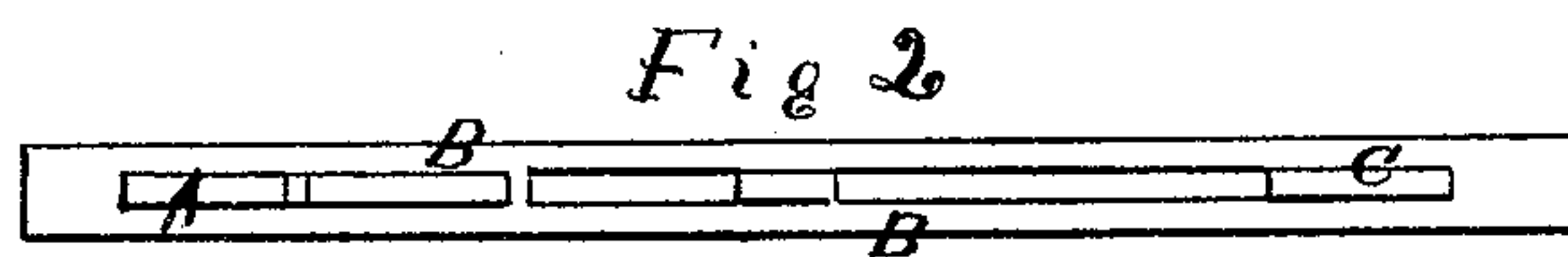
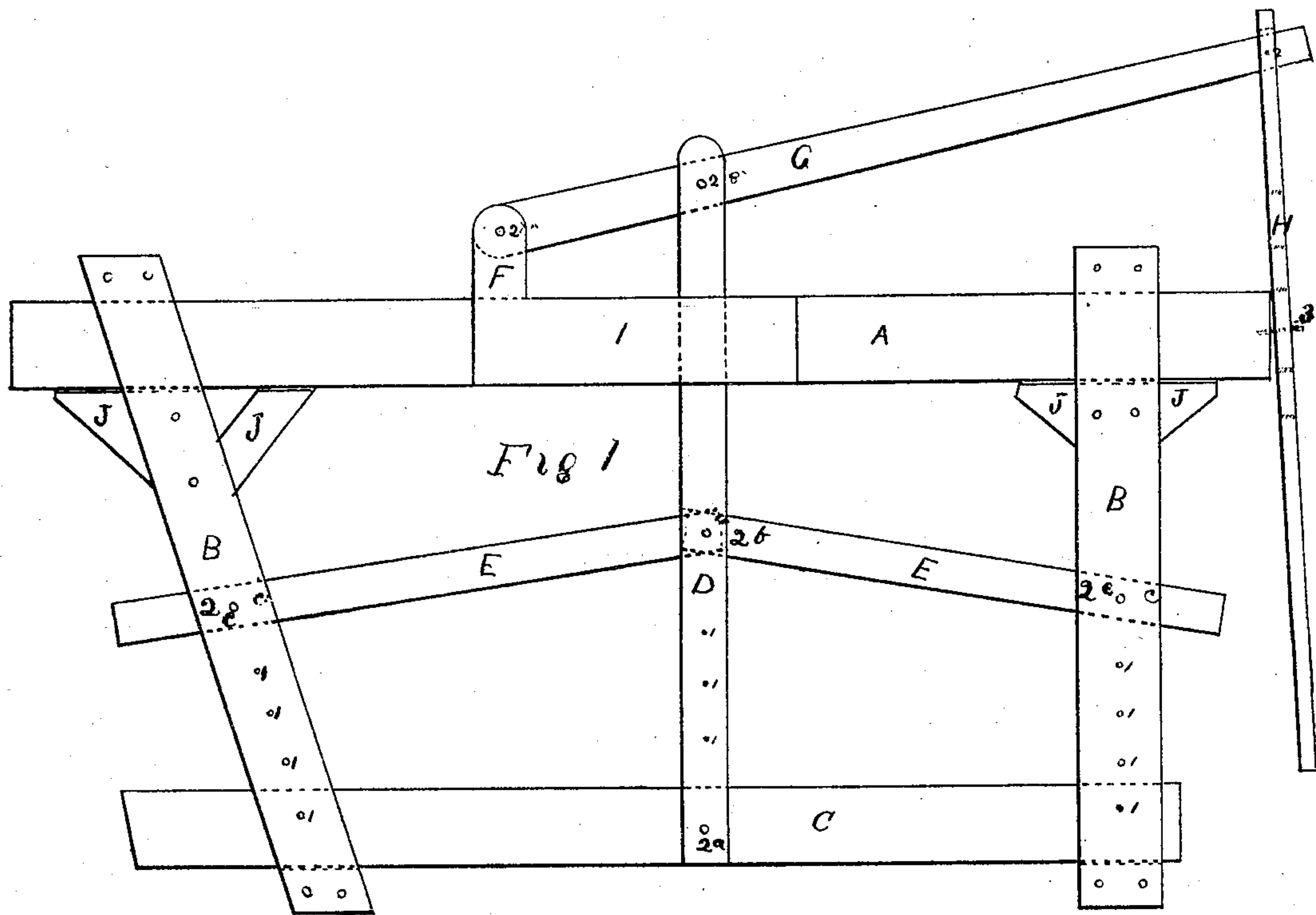


SAMUEL D. CASTLE.

Improvement in Apparatus for Stretching Leather.

No. 123,979.

Patented Feb. 27, 1872.



Witnesses  
*J. Hurd*

Inventor  
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# UNITED STATES PATENT OFFICE.

SAMUEL D. CASTLE, OF BRIDGEPORT, CONNECTICUT.

## IMPROVEMENT IN APPARATUS FOR STRETCHING LEATHER.

Specification forming part of Letters Patent No. 123,979, dated February 27, 1872.

### SPECIFICATION.

I, SAMUEL D. CASTLE, of Bridgeport, county of Fairfield, State of Connecticut, have invented certain new and useful Improvements in Machines for Drying Leather, of which the following is a specification:

My invention relates to the combination, with a supporting or principal bar, of adjustable side frames and a lower adjusting-bar, on which to nail a side of leather, the combination operated by a compound lever. The object of my invention is to stretch the leather in any and all directions by one movement of the lever, the construction of the machine being such that the parts will accommodate themselves to the flexibility of the leather.

In the drawing, Figure 1 is a side view of machine. Fig. 2 is an end view.

### General Description.

A, Figs. 1 and 2, is the supporting-bar. B B are the side frames. C is the lower bar; D, a stud, by which to communicate the power to C direct; E E, levers, transmitting power from D to B B; F, fulcrum; G, principal lever; H, handle to operate lever; J J J J, angles to keep frames B B in position; 1 1 1 1, pin-holes; 2<sup>a</sup> 2<sup>b</sup> 2<sup>c</sup> 2<sup>d</sup>, pins on which the parts work; 3, securing pin.

### Construction.

I construct my machine as follows: The supporting-bar A is of plank, of sufficient length for its ends to rest on girders set in the drying-room. On this bar I secure the fulcrum F. I also reinforce the sides to form a mortise for the double stud D. The side frames B B are constructed of two pieces of plank or board, the ends secured together by blocking and bolts. This forms an opening for the bars A and C; also, for angles J J and levers E E, leaving space enough for the air to circulate through. The angles J J keep the frames B B in about the position shown, allowing for variation in stretch of leather. The lower bar, C, is constructed of plank, same thickness as bar A, (the width of these bars to suit circumstances.) On these outside frames and bars, on their flat surfaces, the wet leather is nailed, two sides of leather to a machine. To stretch the leather, I connect the bar C to the stud D

by pin 2<sup>a</sup>; the side frames B B are connected with stud D by levers E E and pins 2<sup>b</sup> and 2<sup>c</sup>. These levers are set in such a manner that the angle can be increased or diminished at will, by changing the pin 2<sup>a</sup> and working the levers from any of the holes 1 1 in stud D. The stud D is operated by the lever G. To this I secure the handle H, to work it. In this handle are bored pin-holes to receive the pin 3. This holds the machine in position after the leather is stretched.

The manner of operation is as follows: The lever G is thrown up, carrying with it the stud D, levers E E, they in turn drawing the frames B B toward the center. (The bar C is generally taken out and laid aside for passage through the frame.) The side of leather is nailed along its edges to the bar A. The bar C is then put in and set to match the edge of leather, and is kept up by inserting pins through the holes 1 1 1 of frames under the bar. The leather is then nailed to this bar, then to frames B B. Another side of leather is then nailed on opposite side of machine. The stud D and bar C are connected by pin 2<sup>a</sup>. The lever G is drawn down by handle H. This forces the bar C downward, stretching the leather in that direction. The levers E E are thrown downward at stud, thus throwing out the frames B B. When a sufficient tension is secured, the handle H is secured in position by pin 3, and tension of leather preserved while drying.

The advantages claimed for this machine are, that it can be suspended onto cross-girders by bar A, and left in that position, as the bar C is removed and laid aside, admitting of egress to other frames suspended beyond; while many if not all of the old machines have to be stored or piled aside to admit of passage through. When used, they are laid flat on the floor or table and the leather nailed to them and then hung up, requiring three or four men to handle them. Again, by this machine the leather is stretched in every direction, while with the old style of machine it is only stretched one way. Again, the parts of the machine can be easily adjusted to suit the form of leather, and will operate as perfectly as though they were fixed as most of the side pieces are in old machines. Then, again, the leather will give more in some parts than oth-



ers, and the parts will readily accommodate themselves to this. Also, the mechanism to stretch the leather is efficacious, always at hand, and requires but one movement to do the whole work, while with the common frames the lower bar was forced down with wedges, jack-screws, or similar mechanism, entailing waste of time and requiring more help. Another great advantage is, the open frames B B and stud D allow for a circulation of air through the machine, which greatly facilitates the drying of leather.

I do not claim the process and apparatus for stretching leather by means of an expandible frame, as shown in the patent of J. W. Dawson, June 25, 1869, reissued October 29, 1869. By careful comparison, it will be seen that my apparatus accomplishes the result in a much more efficient, simple, and economical manner; but I arrange my side bars or frame with angle-pieces J J, to regulate their position to that of right angles with supporting-bar, while it renders them adjustable. I also construct them of two pieces of lumber,

and leave an opening for the passage of air. Neither do I claim novelty in the use of the diagonal adjusting lower bar.

*Claims.*

1. In a machine for stretching and drying leather, the open adjustable side frames B B, connected to and operated by sliding open stud D, by toggle-levers E E, in combination with re-enforced supporting-bar A, adjustable bar C, when made and arranged substantially as described, and for the purpose specified.

2. The combination, with open stud D, of lever A, handle H, and pin 3, by which the bars C and open side frames B B are thrown out by one motion, stretching the leather in every direction, and the securing of same in tension till dry, as specified and shown.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

Witnesses: SAMUEL D. CASTLE.

F. HURD,

A. SKAATS.