

(Model.)

J. M. GRIEST.
RUFFLER FOR SEWING MACHINES.

No. 311,119.

Patented Jan. 20, 1885.

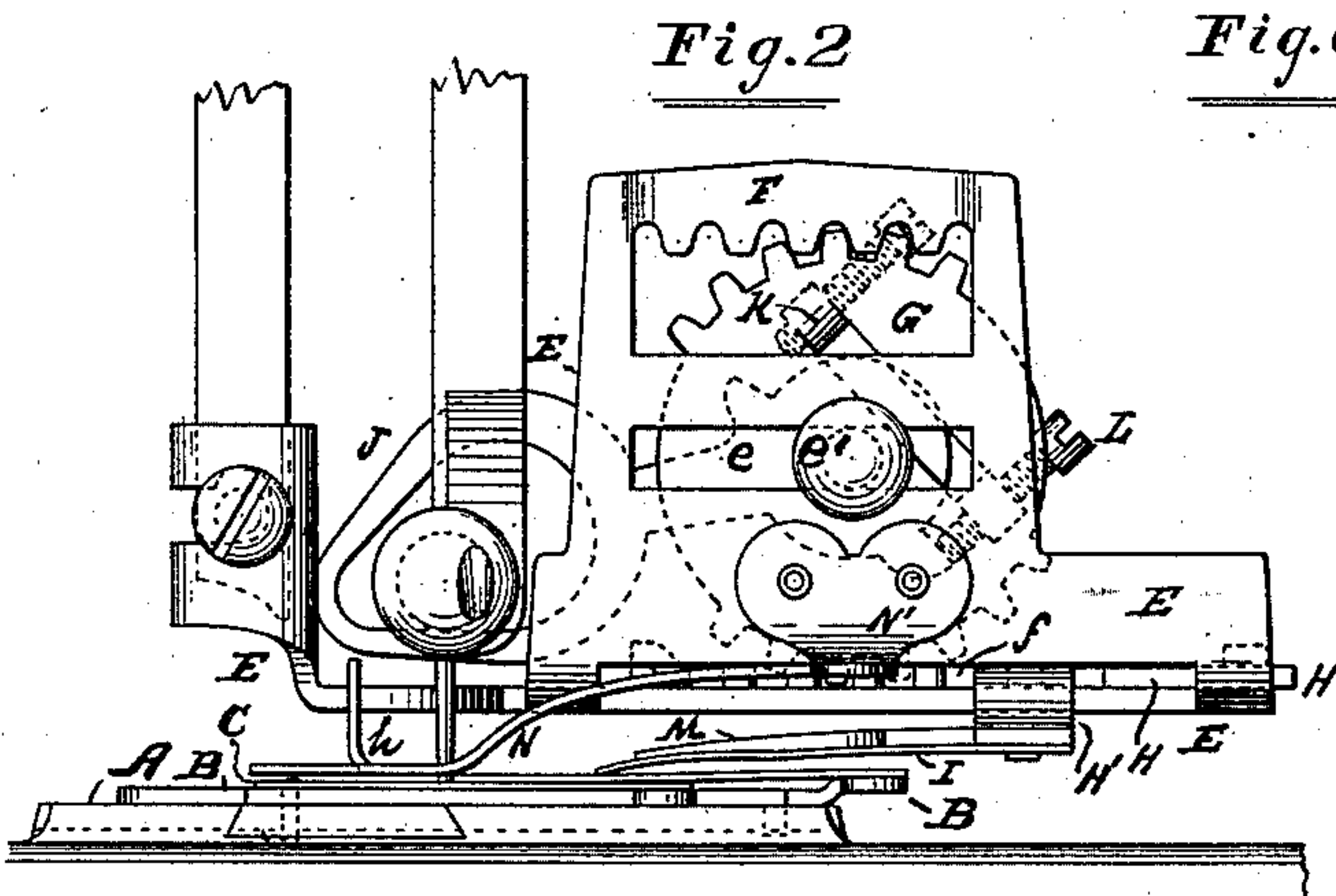
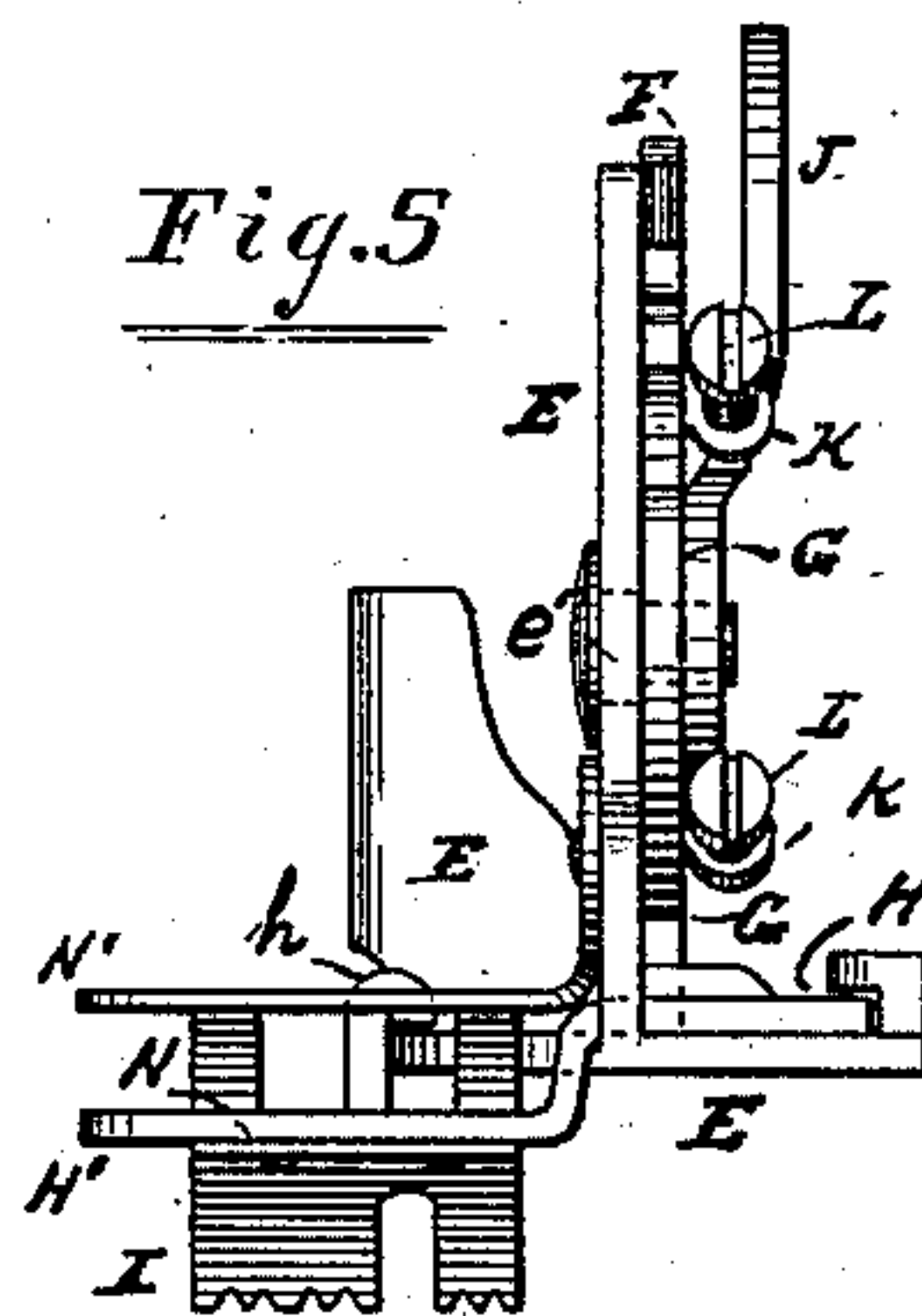
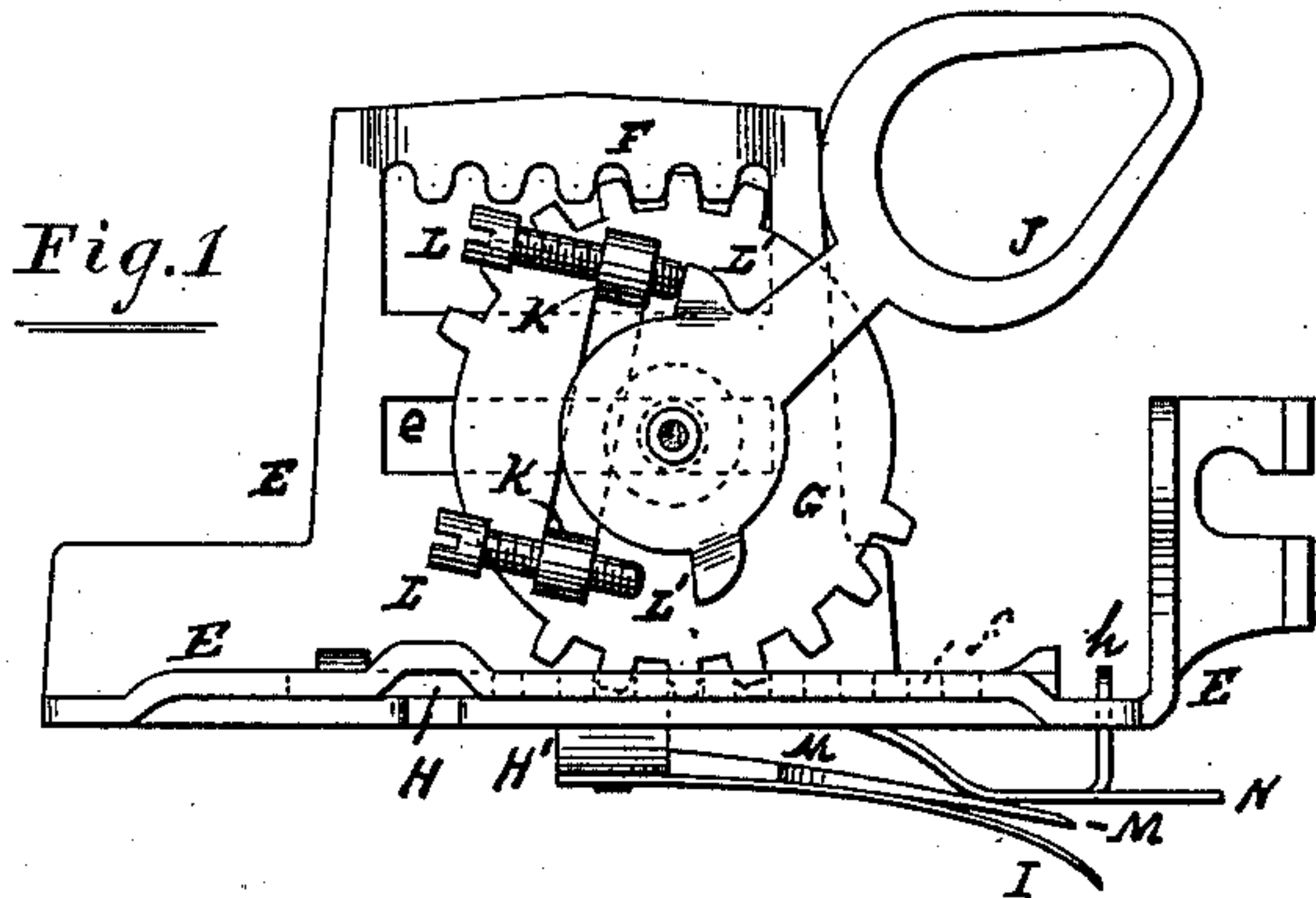


Fig. 6

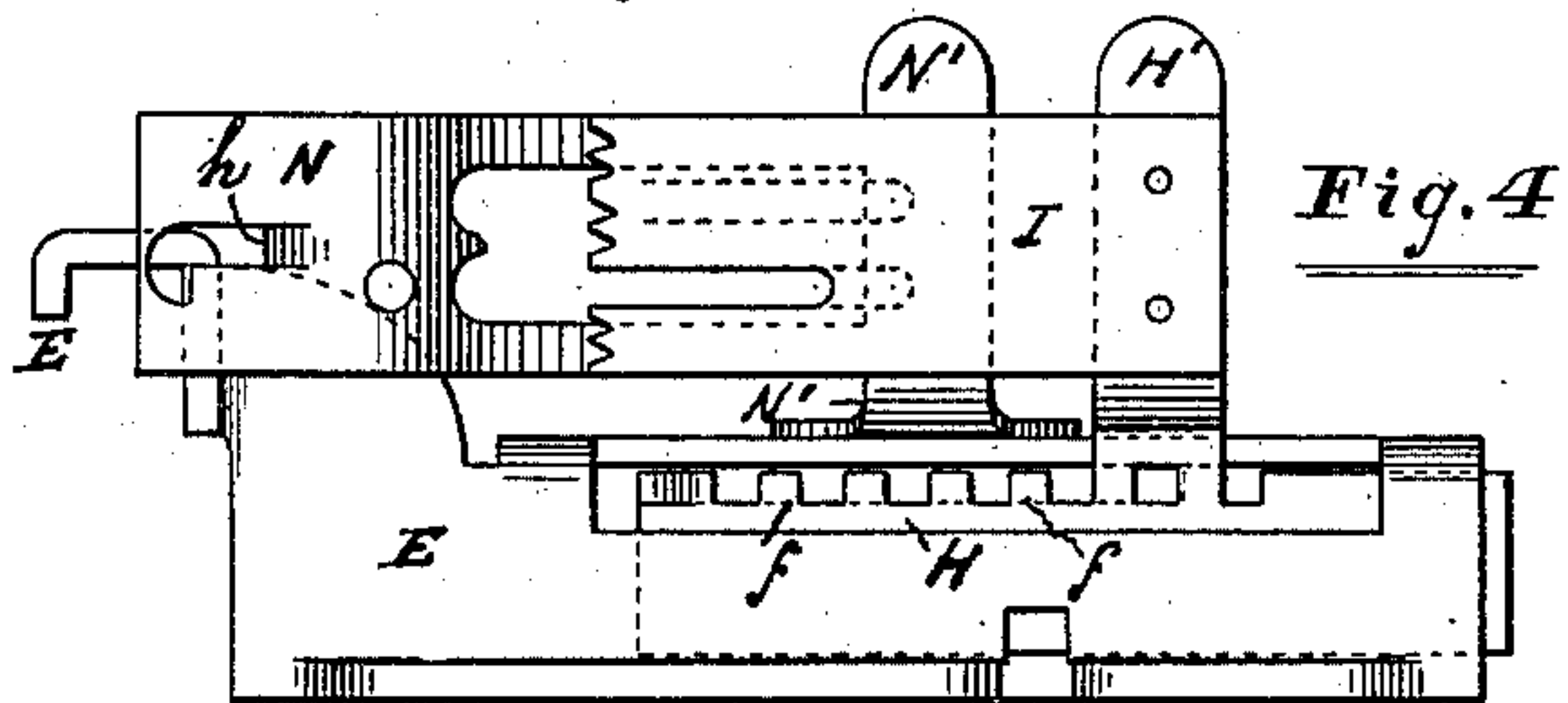
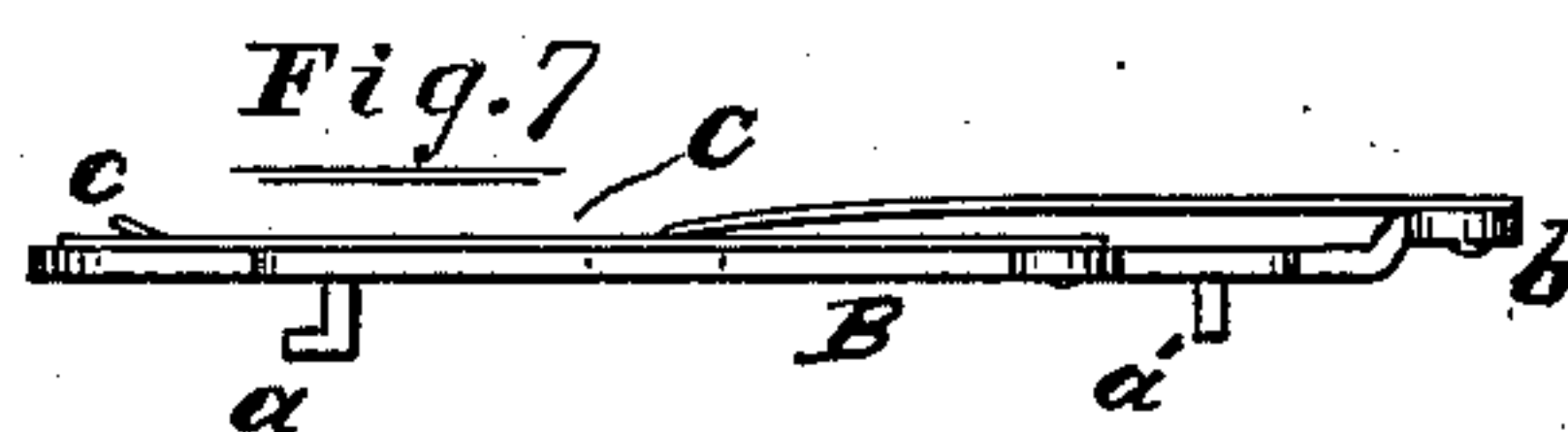
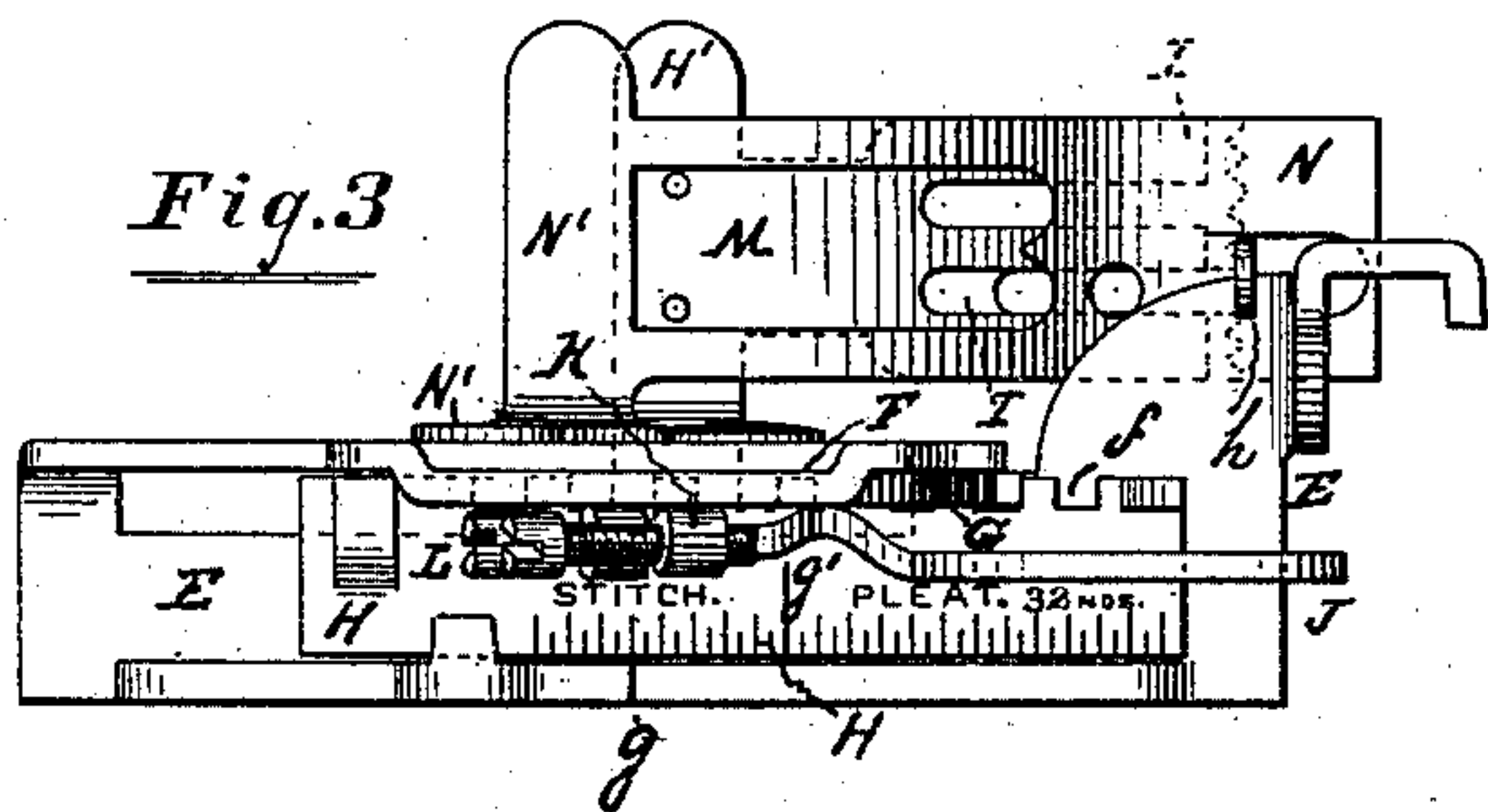
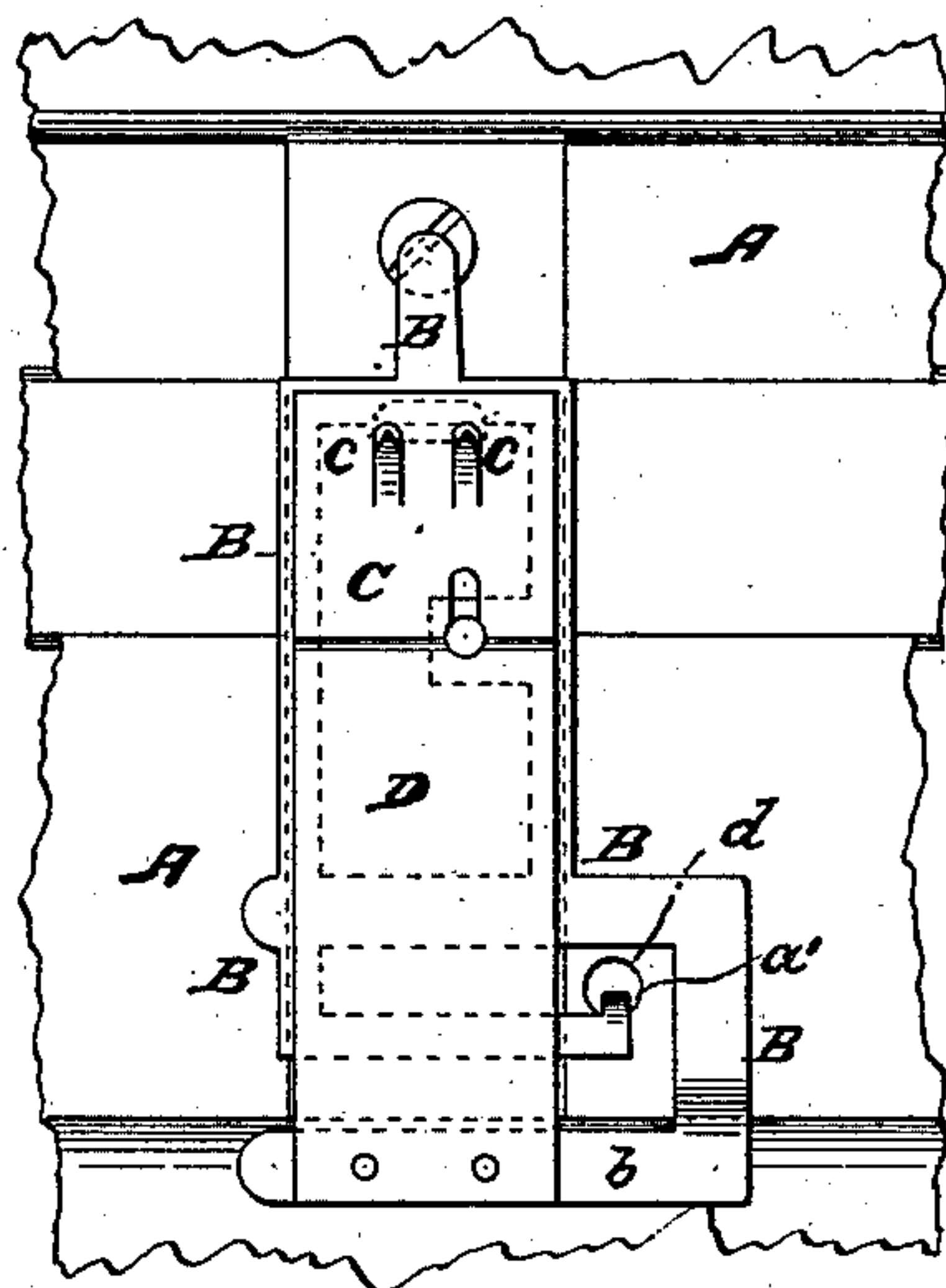
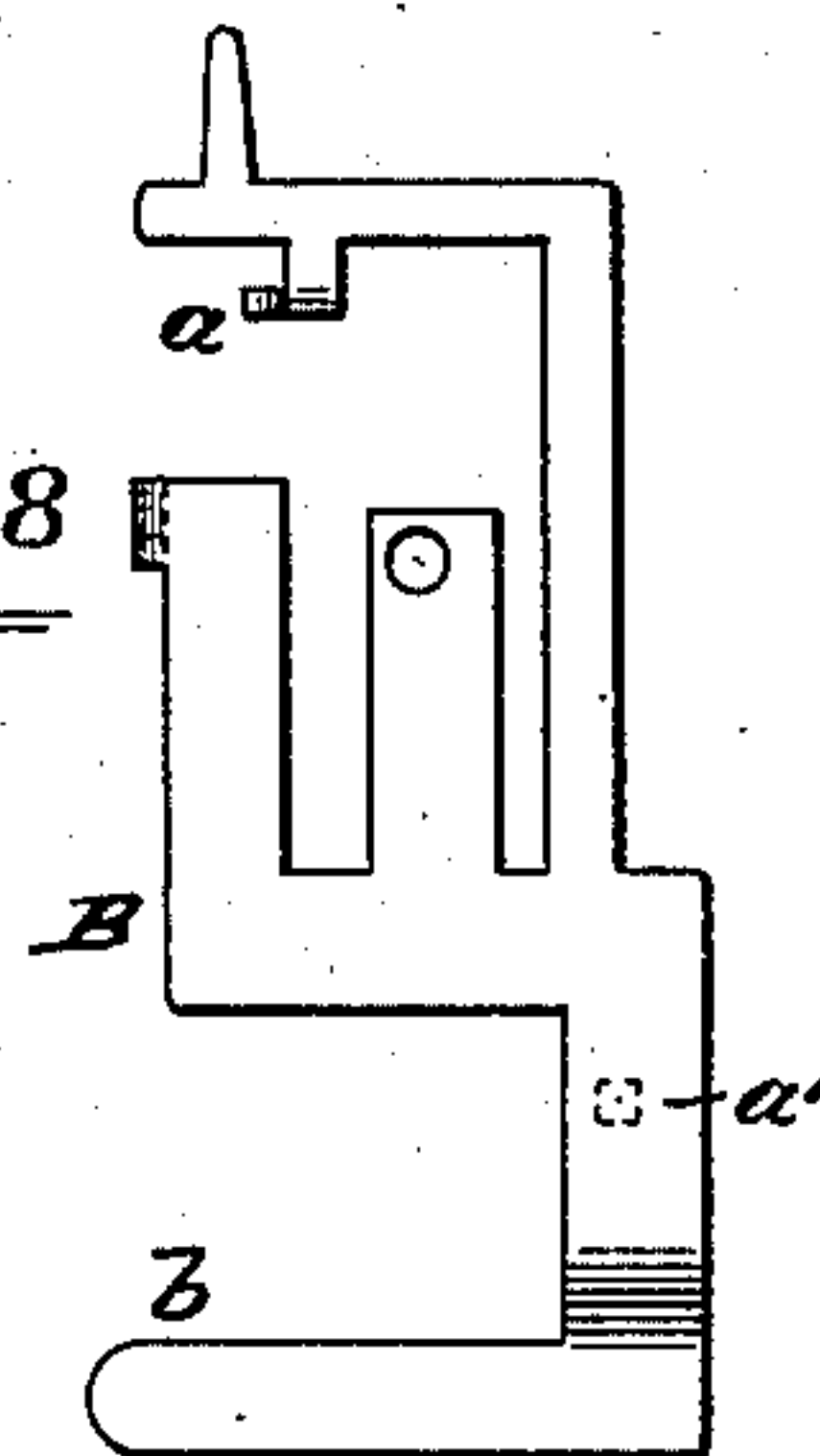


Fig. 8



Witnesses.

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UNITED STATES PATENT OFFICE.

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RUFFLER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 311,119, dated January 20, 1885.

Application filed November 5, 1883. (Model.)

To all whom it may concern:

Be it known that I, JOHN M. GRIEST, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Rufflers for Sewing-Machines, of which the following, in connection with the accompanying drawings, is a specification.

In the drawings, Figure 1 is a side elevation of one side of the ruffler embodying my improvements. Fig. 2 is a side view of the opposite side of the ruffler. Fig. 3 is a top view of the same. Fig. 4 is a bottom view thereof. Fig. 5 is an end view. Fig. 6 is a top or plan view of the lower portion or parts applied to the machine. Fig. 7 is an edge view of the same parts detached, and Fig. 8 is a modification of the base-plate or holder of the lower group of parts.

Like letters of reference indicate like parts.

My purpose is to make a ruffler and plaiter which will be capable of making fine gathers, and also of making knife-plaiting having broader plaits or folds than the feed of the machine would otherwise have the capacity of producing.

In some of its features my present invention resembles the ruffler and gatherer shown and described in Letters Patent of the United States of America No. 246,126, granted to me the 23d day of August, 1881—that is, in my present device, as well as in the one shown in the said Letters Patent, I use but one feed, (the ruffling-blade,) which first forms the gather or plait, and then feeds the same to be stitched, all during one forward stroke of the ruffling-blade.

My former ruffler was composed of one group of parts adapted for attachment to the cloth-plate; but my present device contains two groups of parts, one adapted for attachment to the cloth-plate and to cover the feed of the machine, and the other group is adapted to be attached to the presser-foot bar, the latter of which is never lowered while the device is in operation, as will hereinafter more fully appear, by which means I am enabled also to plait wide strips of goods along their centers and to shirr the goods.

A represents the cloth-plate of a sewing-

machine, and B is the bed-plate of the attachment. The plate B is a frame-like structure from which depends the L-shaped tongue or lug *a* and the straight projection or pin *a'*. A transverse arm, *b*, extends across one end of the plate B and forms a part thereof, and is raised slightly above the remaining part of the said plate, as is clearly indicated in Fig. 7.

C is a shield attached to the plate B, and *c c* are points sheared from the said shield and standing somewhat above the same at their free ends.

D is a separator-blade attached to the arm *b* and projecting forward therefrom to the needle-hole and overlapping the shield C. These parts constitute the lower group, and they are connected to the cloth-plate removably by passing the tongue *a* underneath the plate in which the feed-plate opening is made, the said tongue entering one end of the said opening, and the pin *a'* entering an opening, *d*, in the cloth-plate. When the lower group of parts are thus arranged upon the cloth-plate, the shield C covers the serrated feed-plate and prevents it from acting upon the cloth. The points *c c* prevent the goods from being drawn back by the retreating ruffling-blade, as will hereinafter more fully appear.

The upper groups of parts contain some of the features of construction shown and described in Letters Patent of the United States of America No. 280,926, granted to me the 10th day of July, 1883, particular reference being had to the traveling cogged wheel and its actuating-lever, the fixed rack, and the sliding rack which carries the ruffling-blade.

E is the main plate, frame, or stock of the upper group of parts, and is adapted for removable attachment to the presser-foot bar.

F is a fixed rack, set out from an upright part of the plate E.

G is a cogged traveling-wheel the axle or hub of which enters a longitudinal slot, *e*, also in the said upright part. The hub of the said wheel is headed, as shown at *e'*, to overlap the upright portion of the plate E, so as to retain the wheel G properly in its place. The upper cogs of the wheels G are in engagement with the rack F.

H is the sliding plate, having an arm, H', to

which the ruffling-blade I is attached, the said arm projecting laterally through a slot in the base portion of the plate E. Teeth or notches *f f* are made in one edge of the plate H, and these teeth are engaged by the lower cogs of the wheel G.

J is the actuating-lever, which turns on the axle of the wheel G. The upper group of parts, so far as now described, when considered without reference to mere details of construction, are shown in Letters Patent last above referred to.

K K are screw-seats thrown out from the wheel G, and carry screws L L.

L' L' are shoulders or projections on the lever J. These shoulders are arranged to strike the screws L L alternately as the lever J is vibrated. The upper face of the slide H is graduated or marked, as indicated in Fig. 3, and *g* is a gage-mark on the plate E.

On the plate H are the words "Stitch" and "Pleat," as shown, and between these words is a long line or division-mark, *g'*.

M is a rigid arm or holder, projecting from the arm H' out over the ruffling-blade, and its function is to hold the ruffling-blade down to its work.

N is a pressure-spring or presser extending from an arm attached to one side of the main plate. The force of this spring is exerted downward; and *h* is a hook-shaped tongue struck therefrom and hooking over the plate E, thereby limiting the downward movement of the free end of the said spring.

When the lever J is vibrated and raised, a rotary motion in one direction is imparted to the wheel G by the contact of the upper shoulder, L', with the upper screw, L, and as the said wheel engages the fixed rack F the wheel moves forward while rotating, thereby carrying forward the slide H and the ruffling-blade by reason of the engagement of the said wheel and slide. The slide will be moved in the reverse direction by the contact of the lower shoulder, L', with the lower screw, L, during the downward movement of the lever J. It will be perceived, however, that lost motion will occur if both screws L L are not in contact with both shoulders L' L' at the same time. The extent of this lost motion I control by means of the screws L L, for the purpose of adjusting the device so that it will be suited to perform its work as may be desired. The upper screw may be set to determine the length of stitch—the lower one to regulate the width or size of the plait or gather—but in making these adjustments I employ the scale referred to in conjunction with the said screws. For example, supposing it be desired to make

plaits one-quarter of an inch wide and just meeting, without lapping, set the upper screw so that when the needle-bar or lever J is raised to its highest point the line *g'* will pass the line *g* one-quarter of an inch in the direction of the word "Pleat," then lower the needle-bar to its lowest position, and set the lower screw so that the line *g'* passes half an inch on the opposite side of the line *g*. The ruffling-blade will thus be made to retreat half an inch away from or in front of the needle, and on its stroke in the opposite direction will form a fold one-quarter of an inch wide. It will pass to the rear of the needle one-quarter of an inch, and lay plaits or folds with their edges meeting, and the stitches will be one-quarter of an inch in length.

In the ruffler shown and described in the Letters Patent first above referred to the blade was held down by a presser-spring, on which the raised presser-foot rested or with which it had contact. Instead of such a spring I now prefer to employ the spring N, which exerts a steady and independent pressure, and holds the goods down in advance of the ruffling-blade, while the arm M holds the blade down to its work.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a ruffler or gatherer for sewing-machines, composed of an upper group of parts adapted for attachment to the needle-bar, and of a lower group of parts adapted for attachment to the cloth-plate, of the shield C in the lower group, the said shield having thereon the points *c c*, and being arranged to cover the serrated feed-plate of the machine, the bed-plate B, the spring N, the holder M, the ruffling-blade, the main frame or stock, and means for reciprocating the said blade, substantially as and for the purposes specified.

2. The combination, in a ruffler or gatherer for sewing-machines, of the bed-plate B, the shield C, the separator-blade D, the holder M, the spring N, the ruffling-blade, the main frame or stock, and means for reciprocating the said blade, all arranged for operation together, substantially as and for the purposes specified.

In testimony that I claim the foregoing as my own I hereto affix my signature in presence of two witnesses.

JOHN M. GRIEST.

Witnesses:

F. F. WARNER,
J. B. HALPENNY.