

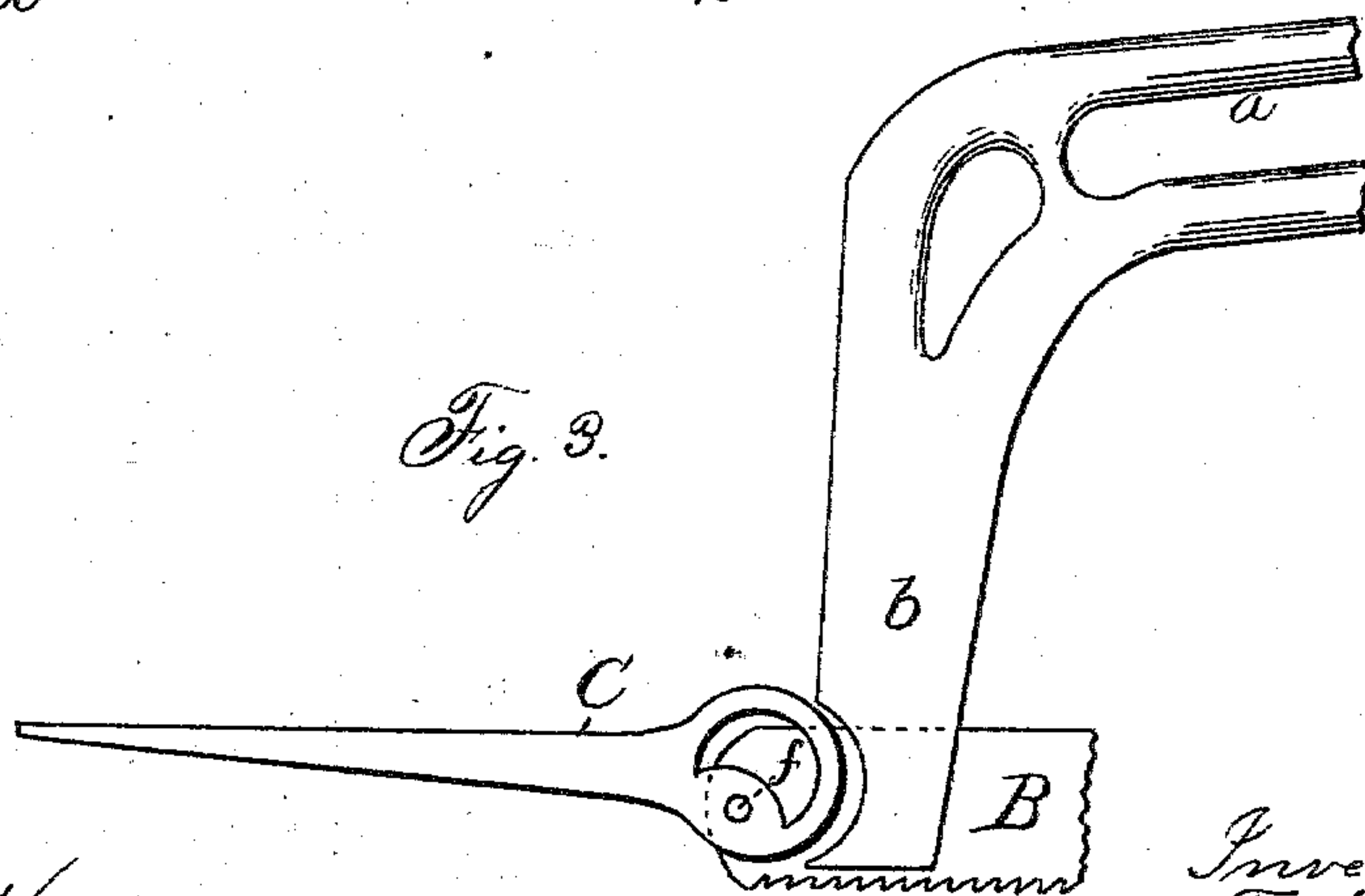
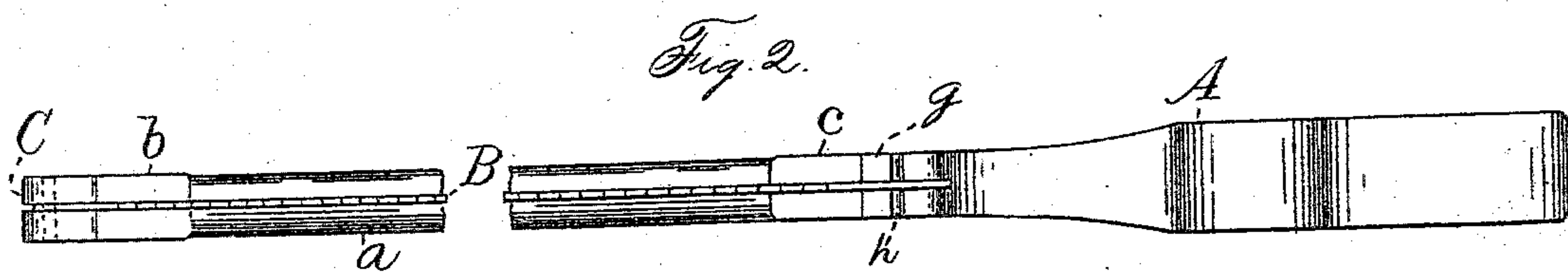
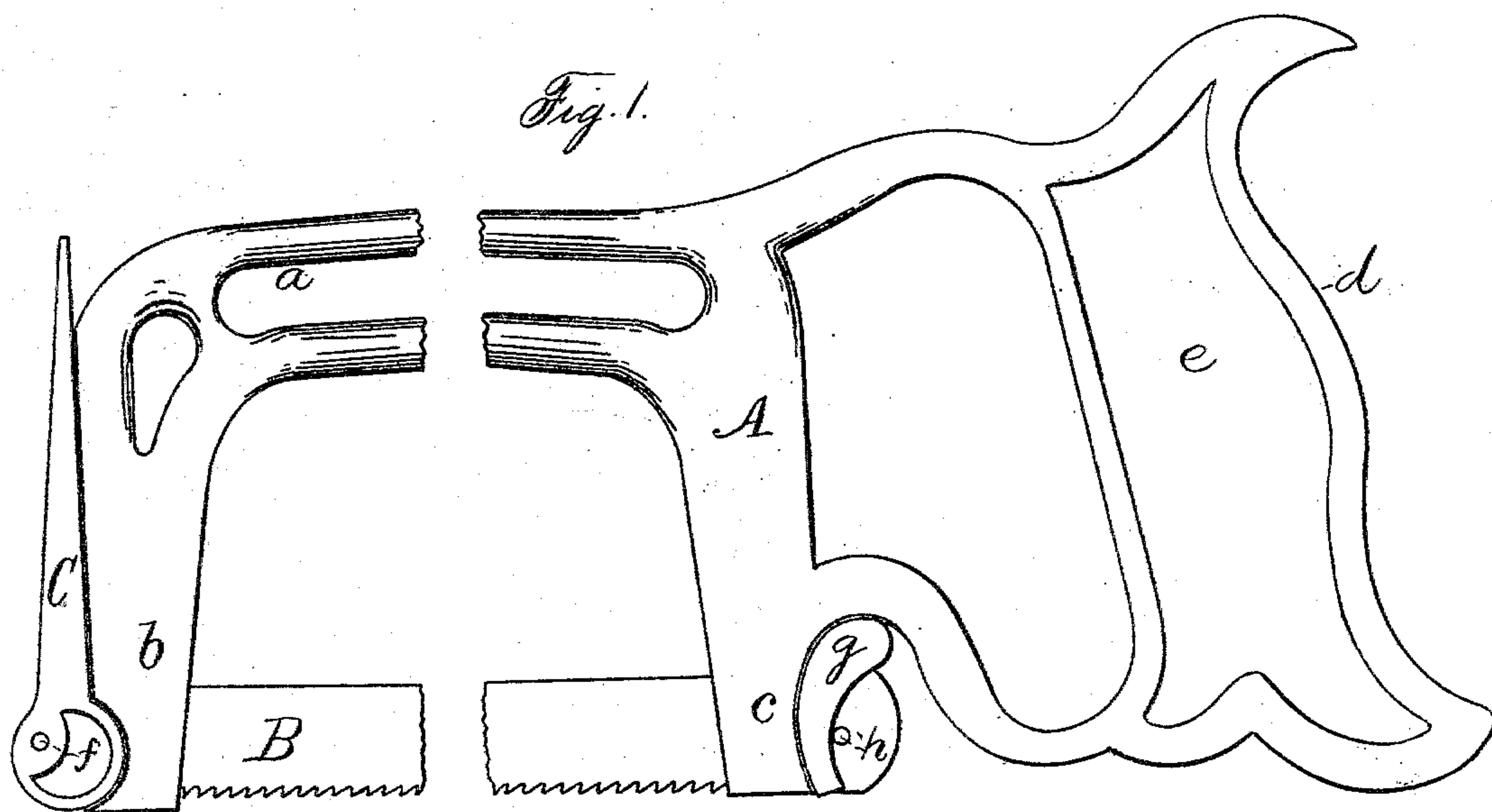
(No Model.)

H. F. HOFFMAN.

HANDSAW.

No. 280,928.

Patented July 10, 1883.



Witnesses.
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UNITED STATES PATENT OFFICE.

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HANDSAW.

SPECIFICATION forming part of Letters Patent No. 280,928, dated July 10, 1883.

Application filed April 5, 1883. (No model.)

To all whom it may concern:

Be it known that I, HERMAN F. HOFFMAN, a citizen of the United States, residing at Torrington, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Handsaws, of which the following is a specification.

My invention relates to improvements in handsaws of the class which have a detachable blade secured within a proper frame; and the objects of my invention are to provide means for conveniently attaching and detaching the blade; to firmly secure the blade within the frame; to adjust the tension of the blade, and to so construct the parts that a neat, convenient, and efficient handsaw may be produced at a small cost. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my saw. Fig. 2 is an edge view, and Fig. 3 is a side elevation of one end thereof with the cam-lever thrown back to release the blade.

In Figs. 1 and 2 the middle portion of the saw-blade and back of the frame are represented as broken out, in order to illustrate the saw on a large scale within certain limits. The length of the saw-blade and back of the frame may be made longer or shorter to produce a complete saw of any desired length.

The frame A, with its back *a*, ends *b* *c*, and handle *d*, are all made in one and the same piece, preferably of cast metal. The handle is of that class which stand transversely to the length of the frame, and is provided with the finger-opening *e*. Both ends of the frame are slotted to receive the blade B. The forward end, *b*, has its outer edge formed straight for the greater portion of its length, and has a curved recess near its base. A cam-lever, C, is fitted to said curved recess and straight portion, and rests against the outer edge of the forward end, *b*, as shown, and that end of the blade B is pivoted or hinged to the cam of the cam-lever C by means of the pin *f*. This cam-lever is of such length as to extend slightly above the straight portion of the outer edge of the end *b*, and thereby furnish convenient access to the end of said lever for throwing it backward into the position in which it is represented in Fig. 3. This cam-lever is also so formed and fitted to the end *b* of the frame that

when the saw-blade is held tightly in the frame by means of said lever it is in such a position as not to be in the way when the saw is used, or to be liable to become accidentally displaced. The end *c* of the saw-frame also has a curved recess in its outer edge, within which recess lies the curved wedge *g*. A pin, *h*, extends transversely through the end of the saw-blade B, and forms side projections which rest against the outer edge of the curved wedge. By adjusting said wedge, when the blade is loosened, to bring the pin *h* nearer to or farther from the end *c*, the tension upon the saw-blade may be adjusted as desired.

While I prefer to employ a curved adjusting-wedge and a curved recess in the end *c* of the frame, a straight-edged wedge might be substituted therefor with good results. The curved form is the best, because it is less liable to accidental displacement.

In order to remove the blade for sharpening or for the insertion of another blade, or for any purpose, it is only necessary to force the upper end of the cam-lever C outward, as shown in Fig. 3, after which the blade can be slipped out of the slots in the frame. By placing the blade in the slots with the pins *f* and *h* in the respective ends of the blade and throwing the cam-lever back again into the position represented in Figs. 1 and 2 the blade is again firmly held in place. In this position the pin *f* is carried above or beyond the point where it imparts the greatest strain upon the blade, and thereby it is held in place. If the tension upon the blade is not such as is desired, the cam-lever is again loosened and the adjusting-wedge changed to get the requisite tension.

I am aware that a prior patent shows a light saw-frame whose two ends, the back, and an open handle are formed all in one and the same piece of wire, which is bent and twisted into form, and with the handle extending lengthwise with the saw and frame. The opening in this handle is not, however, a finger-opening, but it is merely for the purpose of spreading the doubled wire far enough apart to make the handle large enough to be conveniently grasped upon the outside of the opening and without passing the fingers through said opening. Such a saw-frame is hereby disclaimed.

I claim as my invention—

1. The combination of a saw-frame having

the slotted end *b*, with the straight portion and curved recess in its outer edge, the cam-lever fitted to said outer edge, and the saw-blade having said cam-lever hinged or pivoted thereto, substantially as described, and for the purpose specified.

2. The combination of a saw-frame, the saw-blade, the cam-lever hinged or pivoted to one end of said blade, and the tension-adjusting wedge at the other end of the frame and blade, substantially as described, and for the purpose specified.

3. In a handsaw, the combination of the frame having the curved recess in the outer edge of its end *c*, the curved wedge fitted to said curved recess, and the saw-blade having the

pin *h* or equivalent side projections for engaging the edge of the curved wedge, substantially as described, and for the purpose specified.

4. In a handsaw, the frame consisting of the back *a*, the ends *b c* for holding the respective ends of the saw-blade, and the handle *d*, having the finger-opening *e*, whose greatest length extends transversely to the length of the frame, all formed of cast metal in one integral article, substantially as described, and for the purpose specified.

HERMAN F. HOFFMAN.

Witnesses:

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