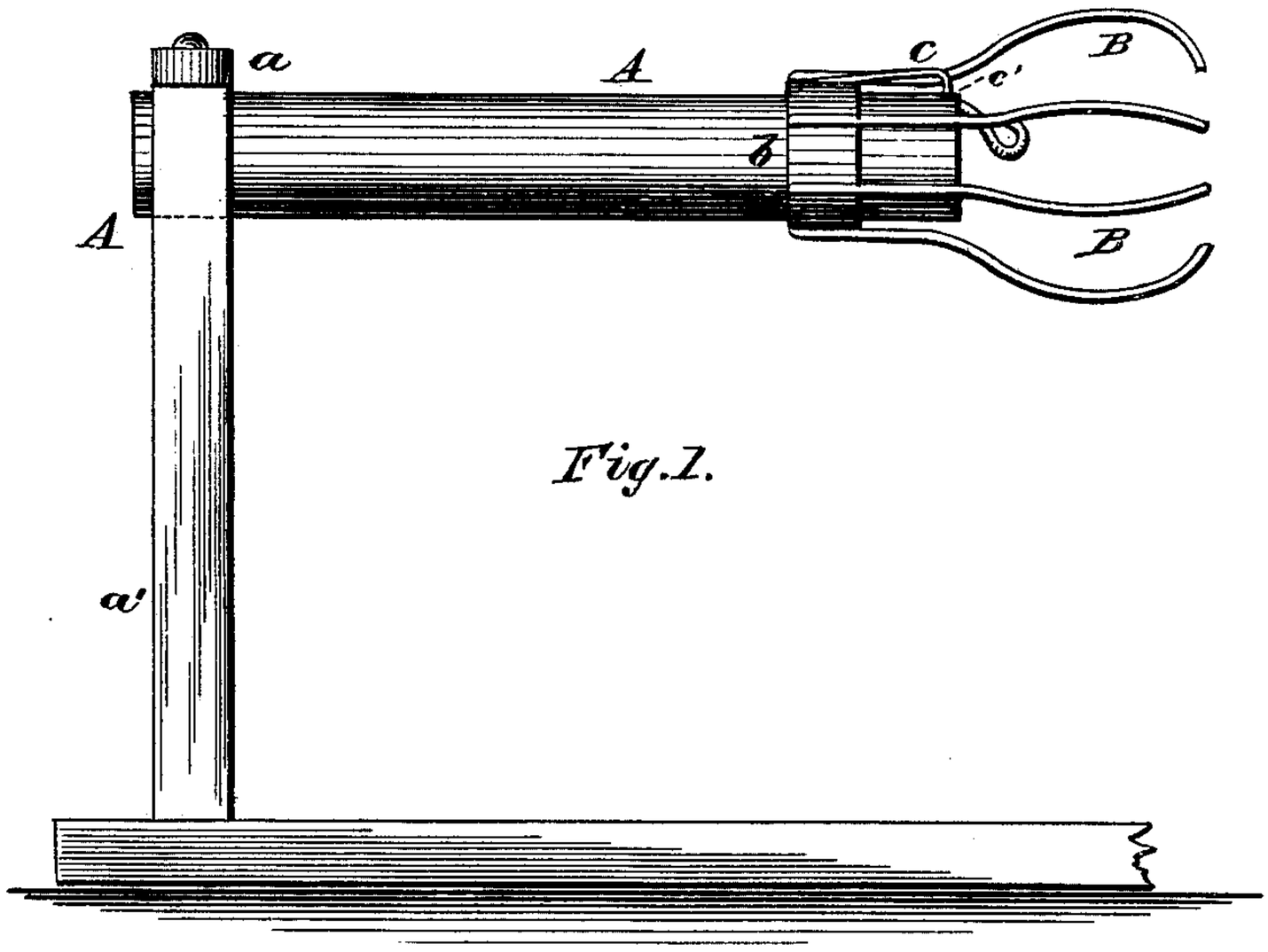
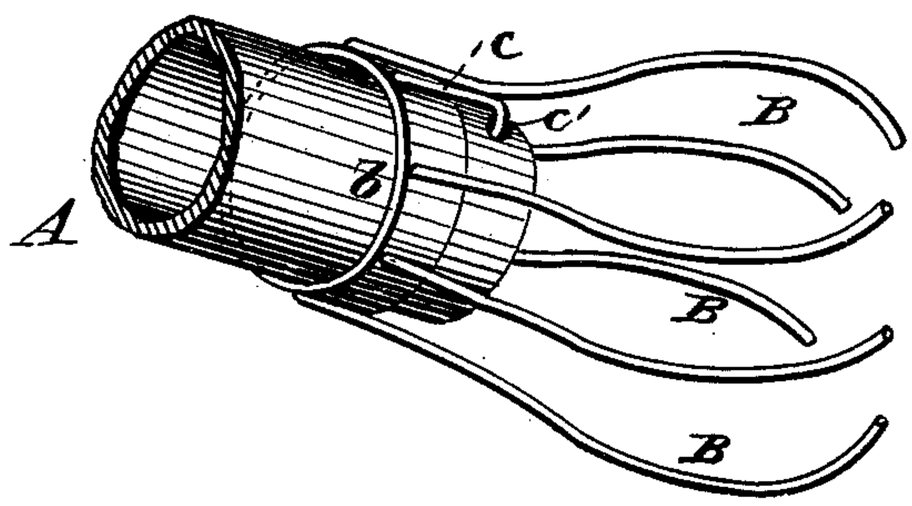


Fig. 1.

Fig. 2.



Witnesses:

P. C. Dieterich

Wm. Lappermann

Inventor

Stephen A. Case

Alonzo M. Case

Per C. A. Watson & Co Attorneys.

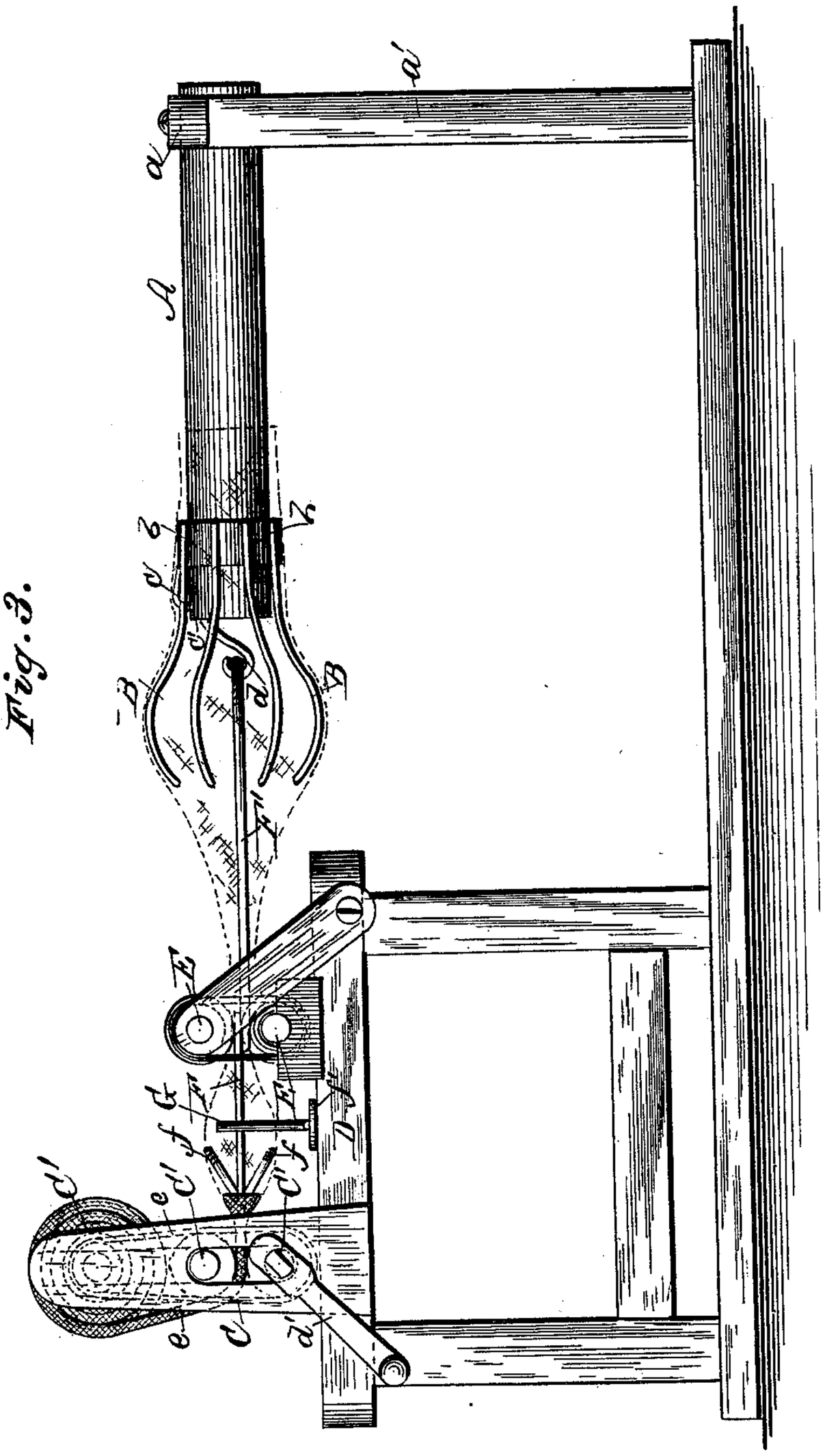
(Model.) 2 Sheets—Sheet 2.

S. A. & A. M. CASE.

Machine for Drying Tubular Fabrics.

No. 231,269. Patented Aug. 17, 1880.

Fig. 3.



Witnesses:

F. C. Dietrich.

Wm. Kupperman

Per C. H. Watson & Co.

Inventor
Stephen A. Case
Alonzo M. Case.
Attorneys.

UNITED STATES PATENT OFFICE.

STEPHEN A. CASE AND ALONZO M. CASE, OF AMSTERDAM, NEW YORK.

MACHINE FOR DRYING TUBULAR FABRICS.

SPECIFICATION forming part of Letters Patent No. 231,269, dated August 17, 1880.

Application filed May 11, 1880. (Model.)

To all whom it may concern:

Be it known that we, STEPHEN A. CASE and ALONZO M. CASE, of Amsterdam, in the county of Montgomery and State of New York, have invented certain new and useful Improvements in Machines for Drying Tubular Fabrics, (Case A;) and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a side elevation of a portion of our improved drying-machine for tubular fabrics, and Fig. 2 is a detailed perspective view of the spreader. Fig. 3 is a side elevation of our improved drying-machine.

This invention contemplates improvements in machines for drying tubular fabrics, having for its object, more especially, to keep the fabric in shape and prevent it sagging as it leaves the drying cylinder or tube to be wound upon the calender-rolls; and it consists in providing the drying tube or cylinder at one end with a series of fingers or spreaders attached to a common collar or ring fitting the tube or cylinder and adapted to distend or spread the surface of the fabric or goods beyond the surface of the cylinder or tube, substantially as hereinafter more fully set forth and claimed.

In the accompanying drawings, A is the drying tube or cylinder, suitably supported and secured in position at the desired height upon or to a cross-piece, *a*, fastened upon uprights *a'*, planted in or fastened to the floor or other desired point. The tube or cylinder is heated in the usual way by passing hot air or steam into or through it in any of the ways practiced by the craft. The fabric or goods is dried by being stretched or slipped over the tube or cylinder in the direction of its length and exposed the required length of time to the drying action of the heated tube or cylinder.

B B are the stretching or spreading fingers or arms, with their straight portions fastened to a common collar or ring, *b*, fitting the tube or cylinder A, preferably detachably, by being provided with a spring-catch, *c*, with its bent or hooked end taking into an aperture, *c'*, in the tube or cylinder A. These fingers or arms are curved outwardly beyond the surface of the cylinder or tube, and, by preference, inwardly at their free ends, to prevent them catching in the fabric or causing other inconvenience.

It will be seen that, as they extend beyond the surface or circumference of the tube or cylinder, the goods or fabric, as it is drawn over them from the tube by the action of the calender-rolls, the relation of which to the drying-tube is shown in Fig. 3 of the drawings, will be stretched or distended so as to prevent the fabric or goods sagging as it goes to the rolls. Furthermore, the tension thus exerted upon the fabric being equal in all directions, or uniform, the fabric will retain its proper shape as to the direction or plane of its stitch, and thus prevent its distortion while being drawn upon and wound around the winding-roll.

When it is remembered that by the means heretofore adopted for preventing the too rapid or irregular drawing of the fabric off the tube or cylinder, which consists of a band or strap encompassing the goods or fabrics, and acting thereon with greater or less pressure, no uniformity of holding or yielding pressure could be obtained, the advantages of our improvement will be more fully appreciated. By the former method the stitches of the fabric or goods were drawn out of shape and thus wound. By our improvement this is avoided.

In Fig. 3 of the drawings C' are the calender-rolls, having bearings in the uprights C, bolted to the frame D, the lower one of said rolls being provided with a crank, *d'*, and the upper and lower rolls being drawn together by yielding bands *e*. E are the pressing or tension rolls, between which the fabric is passed around the spreader. F is the spreader, having bail F', which is attached to a hook, *d*, on the tube A. *f f* are bails attached to the plate forming the body of spreader F, and G G are guides secured to plates *f'* to keep the spreader in proper position.

The winding arrangements just described and shown in Fig. 3 form the subject-matter of another application (No. 9,518) for a patent filed by us May 11, 1880, and are therefore not claimed in this case.

Having thus fully described our invention, we claim and desire to secure by Letters Patent—

1. In a tubular-fabric-drying machine, the combination, with the drying tube or cylinder, of the ring or collar fitting said tube and the outwardly-curved fingers or arms attached to said ring or collar, substantially as and for the purpose set forth.

2. The combination, with the tube having the aperture in its side, of the ring or collar fitted to said tube and provided with a spring-catch, and arms or fingers attached to said collar, substantially as and for the purpose set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

STEPHEN A. CASE.
ALONZO M. CASE.

Witnesses:
MARTIN L. STOVER,
BEN. FINLAYSON.