

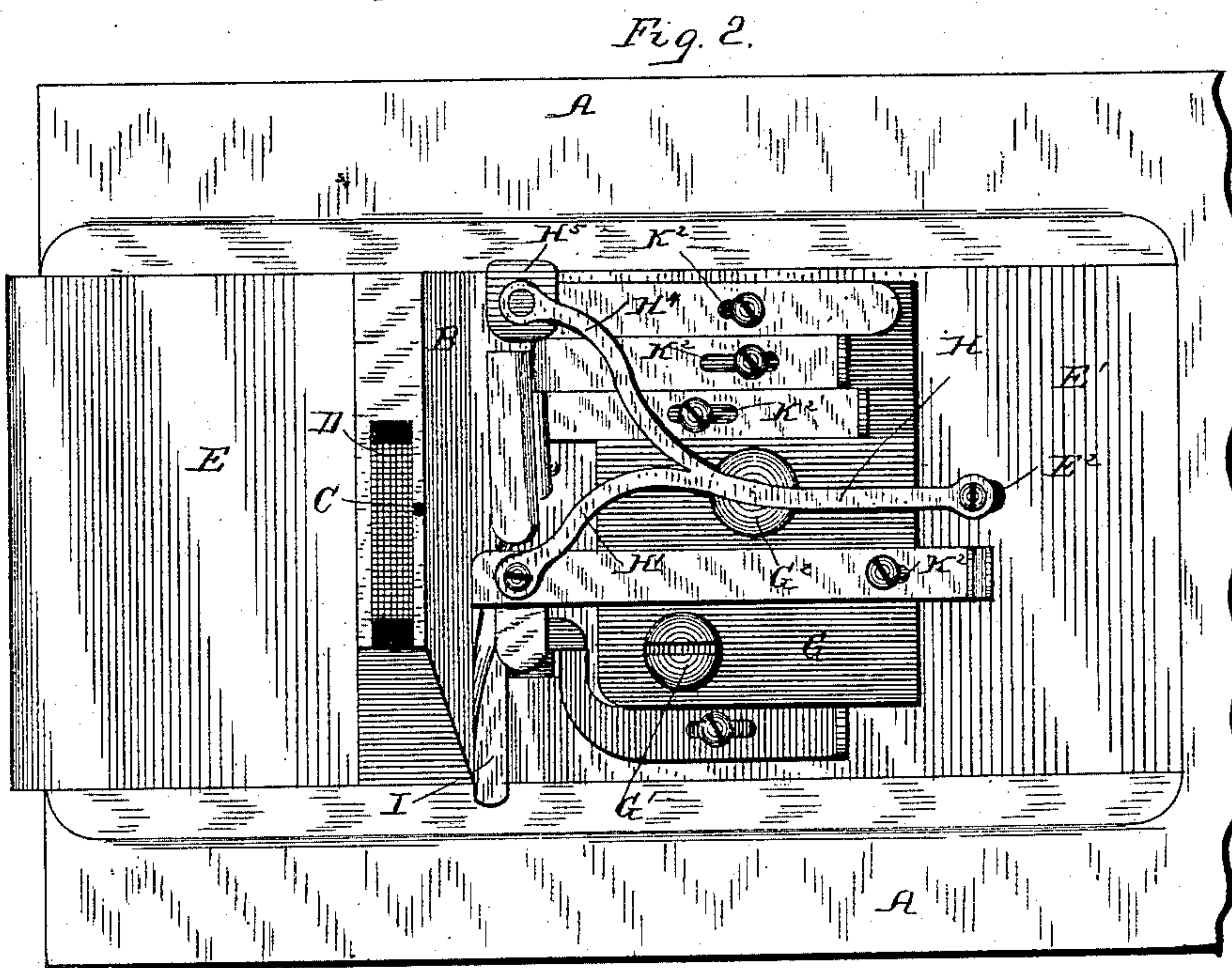
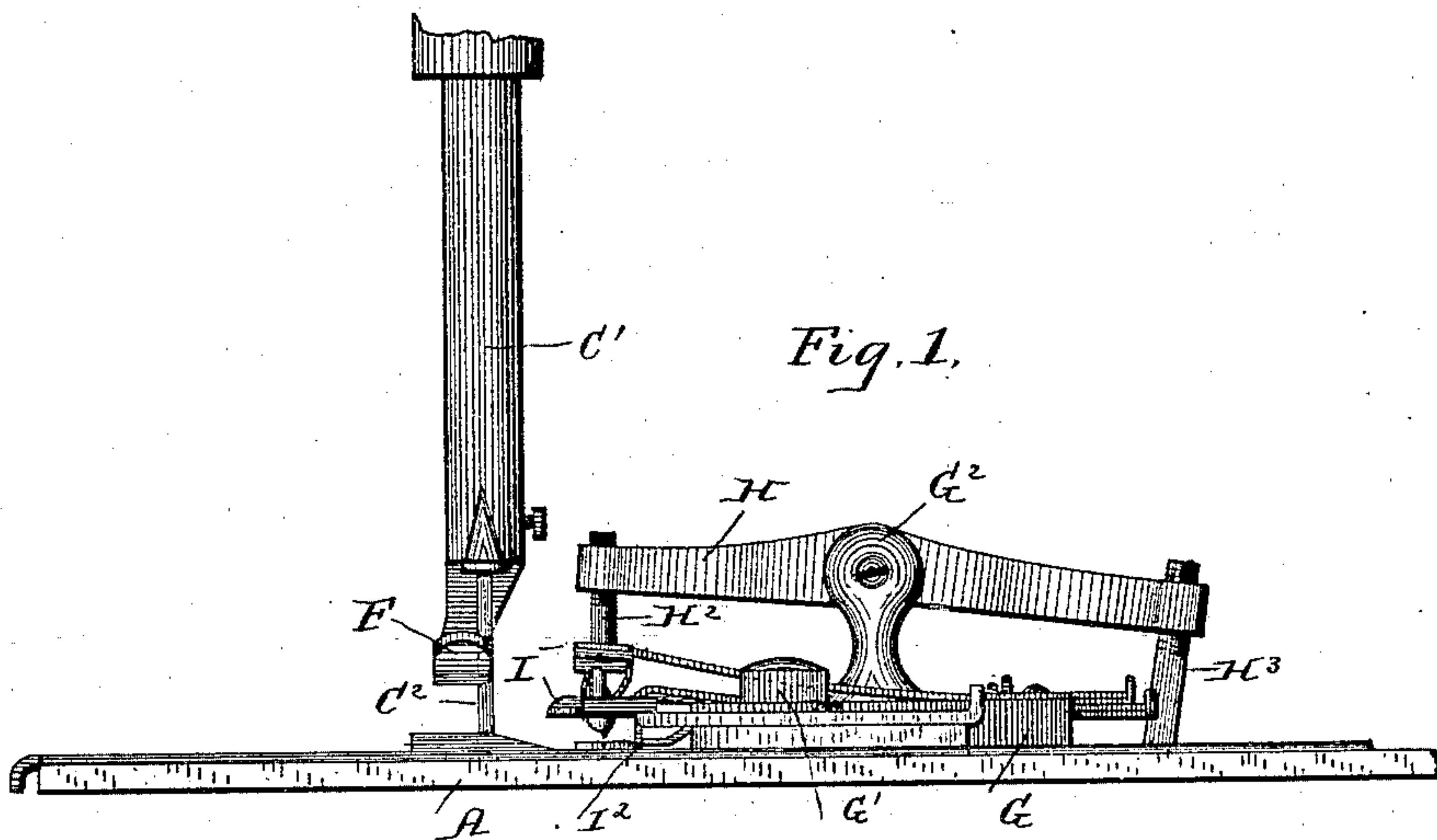
(No Model.)

2 Sheets—Sheet 1.

W. R. SOMERS.  
SEWING MACHINE ATTACHMENT.

No. 308,858.

Patented Dec. 2, 1884.



Witnesses:  
W. A. Jones.  
A. B. Daxshild

Inventor:  
William R. Somers  
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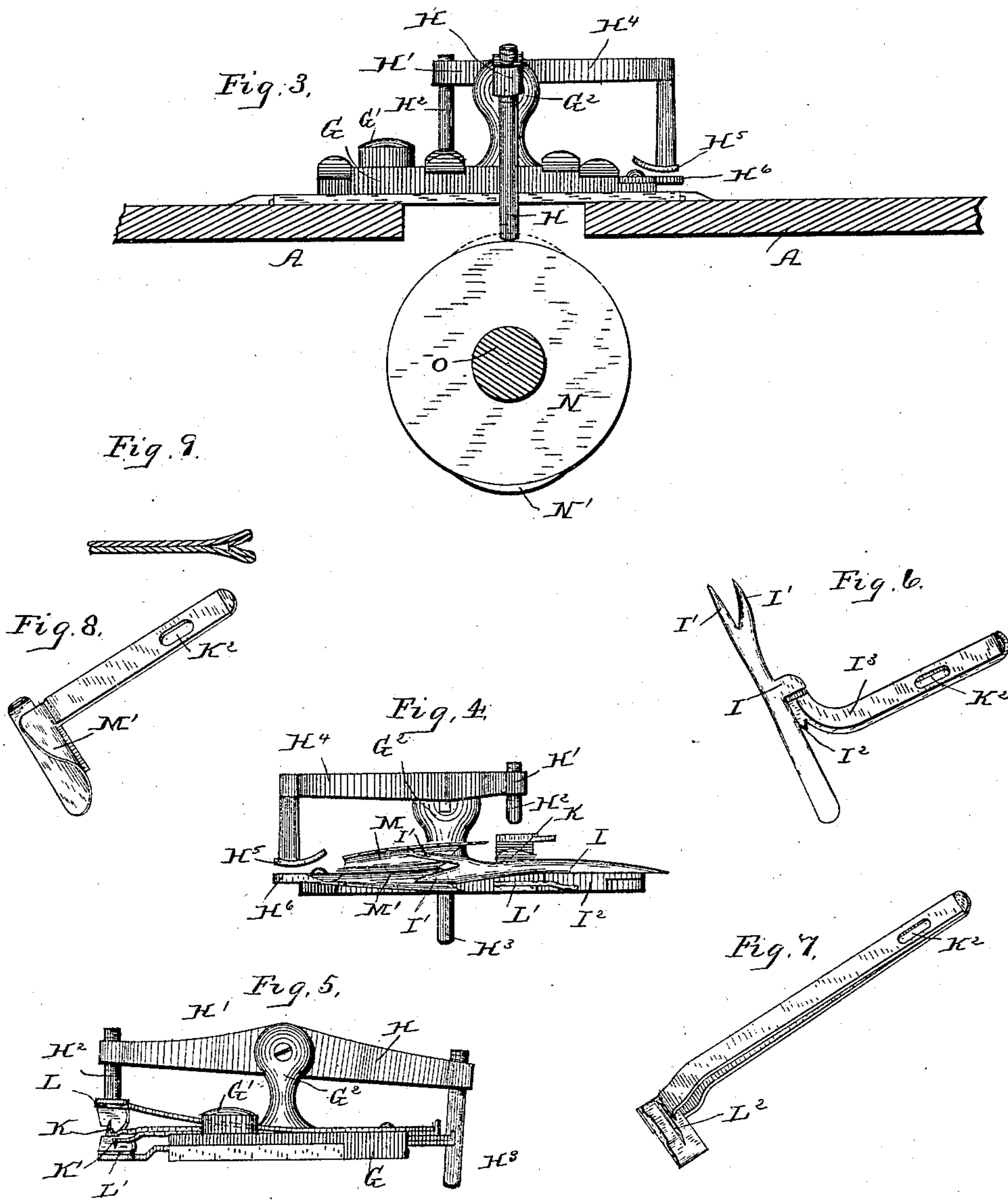
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2 Sheets—Sheet 2.

W. R. SOMERS.  
SEWING MACHINE ATTACHMENT.

No. 308,858.

Patented Dec. 2, 1884.



Witnesses:  
W. A. Jones,  
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Inventor:  
William R. Somers  
By A. M. Wooster  
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# UNITED STATES PATENT OFFICE.

WILLIAM R. SOMERS, OF BRIDGEPORT, CONNECTICUT.

## SEWING-MACHINE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 308,858, dated December 2, 1884.

Application filed July 15, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM R. SOMERS, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Sewing-Machine Attachments for Turning in the Edges of Two Plies of Material as they are Stitched; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is applicable to different styles of machines, and is especially adapted for use in the manufacture of corsets.

The object of my invention is to produce a device which will serve as a gage or guide for the edges of two thicknesses or "plies" of material as they are being stitched together, and which at the same time will fold both edges inward and press them down.

Heretofore in the manufacture of corsets it has been necessary to turn in and fold the edges of the two plies separately, either by hand or otherwise, and the plies have been stitched together both before and after folding, but wholly independently of said folding. The result has been that it was impossible to produce two corresponding sections without there being perceptible variation in their size, shape, and curvature, which has been so apparent in the completed corsets that molding and other methods of stretching the corsets have been resorted to with the view of overcoming as far as possible the differences in size in the same lot of corsets, and also the imperfections in their contour, owing to the uneven turning in of the edges and the irregularity of the seams. These serious objections are entirely overcome by the novel and simple device which I have invented, and will now proceed to describe, referring by letters to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of the device as it appears in position on the bed of a machine; Fig. 2, a plan view in position; Fig. 3, a rear end elevation, with the bed of a machine in section, and showing one means of operating

the device, which is a cam or projection secured to the periphery of the variable-motion flange, as in a Wheeler & Wilson No. 10 machine; Fig. 4, a front end elevation of the device detached; Fig. 5, a side elevation detached, the separator being removed; Fig. 6, a perspective of the separator; Fig. 7, a perspective of one of the markers and its corresponding plate; Fig. 8, a perspective of one of the folders; and Fig. 9, an enlarged section of the two plies of material, showing the edges as folded under by the attachment.

Similar letters indicate like parts in all the figures.

A is the bed of the machine; B, the cloth-plate; C, needle-hole; C', needle-bar; C<sup>2</sup>, the needle; D, the feed; E and E', the slides, and F the presser-foot, all of which are of ordinary construction.

G is the plate of the attachment, which is secured to plate E' by a set-screw, G'.

G<sup>2</sup> is a standard projecting upward from plate G, the upper end of said standard being forked to accommodate the vibrating arm H, which is pivoted in the fork. This arm is provided with two branches, as will be more fully explained.

I is the separator, preferably having upper and lower branches, I' I', and pivoted to plate G by a set-screw passing through a slot, K<sup>2</sup>, in shank I<sup>3</sup>. In heavy work, if preferred, the upper branch may be omitted.

I<sup>2</sup> is a gage, preferably made integral with the separator, which serves as a guide to the edge of the lower ply of the material as it passes into the attachment. The exact shape of the separator is not an essential feature.

K is the upper marker, and K' the lower marker. These markers are simply plates of metal, with their outer ends turned upward or downward, as may be, and secured to plate G by set-screws passing through slots K<sup>2</sup> in their shanks.

L is a marker-plate corresponding with marker K, and L' a similar plate corresponding with marker K'. The shanks of the marker-plates are preferably united to the shanks of the markers, as shown in Fig. 7, and both are secured to plate G by a single set-screw. The marker-plates are preferably provided



with slight grooves  $L^2$ , corresponding with the markers, into which the cloth is forced to mark or crease it by blows of hammer  $H^2$ , which is adjustably secured in the front branch,  $H'$ , of the vibrating arm  $H$ . The upper ply of the material passes between marker  $K$  and plate  $L$ , and the lower ply between marker  $K'$  and plate  $L'$ . As one marker is placed directly above the other, a single hammer suffices to mark or crease both plies of the material. Just back of the markers are the folders  $M$  and  $M'$ . After being creased by the markers the upper ply of material passes into folder  $M$ , and the lower ply into folder  $M'$ . These folders are curved plates, which act to turn the edges of both plies of material inward, the edge of the upper ply being turned downward and the edge of the under ply upward, the amount of material turned in being determined by the adjustment of the markers. The shanks of the markers extend over plate  $G$ , and are adjustably secured thereto by set-screws passing through slots  $K^2$  in said shanks. It will of course be understood that the folders should be adjusted to correspond with the markers, their shanks being provided with slots  $K^2$ , through which the set-screws pass, to permit of such adjustment. After leaving the folders the material passes under the presser, which consists of a plate,  $H^3$ , riveted or secured in any suitable manner to the rear branch,  $H^4$ , of the vibrating arm.

$H^6$  is a plate having a shank, and secured to plate  $G$  by a set-screw in a similar manner to the other shanks. Both plies of the material pass over this plate as they leave the folders, and are pressed against it by the blows of plate  $H^5$ , which acts to press the turned-in portions down firmly, as indicated in Fig. 9. The only moving part of the attachment is the vibrating arm, to which motion may be imparted in any suitable manner from any moving part of the machine to which the attachment is applied.

In the drawings I have shown the attachment as applied to a Wheeler & Wilson No. 10 machine, in which machine, as a means of imparting motion to the attachment, I rivet or otherwise secure a boss,  $N'$ , upon the variable-motion flange  $N$  upon the main shaft, which is shown in section at  $O$  in Fig. 3.

$H^3$  is a screw-pin at the inner end of the vibrating lever, which passes through an opening,  $E^2$ , in slide  $E'$  and bears upon the flange. As shown in Fig. 1, the upper marker-plate,  $L$ , acts as a spring to lift hammer  $H^2$ , which tilts the vibrating arm sufficiently to place the operating-pin in contact with the periphery of flange  $N$  and holds it in that position. At each revolution of the flange, however, the boss  $N'$  lifts pin  $H^3$  against the power of the spring, thus vibrating lever  $H$  and actuating the hammer and the presser.

The operation is as follows, it of course being understood that the sewing-machine is threaded in the usual manner: The two plies

of material are inserted with their edges parallel and in the same vertical plane—one above, the other below the separator—the edge of the lower ply resting against the gage  $I^2$ , which serves as a guide therefor. The markers act to crease both plies at the point at which it is desired to have the fold made. After the crease is made the upper ply of material passes over the upper branch of the separator when used, and the lower ply under the lower branch thereof. The action of the folders is to curl the edges of the plies over the branches of the separator and turn both of them inward. After passing the folders both plies are pressed down closely by the blows of the presser, as already described.

It will be observed that the separator, markers, and folders are all made adjustable, thus permitting the width of the turned-in portions to be regulated as may be desired, or, as is ordinarily the case in the manufacture of corsets, to permit the upper ply to be turned in slightly more than the under one, leaving the fold of the lower ply projecting slightly beyond the upper one, as indicated in Fig. 9.

As stated above, this invention is particularly applicable in the manufacture of corsets, as it is obvious that the completed sections must preserve the outline of the parts as cut, the edge of one of the parts serving as a guide both for the stitching together of the parts and the turning in of their edges. I thus accomplish an entirely new result, and make it as easy to stitch a perfectly-formed corset as a poorly-formed one, which has been an utter impossibility up to this time, no matter how perfectly the parts were cut, as the turning in of the edges and the stitching together of the parts were separate operations, and usually performed by different persons. I do not, however, propose to limit the use of my invention to the manufacture of corsets, as it is obviously capable of various other uses.

In regard to the number of plies used, I have described the manipulation of two plies only as being the simplest and ordinary use of the attachment. It should be understood, however, that two or even more plies of lighter material may be run into one or both of the folders, should it be desirable, the marking, folding, and pressing being performed in the same manner upon three or more plies as upon two.

It will be readily apparent that my invention is susceptible of various modifications without departing in the slightest from the spirit thereof. I do not, therefore, wish to be understood as limiting myself to the exact construction illustrated in the drawings.

I claim—

1. In a sewing-machine attachment for turning in the edges of two plies of material, the combination of two independent adjustable folders, the presser, and means—as the vibrating arm—for actuating the presser.

2. The folders, the presser, and the vibrat-



ing arm, in combination with a separator which carries the upper and lower plies of material into the upper and lower folders, respectively.

5 3. The folders, in combination with the markers and means—for example, the hammer and vibrating arm—for operating the markers, the separator, and the presser.

10 4. The markers, marker-plates, and separator, in combination with the folders, and the vibrating arm carrying the adjustable hammer, and the presser.

15 5. The markers, marker-plates, one of which serves as a spring to tilt the vibrating arm, separator, and folders, all adjustably held by set-screws passing through slots in their shanks, in combination with the vibrating arm carrying the adjustable hammer and the presser.

20 6. The markers, separator, and folders, in combination with the vibrating arm having upon one side of its fulcrum branches carrying the hammer and the presser, and at its opposite end connected to some moving part of the machine—for example, boss N' upon 25 flange N, against both of which the operating-pin bears.

7. The vibrating arm having an operating-

pin passing through a slot in one of the slides, in combination with flange N, and boss N', the separator, folders, and presser. 30

8. The combination, with the stitch-forming mechanism of a sewing-machine, of folders which turn the edges of two plies of material inward, and a presser upon a vibrating arm operated from a moving part of the machine which presses the edges down, whereby two plies of material may be stitched together, while at the same time the edges of both are folded in and pressed down. 35 40

9. In an attachment for turning in the edges of two plies of material as they are stitched, the following elements in combination: first, a combined separator and gage, which carries the two plies to their respective folders and serves as a gage for the edge of one ply; second, the folders, which turn the edges of both plies inward; third, the presser, and, fourth, means—as the vibrating arm—for actuating the presser. 45 50

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM R. SOMERS.

Witnesses:

A. M. WOOSTER,

A. B. FAIRCHILD.