

C. J. ERICSON.
CHANGEABLE IMPLEMENT.

Patented Apr. 12, 1898.

Fig. 3.

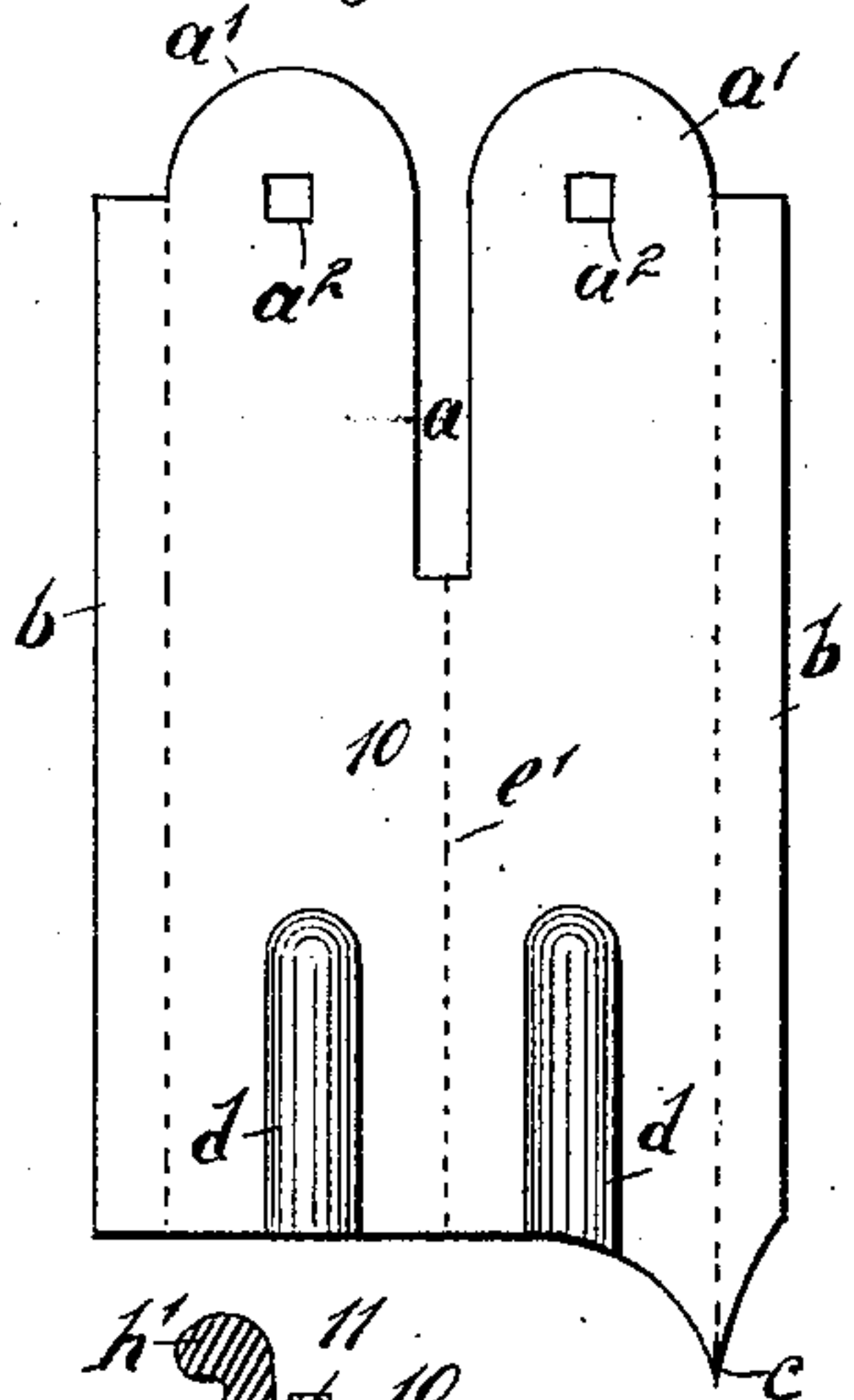


Fig. 4.

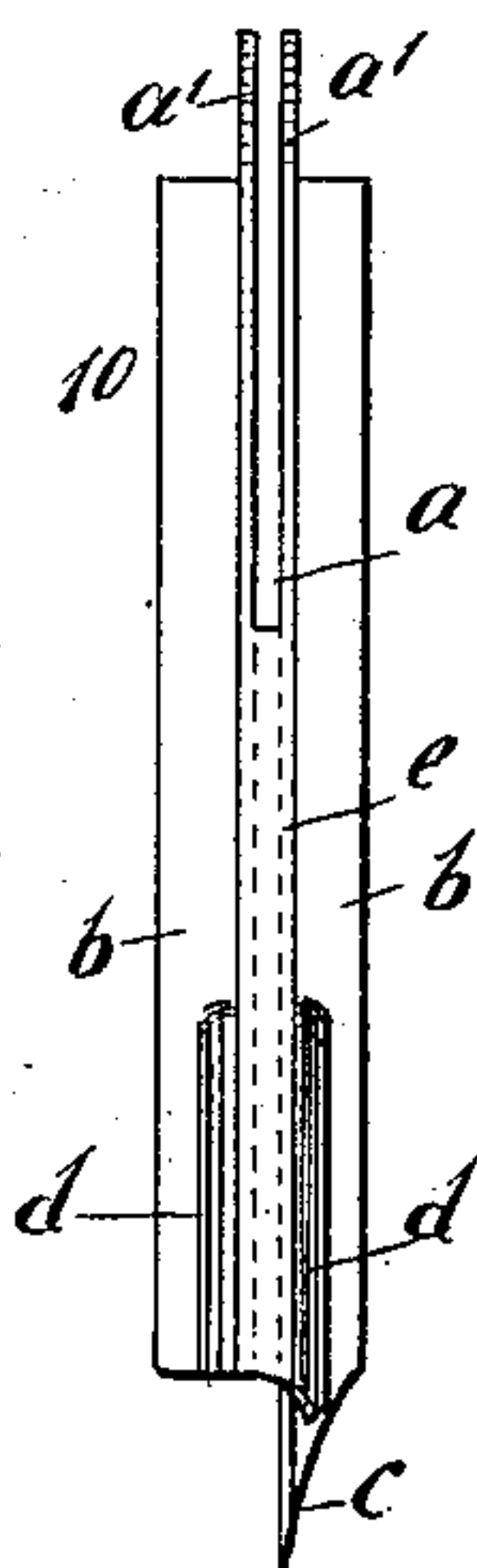


Fig. 5.

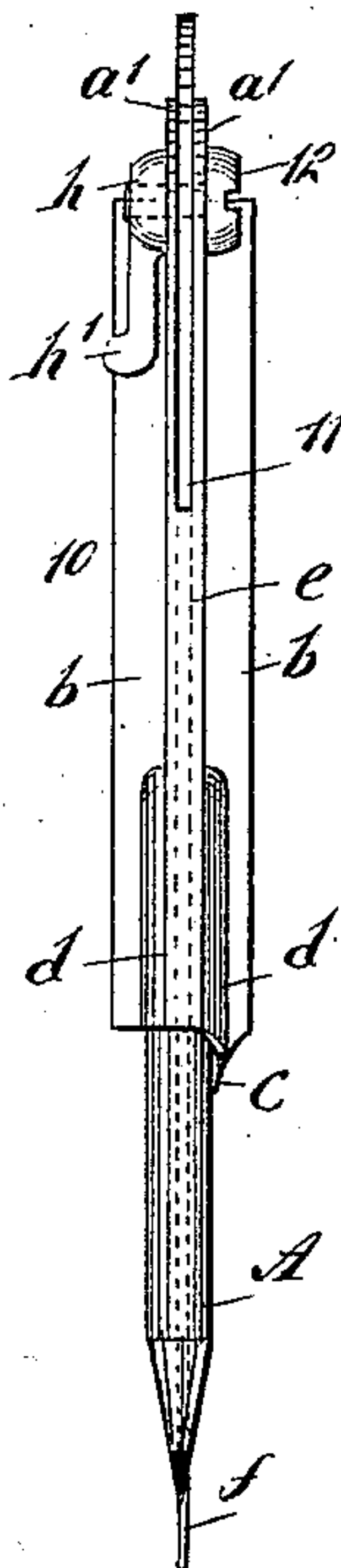


Fig. 6.

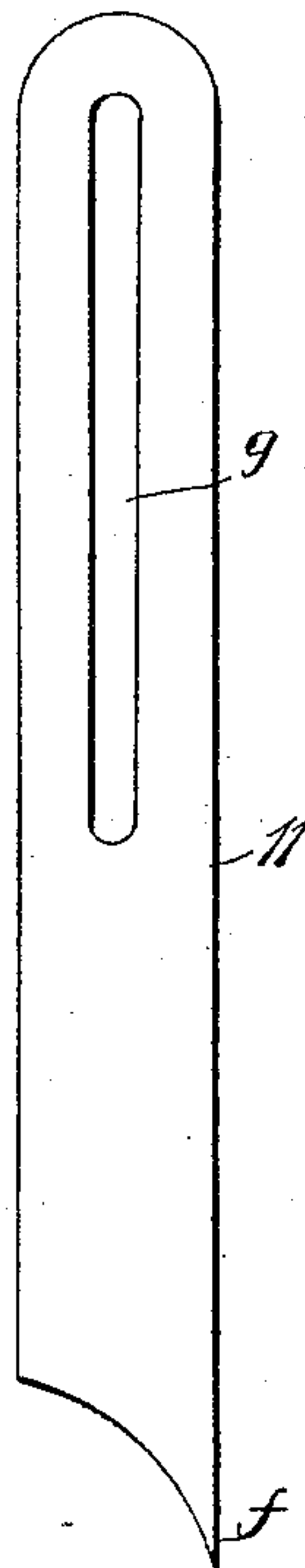


Fig. 7.

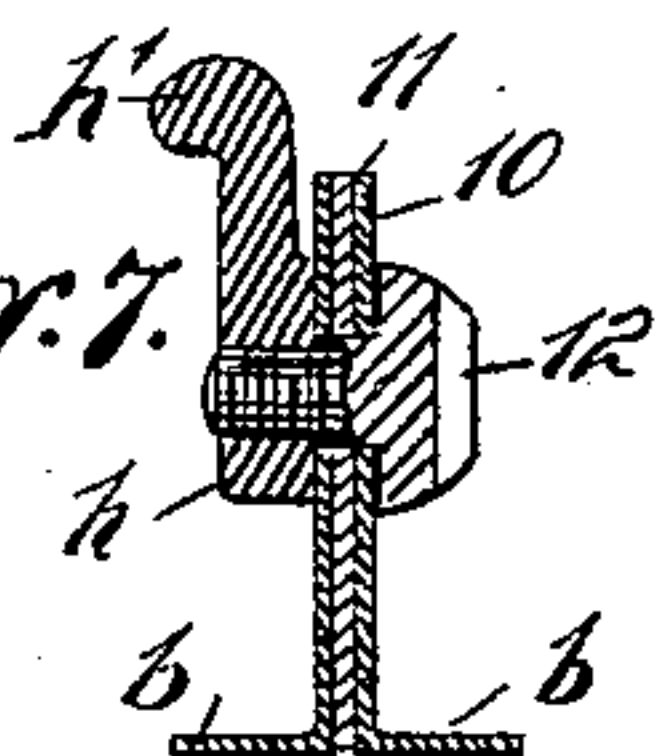


Fig. 9.

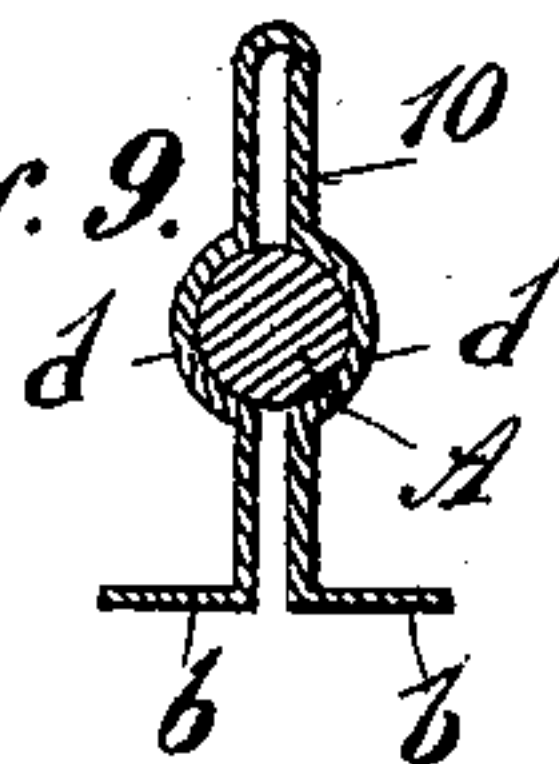


Fig. 8.

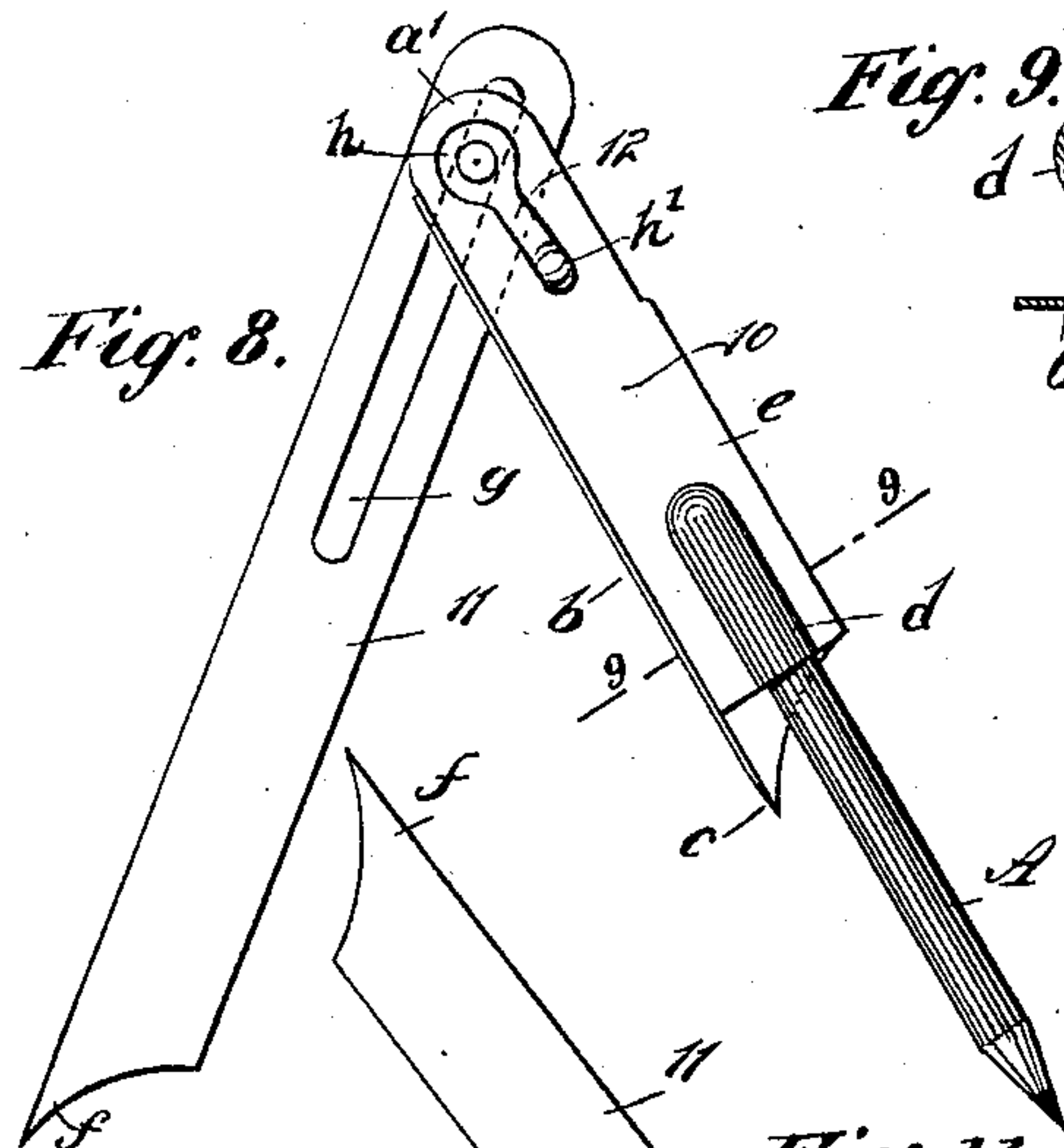


Fig. 10.

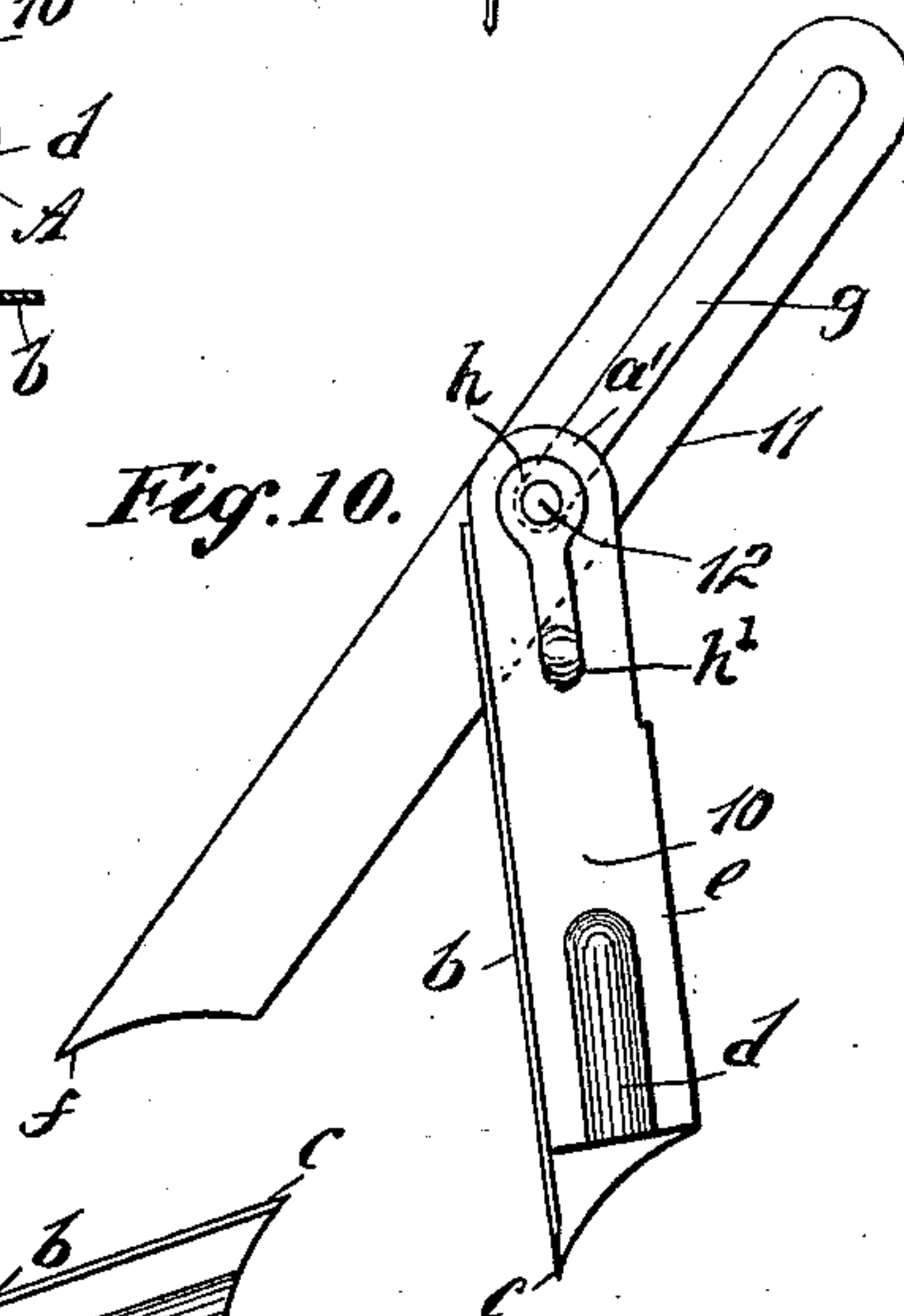
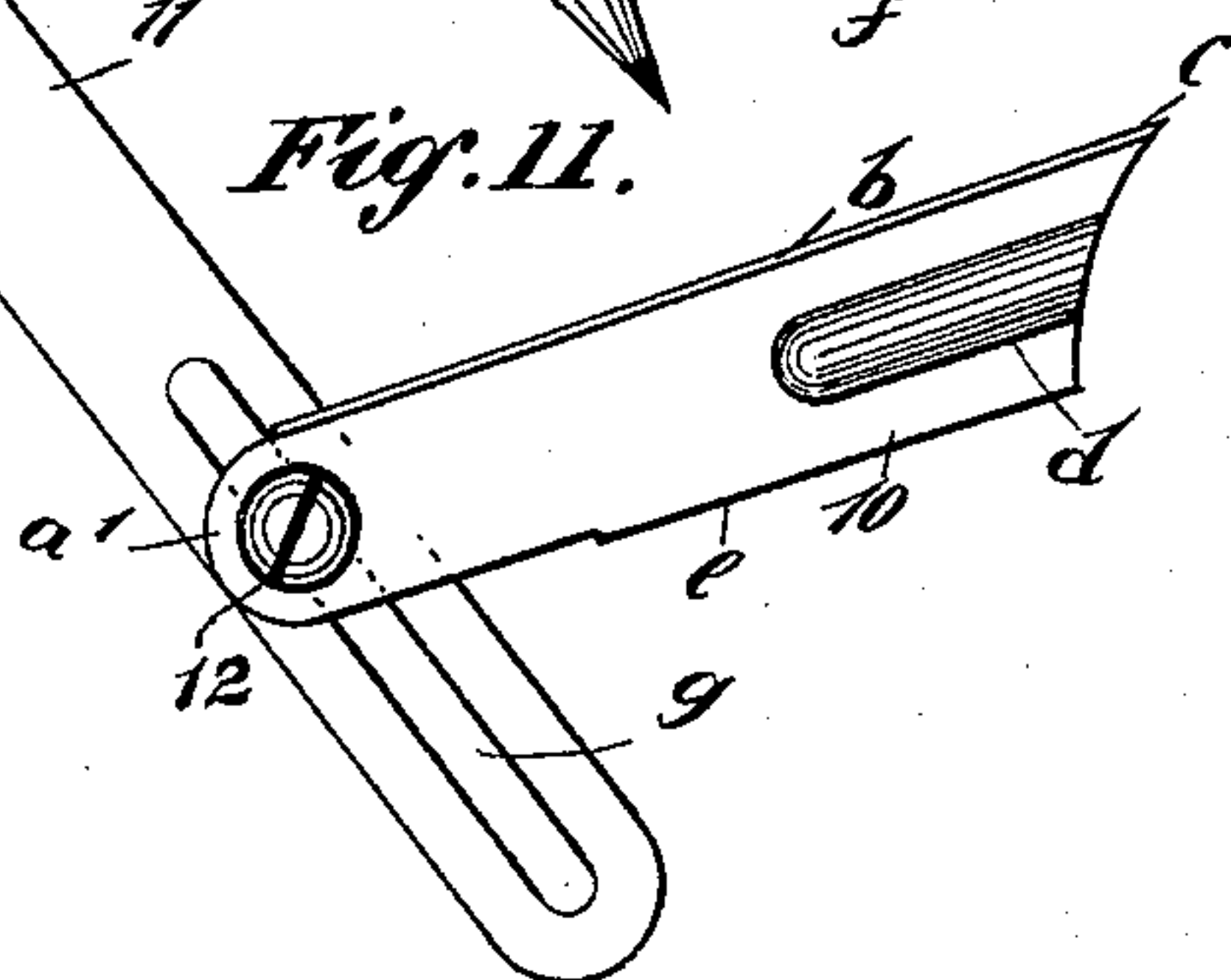


Fig. 11.



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UNITED STATES PATENT OFFICE.

CHARLES J. ERICSON, OF SALT LAKE CITY, UTAH.

CHANGEABLE IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 602,314, dated April 12, 1898.

Application filed June 9, 1897. Serial No. 639,999. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. ERICSON, of Salt Lake City, in the county of Salt Lake and State of Utah, have invented a new and Improved Changeable Implement, of which the following is a full, clear, and exact description.

This invention relates to an improved tool for mechanics' use, which is by its peculiar construction adapted to be readily changed in adjustment for service as a square, a bevel-gage, spacing-dividers, and a pencil-compass.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of the improved implement in folded adjustment. Fig. 2 is a side view of a formed blank, which when bent to complete it is an important feature of the invention. Fig. 3 is a detached side view of a connecting-screw and lever-nut therefor, which are details of the implement. Fig. 4 is an edge view of the part represented in Fig. 2 after it is bent to complete it, seen in the direction of the arrow x in Fig. 1. Fig. 5 is an edge view of the improved tool carrying a pencil in one leg and having its parts folded. Fig. 6 is a side view of a flat blade, which is another main element of the improved implement. Fig. 7 is an enlarged transverse sectional view substantially on the line 7 7 in Fig. 1. Fig. 8 is a side view of the improved implement adjusted for use as a pencil-compass. Fig. 9 is an enlarged transverse sectional view essentially on the line 9 9 in Fig. 8. Fig. 10 is a side view of the improved tool adjusted for use as dividers, and Fig. 11 is a side view of the tool arranged for service as a bevel-gage.

The implement comprises two main portions 10 and 11 and a bolt and nut to adjustably secure said parts together. The portion 10, which for convenience is termed the "stock-piece," consists of a sheet-metal blank cut into the form indicated in Fig. 2. The blank comprises two sides, which for a suitable distance from one end are slotted apart, as indicated

at a , said slot having parallel edges and sufficient width to properly space apart the side walls of the stock-piece. The two ends or ears a' , produced on the blank by the slot a , are preferably curved in similar form, as clearly shown in Fig. 2, and square holes a^2 are formed in each side wall at the radial centers of the semicircular ends of said walls.

Along the outer edges of the two sides composing the stock-piece 10 flanges b are laterally extended, and at the end of the joined sides opposite the semicircular formations a' a pointed toe c is formed, which toe is near one of the side flanges b .

Two similar longitudinally-disposed and parallel concavities d are formed in the stock-piece 10 while it is in an otherwise flat condition, and said channels may be curved in cross-section. The concavities d extend from the end of the sheet-metal blank, whereon the toe c is formed, and are indented in the same side of the blank at equal distances from the side edges of the same.

The blank represented in Fig. 2 is adapted for use as a stock-piece by bending the same so as to fold the two sides thereof toward each other along the dotted line e' , affording an integral web e , whereby the concavities d are oppositely positioned and the side walls of the stock-piece are spaced apart a suitable degree, as shown in Figs. 4, 5, and 9. Prior to the folding of the side walls of the stock-piece 10 as explained the flanges b should be bent at right angles to the side walls of the stock-piece, so that when the stock-piece is completed said flanges will project oppositely in the same plane, as clearly shown in Fig. 9.

The opposite location of the concave sides of the longitudinal formations d permits the insertion therein of a lead-pencil A , as indicated in Figs. 5, 8, and 9, so that a portion of the pencil-body may project and be held by the clasp action of the joined sides of the stock-piece 10, whereby the sharpened end of the pencil will be available for use, as will be further explained.

The blade 11, before mentioned, consists of a sheet-metal strip of correct proportional dimensions for use with the stock-piece 10, and said blade is longitudinally slotted from a point near one end toward the opposite end, as clearly represented in Figs. 6, 8, and 11 at g .

The other end of the blade 11 is cut away to produce a sloping side and point *f* thereon. The thickness of the blade 11 is sufficient to afford requisite stability and is such as will permit it to loosely fit between the ears *a'*.

A clamping-bolt 12 is provided to hold the blade 11 and stock-piece 10 in connection, the body of said bolt being squared near its head, which squared portion is loosely fitted into the squared perforations *a*², that are directly opposite each other when the stock-piece is in completed form.

The bolt-body is threaded at and near the end opposite its head to receive the perforated and tapped nut *h*, and for convenience in manipulating the nut a short arm *h'* is projected therefrom.

The blade 11 if introduced in the parallel space between the sides of the stock-piece 10 may be held to slide therein by the bolt 12 and nut *h*, said bolt being passed through the perforations *a*² of the stock-piece 10 and the slot *g* in the blade 11, as indicated in Figs. 5 and 7.

The arm *h'* may be of a length which will prevent it from swinging clear of the flange *b* at the side of the stock-piece 10, so that said arm and the nut *h* cannot be completely rotated.

It will be seen that if the device is to be used as a pencil-compass the pencil *A* may be inserted and held in the stock-piece 10, so as to project therefrom. The bolt 12 and nut *h* may now be adjusted to hold the point of the pencil and point *f* of the blade 11 diverged a proper degree, as represented in Fig. 8, to adapt the pencil-point for describing arcs or circles around the point *f* as a center.

If the tool is needed for spacing distances, the blade 11 and stock-piece 10 may be adjusted as shown in Fig. 10, which will adapt the toe *c* and point *f* to serve as spacing-points for the stock-piece 10 and blade 11, and said stock-piece and blade may be more or less diverged from each other in an obvious manner.

To utilize the implement as a square, the stock-piece 10 and blade 11 may be arranged

at right angles to each other, with the flanges *b* disposed as represented in Fig. 11 to provide a back for the square, or the blade 11 can be diverged from the stock-piece, and thus afford a bevel-gage of any desired angle.

The formation of the stock-piece 10, as herebefore described, facilitates the production of the same in a rapid manner and affords a light, strong, and neat construction.

Preferably the parts 10 11 of the improved tool are manufactured of steel plate, which renders these members very durable and the entire tool cheap, as well as neat, and convenient for use in its different adjustments as a square, bevel-gage, dividers, and pencil-compass.

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

1. In a device of the character described, a stock-piece formed of sheet metal, having side pieces held together in parallel planes by an integral web, said sides having right-angular flanges disposed in the same plane, said sides terminating at one end in laterally-perforated ears, and one side having a pointed toe at the end opposite the ear, substantially as described.

2. A drawing and marking instrument having a blade-section and a stock-section, the blade-section having a longitudinal slot and the stock-section being formed of a sheet of pliable material with a longitudinally-extending slot therein and with a longitudinally-elongated channel on each side of the line of the slot, the said sheet being bent on the line of the slot so that the channels register, and the slotted portion of the blade being received between the portions of the stock, which portions are on each side of the slot therein, and a pivot run through the stock and through the slot of the blade.

CHARLES J. ERICSON.

Witnesses:

ROBT. B. HARKNESS,
WM. PISCHEL.