

(No Model.)

C. E. RANDALL.

EYELET HOLE ATTACHMENT FOR SEWING MACHINES.

No. 270,696.

Patented Jan. 16, 1883.

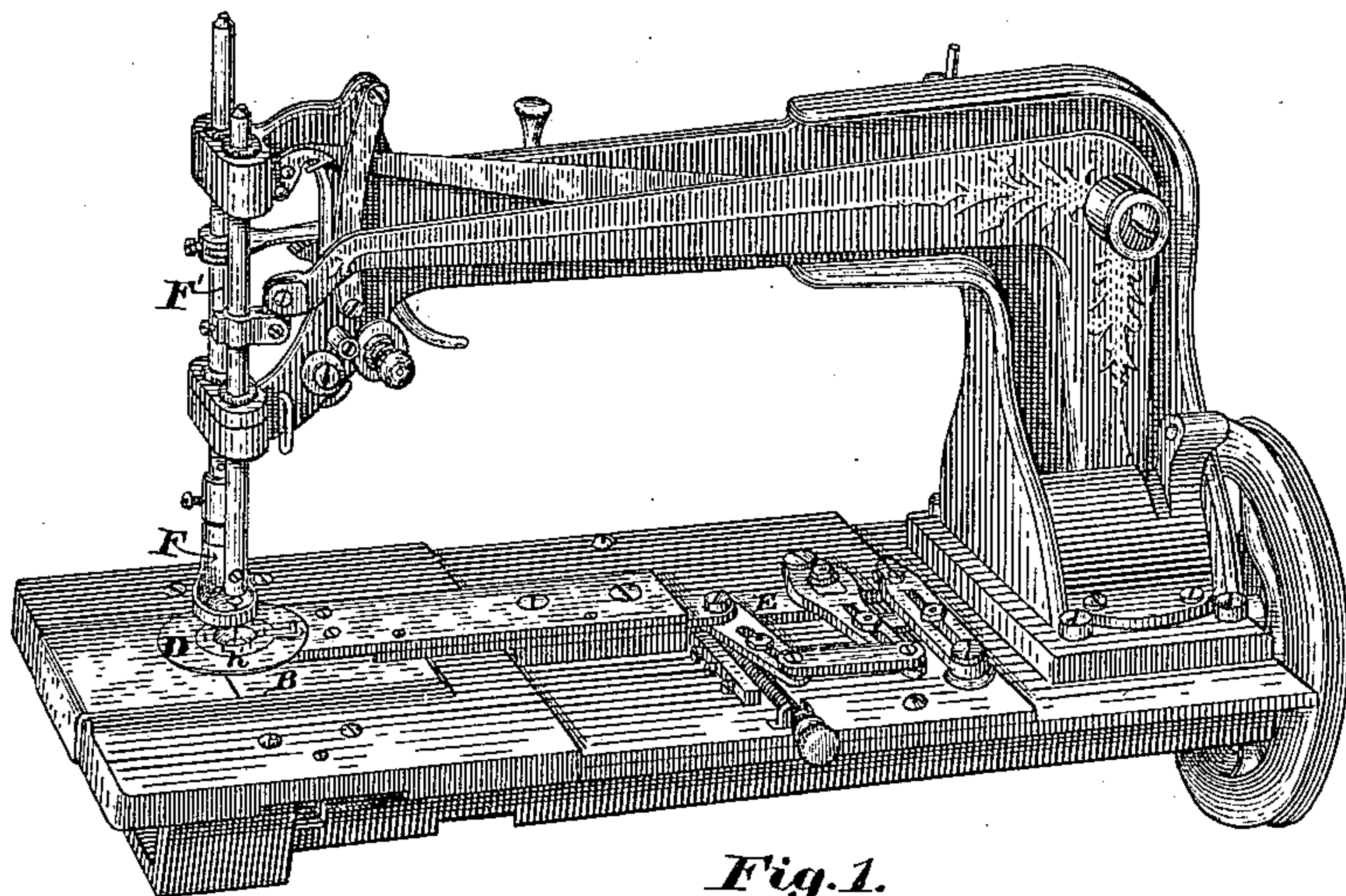


Fig. 1.

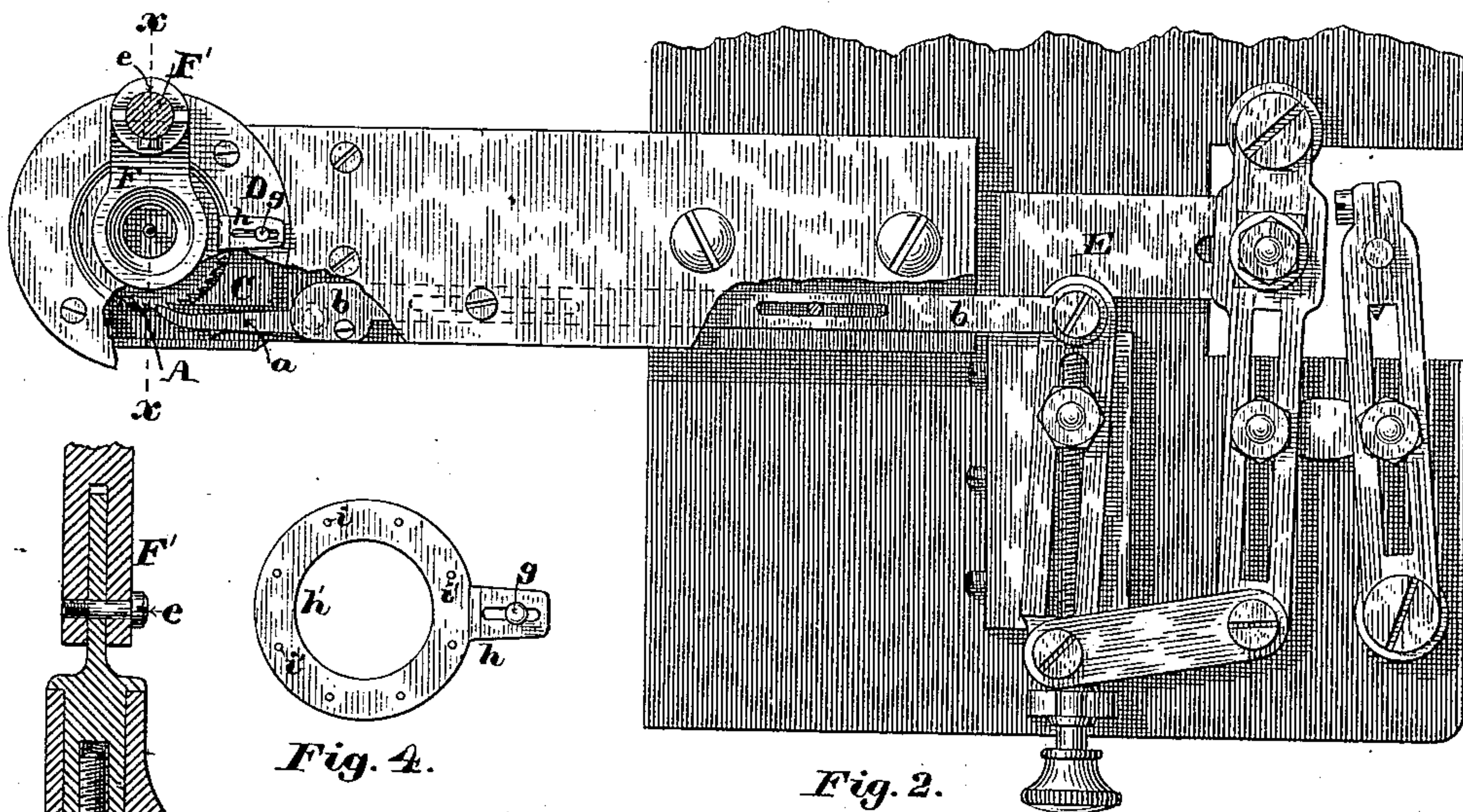


Fig. 2.

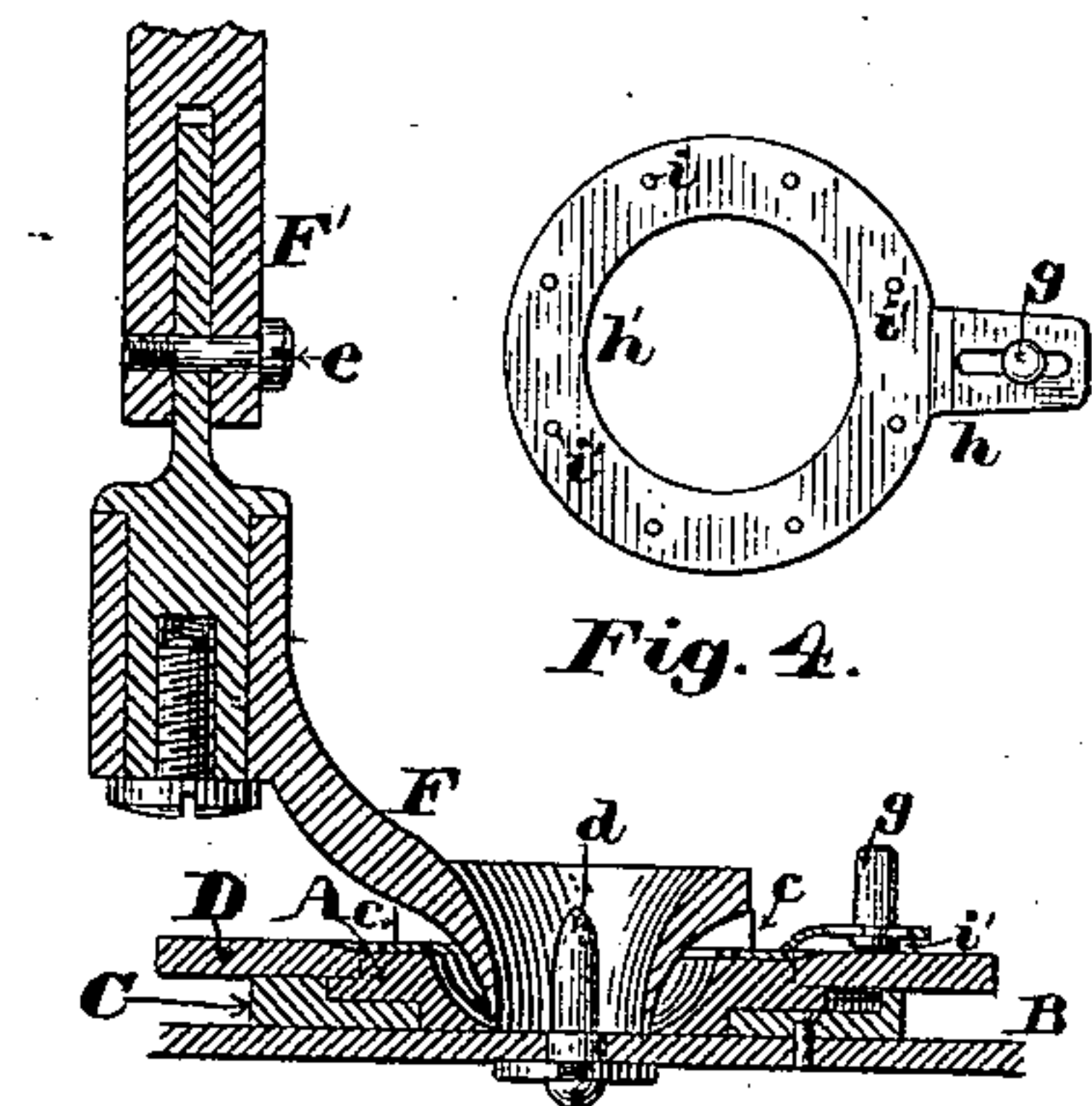


Fig. 3.



Fig. 4.

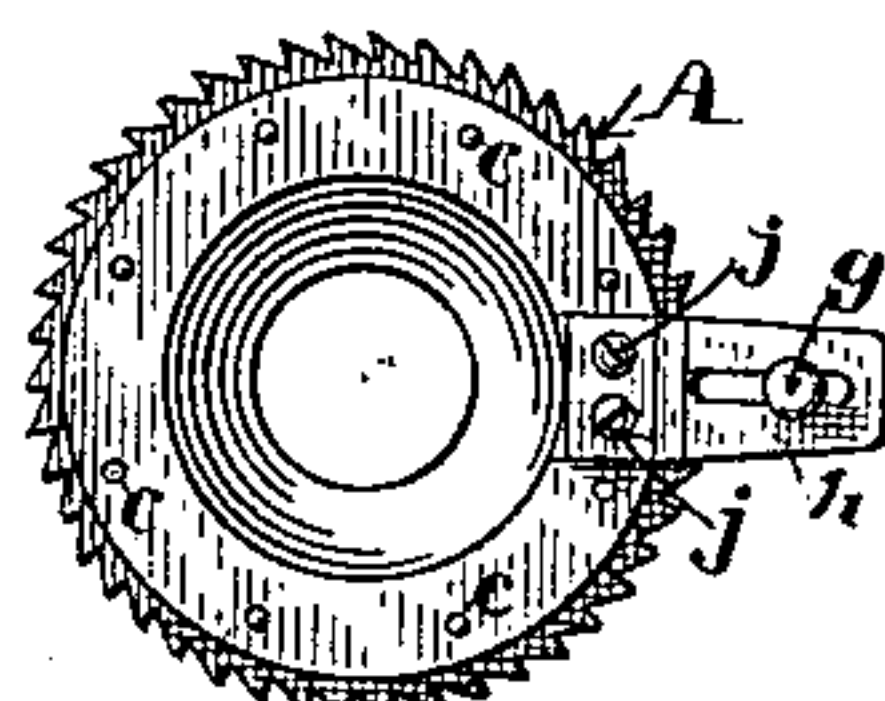


Fig. 5.

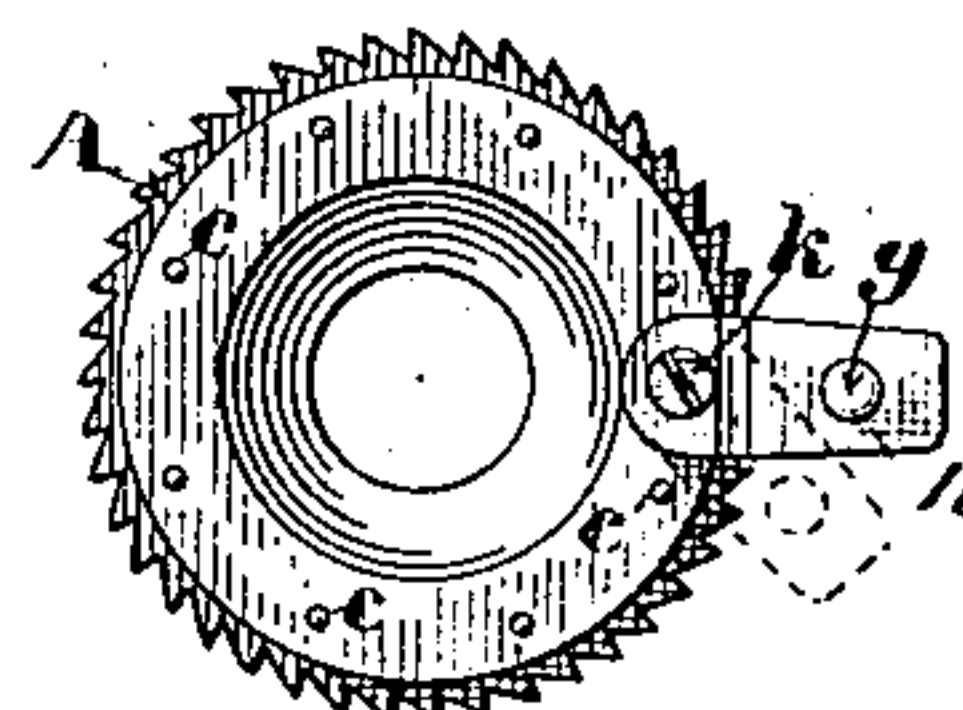


Fig. 6.

Witnesses:
Walter E. Lombard.
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Inventor:
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UNITED STATES PATENT OFFICE.

CALVIN E. RANDALL, OF NATICK, MASSACHUSETTS.

EYELET-HOLE ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 270,696, dated January 16, 1883.

Application filed November 13, 1882. (No model.)

To all whom it may concern:

Be it known that I, CALVIN E. RANDALL, of Natick, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Eyelet-Hole Attachments for Sewing-Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to an attachment to be applied to eyelet-working sewing-machines for the purpose of simplifying the operation and reducing the expense of working eyelets by machinery; and it consists, first, of a gage-pin connected to and arranged to revolve about the needle with the cloth-carrying mechanism, and adapted to gage the distance of an eyelet from the preceding one.

It further consists in an adjustable pin connected to and arranged to revolve about the needle with the cloth-carrying mechanism, and adapted to determine accurately the distance of one eyelet from a preceding one, as will be more fully described.

My invention is illustrated in the accompanying drawings as applied to the eyelet-working sewing-machine shown and described in the Letters Patent No. 227,640, granted to George M. Morris, May 18, 1880; but it may be applied to any eyelet-working machine with equally good results.

In the drawings, Figure 1 is a perspective view of the Morris machine above referred to with my improvement attached thereto. Fig. 2 is a partial sectional plan of the same, drawn to an enlarged scale. Fig. 3 is a vertical section on line *x x* on Fig. 2, with my attachment revolved one-fourth of a revolution around the needle from the position shown in Fig. 2, drawn to a still larger scale. Figs. 4 and 5 are respectively a plan and an elevation of my attachment; and Figs. 6 and 7 represent modifications of my attachment and the manner of connecting it to the ratchet feed-wheel.

As the sewing mechanism of the machine illustrated is constructed, arranged, and operates in precisely the same manner as described in the Letters Patent to Morris before cited, and as such mechanism, *per se*, forms no part of my invention, it need not be described here further than to make clear the connection therewith and the operation of my attachment.

I will now proceed to describe my invention and its application to the machine illustrated, and in order that persons skilled in the art may clearly understand its application, I will first refer to such parts of the machine as are necessary to a clear understanding of my invention.

A is a circular feed-ring or annular disk-like plate, provided with ratchet-teeth upon its periphery, and mounted upon the work-supporting plate B, and within a circular opening in the plate C, secured upon said plate B, and having a portion of its outer edge covered by the annular plate D. The work-supporting plate B is connected to the bar E, to which an intermittent reciprocating motion is imparted by suitable mechanism for the purpose of causing the formation of the over-edge stitches, and the feed-ring A is intermittently moved about its axis and the axis of the needle by the pawl *a*, pivoted to and operated by the reciprocating bar *b*. The inner edge of the feed-ring A is curved, as shown, and its annular flat upper surface is provided with a circular series of sharp needle-like points or spurs, *c c*, as shown in Fig. 3, upon which the fabric is placed in such a position that the spur or bodkin *d* shall puncture the same at the point where it is desired to form an eyelet as the fabric is forced down thereupon by the ring presser-foot F, pivoted at *e* to the presser-bar F', as shown in Fig. 3. So far the devices described are constructed, arranged, and operate as described in the patent to Morris before cited.

My improved attachment consists of the gage-pin *g*, adjustably secured to the arm *h*, which in turn is secured to the upper side of the feed-ring A, so as to revolve about the needle and be reciprocated toward and from the front end of the machine therewith.

For use upon the particular machine shown and described, I prefer to make my gage in the form shown in Figs. 4 and 5, in which the arm *h* is shown as projecting radially from and forming a part of the annular plate *h'*, in which are formed a series of small holes, *i*, corresponding in number, size, and location to the series of spurs *c c*, set in the upper side of the feed-ring A, so that by inserting said spurs *c c* in the holes *i i* and pressing the ring *h'* down hard upon the upper surface of the feed-ring

A the gage will be secured to said feed-ring sufficiently to insure its revolution therewith and the proper registering of the work.

The pin *g* is formed with a shoulder to rest upon the upper side of the arm *h*, which is slotted, as shown, to receive the shank or reduced portion, and is secured in any desired position in said slot by means of a screw or nut, *i'*, fitted thereto and adapted to bear upon the under side of the arm *h*, as shown in Figs. 3 and 5.

If desired, the annular plate *h'* may be dispensed with, and the arm *h* may be secured directly to the feed-wheel A by means of the screws *j j*, as shown in Fig. 6, without affecting the principles of my invention. Again, the pin *g* may be fixed in the arm *h*, and said arm may be pivoted to the feed-ring A by the screw *k*, so fitted that it may clamp the arm *h* to the ring in a radial or a tangential position, as shown in Fig. 7, and still maintain the same general features of my invention—viz., a gage-pin secured to and movable with the feeding apparatus, and adapted to be adjusted toward and from the axis of motion of said feed mechanism.

In working eyelets by machinery as heretofore practiced it has required two persons to each machine—one to operate the machine and another to mark the locations of the several eyelets upon the fabric to be eyeleted. By the use of my simple attachment the services of the second person are entirely dispensed with and more eyelets can be worked in a given time by the single operator than could be worked on the machine without my attachment. The reason for this will be obvious when it is understood that the operator had to adjust the work in the machine for each succeeding

eyelet without other guide than a chalk mark made upon the fabric by her assistant, while in using my attachment no marking is required, except for the first eyelet, and when that is worked the operator only has to raise the presser-foot, lift the goods from the spurs, move it in a direction parallel to the edge of the material, place the pin *g* in the eyelet just finished, and drop the presser-foot upon the work, the pin *g* having previously been adjusted and set at the proper distance from the center of the feed-ring.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In combination with an eyelet-working mechanism, a gage-pin connected to and adapted to revolve about the needle with the cloth-carrying mechanism, substantially as and for the purposes described.

2. In combination with an eyelet-working mechanism, an adjustable gage-pin connected to and adapted to revolve about the needle with the cloth-carrying mechanism, substantially as described.

3. In combination with the feed-ring A, provided with the spurs *c c*, a gage for determining the distance between two eyelets, composed of the pin *g*, arm *h*, and the annular plate *h'*, provided with the series of holes *i i*, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 10th day of November, A. D. 1882.

CALVIN E. RANDALL.

Witnesses:

N. C. LOMBARD,
W. E. LOMBARD.