

(No Model.)

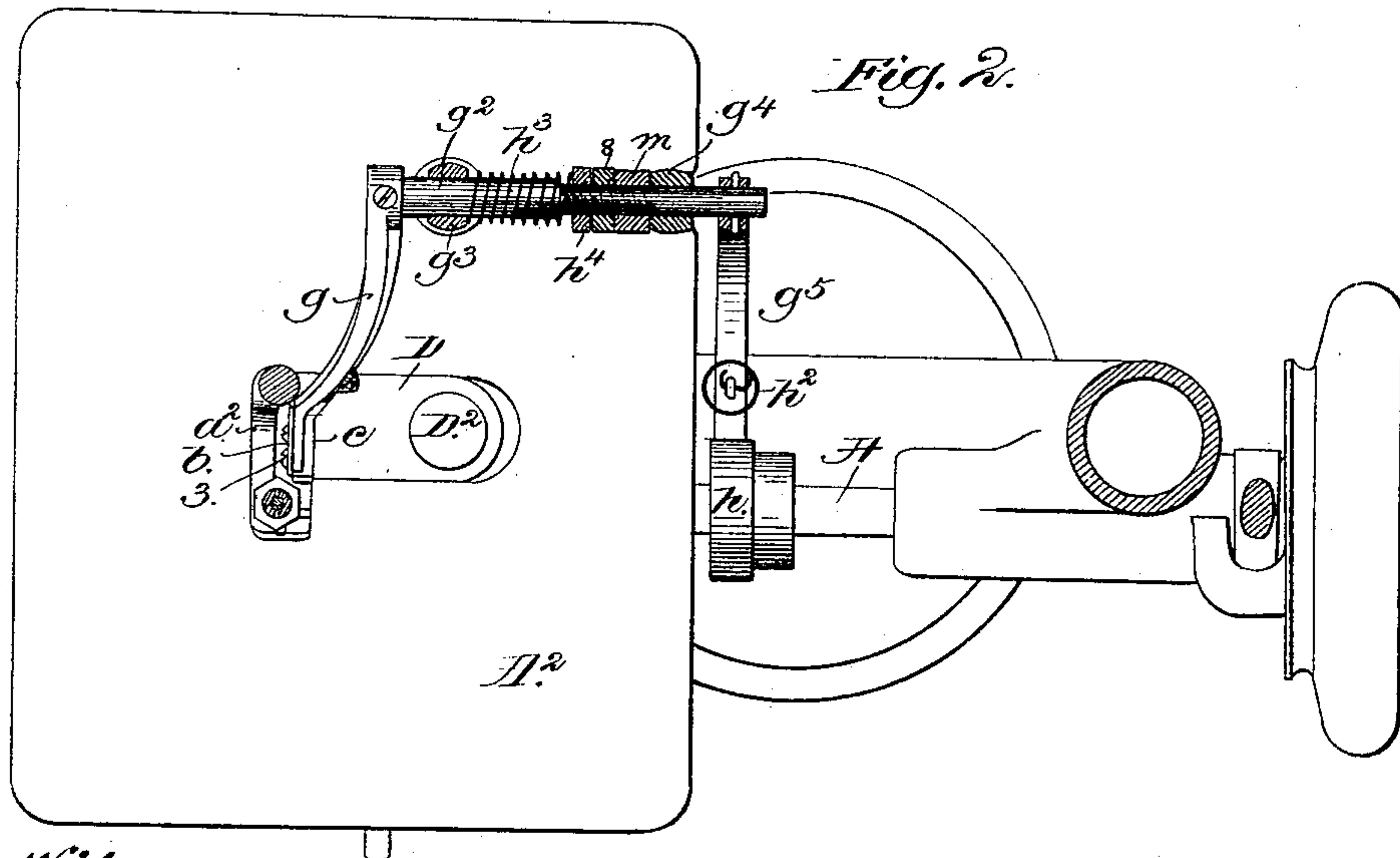
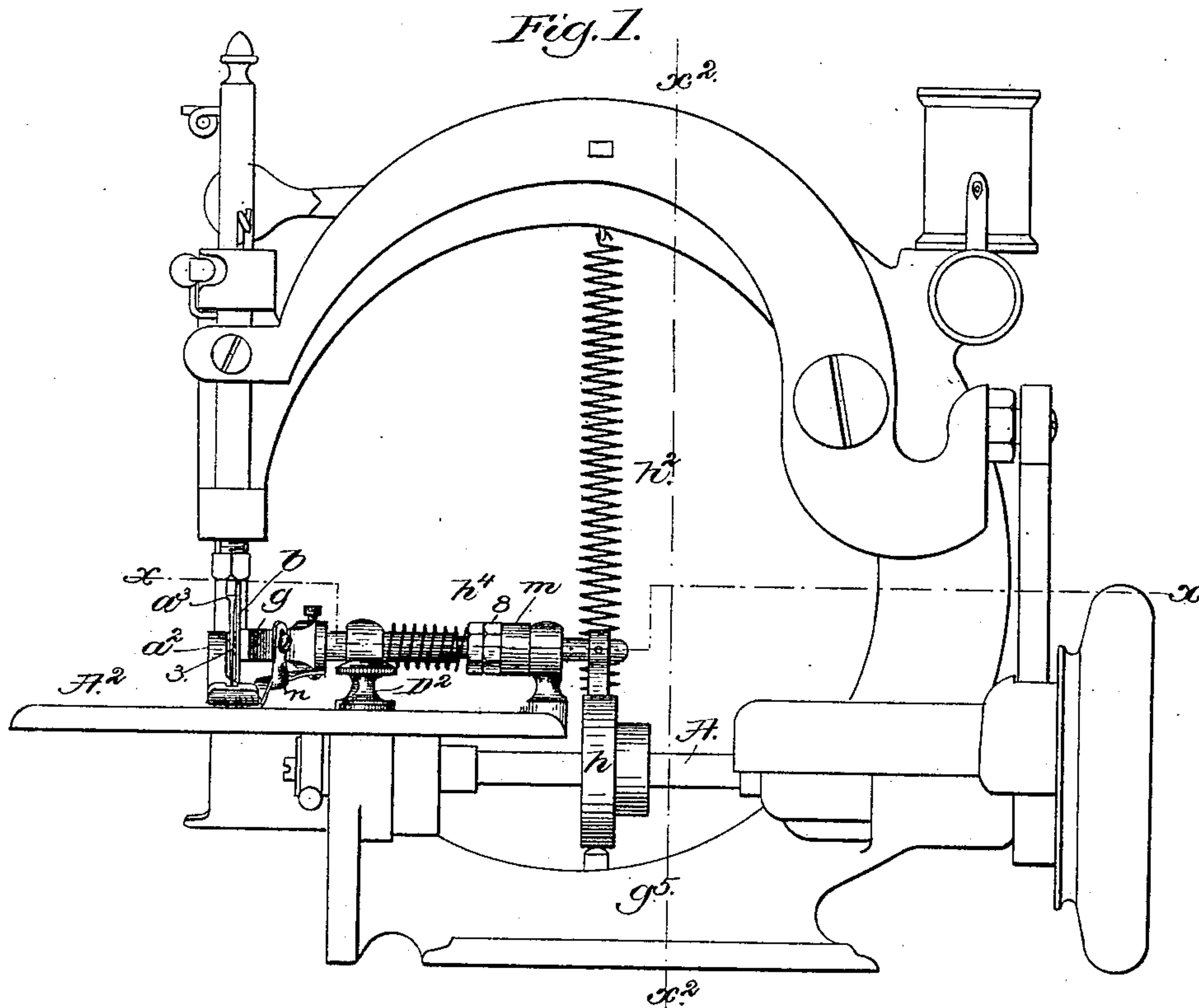
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C. H. BAYLEY.

# TRIMMING ATTACHMENT FOR SEWING MACHINES.

No. 273,936.

Patented Mar. 13, 1883.



Witnesses,  
John F. C. Trinker  
Fred A. Powell

Inventor,  
Charles H. Bayley  
by Crosby Gregory atty.

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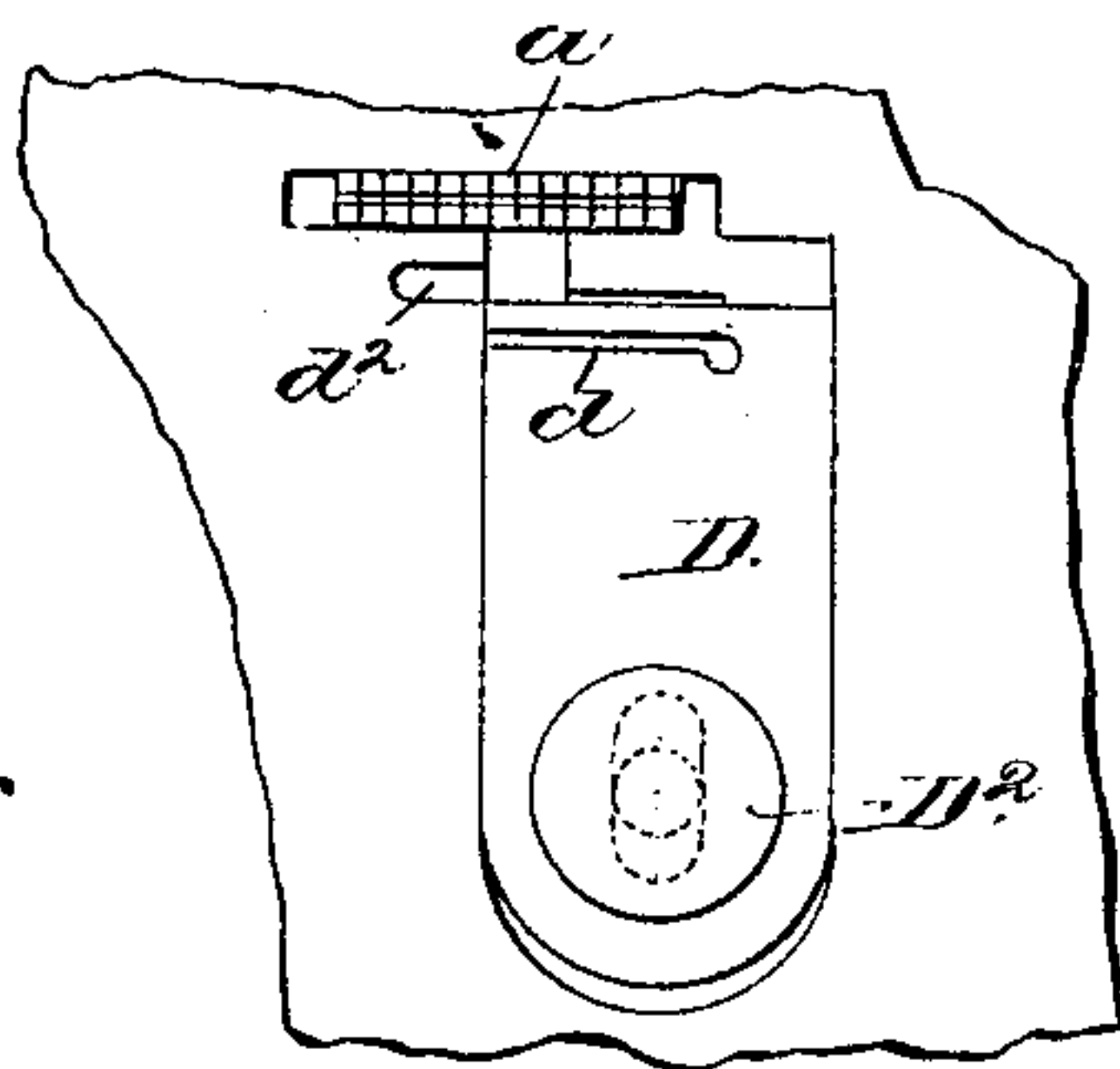
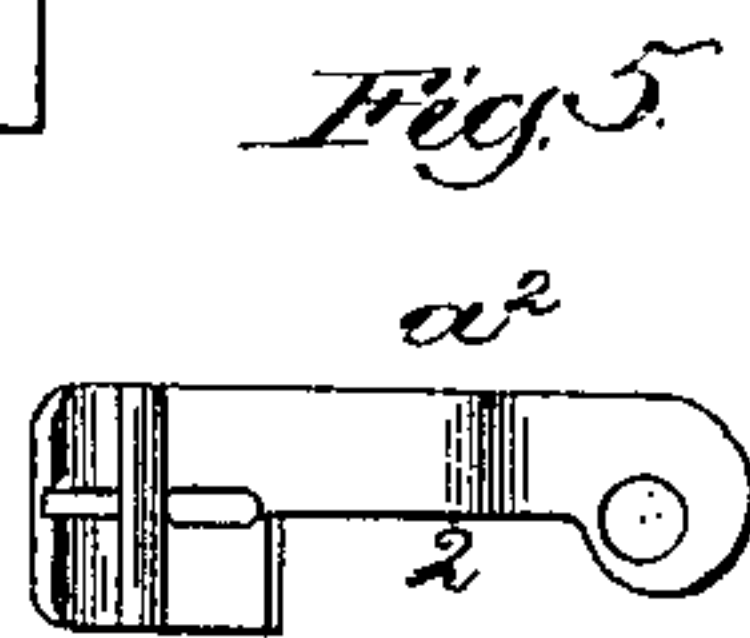
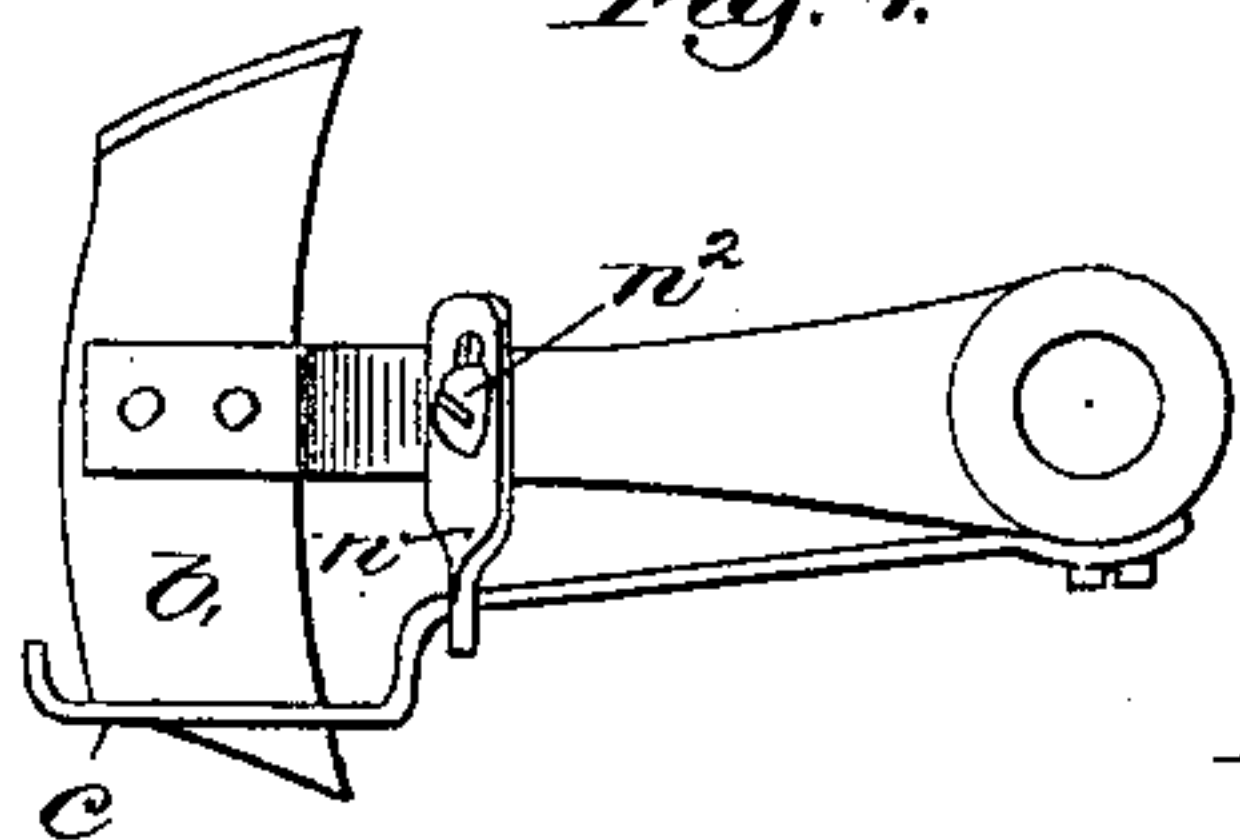
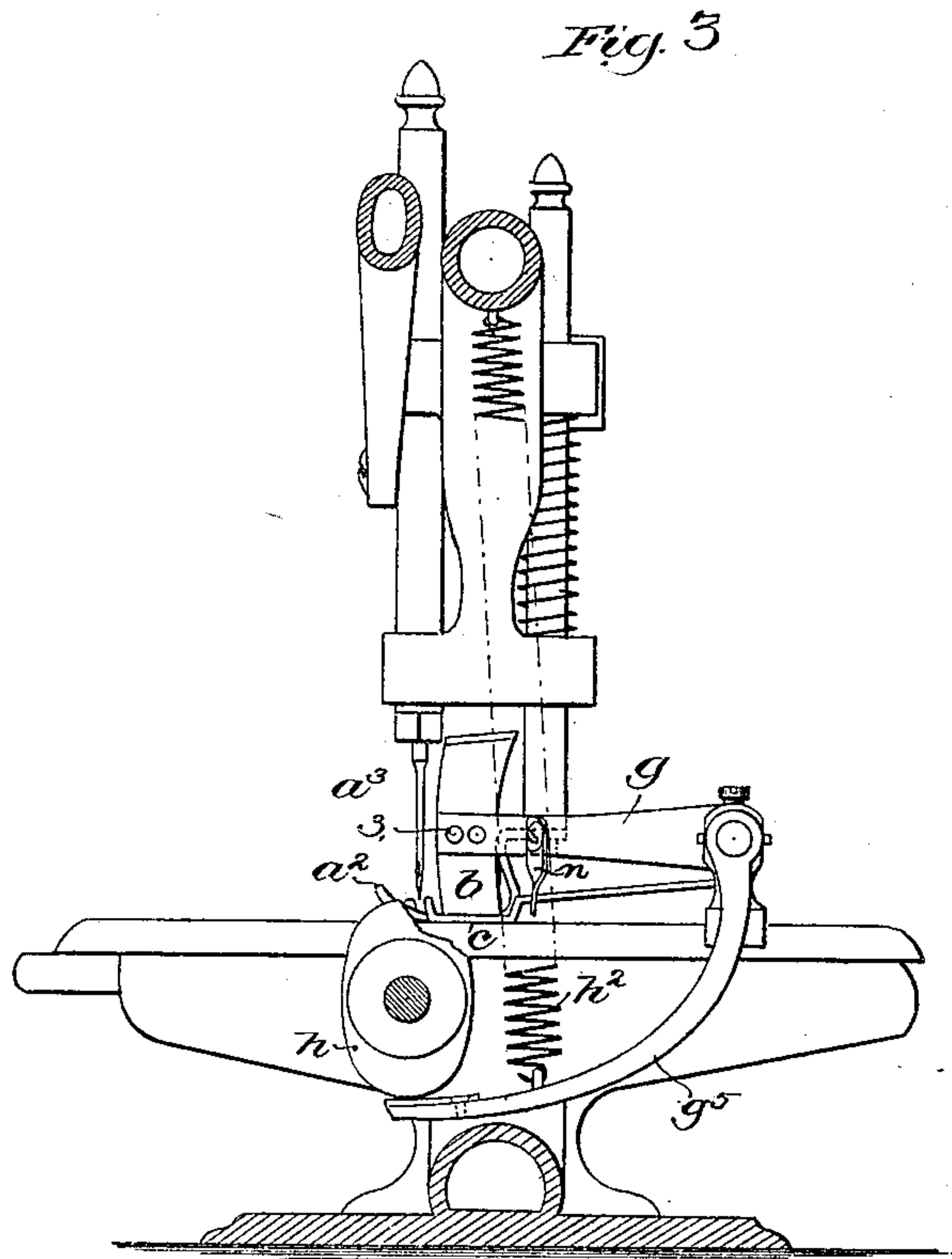
2 Sheets—Sheet 2.

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# TRIMMING ATTACHMENT FOR SEWING MACHINES.

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Patented Mar. 13, 1883.



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John F. C. Frinkert  
Fred A. Powell.

*Inventor:*  
*Charles H. Bayley*  
*by Crosby & Gregory*  
*attys.*



# UNITED STATES PATENT OFFICE.

CHARLES H. BAYLEY, OF BOSTON, MASSACHUSETTS.

## TRIMMING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 273,936, dated March 13, 1883.

Application filed June 19, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES H. BAYLEY, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in  
5 Trimming Attachments for Sewing-Machines, of which the following description, in connection with the accompanying drawings, is a specification.

My invention has for its object the production of a simple and efficient apparatus to  
10 trim the edges of cloth, leather, or knitted goods while being stitched on a sewing-machine.

In my trimming attachment I employ a reciprocating blade, herein shown as carried by  
15 an arm of a rock-shaft, and a pressing-pad to descend upon the material at the side of the presser-foot just before the blade acts to cut the material, the said pressing-pad being free  
20 to yield more or less to adapt itself to the thickness of the material being trimmed. The blade, as it descends through the material, enters a slot in an adjustable throat-plate held in the bed-plate of the machine, with its end  
25 at the side of the feeding device, back of the needle-hole.

Figure 1 represents in side elevation a Willcox & Gibbs sewing-machine with my improvement applied thereto; Fig. 2, a section  
30 on the line  $x x$ , Fig. 1, looking down upon the machine; Fig. 3, a vertical section on line  $x^2 x^2$ , Fig. 1, looking toward the left; Fig. 4, a detail of the knife and its carrying-arm, the pressing-pad, and its adjustable lifting device; Fig. 5, a top view of the presser-foot; Fig. 6, a detail of the bed-plate, adjustable throat-plate for the blade, and the feed;  
35 and Fig. 7, a top view of the pressing-pad.

The sewing-machine herein shown, being  
40 well known, need not be herein particularly described, further than that  $A$  is the main shaft, which actuates the sewing parts, all of usual construction.

The bed-plate is designated by  $A^2$ , the feeding device by  $a$ , the presser-foot by  $a^2$ , and the  
45 needle by  $a^3$ .

The inner side of the usual presser-foot,  $a^2$ , (see Figs. 2 and 5,) is cut away, leaving a space, 2, (shown in Fig. 5,) in which the blade  
50  $b$  and pressing-pad  $c$  work.

The bed-plate  $A^2$  has let into its top a throat-plate,  $D$ , slotted at its front end, at  $d$ , for the passage of the blade  $b$ , the said plate being held in adjusted position by the screw  $D^2$ . The blade  $b$ , made reversible, so that either end  
55 may be used, is connected with the arm  $g$  by screws 3 3. The arm  $g$  is attached to the rock-shaft  $g^2$ , held in the upright bearings  $g^3 g^4$ , and has a second arm,  $g^5$ , which is struck by the cam  $h$  on the main shaft  $A$ , the said arm being  
60 held up by a spiral or other spring,  $h^2$ . The rock-shaft  $g^2$  is surrounded by a spring,  $h^3$ , which at one end rests against the bearing  $g^3$ . Its other end rests against the adjustable nut  $h^4$ , having behind it a check-nut,  $S$ , and at the  
65 rear of that a loose washer,  $m$ . The adjustment of the nut  $h^4$  permits the rock-shaft  $g^2$  to be adjusted horizontally, and as the end of the blade  $b$  always remains in the slot in the throat-plate it follows that when the rock-  
70 shaft  $g^2$  is moved horizontally to place the blade at a greater or less distance from the needle, the throat-plate, the screw  $D^2$  having been loosened, will also be moved horizontally in unison with and by the blade. 75

The pressing-pad  $c$ , made as a spring-arm, connected with the arm  $g$  or moving with the rock-shaft  $g^2$ , is so timed and actuated with relation to the blade  $b$  as to descend upon the material being sewed and to be trimmed just  
80 as the blade touches the said material, the said pad and the presser-foot co-operating together to hold the said material from slipping on the bed-plate or from being pushed with the blade into the slot  $d$ . The cam  $h$  is so shaped (see  
85 Fig. 3) as to cause the blade to descend twice at each rotation of the shaft  $A$  and reciprocation of the needle, such action of the blade enabling it to cut the material with greater certainty. The blade descends for the first time  
90 just as the needle is to penetrate the material, the feeding device being then fully forward, and the second time while the needle is rising from the material and the feeding device is being drawn back under the material. 95

If desired, one of the throw parts of the cam  $h$  may be longer than the other, to make the blade at each second descent, or as the needle is rising from the material, descend a little lower than at its first descent, the said blade, 100



when thrown down to its greatest distance, by reason of the inclination of the edge of the blade, cutting a little farther than at its first descent. By the arm *g* and rock-shaft the blade will be reciprocated in the arc of a circle. I prefer to reciprocate the blade by devices such as described; but I consider that the blade might be reciprocated vertically by other mechanism than that herein shown, and, if employed with the pressing-pad, yet be within the scope of my invention.

The pressing-pad *c* is lifted from the material, so as not to impede the feed of the fabric, by an adjustable pad-lifter, *n*, connected by screw *n*<sup>2</sup> with the arm *g*, adjustment of the pad-lifter enabling the pad to be adapted to operate correctly with material of different thickness or character. The outer edge of this pad *c* holds the material to be cut close to the edge of the slot *d*, through which the blade is to descend. The blade will cut the material very close to the seam just at the rear side of the needle-hole *d*<sup>2</sup>.

I have herein affixed the bearing-pieces *g*<sup>3</sup> *g*<sup>4</sup> to the bed-plate *A*<sup>2</sup>; but, if desired, the said bearing-pieces may be attached to a separate plate, made adjustable on the bed-plate by a thumb-screw.

When one end of the blade becomes dull or too much worn or broken the blade may be reversed and its other end used.

In this my trimming attachment I have, as I believe, for the first time employed with the sewing mechanism of a sewing-machine a blade which is reciprocated oftener than the needle, to thus enable the blade to strike and cut the material twice for each complete reciprocation of the needle, such increase of speed in the blade and its repeated strokes acting in a superior manner to sever the material with a clean cut, especially soft goods, and when the feed is adjusted for a long stitch and the descent of the blade varies at alternate thrusts two cuts are taken for each stitch, the blade at each descent cutting only its proper proportion of the material.

The Willcox & Gibbs sewing-machine herein shown has at the end of the shaft *A* the usual rotating hook, which, co-operating with the thread of the needle, makes a loop or chain stitch, as is well understood.

In this my invention, to enable the fabric to be trimmed properly, it is not necessary that the blade come in contact with the throat-plate at either side of its slot.

I am aware that it is not new to pivot a plate upon the throat-plate, near the needle-hole, the said plate having an open notch at one side to permit the passage of a cutting-blade between the edge of the said plate and an edge

of the throat-plate, as in Patent No. 239,983. In this my invention the plate which supports the material where it is cut has a slot made in it, a part of the metal of the said plate always co-operating with the blade at each side of it. In my invention the slotted plate is a sliding not a pivoted plate, and in all its adjustments the blade working therein trims the material parallel with the line of the seam, which could not be done if the said plate were pivoted, as in the patent referred to. In the said patent it will be noticed that the cutting-edge of the throat-plate nearest the needle-hole always remains stationary, and that adjustment of the so-called "knife-plate" merely widens the slot in which the blade works.

I claim—

1. In a trimming attachment, the bed-plate, the slotted throat-plate adjustably connected therewith, the presser-foot, the blade having its end normally in the slot of the throat-plate, and the pressing-pad, and means to move the said blade and pad to operate substantially as described.

2. The rock-shaft, its arms *g*<sup>5</sup> *g*, means to operate the rock-shaft, and the blade, combined with the pressing-pad, and its lifting device connected with arm *g*, substantially as and for the purpose set forth.

3. The bed-plate, rock-shaft, its arm *g* and connected blade *b*, the spring pressing-pad, and the adjustable pad-lifter connected with the said arm, combined with the presser-foot and throat-plate, to operate substantially as described.

4. In a sewing-machine for trimming edges parallel with seams, the bed-plate, combined with feeding mechanism, a slotted horizontally-adjustable throat-plate, and a rock-shaft and arm provided with a reciprocating blade to enter the slot of and adapted to be moved laterally with the throat-plate, substantially as described.

5. The combination, with sewing mechanism, of a trimming apparatus having a blade which is reciprocated at a speed in excess of the reciprocations of the needle.

6. The plate *A*<sup>2</sup>, provided with the needle-hole, and with a slot for the feeding device, combined with an independently-adjustable slotted throat-plate to receive and guide the point of the cutting-blade, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES H. BAYLEY.

Witnesses:

G. W. GREGORY,  
B. J. NOYES.