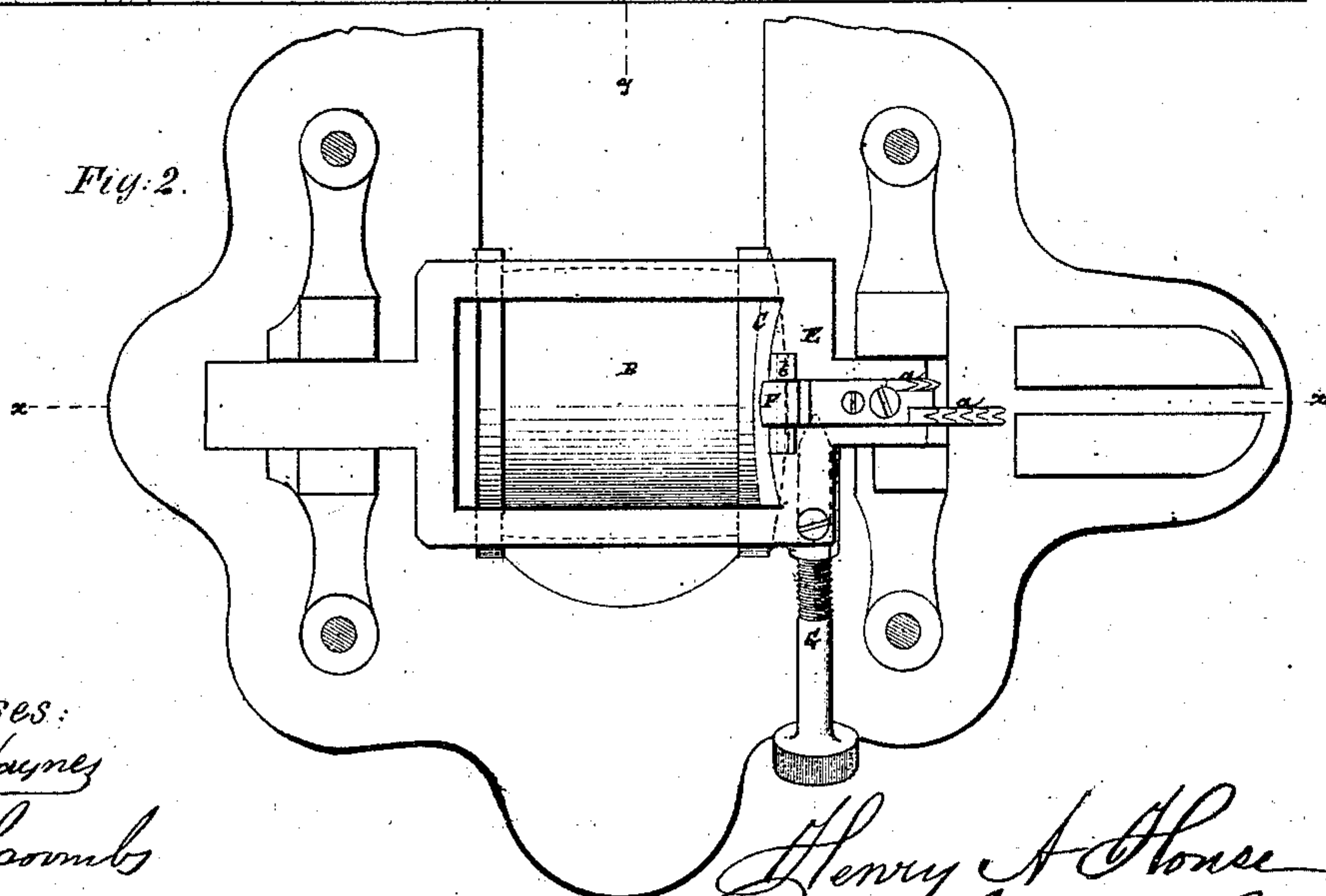
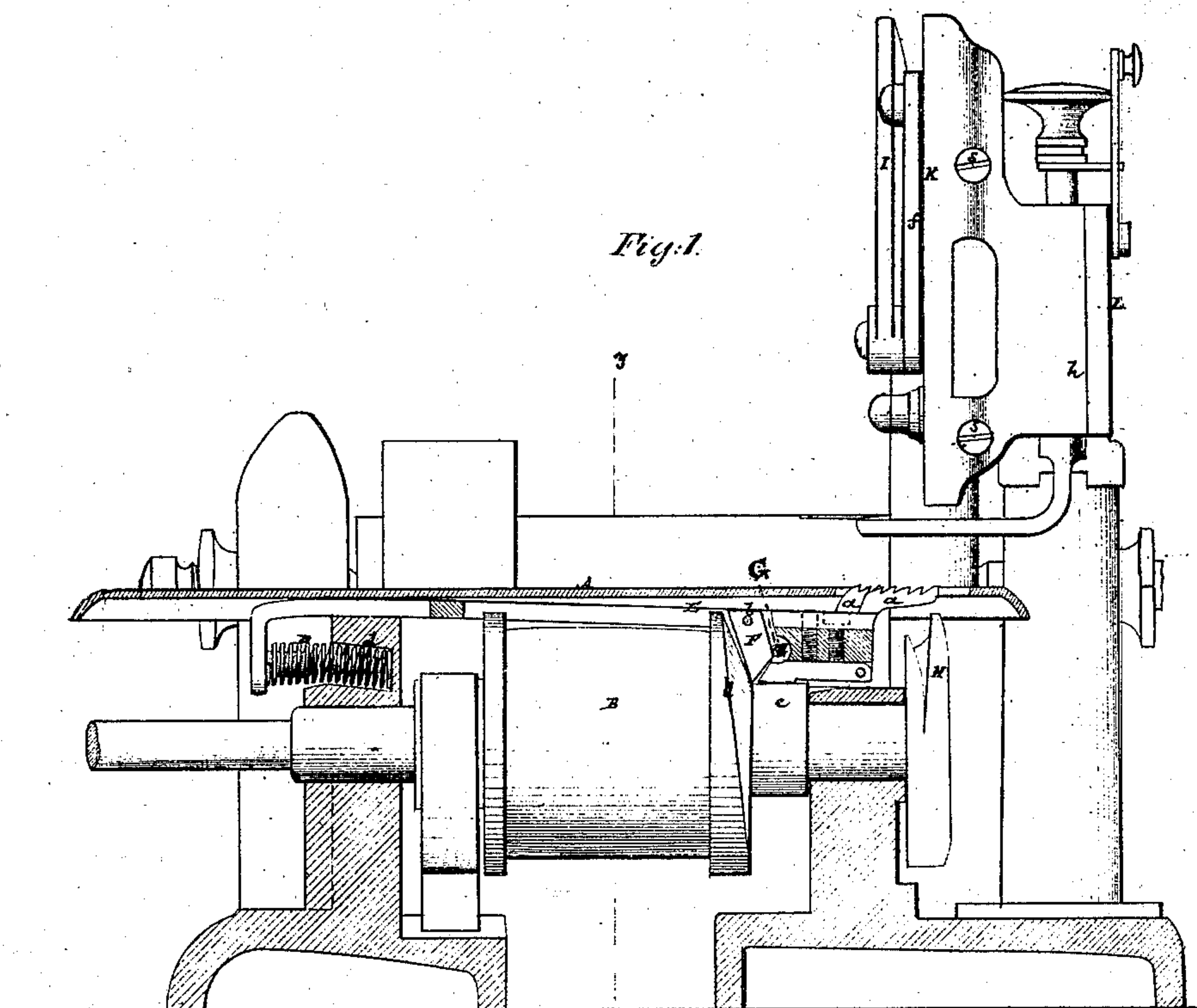


2 Sheets, Sheet 1.

*H. A. House,
Sewing Machine.*

No. 98771.

Patented Jan. 11. 1870



Witnesses:
Fred. Haynes
J. M. Loomis

Henry A House
per Cotton Combs & Co
Attorneys

*H. A. House,
Sewing Machine.
No. 98771*

2 Sheets. Sheet 2.

Patented Jan. 11. 1870

Fig. 3.

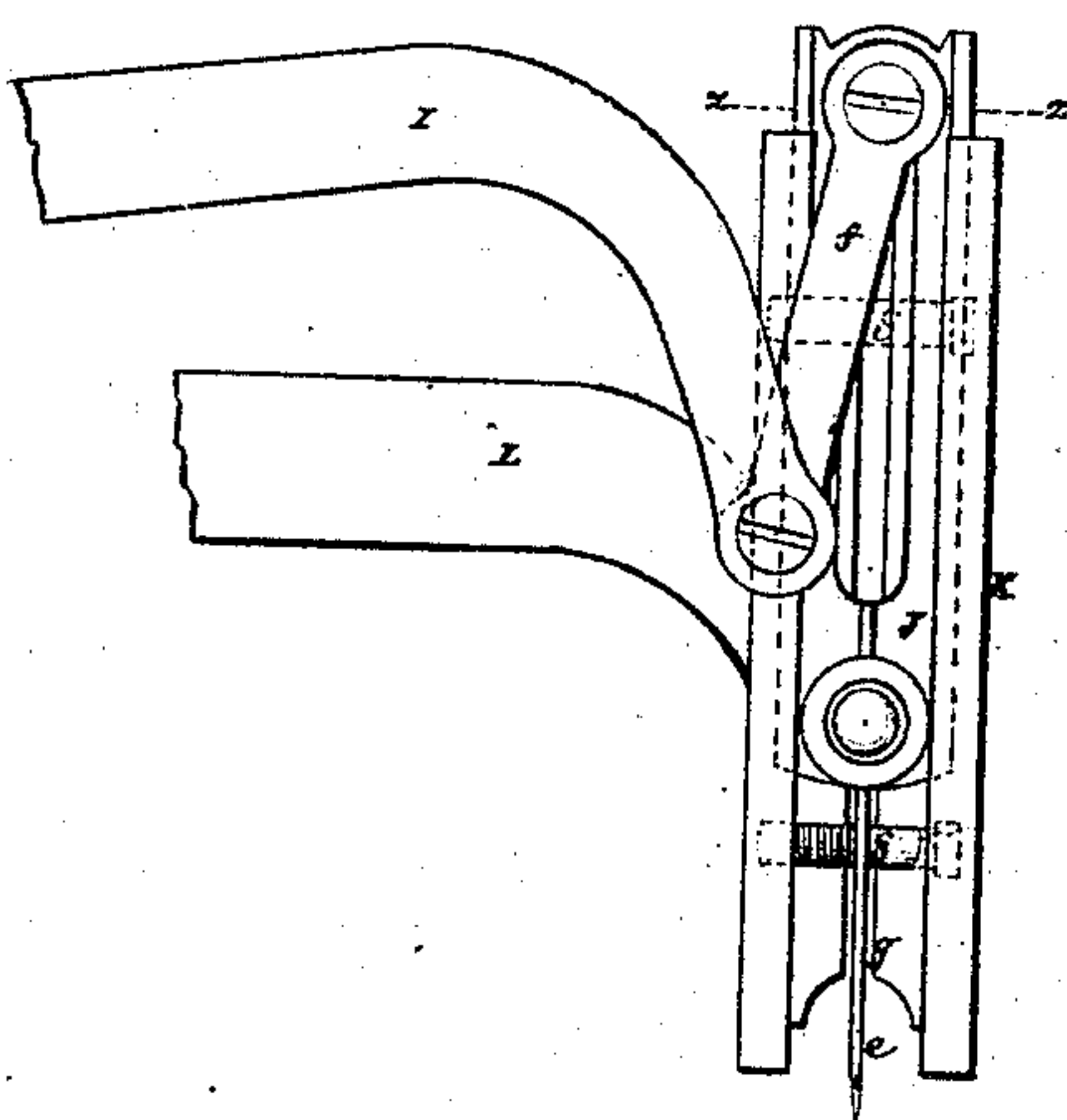


Fig. 4.

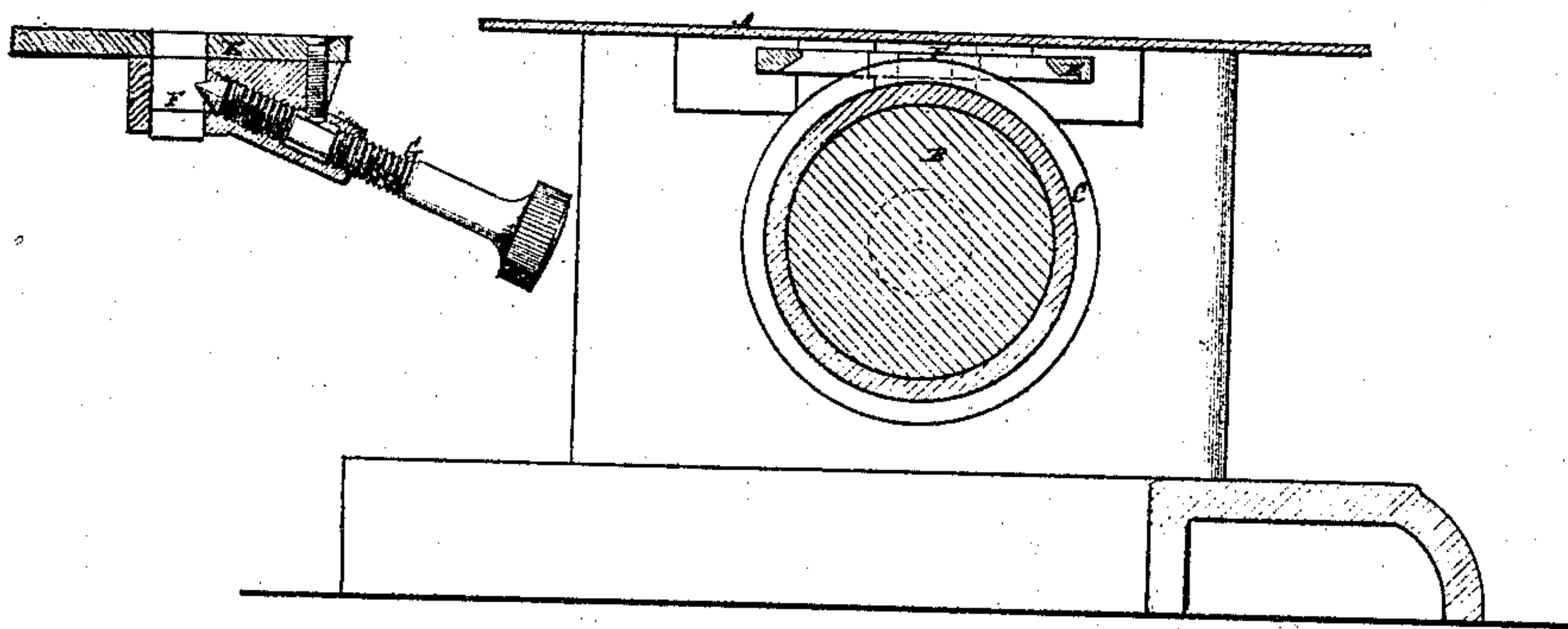
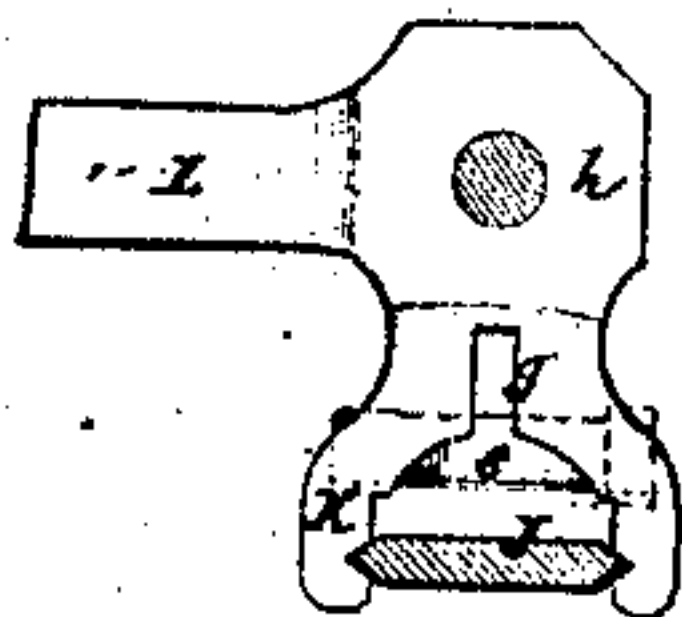


Fig. 5.



Witnesses:

Fred. Haynes

J. M. Cornaby

*Henry A. House
per Brown & Cornaby
Attorneys*

United States Patent Office.

HENRY A. HOUSE, OF BRIDGEPORT, CONNECTICUT.

Letters Patent No. 98,771, dated January 11, 1870.

IMPROVEMENT IN SEWING-MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, HENRY A. HOUSE, of Bridgeport, in the county of Fairfield, and State of Connecticut, have invented a new and useful Improvement in Sewing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a vertical section of a sewing-machine embracing my improvements, taken through the cloth-table in direction of the feed, mainly as indicated by the line *xx* in

Figure 2, which is a plan of the works below said table.

Figure 3 is a vertical section, at right angles to fig. 1, taken as indicated by the line *yy*.

Figure 4, a sectional view of a portion of the feeding-devices, showing a taper-pointed screw and swivel-block for adjusting and varying the feed.

Figure 5 is a horizontal section, taken as indicated by the line *zz* in fig. 3, of a portion of the stationary arm and needle-slide or bar working therein.

Similar letters of reference indicate corresponding parts throughout the several figures.

My invention, though here shown as applied to a Wheeler & Wilson machine, and, in some of its features, especially adapted to machines of that description, is, in certain respects, or so far, at least, as relates to a portion of it, also applicable to sewing-machines of different kinds. It will suffice here, however, to describe the invention in connection with a Wheeler & Wilson machine; but, having a straight reciprocating needle-action, in place of the usual curvilinear one, and as many of the parts and motions in the machine represented in the drawing are well known and common to other of such machines, no particular or lengthy reference will here be made to them.

The invention, in the main, or so far as concerns most of its features, relates to the "feed," which may be of the usual four-motion character, common to machines of the character just referred to; and among other purposes or objects sought to be attained by it, are a more perfect noiseless action for the feed, steadier run of the feeding-bar, and larger operating-pulley and feed-cam than are otherwise attainable. In such connection,

The invention consists in a taper-pointed screw, in combination with said swivel-block, for adjusting and varying the feed. Likewise, the invention includes a forked or yoke-like construction of the feed-bar, arranged to form an open covering or structure over the operating-pulley and feed-cam, whereby, in machines of the kind hereinbefore referred to, a larger cam and pulley may be used, thereby increasing the penetrating power or action of the needle.

Furthermore, the invention, apart from that portion of it which relates to the feed, consists in a combination of a sliding needle-bar, with a slit stationary arm and set-screws, for compensating for wear of said slide or its ways, as formed by the slit part of the arm. This portion of the invention is not limited to rotary-hook machines.

In fuller description, by reference to the accompanying drawings, of these several features or portions of my invention—

A represents the cloth-plate or table, carried by a suitable frame, that, as well as certain of the working parts of the machine, it will not be necessary here to refer to by letter, as they are or may be the same as in an ordinary Wheeler & Wilson machine, or others of a rotary-hook character, which, as before observed, is the description of machine the invention is here shown applied to, and most or all of the improvements I am about to describe may be applied to any old Wheeler & Wilson machine.

B is the operating-pulley, and C the cam, that, in connection with a spring, D, gives the usual fourfold motion to the feed-bar E, which is provided with the ordinary serrated feeding-claws *aa*.

This cam C, or that portion of it which gives the horizontal motion to the feed, I cause to bear, for the whole depth of its surface, when the labor of effecting the feed takes place, on the feed-bar, or rather an appendage thereto, and so obviate that cutting of the cam into grooves and ridges, which is incidental to previous constructions of the feed-bar's bearing-surface on the cam, and that occasions irregularity in the motion, and noise.

This improved action I accomplish by pivoting, as at *b*, to the feed-bar, a swivel-block, F, of a length or depth equal to the depth of the cam C, and arrange in rear of said block, below its pivot, an adjusting-device that serves to vary the angular presentation of the front edge of the block, so as to cause the cam to act sooner or later upon it, according to the required length of the feed or stitch, but insuring at all times, when the labor of moving the feed comes on, a full bearing for the block, for or throughout the whole depth of the cam, or that portion of it which gives the horizontal motion to the feed.

The adjusting-device I propose to use for this purpose is a taper-pointed screw, G, carried by the feed-bar or attachment thereto, and arranged so that it bears laterally, at its taper-point, against the back of the block. This forms a very gradual, simple, and efficient means for adjusting and regulating the feed, the taper point of the screw, acting laterally as described, operating, in addition to the thread on the screw, to graduate the adjustment.

The lifting-cam or portion *c*, of the cam C, which effects the raising and lowering-action of the feed, is,

as in another well-known noiseless feed, arranged with- in the periphery of the cam that gives the horizontal action to the feed, but, instead of being formed sloping, as heretofore, is made straight, or parallel with its axis, on its lifting or acting-surface.

The feed-bar E, I construct, substantially as shown in fig. 2, of a forked or open form over the operating-pulley B and feed-cam C, which, or the cam, at least, may thus be allowed to work through it, as it were; and both pulley and cam, accordingly, be made of larger diameters than where a close, straight bar, running over the pulley and cam is used. This has the effect of increasing the penetrating power of the machine, as also of securing a more efficient feed; and, inasmuch as the rotating hook H of the machine requires to occupy a certain relative position or distance below the cloth-table, the same is not to be attained, without serious disadvantage, by lowering the operating-pulley shaft on which the rotating hook is secured, in order that room may be made for a larger operating-pulley and feed-cam.

To prevent all noise from the feed-bar, by its striking the cloth-plate or table, or otherwise, as the same is reciprocated and moved up and down, and to give a steadier motion to said bar, without interfering with its lifting-action, I cause the same, near its rear end, to be constantly pressed up against said table, by giving an oblique disposition to the seat d, which carries the spring D, so that the latter not only serves to throw back the feed-bar when released from the cam, but, also, to keep the same in constant contact on its upper edge, (which may be arched for the purpose,) on or against the under side of the cloth-table.

I is the needle-arm, which, instead of operating a curved needle, I cause to work a straight one, e, by or through a link or rod, f, and needle-bar or slide, J, that is of double V-form, to give it a free and straight or steady action up and down ways formed in a jaw-like vertical portion, K, of a stationary arm, L, that

carries the presser-foot and cam-lever, or device for lifting the same. The jaw-like portion K is formed by casting the arm L of such shape, and with a slit, as at g, arranged to extend down the vertical portion K, or to divide it, as it were, at or above and below its lateral junction with the forward end or presser-foot socket h of the arm L, so that when required to tighten the guide to the needle-slide J, formed by the ways in the portion K, as wear of said wings or of the slide requires, the same may be done, or any desired degree of freedom insured to the slide, by suitably turning cross-screws s, which connect the opposite sides of the jaw-like or slit portion K, that, by reason of its construction, springs or yields to admit of such adjustment by the screws s. The slitted portion K, in combination with the screws s, thus forms a cheap and efficient means for regulating the free play of the needle-slide, and for tightening it as required, and dispenses with the adjustable guides or ways requiring to be separately fitted to their places.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The combination and arrangement of the taper-pointed screw G, with the swivel-block F of the feed-bar, essentially as herein set forth.

2. The arrangement, with relation to the operating-pulley B and feed-cam C, of the open-framed feed-bar E, said pulley and cam projecting into the opening in the feed-bar, thereby allowing the use of a larger pulley and cam, and increasing the penetrating power of the needle, substantially as set forth.

3. The combination of the needle-bar or slide J, with the stationary arm L or portion K thereof slitted, as at g, and adjusting-screws s, substantially as specified.

HENRY A. HOUSE.

Witnesses:

FRED. HAYNES,
HENRY PALMER.