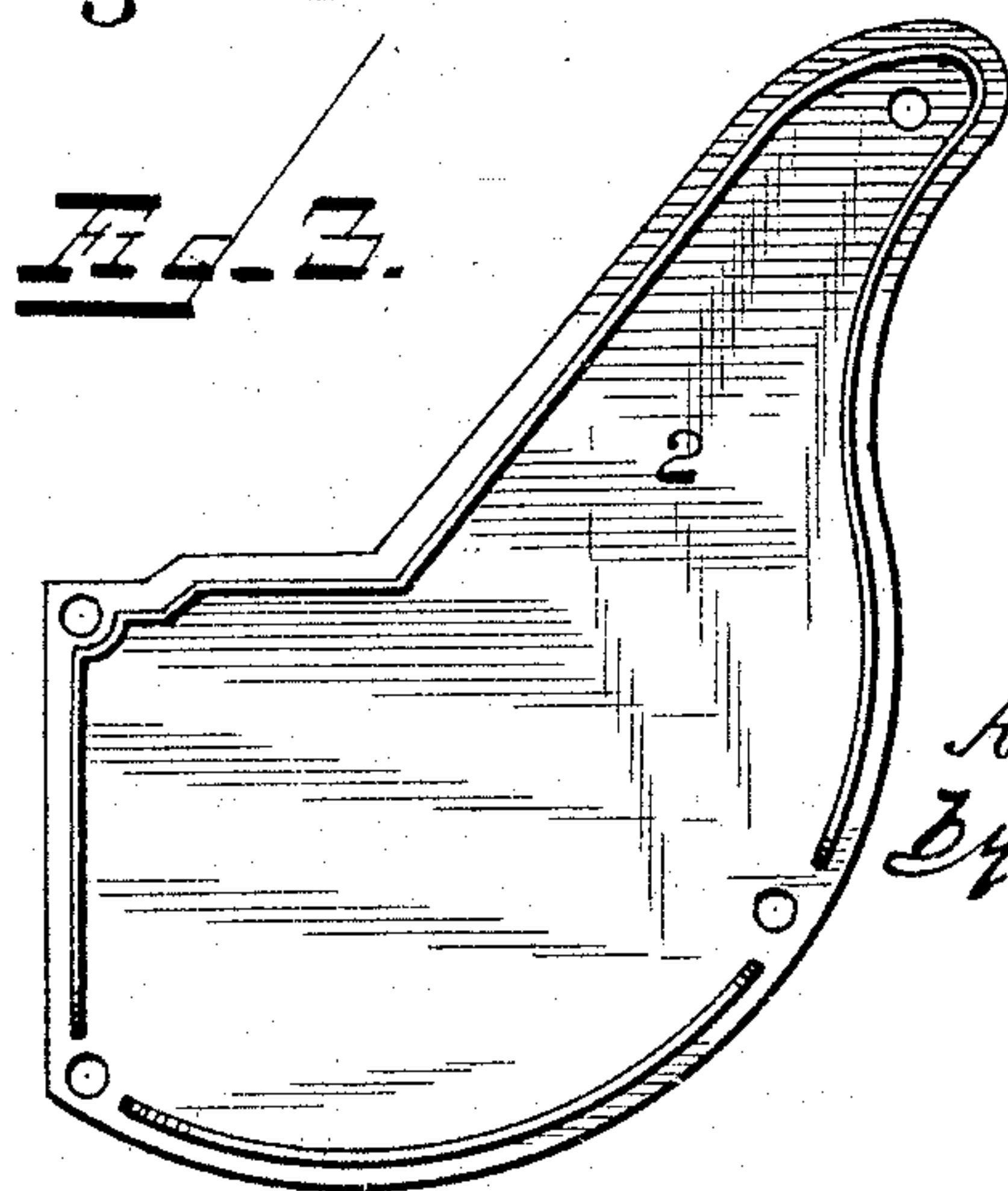
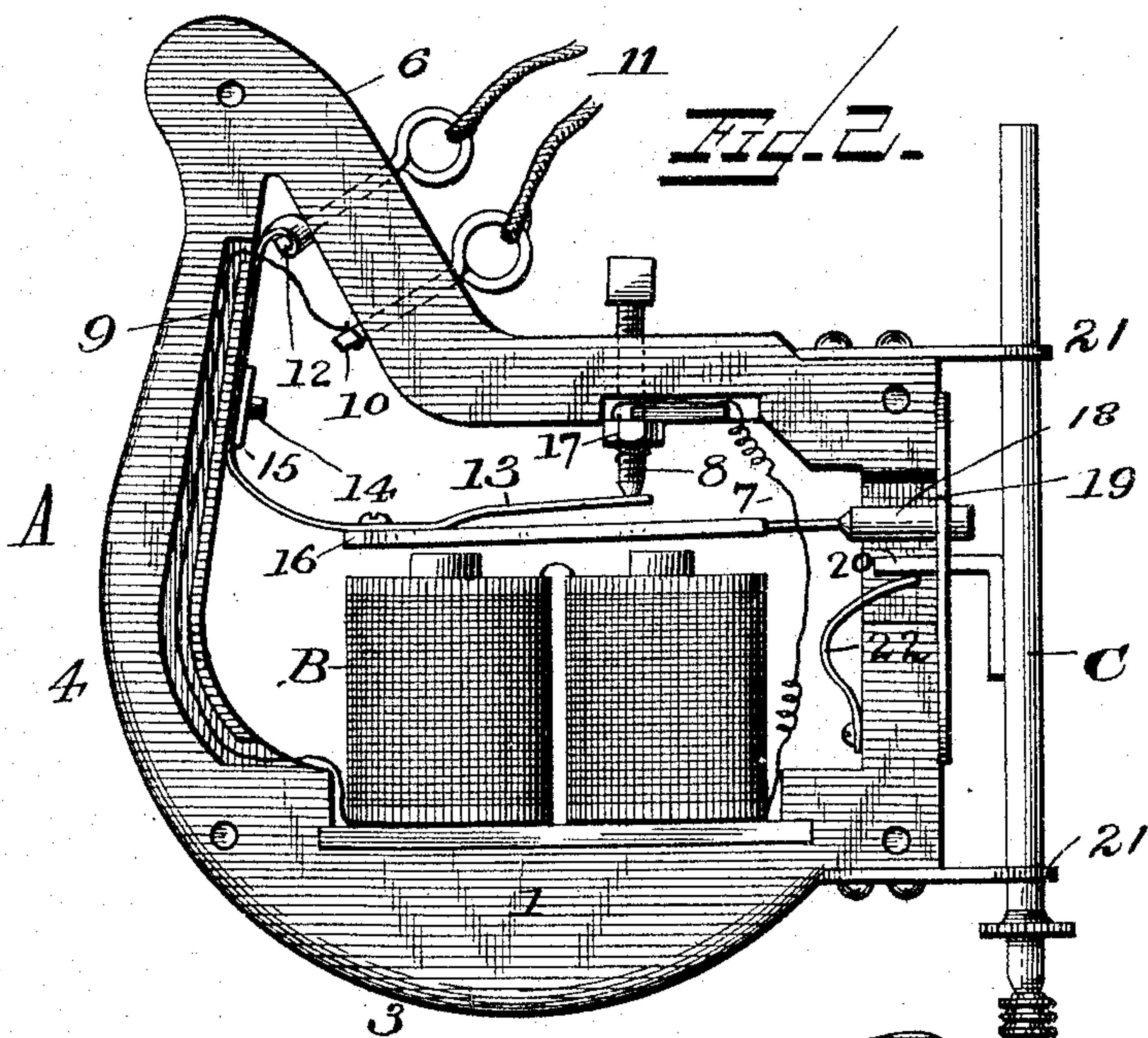
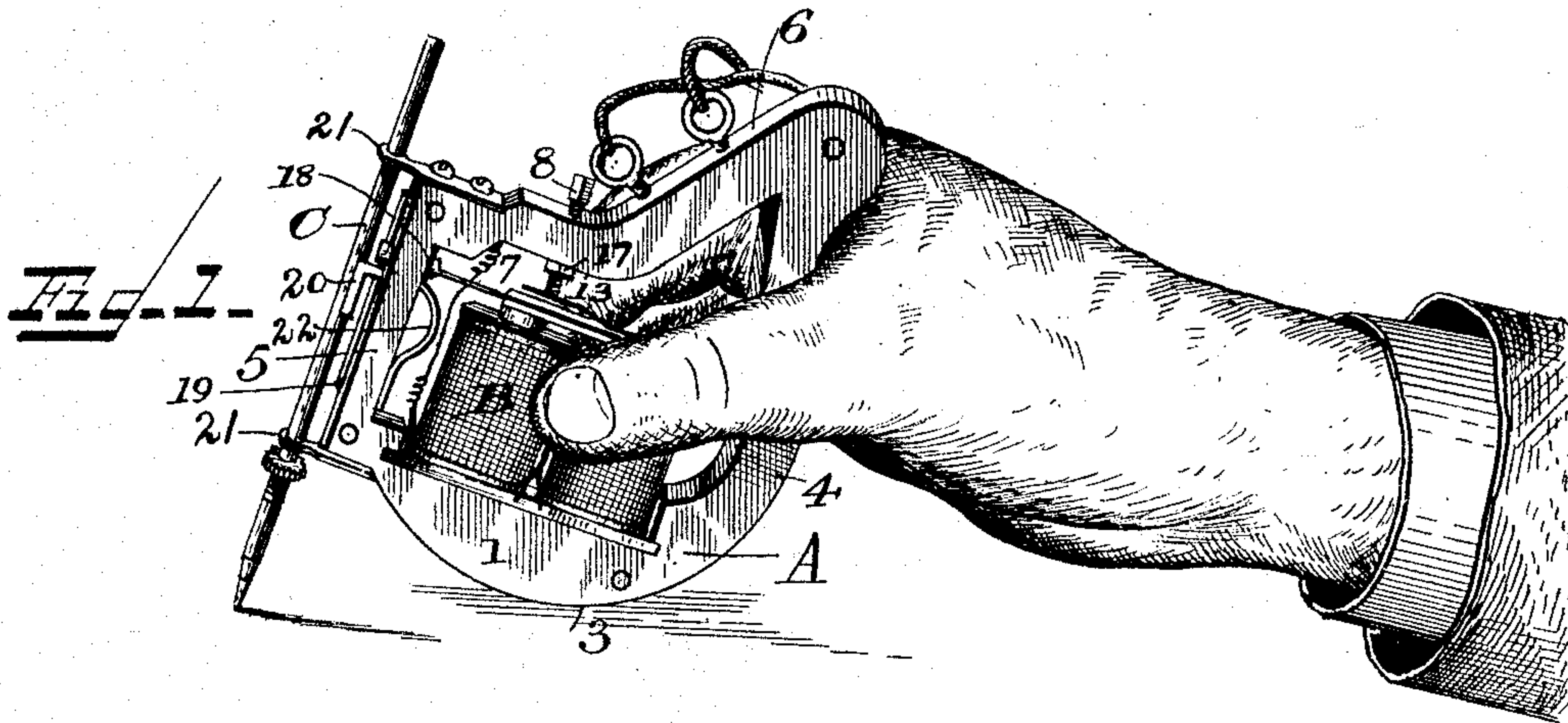


(No Model.)

A. S. HARRY.  
RETOUCHING DEVICE.

No. 491,171.

Patented Feb. 7, 1893.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

ALBERT S. HARRY, OF STEUBENVILLE, OHIO.

## RETOUCHING DEVICE.

SPECIFICATION forming part of Letters Patent No. 491,171, dated February 7, 1893.

Application filed November 15, 1892. Serial No. 452,031. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT S. HARRY, a citizen of the United States, residing at Steubenville, in the county of Jefferson and State of Ohio, have invented certain new and useful Improvements in Retouching-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to a photographic retouching device.

The object of the present invention is to produce a mechanical retouching device which may be readily adjusted to make heavy or light blows and which may be manipulated with perfect ease and accuracy to retouch any part of a plate to eliminate blemishes or imperfections.

The invention consists in a retouching device comprising a suitable rocking hand-piece, an electro-magnet carried thereby, a stylus movably connected with the hand-piece and adapted to be projected by the armature of the said magnet, springs for retracting said stylus, and side plates secured to the hand piece.

In the accompanying drawings, forming a part of this specification and in which like letters and numerals of reference indicate corresponding parts,—Figure 1 is a side elevation of the device, with the sides removed, showing the manner of its use. Fig. 2 is a similar view taken on the side opposite that shown in Fig. 1. Fig. 3 is a view of one of the sides.

Referring to the drawings, A designates the hand-piece, consisting of a frame 1 and side plates or covers 2, which parts are to be made of any suitable material but preferably of gutta percha. The hand-piece is formed in this instance with a curved base 3 and rear wall 4, a straight front wall 5 and an angular top 6; but, if desired, the configuration may be changed or modified to suit different requirements.

Within the frame and to the base 3 is secured an electro-magnet B, one of the wires 7, of which is coiled about a set screw 8, the

other wire 9 being suitably connected with a metallic tip 10, forming one of the pair of metallic tips to which the conducting wires 11 are secured. The conducting wires 11 may be connected with any suitable source of electric supply, an ordinary battery being all that is necessary in most instances. To the other tip 12 is connected one end of a leaf spring 13, which is held in place in the frame by means of a screw 14 and nut 15, and carries the armature 16. The free end of the spring is bent upward and outward and bears against the set screw 8, which latter, by being moved either up or down will increase or diminish the vibrations of the armature, a jam-nut 17 carried by the set-screw serving to hold the latter at the desired adjustment. The free end of the armature carries a weight or hammer 18, which works through a slot 19 in the front wall of the hand-piece, and is designed to engage with the upper surface of a projection 20, working in said slot and carried by a stylus C, which latter is free to reciprocate in guides 21, carried by the hand-piece, or if desired, the weight may be dispensed with and the armature extended to engage the projection 20. The stylus shown in this instance is an ordinary pencil-holder of the "Faber" type, but any other form may be adopted that will meet the requirements of the case. The under surface of the projection 20 is engaged by a spring 22 which exerts pressure upward and returns the stylus to its normal position after having been projected downward by the hammer 18.

The different parts of the device having been described, an explanation of its operation will be given. The parts being assembled and the current supplied to the magnet, the device is taken in the hand as shown in Fig. 1, with the base 3 resting upon the negative to be retouched. The point of the stylus is now brought over the imperfection in the plate and by rocking the hand-piece forward, the point is caused to contact with and remove the imperfections in a manner that will be obvious.

It will be clear that this device may be made to do more rapid, accurate, and satisfactory work than is possible to be done by hand.

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

5 A retouching device comprising a suitable  
hand-piece provided with a curved base, where-  
by it may be rocked, an electro-magnet sup-  
ported in said hand-piece, a stylus projected  
by the armature of said magnet, a spring for re-  
tracting said stylus, and side plates secured to

said hand-piece to cover and protect the mag- 10  
nets and armature, substantially as herein  
described.

In testimony whereof I affix my signature in  
presence of two witnesses.

ALBERT S. HARRY.

Witnesses:

CHARLES E. HENKE,  
FRANK. R. SCHUMAN.