E. C. CLEVELAND.

CLOTH STRETCHER FOR DRYING MACHINES, &c

No. 30,801. Patented Dec. 4, 1860.

Fig. 1.

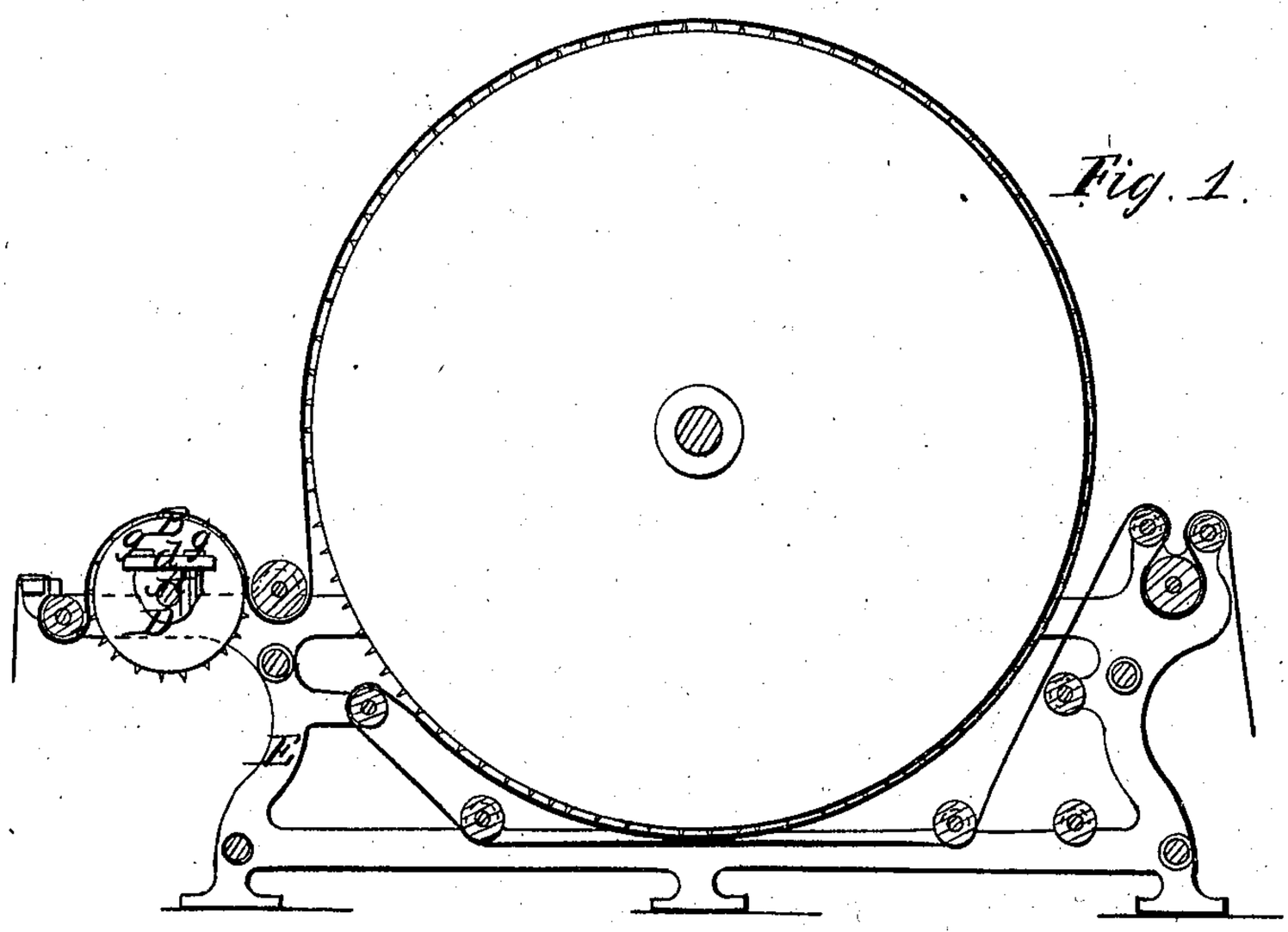


Fig. 2.

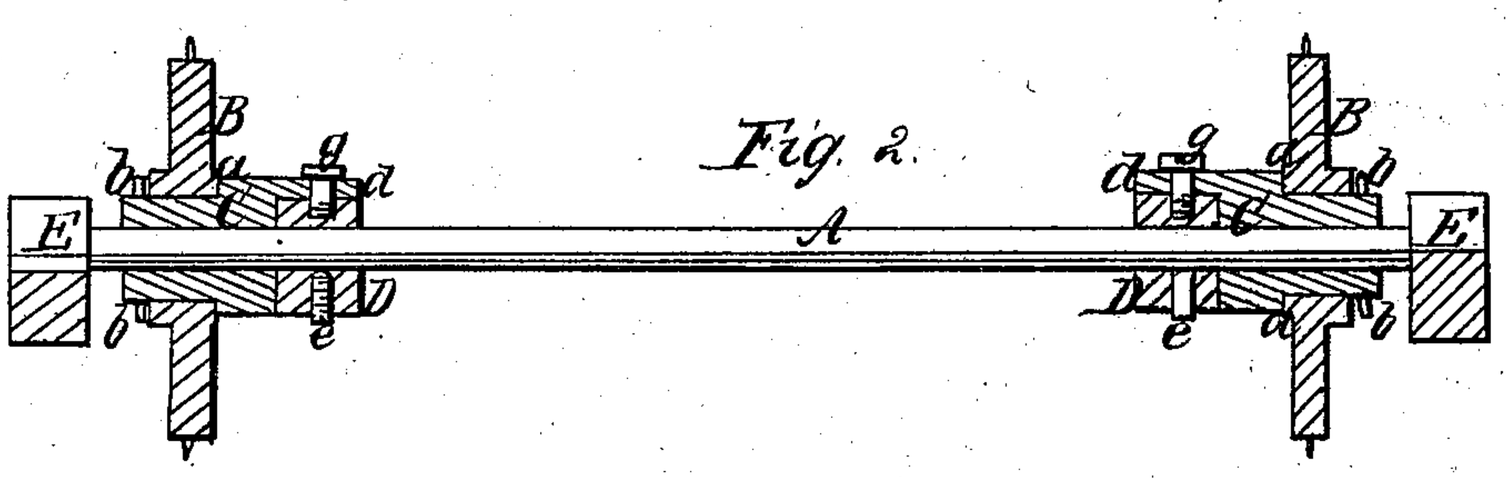
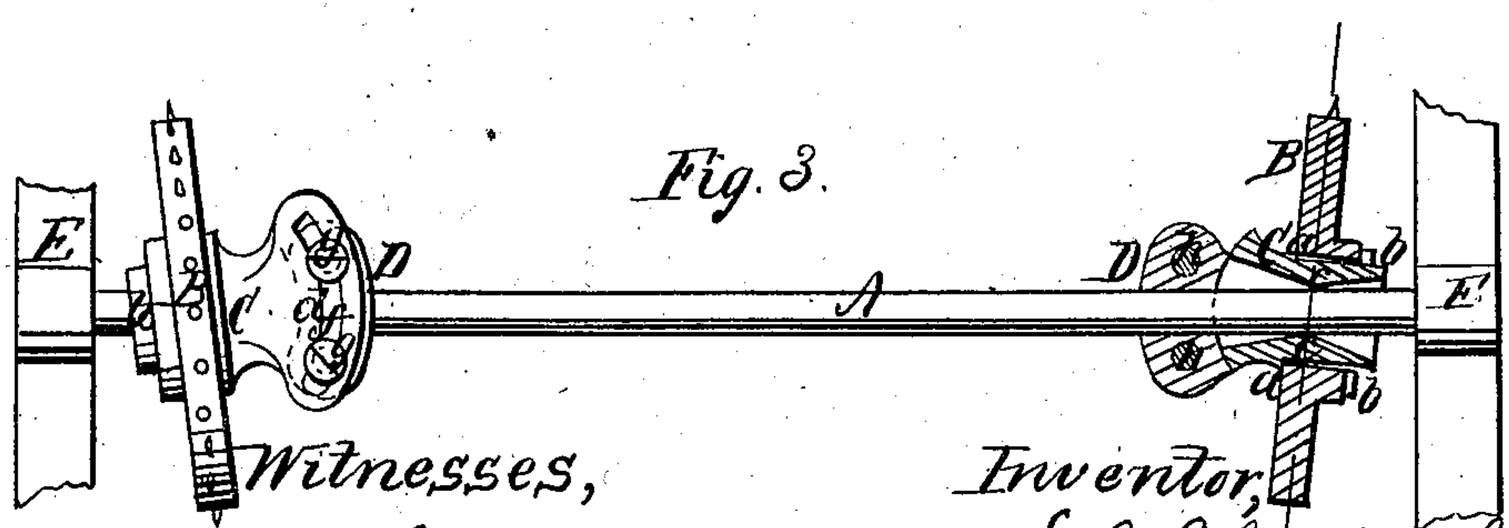


Fig. 3.



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UNITED STATES PATENT OFFICE.

EDWIN C. CLEVELAND, OF WORCESTER, MASSACHUSETTS.

MACHINE FOR STRETCHING CLOTH.

Specification of Letters Patent No. 30,801, dated December 4, 1860.

To all whom it may concern:

Be it known that I, EDWIN C. CLEVELAND, of Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Cloth-Stretchers for Drying-Machines and Other Purposes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a vertical section of a drying machine with my improved stretcher. Fig. 2, is a vertical section of the stretcher in a plane passing through its axis. Fig. 3 is a plan of the same partly in section.

Similar letters of reference indicate corresponding parts in the several figures.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

A, is the fixed shaft or axle which supports the pair of stretching rollers, arranged in a horizontal position with its ends in the two side frames E, E, of the drying machine. B, B, are the stretching rollers of well known construction, that is to say having narrow peripheries furnished with sharp teeth to penetrate the cloth and bored centrally to fit two adjustable sleeves C, C, which are fitted to the shaft. The rollers are free to turn on these sleeves but are prevented moving longitudinally thereon by shoulders *a*, *a*, formed upon the said sleeves, and pins *b*, *b*, screwed or tightly inserted into holes made in the said sleeve to receive them. Washers may be applied between these pins and the rollers. These sleeves C, C, are provided at their inner ends with broad flat flanges *d*, *d*, which are parallel with the axes of the rollers, and the said sleeves are made to fit closely around the shaft only at points within the planes of the teeth of the rollers, as shown at *c*, *c*, in the section exhibited in Fig. 3, from which points their bores are enlarged toward the ends in opposite directions parallel with the flanges *d*, *d*, as shown in the same section, but yet left parallel for their whole length in their longitudinal section taken in a direction at right angles to Fig. 3, as shown in Fig. 2. The inner ends of the said sleeves beyond which the flanges *d*, *d*, project are made square with the axis of the shaft, in the direction in which the section is represented in Fig. 2, but of an arc form in the section represented in Fig. 3, the centers or axes of such arcs intersecting the axis of the sleeve in the planes of the teeth of the rollers.

D, D, are two blocks bored truly to fit the shaft A, just tightly enough to slide along it, the shaft being turned parallel along its whole length or at least along the portions which receive the blocks D, D, and sleeves C, C. These blocks which are arranged inside of or between the two sleeves one close to each sleeve are each made flat on one side to fit the inner faces of the flat flanges *d*, *d*, of the sleeves and have the ends which are next the sleeves of a concave form to fit to the convex arc formed faces of the two sleeves. The said blocks are secured firmly to the shaft at proper distances apart by means of set screws *e*, *e*, with their flat sides in the same plane, preferably in a horizontal position above the shaft as shown in Fig. 1. The flanges *d*, *d*, of the sleeves have provided in them slots *f*, *f*, to receive set screws *g*, *g*, which screw into tapped holes *h*, *h*, in the flat sides of the blocks for the purpose of securing the sleeves C, C, to the blocks D, D, and thereby to the shaft, the said slots being of the form of arcs described from points in the planes of the teeth of their respective rollers as shown in Fig. 1.

The blocks D, D, with the sleeves C, C, and rollers attached to them by the set screws *g*, *g*, having been adjusted upon the shaft A, to the proper distance apart according to the width of the cloth and the blocks having been secured by the set screws *e*, *e*, the sleeves are adjusted at the proper angle to the shaft to give the rollers the proper degree of obliquity according to the degree to which it is desired to stretch the cloth, and secured by the set screws *g*, *g*. The rollers are caused by the cloth being drawn over them to revolve upon the sleeves and thus to stretch the cloth which meets them at the points where the two approach nearest to each other and leaves them at the points where they are farthest apart. The action of the rollers does not differ from that of the rollers of other stretching machines, the only novelty in my invention consisting in the provision for adjusting and securing the rollers at the proper angle to the shaft, which may be varied to any

extent required by slackening the screws *g*, *g*, and shifting the sleeves, which on being again secured by the said screws maintain the proper position, under all circumstances the said screws keeping them very secure not only at the proper angle but at the proper distance apart.

Two pairs of rollers may be applied in the same manner upon the same shaft in cases where it is desirable to stretch two narrow pieces of cloth in the same machine.

What I claim as my invention and desire to secure by Letters Patent is—

The arrangement of the slotted sleeve C C and screws *g g* with the blocks D, stretching rollers B B and shaft A as and for the purposes herein set forth and described.

EDWIN C. CLEVELAND.

Witnesses:
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