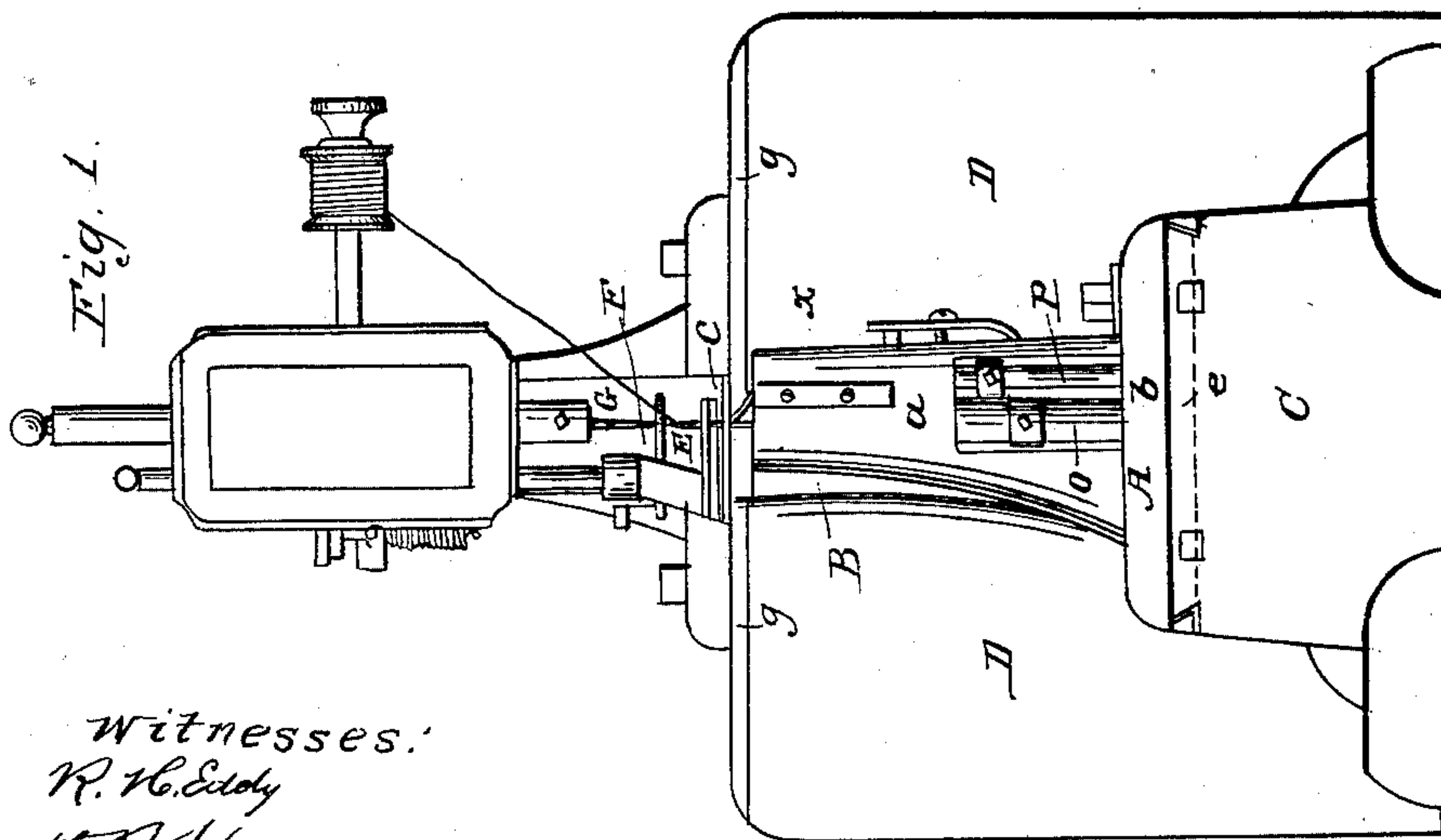
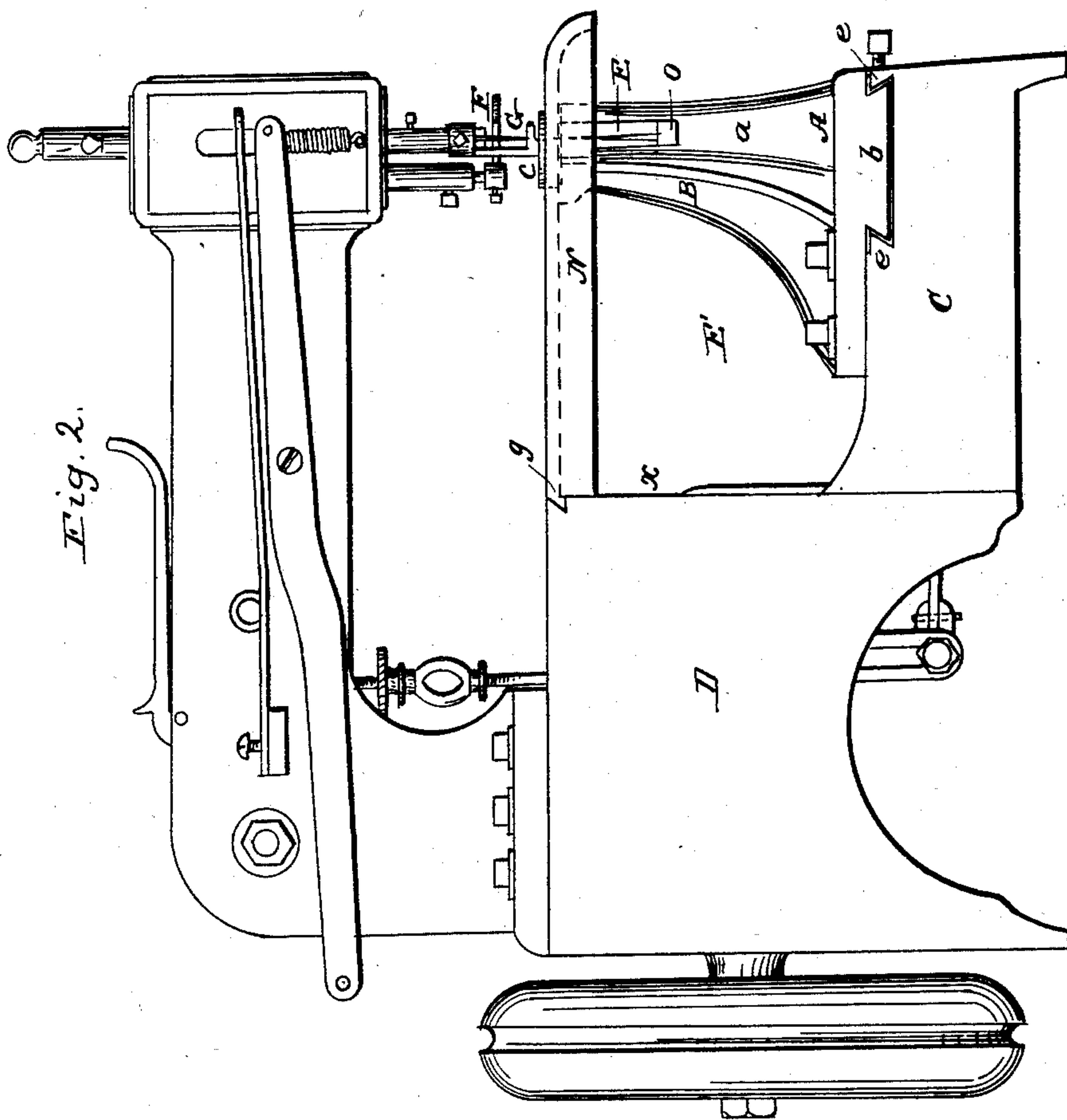


E. TOWNSEND.

Sewing Machine.

No. 34,915.

Patented April 8, 1862.



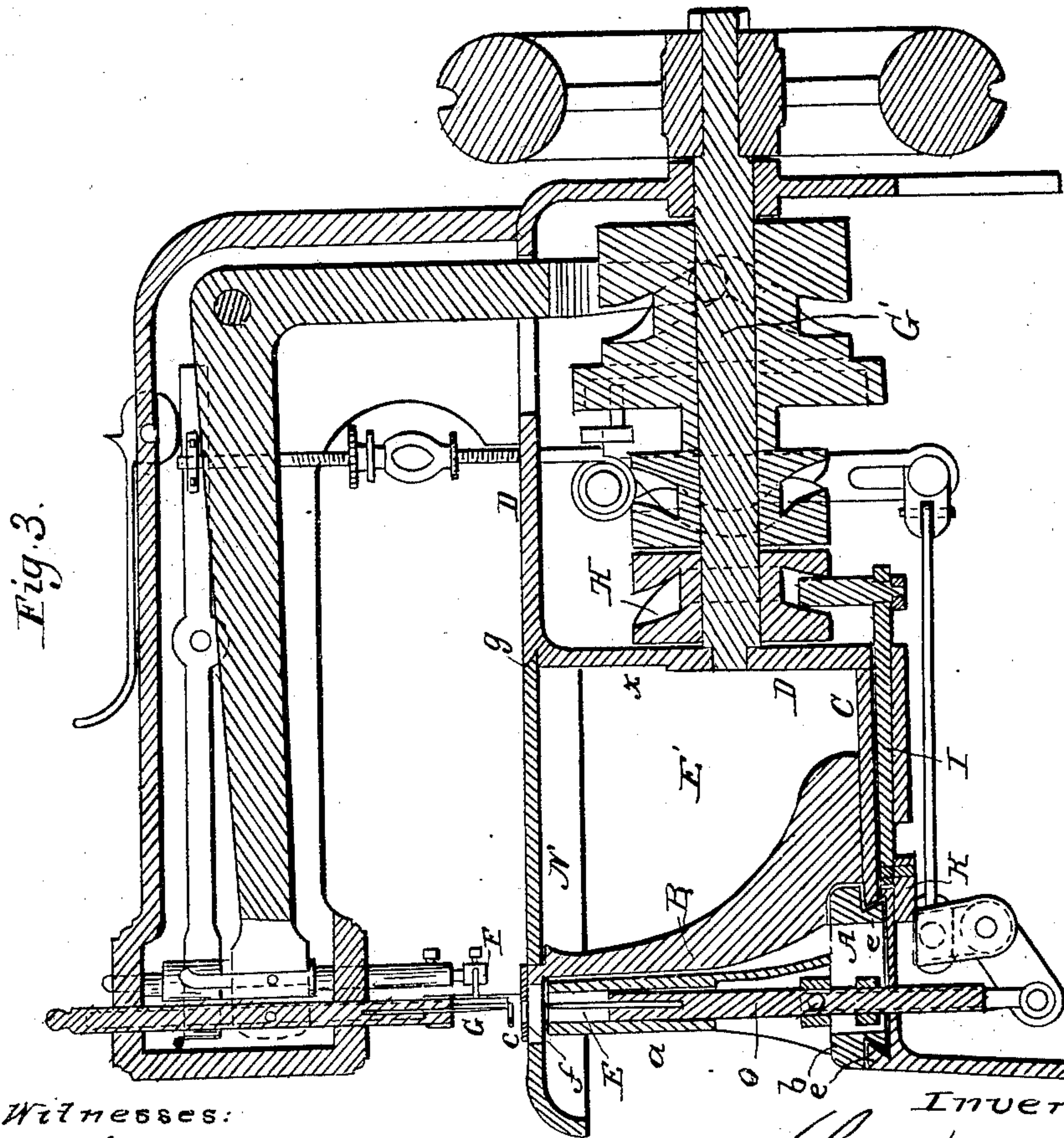
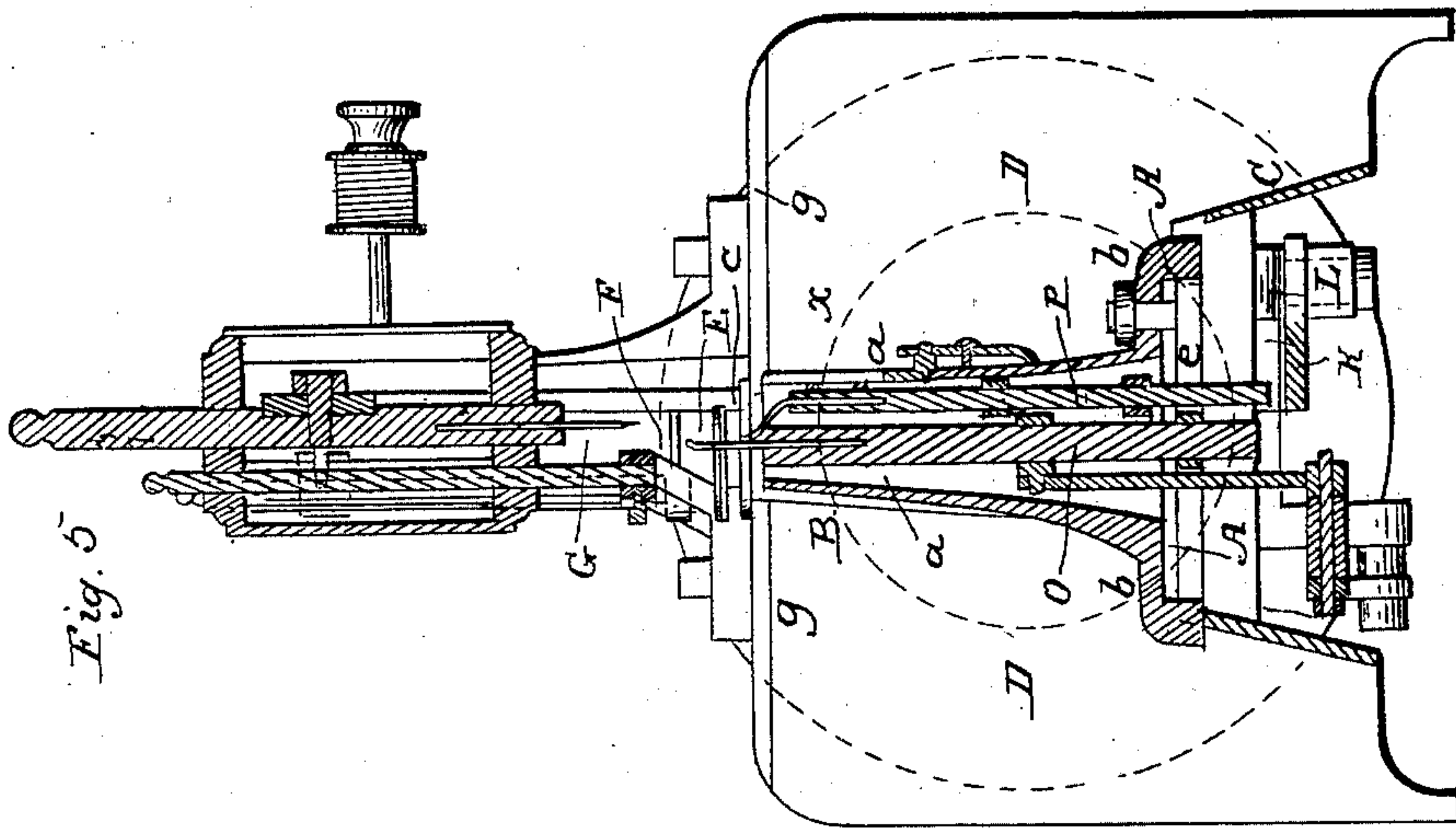
Witnesses:  
R. H. Eddy  
H. P. Hale Jr.

Inventor:  
E. Townsend.

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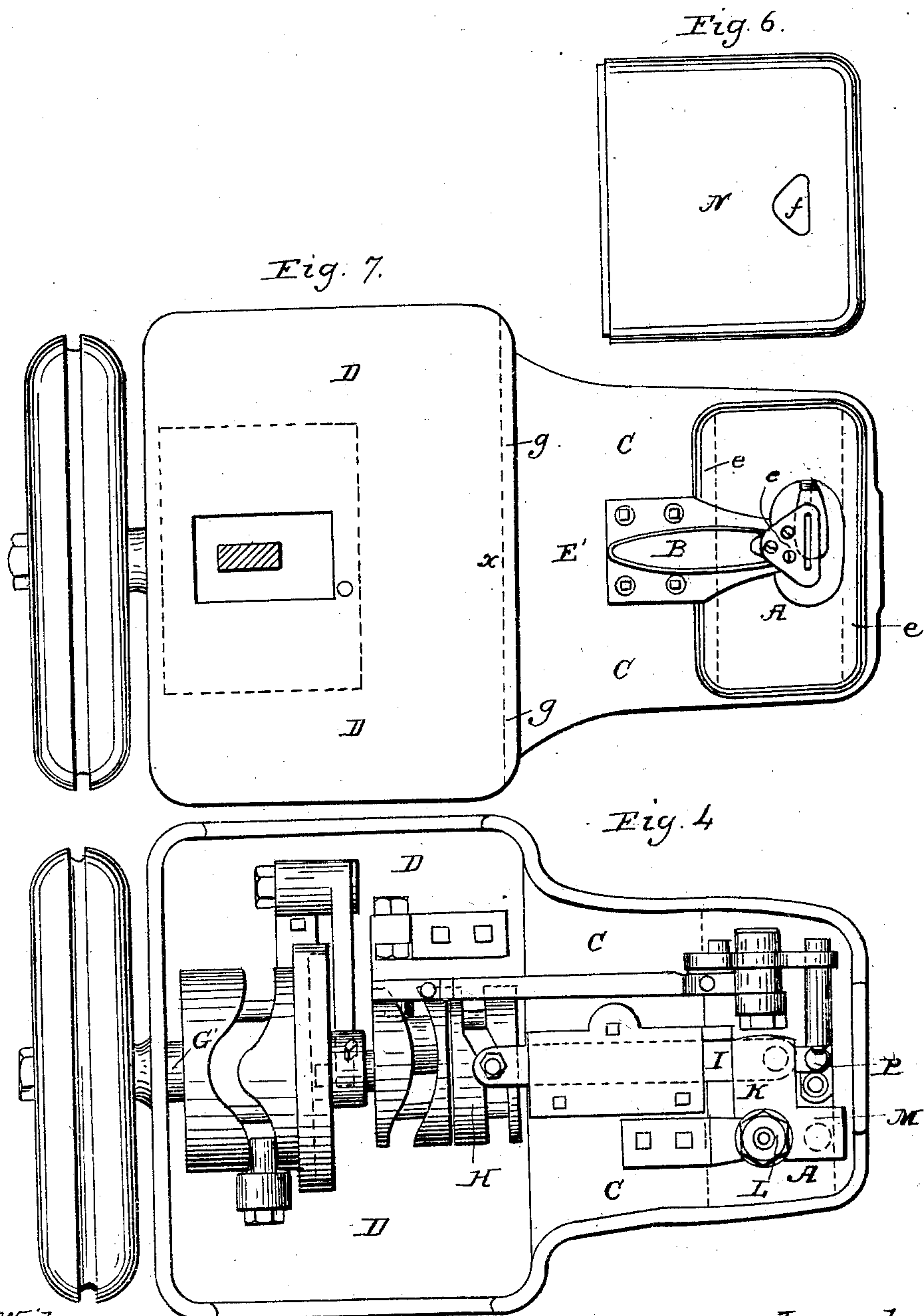
*Inventor:*

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# UNITED STATES PATENT OFFICE.

ELMER TOWNSEND, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 34,915, dated April 8, 1862.

*To all whom it may concern:*

Be it known that I, ELMER TOWNSEND, a citizen of the United States of America, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have made an invention of certain new and useful Improvements in Machinery for Sewing; and I do hereby declare the same to be fully described in the following specification and illustrated in the accompanying drawings, of which—

Figure 1 is a front elevation, Fig. 2 a side elevation, Fig. 3 a longitudinal section, and Fig. 4 an under side view, of a sewing-machine constructed in accordance with my invention. Fig. 5 is a transverse section of it, such being taken through the postal carriage to be hereinafter described.

The nature of my invention consists in so arranging the awl and needle as to puncture in opposite directions the material to be sewed and feeding such material along by a lateral movement of the needle, substantially as hereinafter described; also, in the combination of a postal carriage and its operative mechanism, not only with an apparatus, substantially as hereinafter described, for feeding and sewing an article to be sewed, but with a postal work-supporter arranged relatively to the main frame of the sewing-machine, substantially as hereinafter represented and described; also, in the combination and arrangement of a removable bearing-plate with the postal work-supporter, the postal carriage, when applied to sewing mechanism, operating substantially as hereinafter described.

By the term "postal carriage" I mean a carriage provided with a post or standard to extend upward from it, substantially as does the post or part *a* above the base part, *b*, of the postal carriage A represented in the drawings.

By the term "postal work-supporter" I mean an arm or post extended upward from the main frame of the sewing-machine and having a suitable and flat top surface on which an article may be sustained while being sewed.

It is frequently the case that an article may be of such form as to render it difficult to sew it while resting on a large flat plate or platform, and that in order to accomplish the sewing of it we are obliged to make use of a small platform, which may be arranged within the article, or the article be so placed upon it as to

extend down either wholly or partially around it. Now, in my sewing-machine the small platform, which is shown at *c*, is extended from and upheld by or makes part of a post, B, which projects upward from a neck or extension, C, of the main table or frame D of the sewing-machine, there being an open space, E', between the post B and the said frame D.

The "operative mechanism" of the postal carriage is that for imparting to it its reciprocating, intermittent, rectilinear motions.

The machinery or apparatus for feeding the article to be sewed consists of a sewing-needle and the machinery by which it has vertical movements imparted to it, its horizontal movements being given by means of the postal carriage and its operative mechanism.

In my machine, as exhibited in the drawings, the needle E, besides performing its function in the matter of drawing loops of thread into an article while being sewed, is employed to produce the feeding of the article along the proper distance to effect the formation of stitches or the interlooping of the thread. Consequently, after the needle has pierced or entered the article the postal carriage will be moved horizontally, and will cause the needle to move the article or work along on the work-supporter a distance equal to the length of a stitch to be formed. At a proper time the thread by means of its carrier F, will be laid against the needle, which will subsequently be caused to descend and hook upon the thread and draw it in the form of a loop through the work.

I would also observe that my machine, as exhibited in the drawings, is one for sewing leather with a chain-stitch, and particularly heavy or thick articles, such as harness-braces, thorough-braces, or strong banding; and for such purpose the said machine is provided with an awl, G, whose function is to puncture the work and prepare it for reception of the needle—that is to say, the needle every time it may be forced upward through the work will be caused to enter a hole just previously made in the work by the awl, which is arranged relatively to the needle as shown in the drawings. The awl, with its operative mechanism, constitutes a useful auxiliary, although not always a necessary part of a sewing-machine constructed in accordance with



my invention, as the needle may be so formed as to puncture the work as an awl would, as well as feed such work along, as described.

Feeding the work along by lateral movement of the needle while in the work I do not claim in the abstract, my invention having reference to an improved means for so moving the needle, such being the postal carriage and its operative mechanism used in conjunction with a postal work-supporter, or with such and a separate movable platform to be applied to the latter, and for the purpose of extending its bearing-surface.

The frame D, constructed as shown in the drawings, supports the driving-shaft G', which carries a cam, H. This cam operates a connecting-rod, I, which is jointed to an arm, K, extended from a vertical shaft, L, arranged as shown in the drawings. From the shaft L another arm, M, projects at a right angle to the first arm, and is jointed or otherwise properly affixed to the postal carriage A, which is supported on two parallel ways or guides, *e e*, the cam being properly formed to impart to the carriage its rectilinear and intermittent movements necessary to the feeding and sewing of the work.

The postal work-supporter B, with its part *c*, extends upward close in rear of and over the postal carriage, as shown in the drawings, and so that a piece of work or article to be sewed, when placed on the part *c*, may extend down between the post B and the main part H of the frame.

In connection with the postal work-supporter and the movable postal carriage, I use a removable platform or plate, N, (shown in top view in Fig. 6,) which is provided with an opening, *f*, of the form and for the reception of the head or upper part, *c*, of the postal work-supporter, a top view of said head and the main part of the machine being given in Fig. 7. The plate N, when in use, is supported in position in the work-supporter, and so that their upper surfaces may be in one plane, the plate N being extended to the main frame and sustained by a rabbet, *g*, thereof, or its equivalent, as well as by a suitable shoulder, *f*, or apparatus affixed to the postal work-supporter. While the plate N is in place the machine can be used for ordinary kinds of flat work; but by removal of the plate the machine can be used for sewing work which, when applied to, it will extend down (more or less) around the postal carriage and the postal work-supporter.

In the drawings the needle-carrier O and closer P are represented as arranged within the postal carriage. They, as well as the awl and thread-carrier, are to have suitable mechanism for operating them in the proper manner. As such mechanism constitutes no part of my invention, it is unnecessary to herein further describe it or any part or parts thereof which may be shown in the drawings.

It is to be understood that the needle-carrier is to move vertically within the postal carriage when the latter is arranged so as to move longitudinally while in motion.

Important advantages result from the employment of the postal carriage in connection with the postal work-supporter, or the same and the removable platform.

First. It causes the needle to pass into and out of the work in one straight line, the needle not being turned in the work in order to feed it along, as it would be were it operated by a vibrating arm. When so turned the needle not only enlarges the hole made in the work, but is liable to be bent or sprung out of place.

Second. The postal carriage, like the postal work-supporter, enables certain kinds of work to be sewed which could not conveniently be sewed on the platform N.

I would observe that the arrangement of the needle and the awl so as to puncture in opposite directions the material to be sewed, and feeding the said material along by the needle, is productive of important advantages. Under such an arrangement of the awl and the needle, if the feeding of the material be done by the awl, such has been found very objectionable, particularly in sewing thick leather or "heavy work," for while the awl was moving the material the needle was down to its lowest position, and was holding the loop and preventing it from being drawn closely up into the material. At the same time the needle was liable to be sprung or bent by the lateral strain of the loop. The awl also was liable to be sprung or bent by the great lateral pressure exerted on it. Under my new improvement of feeding by the needle, and having the awl and needle pass into the material in opposite directions, the awl will make the hole for the loop, after which the needle will pass directly upward through such hole and move the material along the proper distance for the formation of a new stitch. In doing this the needle will ease the loop and allow it to be drawn, so as to form a firm and close stitch in the material.

I claim as new, and an improvement in sewing machinery, arranging the awl and the needle so as to puncture in opposite directions, as described, the material to be sewed, in combination with feeding the said material along by the needle, as specified.

I am aware that a postal work-supporter and a separate bearing-plate, substantially like those hereinbefore represented, have been known and in use in sewing machinery for several years, both by myself and others, and therefore I do not claim such in their connection with a sewing-machine; but

What I do claim is—

1. The combination of the postal carriage and its operative mechanism not only with an apparatus, substantially as above described,



for feeding and sewing an article to be sewed, but with a postal work-supporter arranged relatively to the main frame of the sewing-machine as represented.

2. The combination and arrangement of a removable bearing-plate, N, with the postal work-supporter B and the postal carriage A,

when applied to sewing mechanism of the kind and to operate in manner substantially as hereinbefore described.

ELMER TOWNSEND.

Witnesses:

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F. P. HALE, Jr.