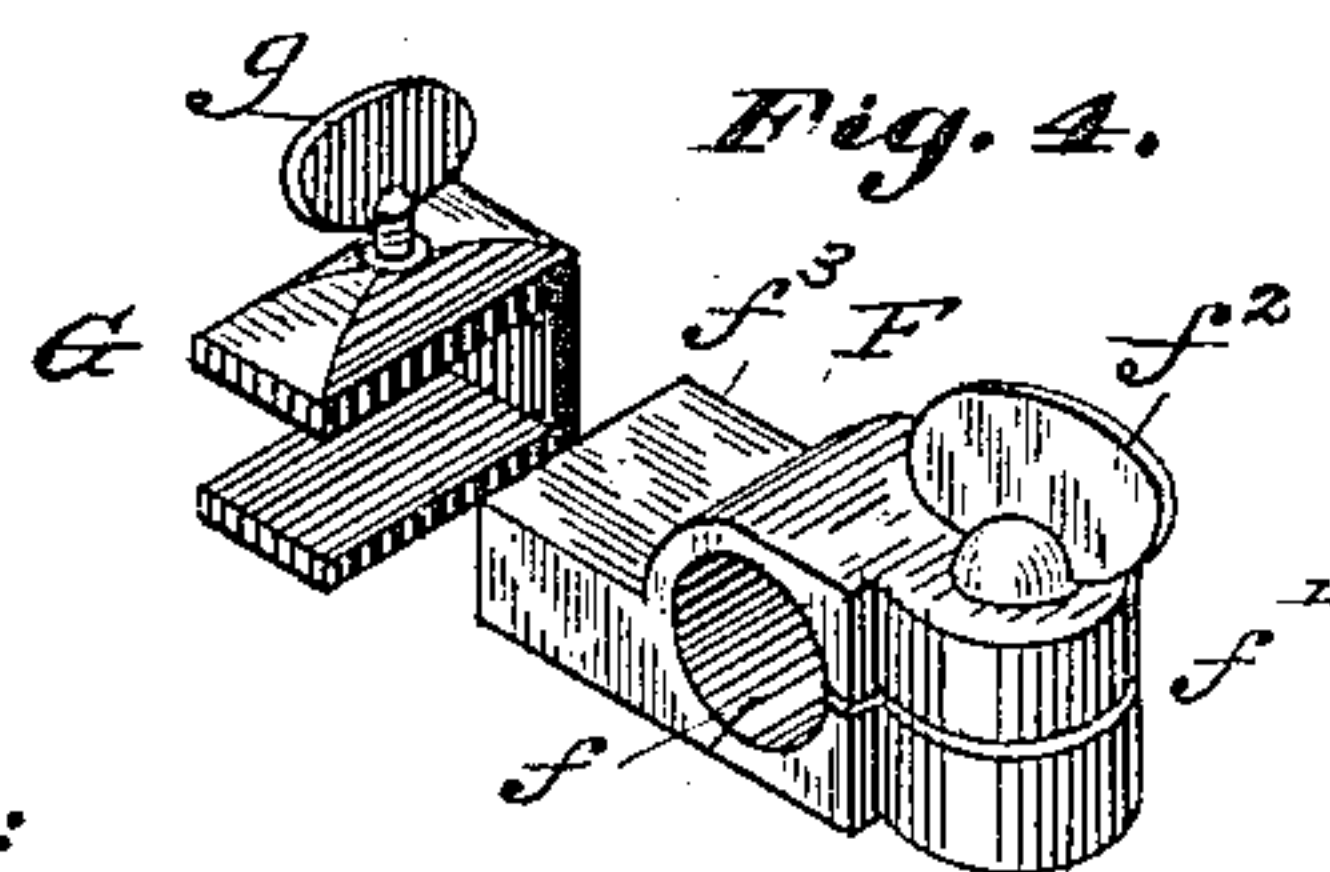
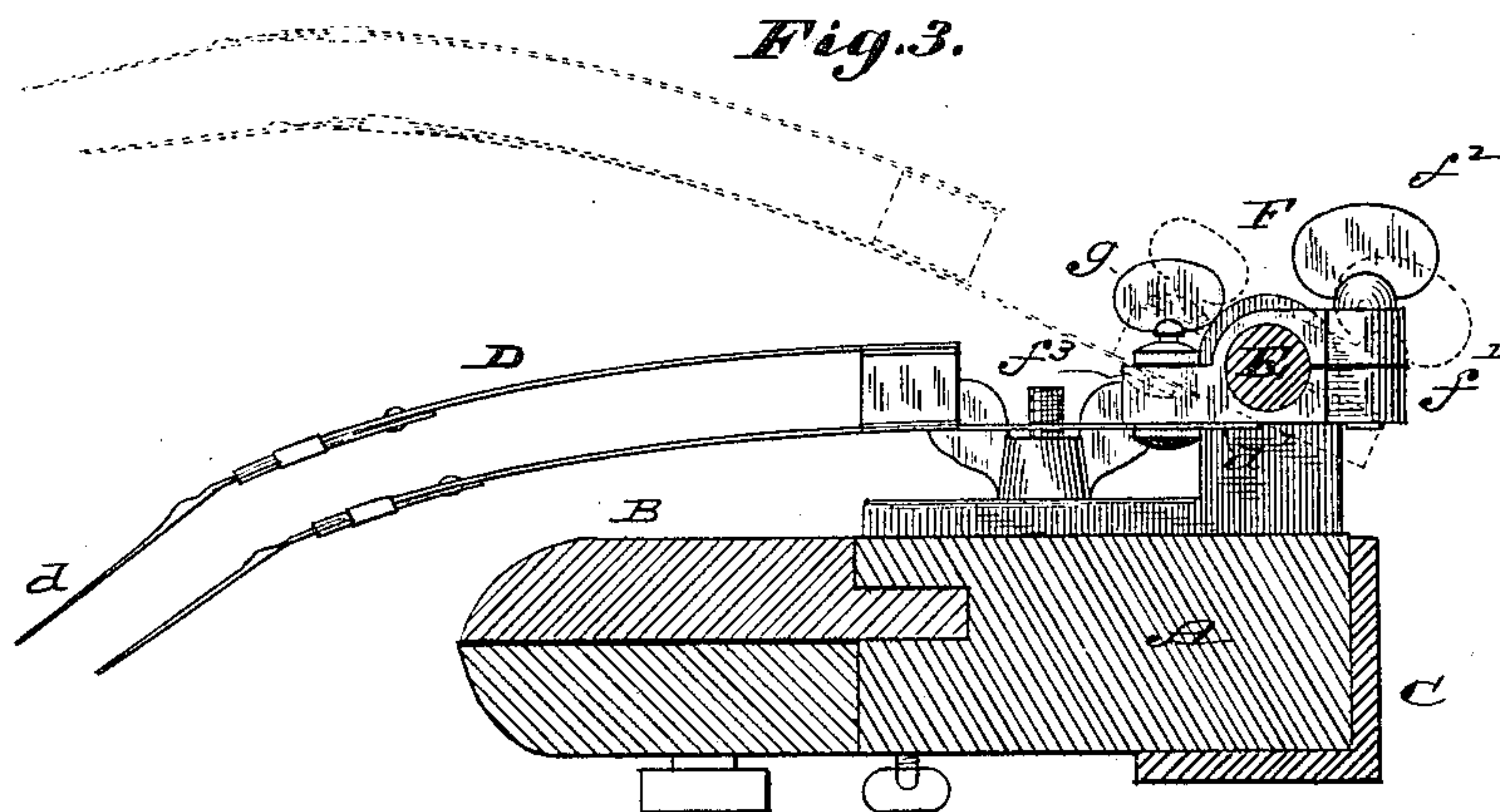
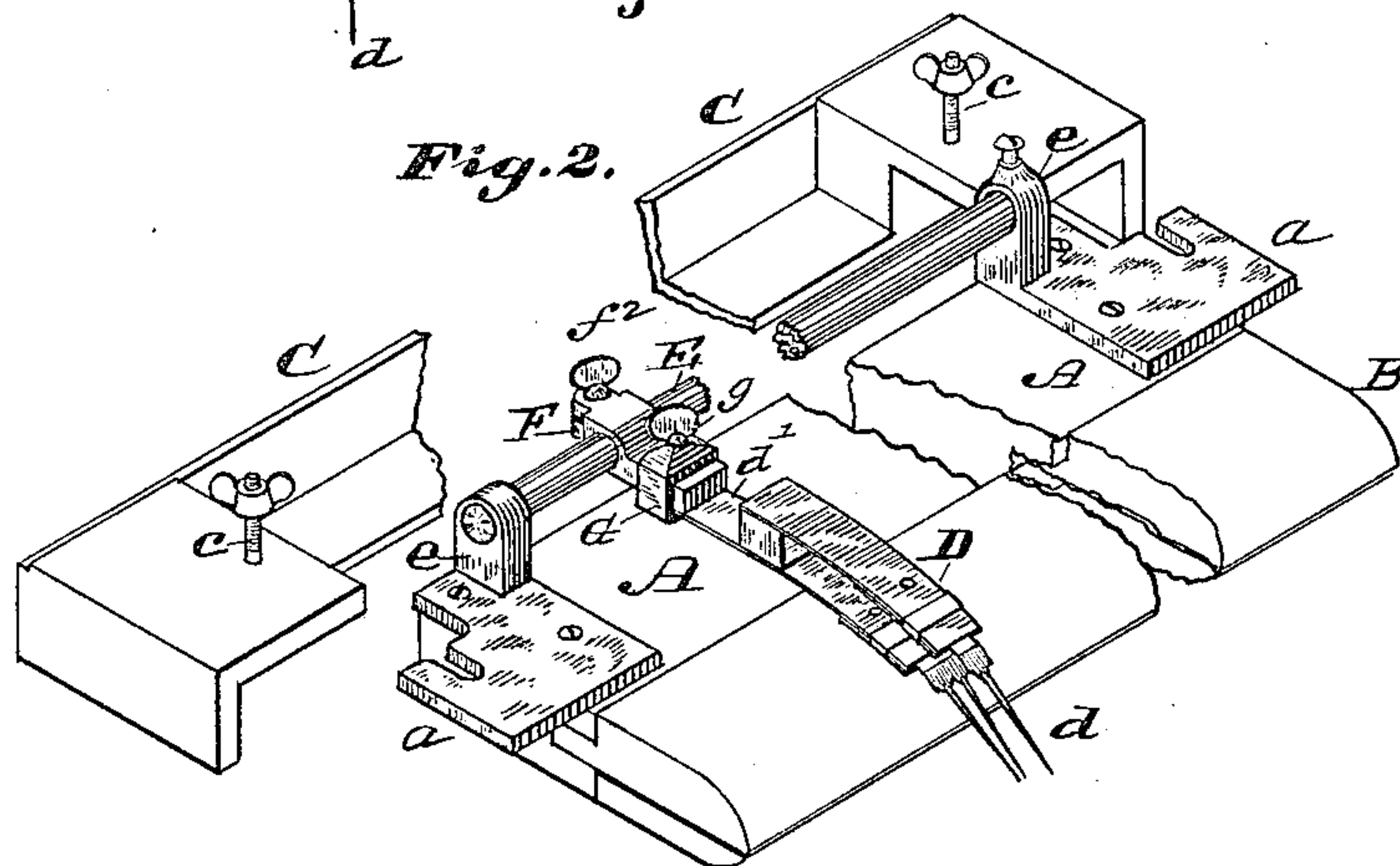
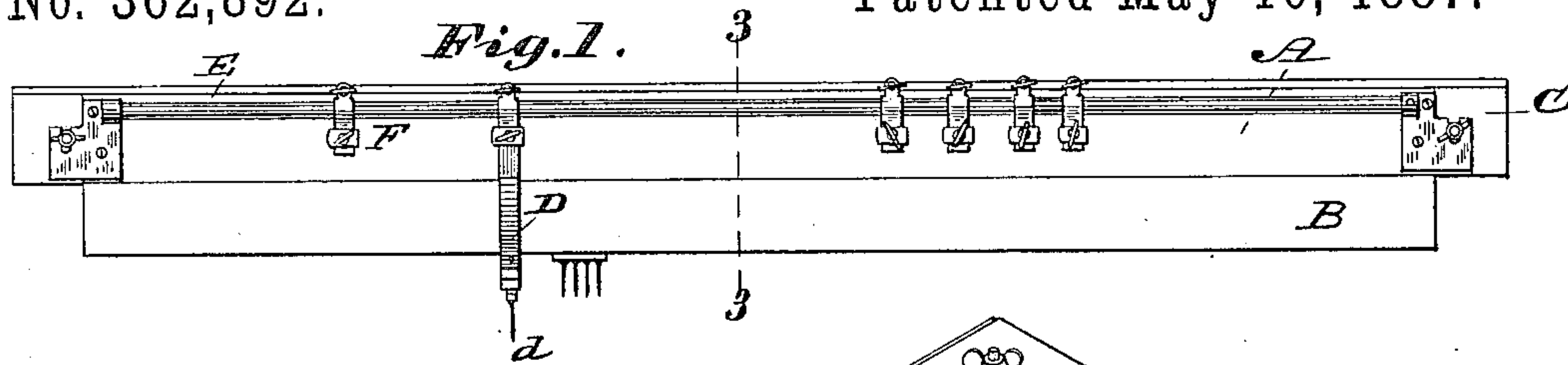


(No Model.)

E. KNAPP.
RULING MACHINE.

No. 362,892.

Patented May 10, 1887.



Witnesses:
J. W. Hoke.
J. A. Sutherland

Inventor
Edward Knapp
by C. D. Moody atty

UNITED STATES PATENT OFFICE.

EDWARD KNAPP, OF ST. LOUIS, MISSOURI, ASSIGNOR TO GEORGE D. BARNARD, OF SAME PLACE.

RULING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 362,892, dated May 10, 1887.

Application filed November 18, 1886. Serial No. 219,230. (No model.)

To all whom it may concern:

Be it known that I, EDWARD KNAPP, of St. Louis, Missouri, have made a new and useful Improvement in Ruling-Machines, of which the following is a full, clear, and exact description.

The improvement is a novel means for supporting the extension pen-holders of a ruling-machine, substantially as is hereinafter described and claimed, and as shown in the annexed drawings, making part of this specification, and exhibiting the most desirable mode of carrying out the improvement, and in which—

Figure 1 is a plan of a ruling-machine pen-beam having the improvement. Fig. 2 is a view in perspective, the middle portion being broken away, of the pen-beam and its holder, the parts being detached from each other. Fig. 3 is a vertical cross-section, upon an enlarged scale, on the line $z z$ of Fig. 1; and Fig. 4 is a view in perspective showing detached from each other the parts used to connect the pen-holder with the pen-beam bearing.

The same letters of reference denote the same parts.

A, Figs. 1, 2, 3, represents the pen beam; B, the clamp; C, the pen-beam holder; and D, one of the extension pen-holders, all of which parts are of the usual form otherwise than as modified by the present improvement.

E represents a rod extending along and above the pen-beam, and at its ends held in the standards $e e$, or otherwise suitably held above the pen-beam in the position shown. Upon the rod are strung a series of what may be termed "holders," F, Figs. 1, 2, 3, 4. They serve to connect the extension pen-holders D with the bearing in such a manner as to provide for shifting them sidewise to the right and left over the bed upon which the paper to be ruled is placed, and also for raising them so as to withdraw the pens d sufficiently for them not to interfere with work being ruled with other pens. The construction is also preferably such as to permit of the holders D being adjusted to bring the points of the pens nearer to or farther from the clamp. To these ends, and as the most desirable means there-

for, the holders F are constructed as shown more distinctly in Fig. 4—that is, perforated at f to pass onto and along and to be rotated vertically upon the bar, extended to the rear of the bar in the form of the split extension f' , and furnished with the screw f^2 , to enable the parts of the extension to be drawn together or opened apart, and the holder thereby tightened or loosened upon the bar, and extended to the front of the bar in the form of the extension f^3 , to the under side of which the shank d' of the holder D is clamped by means of the clip G and screw g , Figs. 2, 3, 4. When it is desired to adjust a pen-holder laterally or vertically, the screw f^2 is loosened, the holder F, carrying the pen-holder D, shifted or turned upon the rod E, as required, and the screw f^2 is tightened again. The vertical adjustment is indicated by the broken lines in Fig. 3.

The pen-holder D is adjusted longitudinally by slipping its shank d' beneath the holder-extension f^3 , and then securing the shank with the clip G and screw g . If the point of the pen is needed to be nearer the clamp B, the shank d' is slipped farther beneath the extension f^3 , and if farther from the clamp B the motion is reversed. The pen-beam A is secured in the pen-beam holder C by means of the plates $a a$ of the pen-beam and the screws $c c$ of the pen-beam holder.

I claim—

1. The combination, in a ruling-machine, of the pen-beam, a bearing upon said pen-beam, and an extension pen-beam holder having a vertically-rotatable and a laterally-adjustable connection with said bearing, substantially as described.

2. The combination of the rod E, the pen-holder D, the holder F, the clip G, and the screw g , said holder F being perforated, and having the extensions $f' f^3$ and screw f^2 , substantially as described.

3. The combination of the holder F, having the extension f , the pen-holder D, and the clip G, and screw g , substantially as described.

EDWARD KNAPP.

Witnesses:

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N. B. ANDERSON.