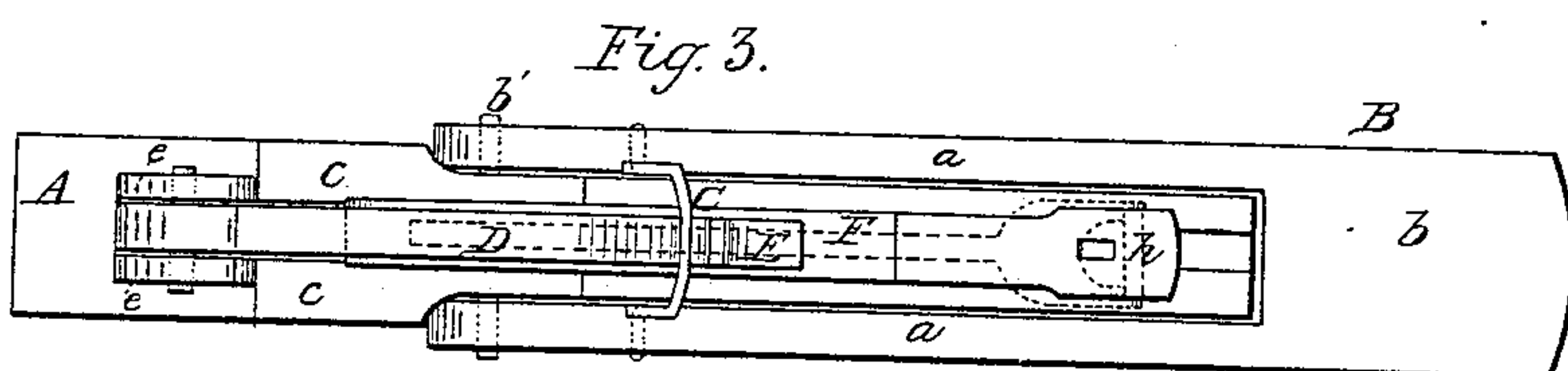
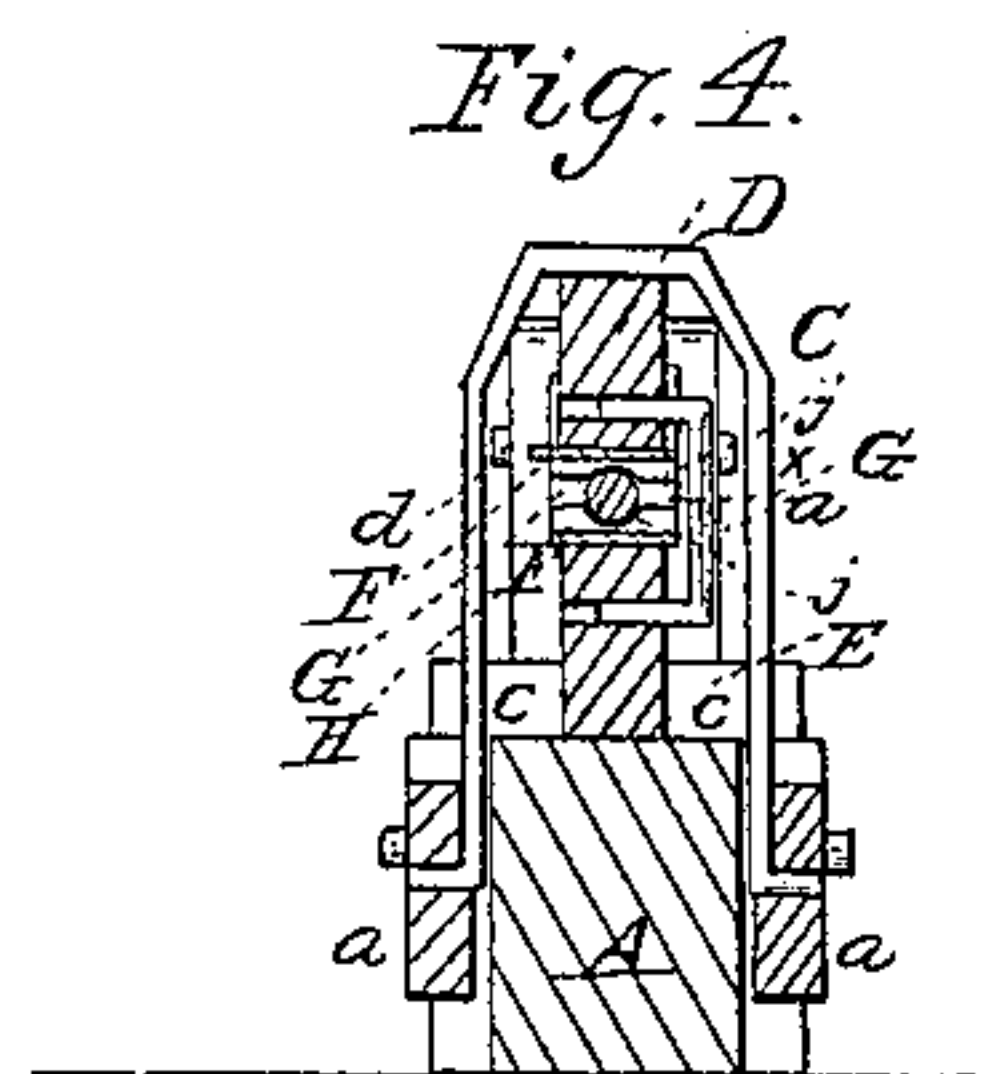
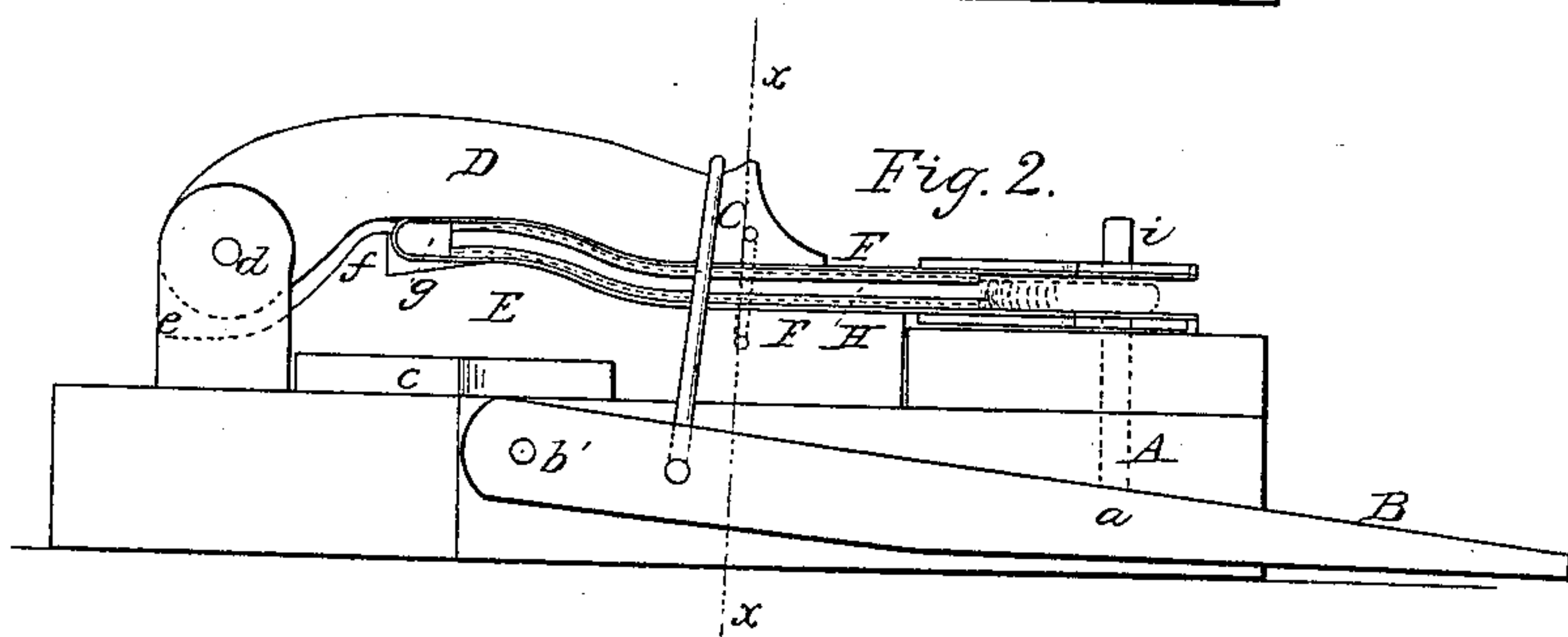
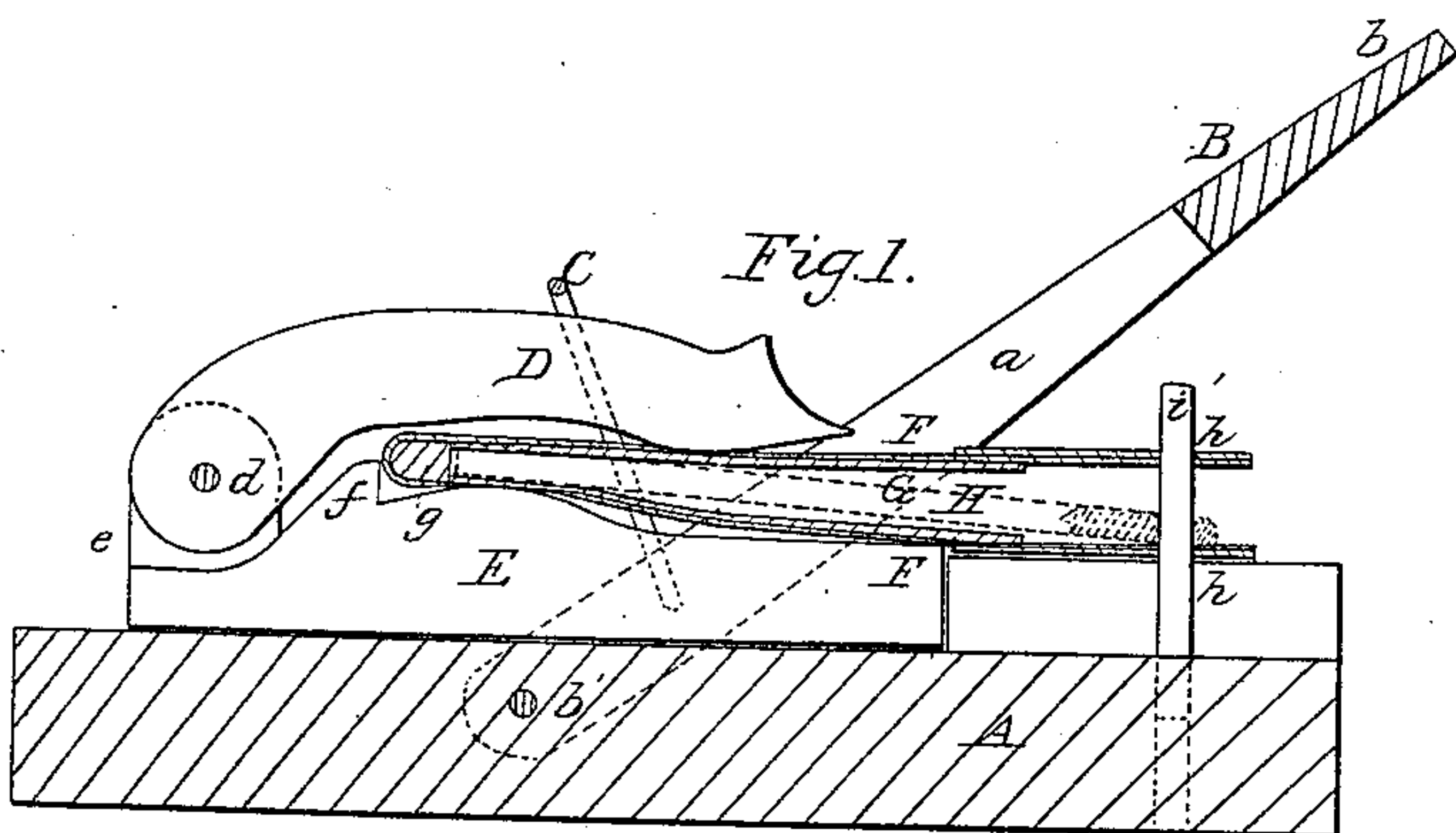


Bending Wood.

Patented Mar. 2, 1858.



UNITED STATES PATENT OFFICE.

THOMAS BLANCHARD, OF BOSTON, MASSACHUSETTS.

METHOD OF BENDING SHOVEL-HANDLES.

Specification of Letters Patent No. 19,480, dated March 2, 1858.

To all whom it may concern:

Be it known that I, THOMAS BLANCHARD, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and improved implement or device for bending wood in a curved or sinuous form for shovel-handles, chair-legs, and similar articles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a longitudinal vertical section of my improvement; the plane of section passing through the center. Fig. 2 is a side elevation of ditto. Fig. 3 is a plan or top view of ditto. Fig. 4 is a transverse vertical section of ditto; (*x*), (*x*), Fig. 2, indicating the plane of section.

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

This invention relates to an improved implement or device for bending wood in curved or sinuous form for various articles, chair legs, etc.

The invention consists in the peculiar means employed for preventing the wood from being distended longitudinally while subjected to the requisite pressure to bend it in the required form, and also in the means employed for preventing the wood from being flattened or depressed owing to the pressure to which it is necessarily subjected. These objects are attained by having the wood to be operated upon placed between leather strips or other similar soft or yielding substance. The leather being placed between metallic straps which are fitted in a clamp; the outer end of the wood being secured to the outer ends of the straps. This attachment of the wood to the straps in connection with a shoulder on the bed clamp, prevents its longitudinal distension, while the leather strips prevent the wood from being flattened while being bent.

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

A represents a bed piece which is of oblong rectangular form, and has a treadle B attached to it, said treadle being formed of two bars (*a*) (*a*) which work on a rod (*b'*) which passes through the bed, a bar (*a*) being at each side of the bed, and the outer ends of the bars being connected to a foot

board (*b*). To the bars (*a*) (*a*) a loop or strap C is attached.

D, E, represent two jaws which form the clamps for bending the wood. The lower jaw E is placed between guides (*c*) (*c*) on the bed piece A, and the upper jaw D is placed directly over the jaw E, the jaw D working on a fulcrum pin (*d*) which passes through lugs or ears (*e*) (*e*) attached to the outer end of the jaw E. The inner or face sides of the two jaws D, E, are curved to correspond to the form to be given the wood, and the lower jaw E has a shoulder (*f*) upon it, see Figs. 1 and 2.

F, F, represent two metallic straps the back or inner ends of which are attached to a metal block (*g*) which is placed against the shoulder (*f*) and the opposite or outer ends of the straps have holes (*h*) made through them to allow a key (*i*) to pass through. To the inner side of each strap F a strip G of leather or other soft or yielding substance is attached. The face sides of these strips are grooved or hollowed out longitudinally as shown at (*j*) Fig. 4. In case the article to be bent is flat or of rectangular form the grooves in the leather may be dispensed with.

The operation is as follows: Suppose a shovel handle is to be operated upon or bent. The handle, represented in red and designated by H, is previously rounded and the outer D shaped portion formed. This handle is properly steamed and is placed between the leather strips G, G. The key (*i*) is then passed through the hole (*h*) in the outer ends of the straps, said key passing through the opening in the outer end of the handle. The strap C is placed over the outer end of the jaw D and by depressing the outer end of the treadle B the jaw D will be forced down and the handle H will be bent into the proper curved form and while being bent will be prevented from distending longitudinally by means of the shoulder (*f*) and key (*i*). When the jaw D is fully depressed it may be secured in that position by means of a catch (*a*^x) as shown clearly in Fig. 4.

By this implement the wood is not injured by having its fibers distended as is the case with handles bent in the usual manner. The advantages attending this improvement in bending wood are fully set forth in a patent granted to me December 18th 1849.

I do not claim broadly bending wood so that its fibers are prevented from being distended longitudinally while being bent, for this has been previously done and was
5 formerly patented by me. But,

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent is—

The method of confining the wood while

being bent, to wit: by means of a key (i) 10 arranged to pass through straps F, F, and also through the handle H, substantially as and for the purposes set forth.

THOS. BLANCHARD.

Witnesses:

EDWARD L. HALL,
JOHN S. SIMPSON.