

# Force & Renwick. Stretching and Drying Cloth.

N<sup>o</sup> 69,907.

Patented Oct. 15, 1867.

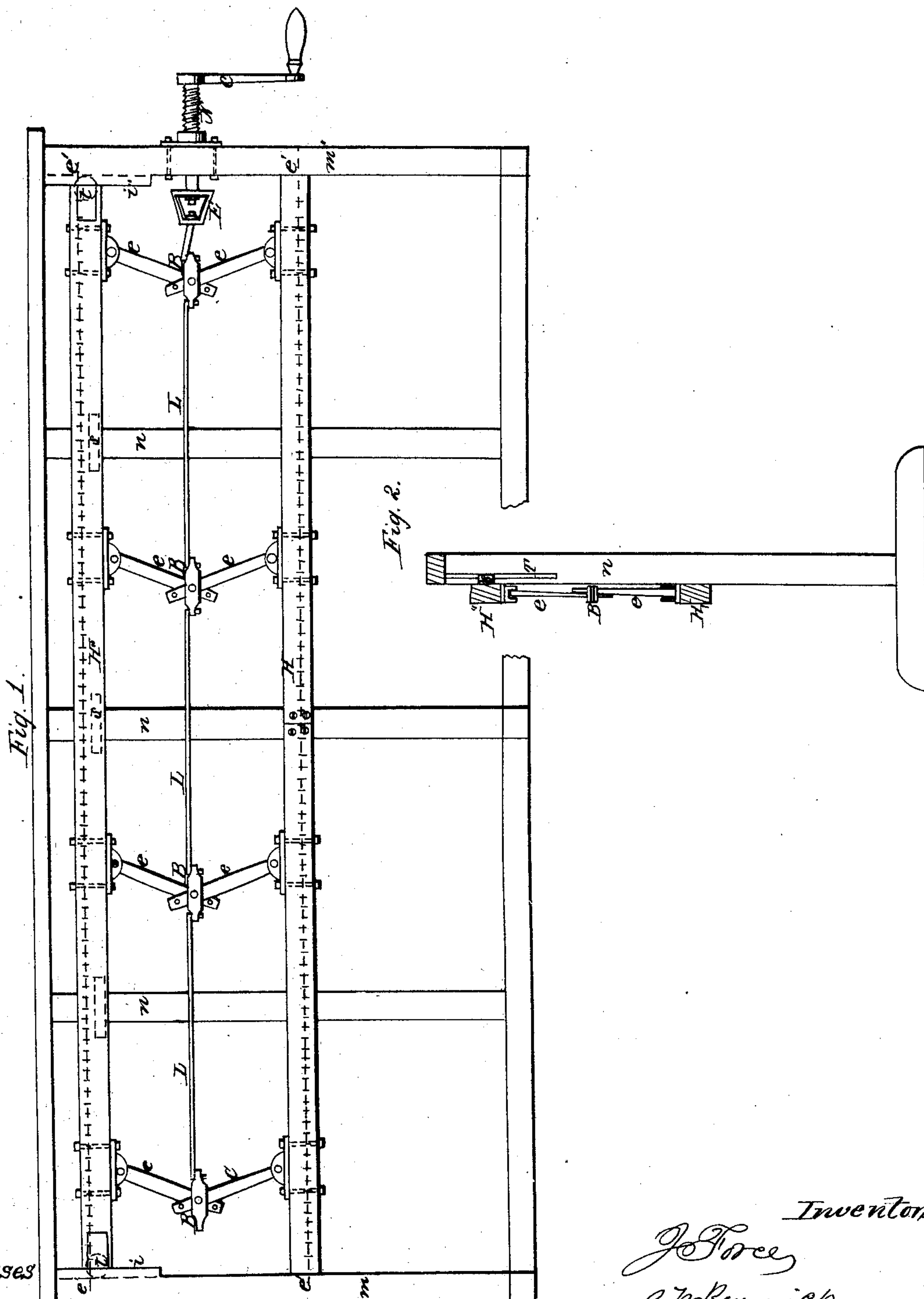


Fig. 1.

Fig. 2.

Witnesses

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# United States Patent Office.

J. FORCE AND G. W. RENWICK, OF ELGIN, ILLINOIS.

*Letters Patent No. 69,907, dated October 15, 1867.*

## IMPROVEMENT IN TENTER-BARS FOR STRETCHING CLOTH.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that we, J. FORCE and G. W. RENWICK, of Elgin, in the county of Kane, and State of Illinois, have invented a new and useful Improvement in Tenter-Bars for Drying Cloth; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is a vertical longitudinal section.

Figure 2 is a vertical transverse section of the same.

Similar letters of reference, where they occur in the separate figures, denote like parts in both of the drawings.

In the manufacturing of cloth it is found that when drying the same it will contract laterally, thus leaving the piece irregular in width and uneven in thickness. To overcome this difficulty, the cloth must be tightly strained upon a frame or bars, and dried while in that position. Our invention is designed for this purpose, and its nature consists in so arranging or constructing the frame or bars that a piece of cloth of any given number of yards may be evenly stretched laterally its entire length by simply turning a single crank.

To enable others skilled in the art to construct and use our invention, we will proceed to describe the same with reference to the drawings.

$m$  and  $m''$  represent the standards or posts of the frame, which are firmly attached to the building, or may be mortised into sills or foot-pieces, which lie upon the ground when used in the open air.  $H$  and  $H''$  represent the bars, to which the cloth is attached. Bar  $H$  is firmly bolted or otherwise attached to the lower part of posts  $m$  and  $m''$ . Bar  $H''$  is provided at its ends with friction-wheels  $t$  and  $t''$ , which move in vertical grooves  $f$  and  $f''$  at the top and inner sides of the posts; the centre of said bar, being held in position by means of straps of iron,  $S$ , moving in vertical slots,  $T$  and  $T''$ , cut longitudinally in the top or upper part of the centre standards  $n$  and  $n''$  of the frame.  $e e$  represent a series of vertical levers, which are hinged or jointed to bars  $H$  and  $H''$ , and pass at oblique angles to the centre between the bars, and are there connected one to the other by means of a second hinge or joint,  $B$ , arranged as shown in the drawings. These joints each receive a horizontal rod,  $L$ , which passes from one series or set of levers to the other the entire length of the frame, thus connecting each set; also connecting with screw  $N$ , to which the crank  $C$  is attached by means of a swivel,  $E$ .

The operation of our device is as follows: The edges of the cloth are attached to the bars  $H$  and  $H''$  by means of a series of hooks, as shown on lines  $e' e''$ . Crank  $C$  is then rotated, which moves levers  $e e$  to a vertical position by means of rods  $L$  and screw  $N$ , thus adjusting or raising bar  $H''$  to the proper height, which evenly strains the cloth the entire length of the piece, and is left in that position until entirely dry.

Having thus described the nature and object of our invention, what we claim as new, and desire to secure by Letters Patent, is—

The combination of bars  $H$  and  $H''$ , friction-wheels  $t$  and  $t''$ , screw  $N$ , rod  $L$ , and levers  $e e$ , substantially as and for the purpose described.

In testimony whereof we have signed our names before two subscribing witnesses.

J. FORCE,  
G. W. RENWICK.

Witnesses:

N. H. SHERBURNE,  
WM. R. SWIFT.