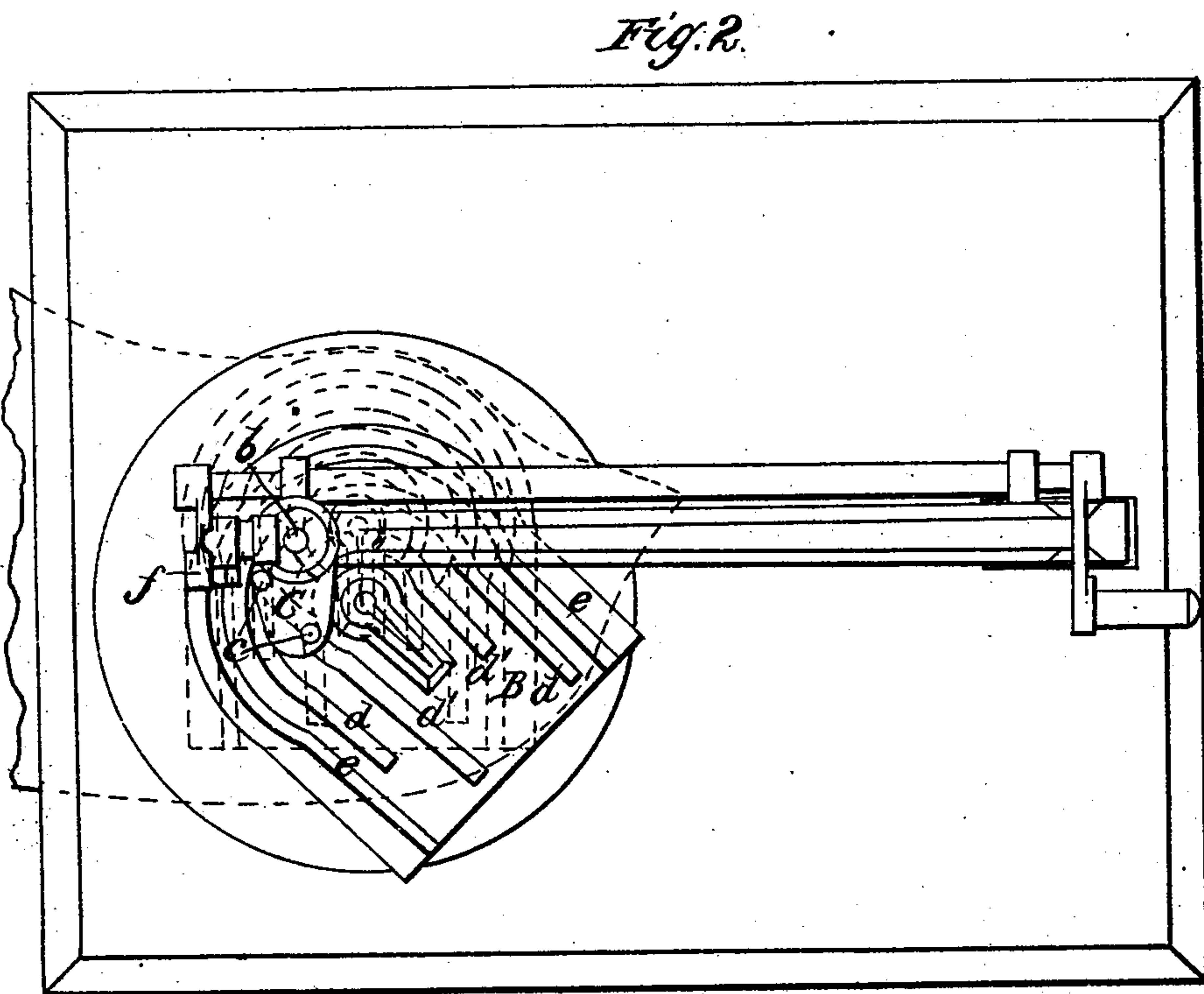
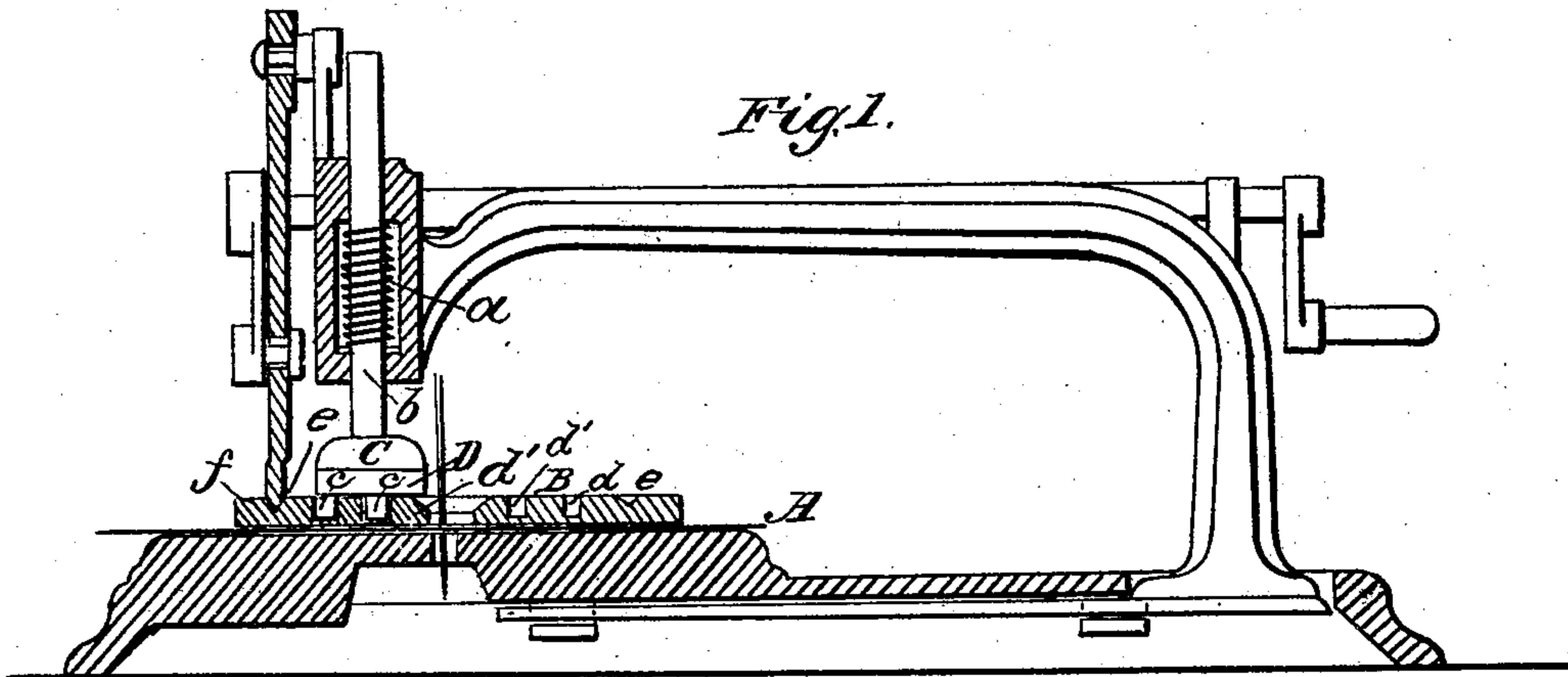


J. HARRISON, Jr.  
Sewing Machine.

No. 13,353.

Patented July 31, 1855.





# UNITED STATES PATENT OFFICE.

JAS. HARRISON, JR., OF MILWAUKEE, WISCONSIN.

## IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 13,353, dated July 31, 1855.

*To all whom it may concern:*

Be it known that I, JAMES HARRISON, JR., of the city and county of Milwaukee, and State of Wisconsin, have invented a new and useful Improvement in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a section of part of a sewing-machine illustrating my invention. Fig. 2 is a plan of the same.

Similar letters of reference designate corresponding parts in both figures.

This invention relates to certain means of feeding the material to be sewed, which are applicable to the working of button-holes, embroidery, and also to the sewing of curved and crooked work generally.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is the table of a sewing-machine, against the upper surface of which the material to be sewed is confined by a feed-plate, B, the under surface of which is either serrated or provided with a few sharp pins to take hold of the surface of the material. The feed-plate is held down by a spring, *a*, applied to the shank *v* of a shoe, C, which bears upon the top of the plate. This shoe also serves to guide the feed-plate by means of two pins, *c c'*, on its under side entering two parallel grooves, *d d'*, in the back or upper side of the feed-plate. The grooves *d d'* correspond in form with the form of the seam or line in which the sewing is to be produced. Thus for working a button-hole portions of the grooves are in the form of parts of circles which are concentric with the circular portion at one end of the button-hole and the other portions are straight and parallel with the sides of the button-hole, all the parts of the respective grooves being equidistant from the nearest parts of the button-hole. The two pins *c c'* on the shoe C do not stand opposite to one another in their respective grooves *d d'*, but at some distance from each other, in order to give greater steadiness to the feed-plate and prevent improper lateral motion. For the purpose of giving the feed-plate the necessary movement to carry that part or

those parts of the cloth which are brought into the line of motion of the needle, which is represented in Fig. 1 by a red line, and in Fig. 2 by a red dot, in the direction to produce a seam or line of sewing of the desired form, the feed-plate is furnished with a third groove, *e*, which may be of V or other form in its transverse section, but which in its plan corresponds with the form of the intended line of sewing and with the other two grooves, *d d'*. This groove receives a dog or feeder, *f*, which may have either a reciprocating or rotary motion, but is represented as having a reciprocating motion. This dog or feeder and the interior of the groove have their surfaces serrated or roughened in such a manner that as the dog moves in the groove between the times of taking the stitches it will take hold of it and move it a certain distance.

In Fig. 2 of the drawings the feed-plate is shown in two positions—viz., one in black outline, which represents it feeding the material to form the circular end of the button-hole, and another in red outline, which represents it forming one of the straight sides of the button-hole. The length of the movement of the dog will have to be much greater in passing a curve than a straight line, owing to the curve in the groove being described with a radius so much larger than the radius of the curve of the line of sewing. In order to give the material the movement laterally to the line of sewing which is necessary in working button-holes, embroidery, and some other kinds of sewing the head D, which carries the shoe, is arranged to receive a movement in the requisite direction, the feed-plate being in that case moved by the pins of the shoe, and the needle working in a fixed line; but this movement forms no part of my invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. Feeding the material to be sewed by means of a feed-plate, B, which is guided, substantially as herein described, in the direction of any curved, circuitous, or irregular line of sewing by means of grooves *d d'* or their equivalent on its back side, of a form corresponding to the said line, receiving or working in contact with fixed pins *c c'* or other equivalent fixed guides, whereby motion is

only allowed to the said feed-plate in such direction as to make the material describe in passing the needle the intended line, the said feed-plate receiving motion by any mechanical device suitable for the purpose.

2. Combining the guide-pins *c c'* or their equivalents with the shoe C, which confines the

feed-plate and produces the necessary pressure of the plate on the material, substantially as herein specified.

JAMES HARRISON, JR.

Witnesses:

JOS. GEO. MASON,

J. W. COOMBS.