

(No Model.)

A. B. FOWLER & G. E. WARREN.
SEWING MACHINE.

No. 545,625.

Patented Sept. 3, 1895.

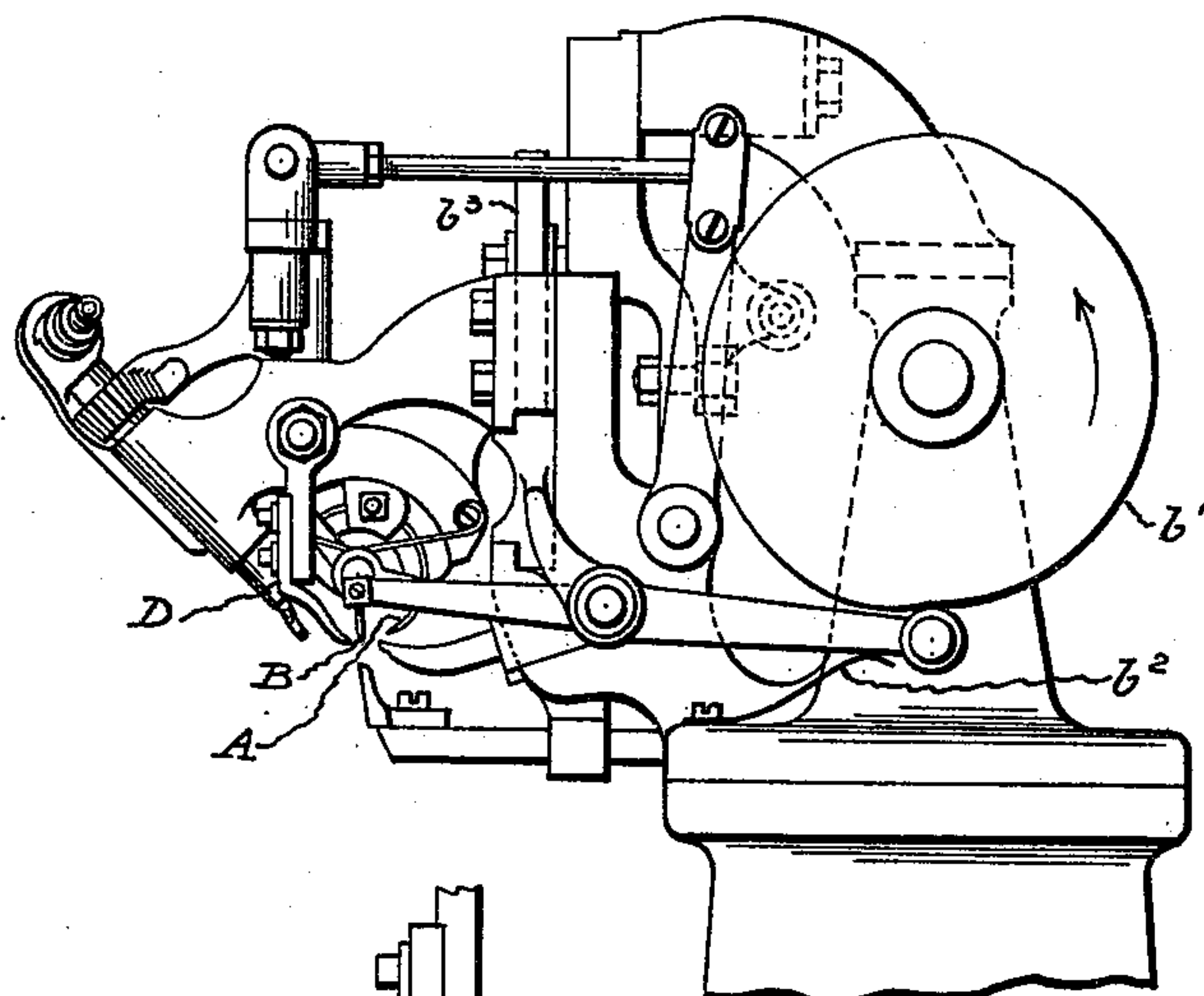


Fig. 1.

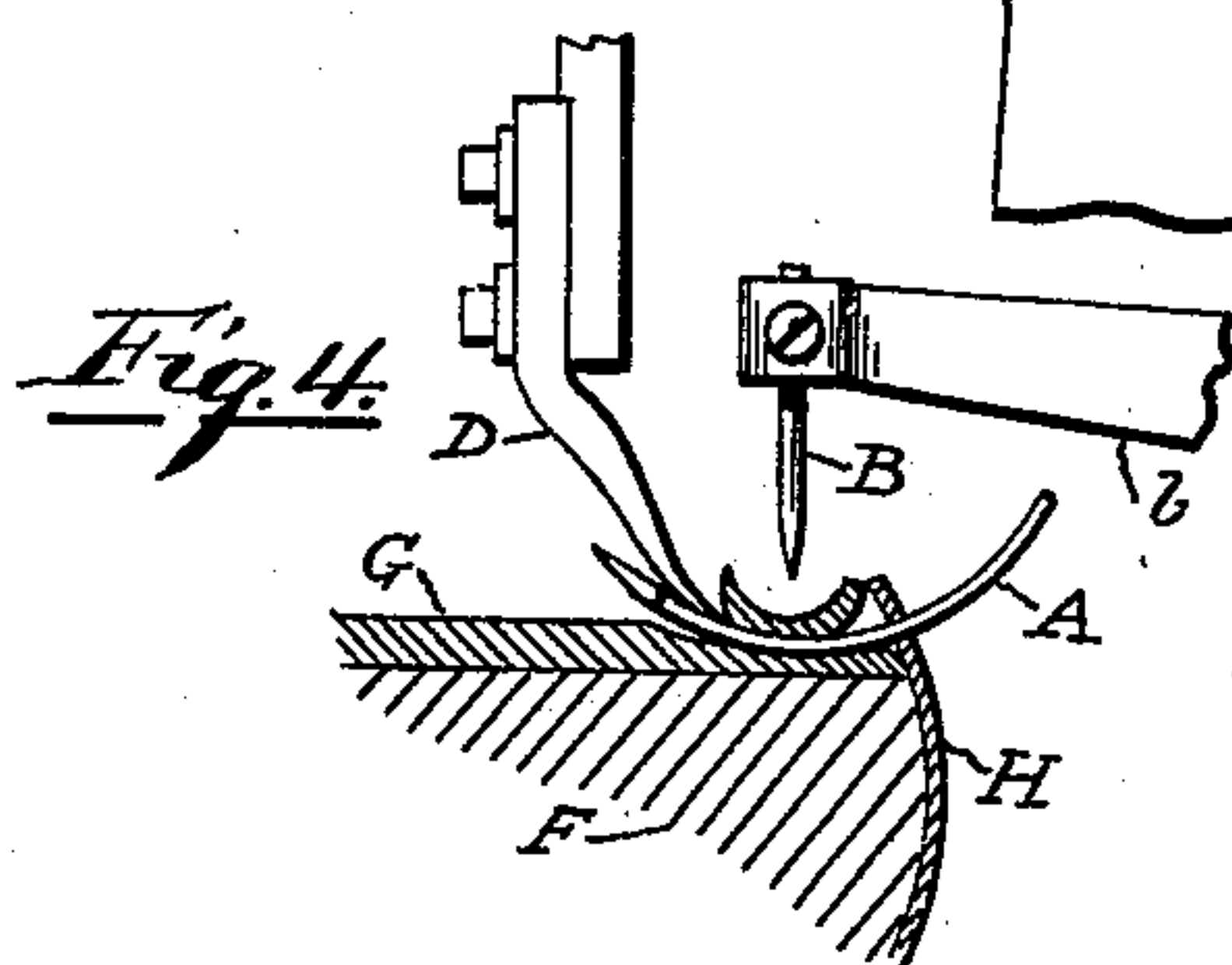


Fig. 4.

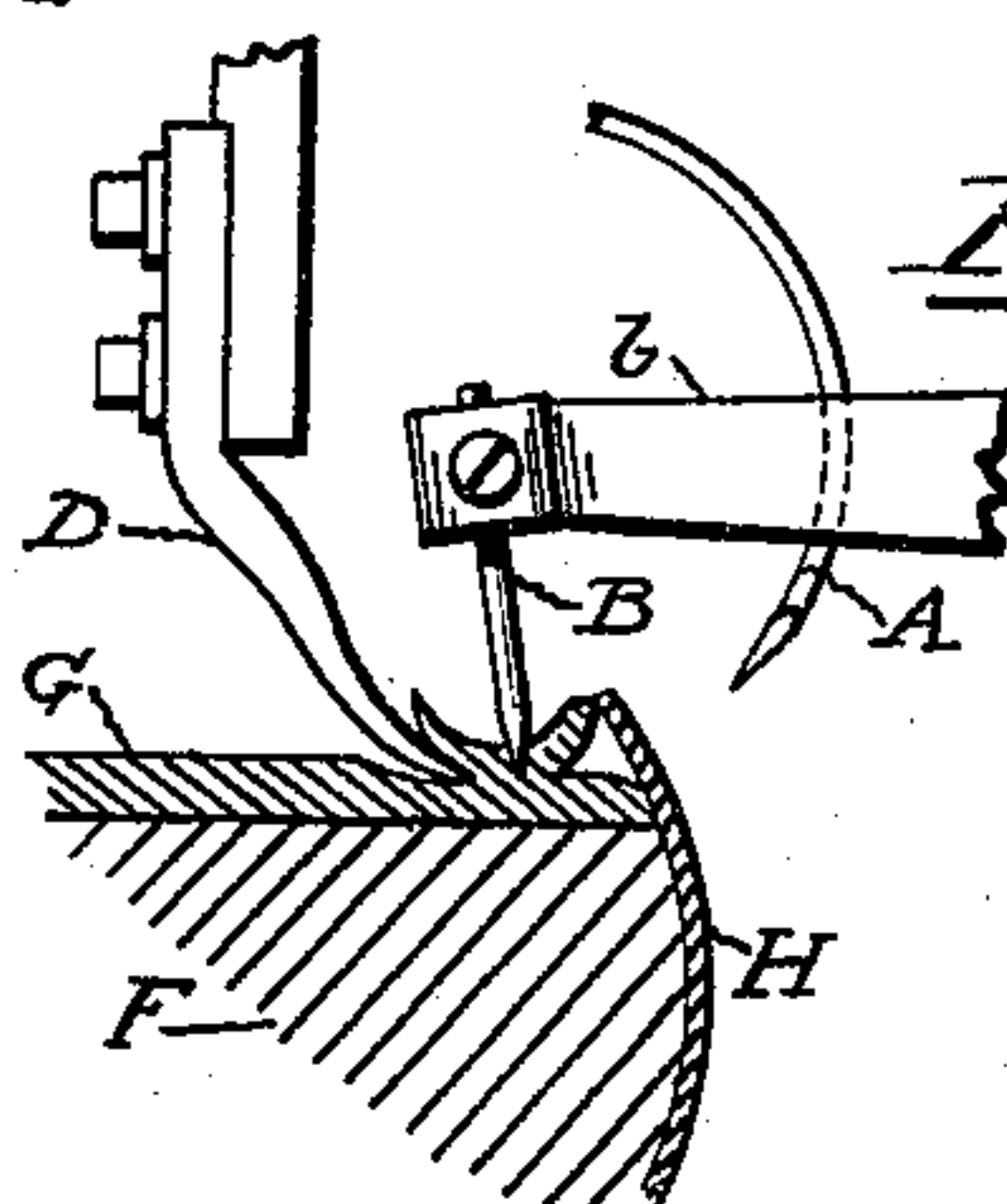


Fig. 5.

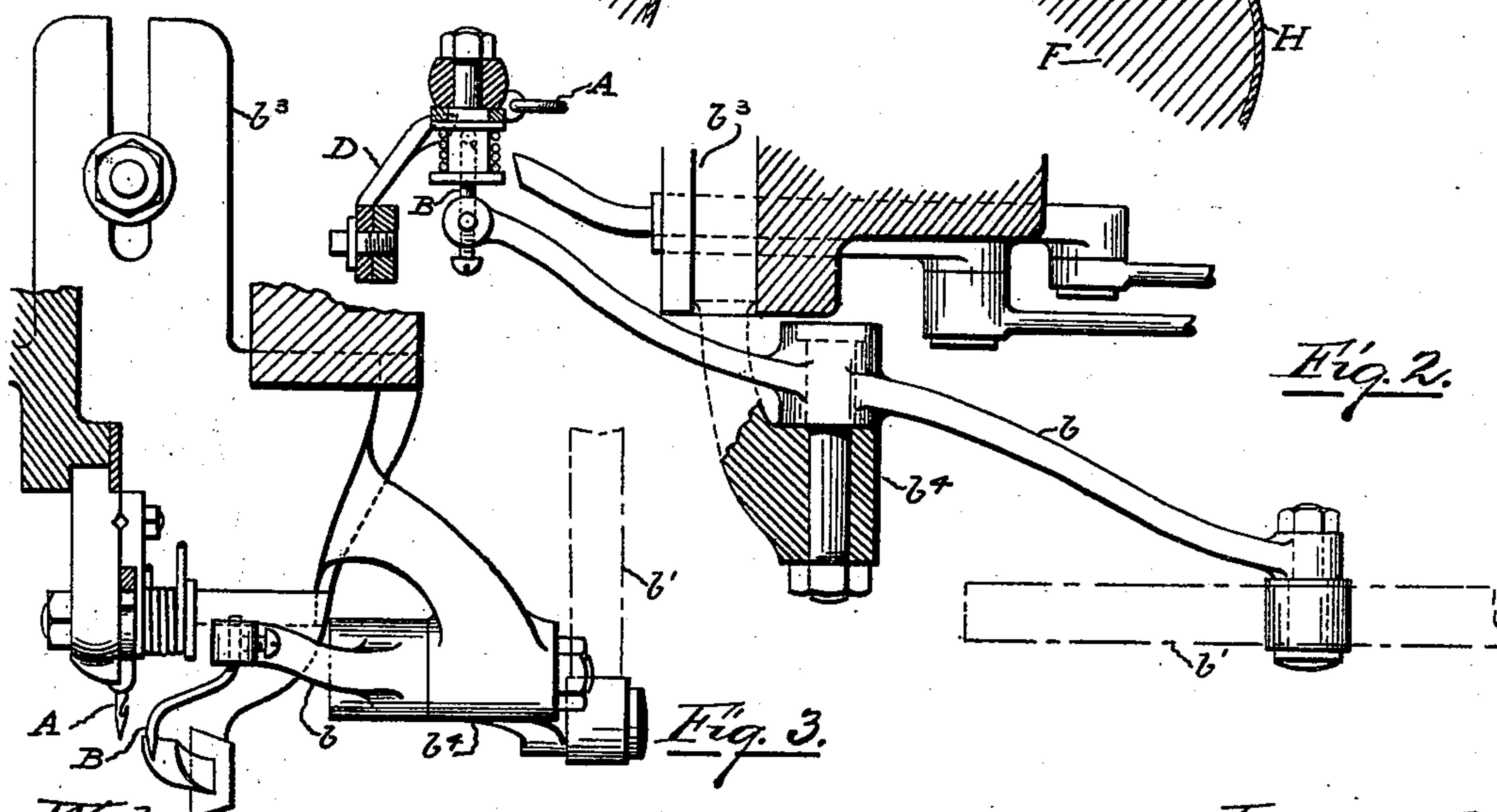


Fig. 2.

Witnesses:

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UNITED STATES PATENT OFFICE.

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SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 545,625, dated September 3, 1895.

Application filed April 2, 1894. Serial No. 506,009. (No model.)

To all whom it may concern:

Be it known that we, ALFRED B. FOWLER and GEORGE E. WARREN, of Pawtucket, in the county of Providence and State of Rhode Island, have invented an Improvement in Sewing-Machines, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a sewing-machine with our improvement. Fig. 2 is a plan on a larger scale and with some of the parts in section illustrating our invention. Fig. 3 is a front elevation on the same scale as Fig. 2 and showing the same parts. Figs. 4 and 5 are details illustrating the relations of needle and the feeding instrument.

In machines for sewing the upper or the upper and a welt to a channeled sole now widely used and well known as "turned-shoe" machines and welters, the needle-holes are approximately parallel to the surface of the sole, as shown in Figs. 4 and 5, and with such machines as heretofore known the feeding instrument has been either the needle itself or else a puncturing instrument which made holes substantially like or coincident with the holes made by the needle. This has been found objectionable, especially in sewing about the toe when the toe was either pointed or sharply curved.

The object of our invention is to adapt this class of machines to work where the direction of the seam changes abruptly; and our invention consists in the combination with the needle of a feeding instrument which penetrates the work substantially at right angles to hole made by the needle, as clearly shown in Figs. 4 and 5, wherein—

A is the needle and B the feeding instrument, the last F, sole G, and upper H being shown in section and the channel-guide D in elevation.

The feeding instrument B has a motion endwise to penetrate the sole at right angles to its surface, and is then moved sidewise, carrying the work with it the length of one stitch, when the feeding instrument is with-

drawn and moved back to its first position—that is, the feeding instrument has the usual four motions, but its penetrating and withdrawing motions are at right angles to the needle-holes instead of being parallel or in line with the needle-holes as heretofore, and the result of our new arrangement of these parts, the needle and the feeding instrument crosswise of the needle-hole, is that machines of this class can be readily used without extra pains or skill on the sharpest toed shoes made, or can be used readily to sew about the sharpest curve or any angle required in practice.

We prefer to mount the feeding instrument on a lever *b*, vibrated by cam *b'* and spring *b²* and moved sidewise by the usual feed-slide *b³*, whose bracket *b⁴* serves as the fulcrum of lever *b*.

The channel-guide D and its connections are as usual, and this is also true of the needle A and its connections and of all other parts of the machine not lettered, including the mechanism for actuating the feed-slide *b³*, all these matters being familiar to all skilled in the art.

What we claim as our invention is—

In a sewing machine, the needle; mechanism for actuating it to cause it to penetrate the between substance; the feeding point; mechanism for actuating it to cause it to move endwise and penetrate the between substance in a path at right angles to the path of the needle; and mechanism to move the feed point sidewise after it has penetrated and while it is in the between substance, for feeding the work leaving the shoe free to be turned upon the feeding point as an axis during the feeding operation; all combined and operating substantially as and for the purpose specified.

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Witnesses:

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