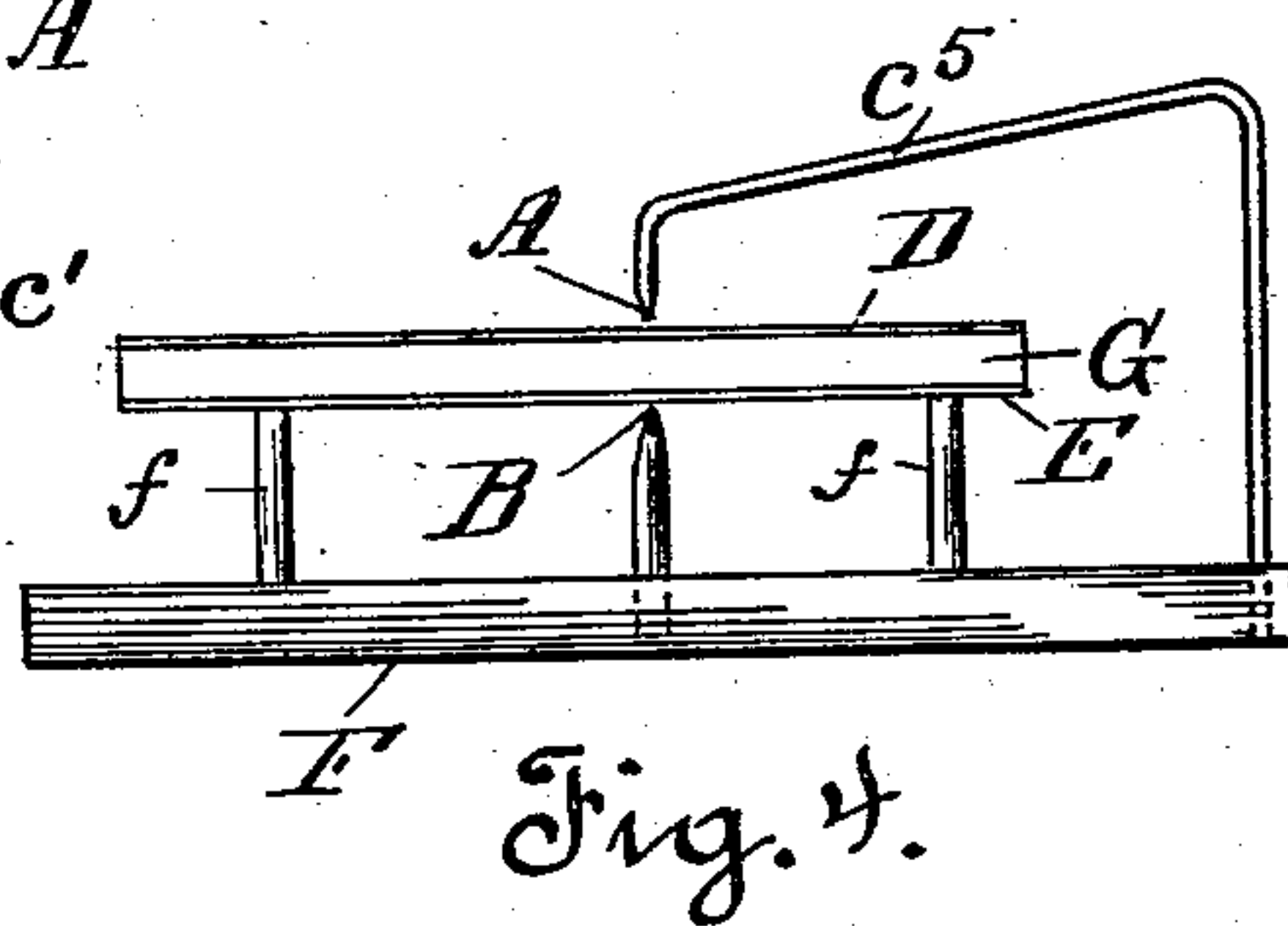
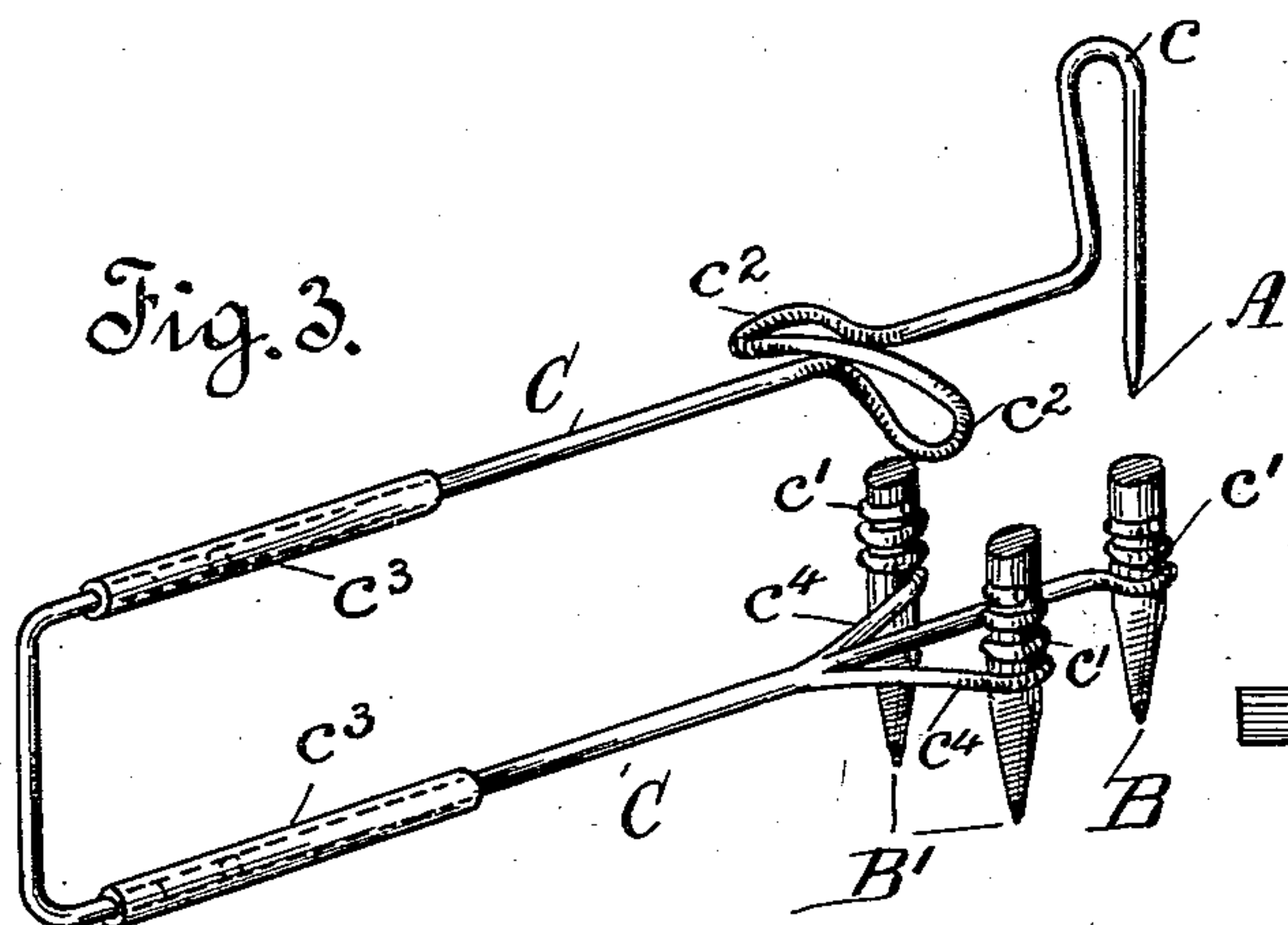
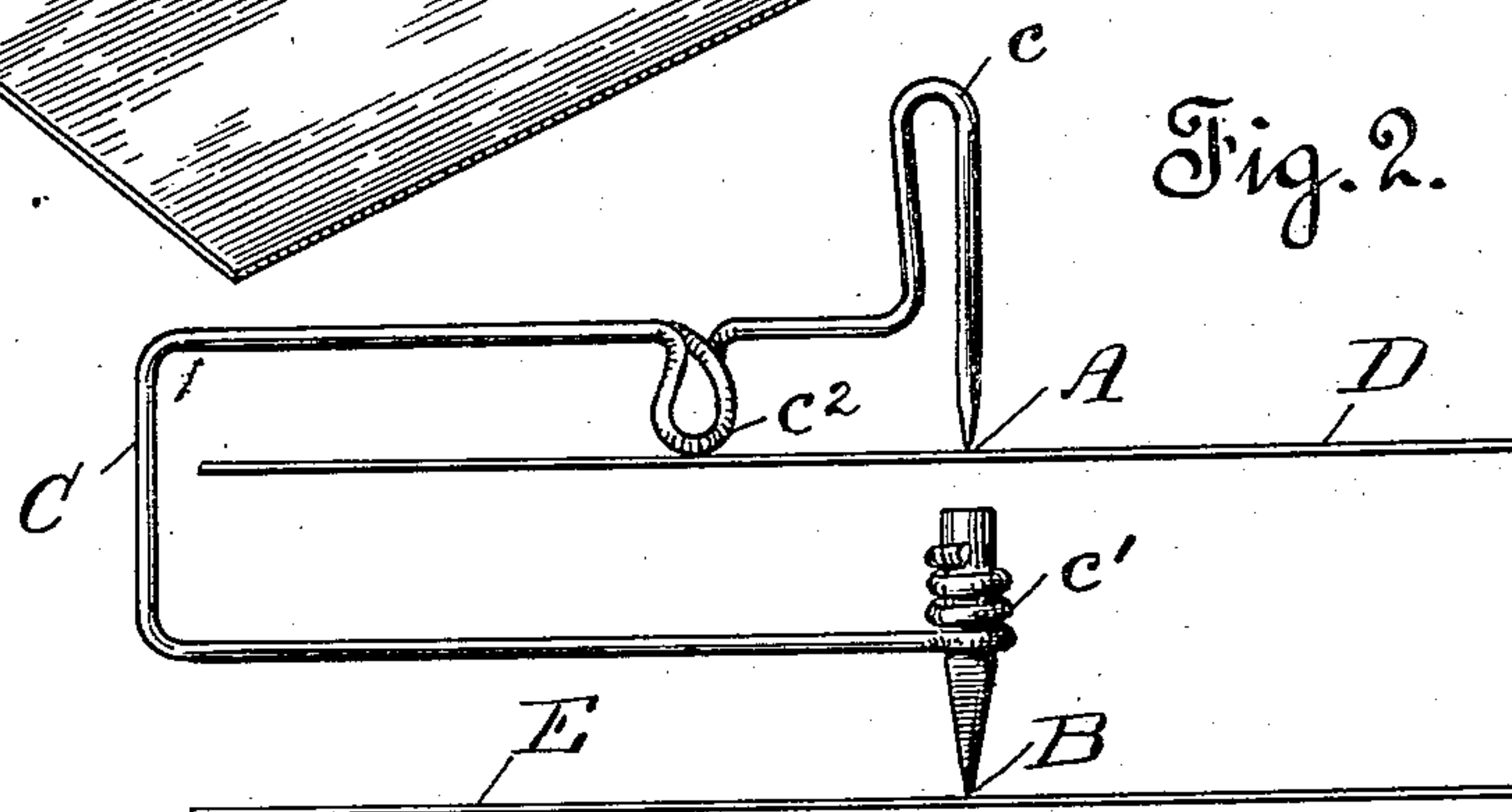
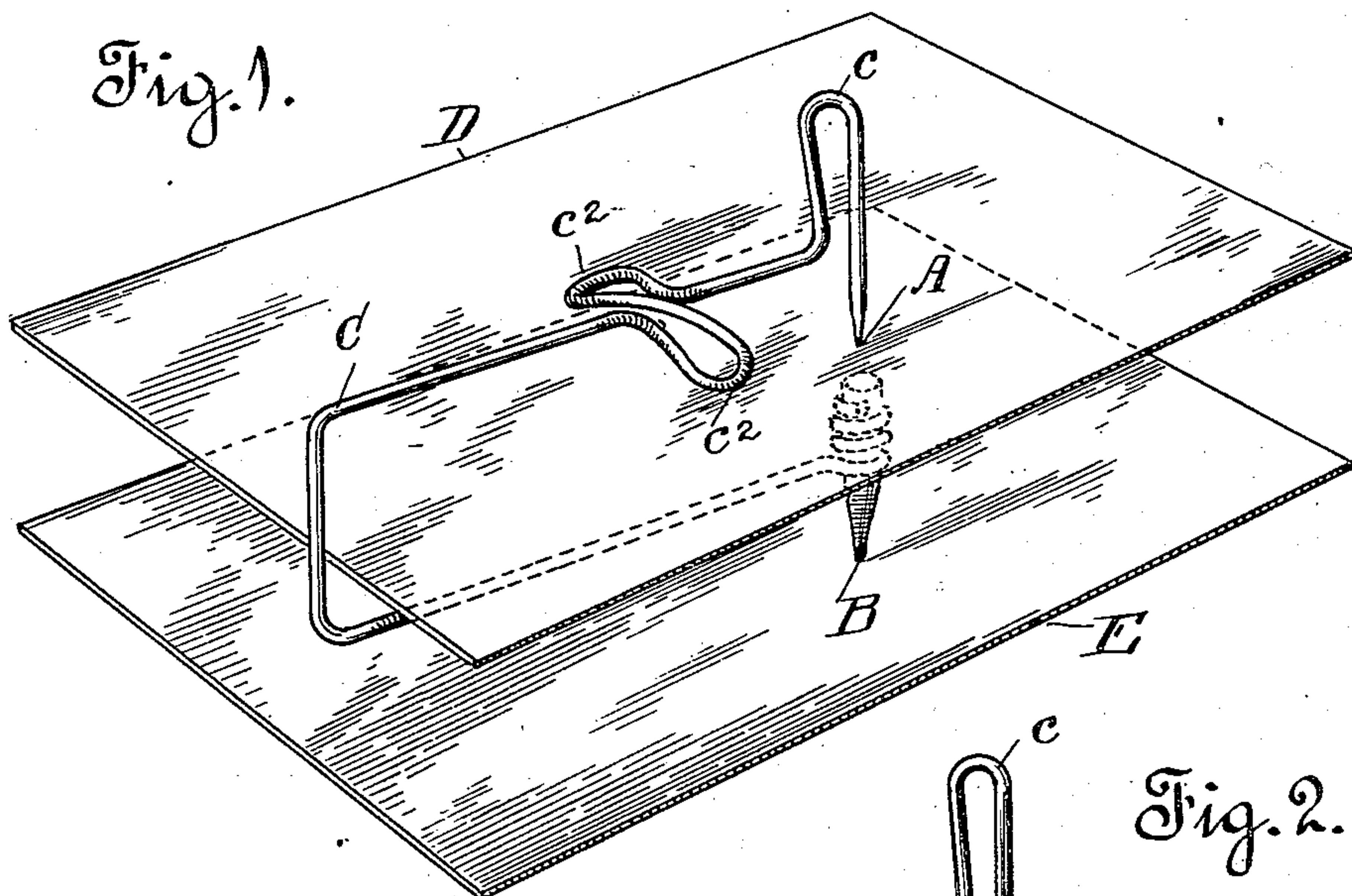


No. 750,923.

PATENTED FEB. 2, 1904.

F. H. WHEELAN.  
DRAWING INSTRUMENT.  
APPLICATION FILED APR. 20, 1903.

NO MODEL.



Witnesses.  
*H. Harteverdt.*  
*Walter F. Clane.*

Inventor  
Fairfax H. Wheelan  
by *Wm F. Booth*  
his attorney.



# UNITED STATES PATENT OFFICE.

FAIRFAX H. WHEELAN, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF  
ONE-HALF TO ROBERT W. JESSUP, OF SAN FRANCISCO, CALIFORNIA.

## DRAWING INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 750,923, dated February 2, 1904.

Application filed April 20, 1903. Serial No. 153,474. (No model.)

*To all whom it may concern:*

Be it known that I, FAIRFAX H. WHEELAN, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented certain new and useful Improvements in Drawing Instruments; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of drawing instruments used for reproducing in which a marker and a tracer operate concurrently.

The object of my invention is to provide a simple and effective instrument for accurately reproducing drawings, designs, pictures, and pictorial representations of any character.

My invention consists in the novel constructions and relative arrangements of parts, which I shall now describe by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of the instrument, showing its use in connection with the design-surface and the surface upon which the design or drawing is to be reproduced. Fig. 2 is a side elevation of the instrument. Fig. 3 is a perspective view showing some modifications or additional details of the instrument. Fig. 4 is a side view showing the instrument stationary and the table which carries the design and copying surfaces movable.

A is the tracing-point, and B is the marker. These, as shown, are in perpendicular alignment, the tracer above and the marker below. The two are carried by the same frame C, which frame may be of any suitable material or character. The frame here shown consists of a wire of an elongated-C shape. The upper arm of the frame has at its free end a handhold *c*, and the extremity of said arm forms or carries, as the case may be, the tracer A. The free extremity of the lower arm carries the marker B, which is here shown as a pencil. The marker may be held in any suitable manner and is best made vertically adjustable, for which purpose a good construction is that here shown—namely, a coil *c'*, which holds the pencil and permits it by a turning movement on its axis to be raised or lowered.

The upper arm of the frame is formed or provided with steadying-rests *c*<sup>2</sup>. These are best extended laterally and bent down to the horizontal plane of the tracer-point, so that they will find support on the design-surface, and thereby steady and hold the frame true while in operation.

Referring to Figs. 1 and 2, D indicates the sheet or surface on which the drawing or design is delineated, and E indicates the sheet or surface on which the drawing or design is to be reproduced. As will be seen, the frame C is fitted to the sheet D, with its upper arm passing over the sheet and its lower arm under it, but over sheet E. The tracer follows the design on sheet D, and the marker moves in harmony or concurrently with the tracer and makes a corresponding design on the sheet E. The instrument is manipulated by grasping the handhold *c* between the thumb and forefinger, while the wrist or such other portion of the hand as may be convenient rests on the upper arm of the frame. Then while the side rests *c*<sup>2</sup> bear on the surface D and hold the frame steady the instrument may be moved with ease to cause the tracer to follow the design.

It is obvious that the pencil B need not necessarily point downwardly, for if it point upwardly, as it may, it will reproduce the design upon an overlying surface, as may be seen in Fig. 4; but the arrangement of the marker and pencil both being disposed to operate in the same vertical direction, as seen in Figs. 1, 2, and 3, is the best one, because it provides for lifting the pencil from the surface E coincidently with the lifting of the tracer from the surface D.

The instrument may be made in different sizes in order to accommodate the shank of the frame to different sizes of sheets and to operate over various areas, or, as I have shown in Fig. 3, provision may be made for adjusting the length of the frame-shank. This may be done in any suitable manner. The means I show in Fig. 3 are merely illustrative, and consist of sleeves *c*<sup>3</sup>, into which



the severed ends of the shank adjustably fit, so that the shank may be lengthened or shortened to suit the requirements.

In Fig. 3 I have also shown a variation—  
5 namely, a plurality of markers. Two additional ones B' are here shown as carried by arms  $c^4$ , springing from the lower arm of frame C. By a plurality of markers several reproductions can be made.

10 The relative movability of the drawing instrument and the drawing sheets or surfaces may be the reverse of that shown in Figs. 1 and 2—that is to say, the former may be stationary and the latter movable. This I  
15 have shown in Fig. 4, wherein F is a fixed table from which rises the marker B. The tracer A is carried by a spring-arm  $c^5$ , supported by a standard from the table F.

G is a board the upper surface of which  
20 carries the design-sheet D and the lower surface carries the drawing or copying sheet E. The table has supports  $f$ , on which the board G may rest and be moved about evenly to bring each part of the design-sheet D under  
25 the tracer, whereby the marker below will make a corresponding design on the sheet E.

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

30 1. A drawing instrument consisting of a frame having an upper arm with a tracer, and a lower arm with a marker, and having laterally-extending rests on said upper arm, to steady the frame when moving.

35 2. A drawing instrument consisting of a frame having an upper arm with a tracer and a lower arm with a marker in perpendicular alinement with the tracer, and having later-

ally-extending steadying-rests on said upper arm, and a handhold on said arm in the vicinity of the tracer. 40

3. A drawing instrument consisting of an approximately C-shaped wire frame having a tracer at the extremity of its upper arm, and a coil at the extremity of its lower arm with  
45 a marker adjustably carried in the coil in perpendicular alinement with the tracer.

4. A drawing instrument consisting of a wire frame bent to an approximately C shape with a tracer at the extremity of its upper  
50 arm and laterally-extending steadying-rests in said arm, and a marker carried by the lower arm in perpendicular alinement with the tracer.

5. A drawing instrument consisting of a  
55 wire frame bent to an approximately C shape with a tracer at the extremity of its upper arm, a handhold near the tracer, and laterally-extending steadying-rests in said arm, and a marker carried by the lower arm in per-  
60 pendicular alinement with the tracer.

6. A drawing instrument consisting of a wire frame bent to an approximately C shape with a tracer at the extremity of its upper  
65 arm and laterally-extending steadying-rests in said arm and the extremity of its lower arm formed with a coil with a marker adjustably mounted therein in perpendicular alinement with the tracer.

In witness whereof I have hereunto set my  
70 hand.

FAIRFAX H. WHEELAN.

Witnesses:

JOHN E. HAMILL,  
GEO. W. JESSUP.