



(No Model.)

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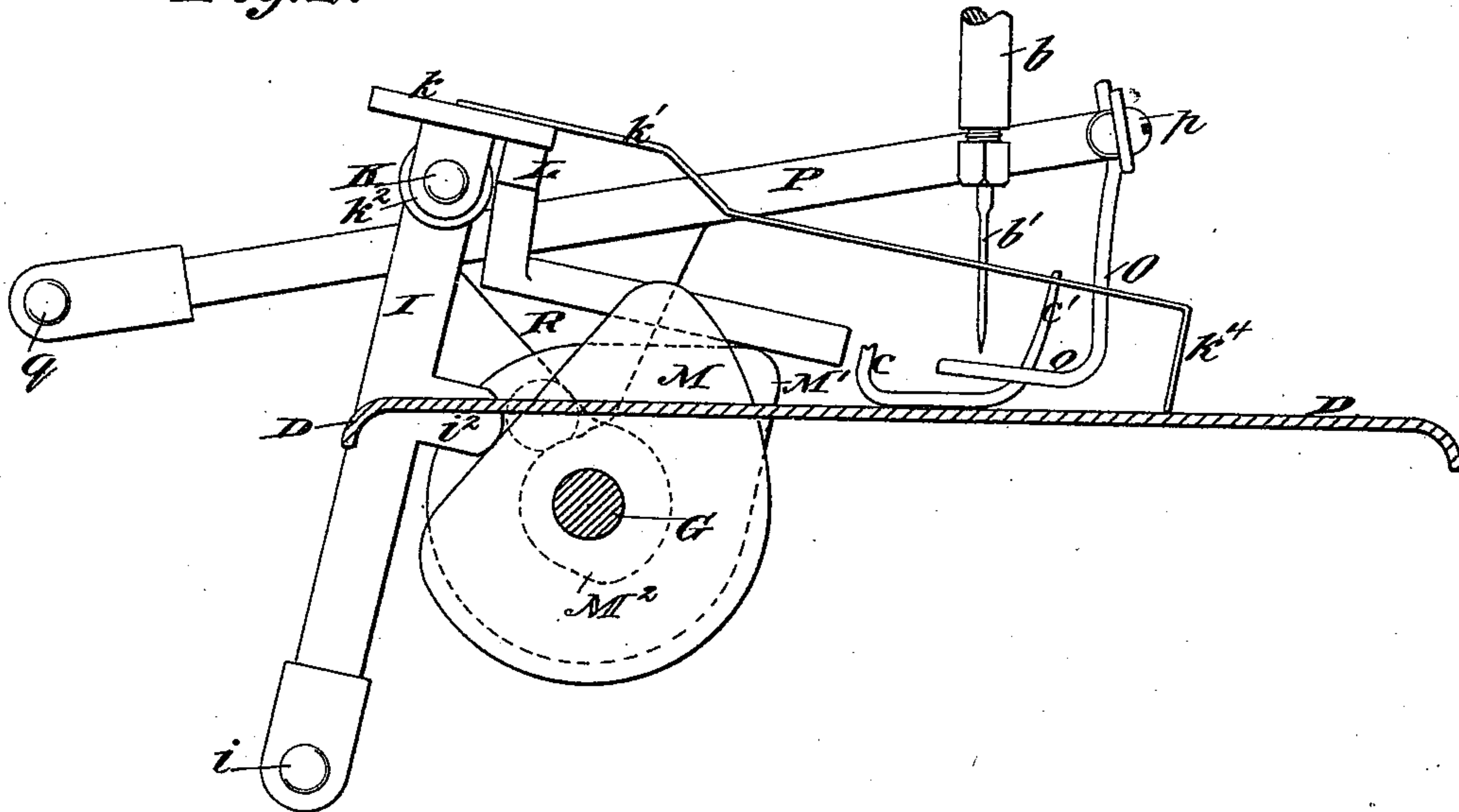
W. T. HOSE.

SEWING MACHINE AND PLAINTING ATTACHMENT THEREFOR.

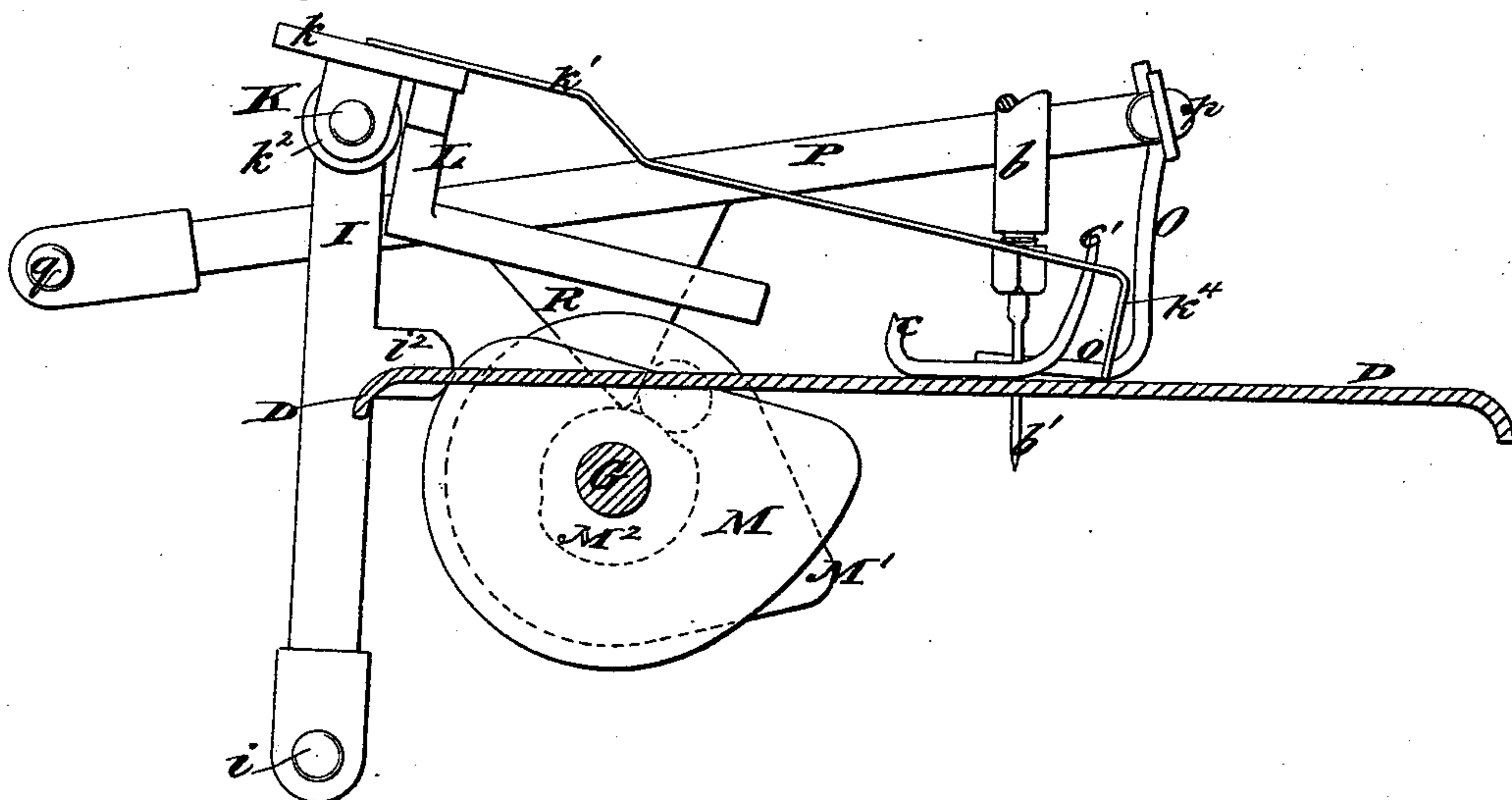
No. 438,811.

Patented Oct. 21, 1890.

*Fig. 2.*



*Fig. 3.*



*Witnesses:-*

D. M. Haywood.

Olundgren

*Inventor:*—

William T. Rose  
by his attorneys  
Brown & Seward



(No Model.)

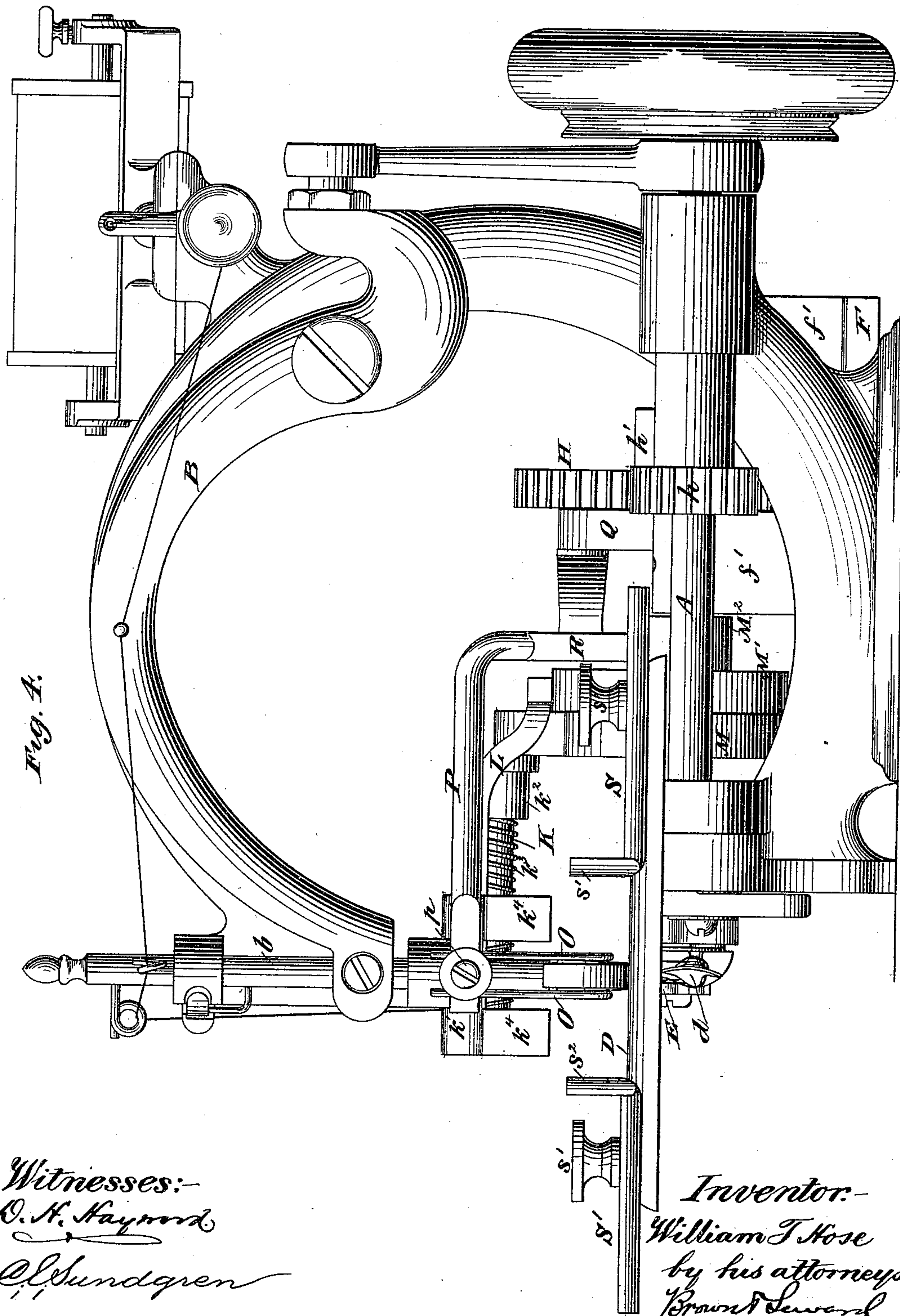
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SEWING MACHINE AND PLAINTING ATTACHMENT THEREFOR.

No. 438,811.

Patented Oct. 21, 1890.



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(No Model.)

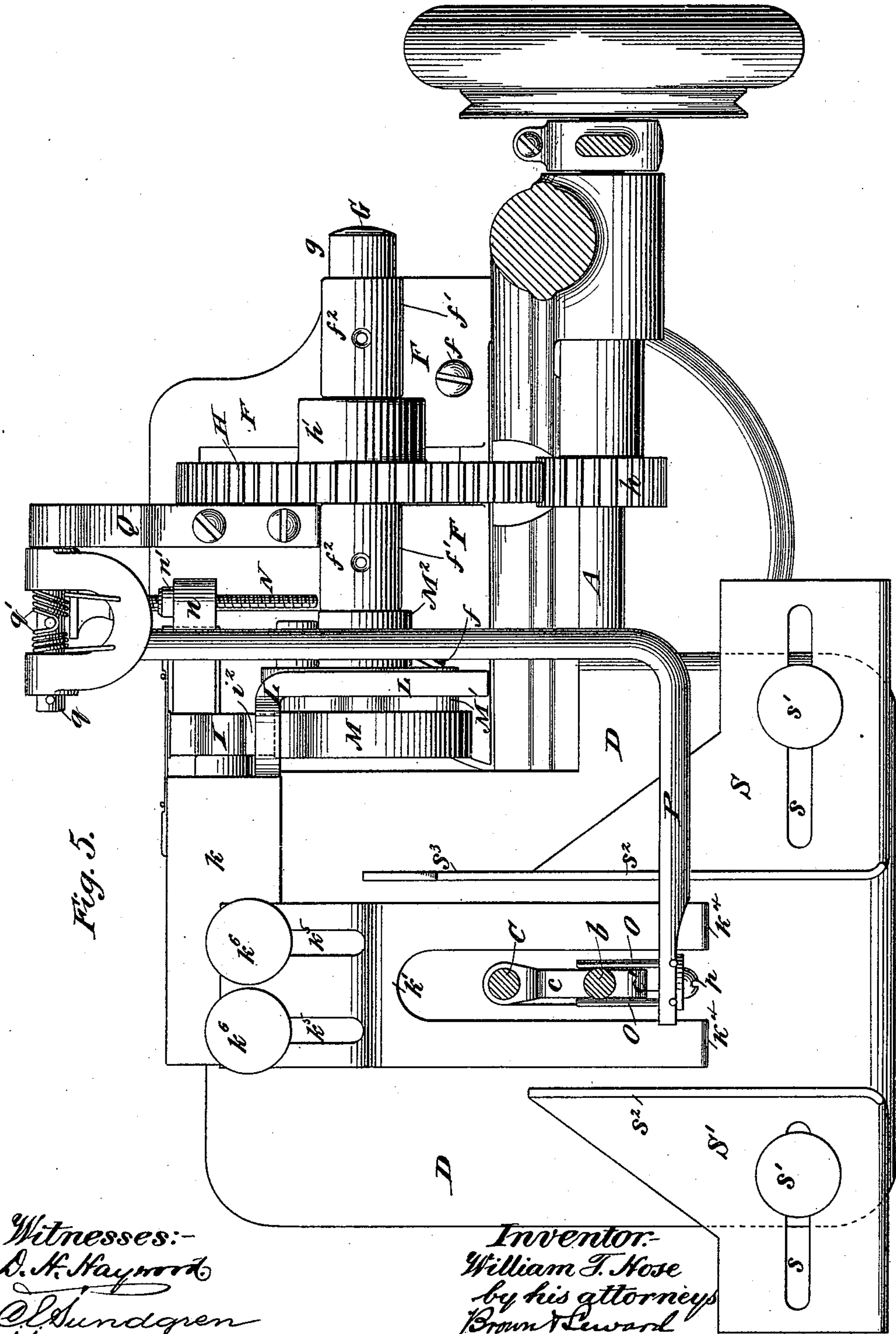
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SEWING MACHINE AND PLAING ATTACHMENT THEREFOR.

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# UNITED STATES PATENT OFFICE.

WILLIAM T. HOSE, OF NEW YORK, N. Y., ASSIGNOR TO LOUIS LEVI, OF  
SAME PLACE.

## SEWING-MACHINE AND PLAITING ATTACHMENT THEREFOR.

SPECIFICATION forming part of Letters Patent No. 438,811, dated October 21, 1890.

Application filed April 8, 1890. Serial No. 347,017. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM T. HOSE, of New York, in the county and State of New York, have invented a certain new and useful Improvement in Sewing-Machine Attachments, of which the following is a specification.

My invention relates to sewing-machine attachments, and in particular to an attachment for the manufacture of trimming—such, for example, as that employed in trimming babies' caps, in which the middle portion of the trimming-strip is plaited and the edges open into series of flutes or corrugations.

A practical embodiment of my invention is illustrated in the accompanying drawings, in which—

Figure 1 is a view of a sewing-machine with the attachment in position for use, the view being taken in end elevation partly in section. Figs. 2 and 3 represent different positions of certain operative parts of the attachment with respect to the work to be done. Fig. 4 is a view in front elevation; and Fig. 5 is a plan view, the overhanging arm of the sewing-machine with the parts attached thereto being omitted.

The sewing-machine which I have herein illustrated in connection with my attachment is of the well-known Wilcox & Gibbs type of single-thread machine.

A denotes the drive-shaft; B, the needle-operating arm; *b*, the reciprocating needle-holder; *b'*, the needle; C, the presser-foot carrier; D, the table or rest for the work; *d*, the hook for forming the stitch, and E the feed-bar. These parts are of well-known structure, and need not be more particularly described herein.

The material to be operated upon by my attachment is supposed to be fed to the machine in a corrugated form, and certain prominent features of my invention are, first, a "pulling-in" device which reaches forward and draws toward the needle one of the corrugations of the material in a manner quite similar to that in which a person holding a hand-rake would reach out and draw grass toward him, and, secondly, a flattener which when the corrugation is drawn in and about to be presented to the needle presses down upon the crown

of the corrugation and flattens it out in opposite directions in a manner somewhat similar to that of a box-plait.

The particular construction of these parts and the means for supporting them and giving them the desired movements are as follows: A supporting-frame F is adapted to be fastened to the base of the sewing-machine by means of screws *f* or other well-known and suitable means, and projects back from said base. The frame F is provided with upright lugs *f'*, in which is supported in suitable bearings a short shaft G, parallel to and preferably about the same height as the drive-shaft A. The bearings in the lugs *f'* may be formed by suitably perforating the lugs at their upper ends, as shown at *f''*, the shaft G being secured in its bearings by means of a collar *g* at one end and one of the series of cams at the opposite end. On the shaft G intermediate of its bearings a spur-wheel H is fixed and meshes with a driving-pinion *h*, fixed on the drive-shaft A. The spur-wheel H is conveniently provided with a hub *h'*, through which a set-screw may be passed to fix it to the shaft.

An uprising arm I is mounted on a stud *i*, projecting horizontally from the rear portion of the supporting-frame F, in such a manner as to rock freely backward and forward. The arm I is drawn forwardly toward the front under the tension of a spring *i'*, engaged with it and its support, and at its upper end is provided with a horizontally-projected arm or stud K, on which is mounted a rocking plate *k*, forming the support for the rear end of the pulling-in device *k'*. The plate *k* is provided with a pair of depending perforated lugs *k''*, through which the stud K extends, and a spring *k'''*, coiled about the arm or stud K and contacting with the plate *k*, serves to hold the forward edge of the plate and hence the pulling-in device connected thereto in a normally depressed adjustment. The pulling-in device, as herein shown, consists of a thin plate bifurcated at its forward end to receive the presser-foot and needle between its branches, and at its extreme front end its branches are bent downwardly, as shown at *k''*. At its rear end said pulling-in



device is provided with a pair of open-ended slots  $k^5$ , through which binding-screws  $k^6$  extend to fix said pulling-in device to its supporting-plate. The slots  $k^5$  also admit of adjusting the pulling-in device forward and backward to bring its hooked free end at a greater or less distance in front of the needle. There is also secured to the supporting-plate  $k$  one end of a bent arm  $L$ , the opposite end of said arm extending forwardly over the outer end of the short shaft  $G$ , for purposes which will hereinafter appear.

On the outer end of the shaft  $G$  a cam  $M$  is secured in such a position that its periphery engages a forwardly-projected bearing  $i^2$  of the rocking arm  $I$ . The cam  $M$  is of such shape that it will during a portion of its rotation allow the arm  $I$ , and hence the pulling-in device carried thereby, to reach forward, and will then force it backward and then allow it to rest in its position during about one-half rotation of the cam, more or less. There is also mounted on the shaft  $G$ , in proximity to the cam  $M$ , a cam  $M'$ , located beneath the forwardly-extending portion of the arm  $L$ , and of such form that during a portion of the revolution of the shaft  $G$  the said cam  $M'$  will engage and lift the arm  $L$ , and thereby rock the plate  $k$  on its support, and thereby lift the front end of the pulling-in device. The cams  $M$  and  $M'$  are so timed that just as the cam  $M$  recedes from the rocking arm  $I$ , and thereby allows the pulling-in device under its spring-tension to reach forward, the cam  $M'$  will lift the pulling-in device from the material sufficiently to clear the crown of one of the corrugations of the goods, and when the pulling-in device has reached the limit of its outward stroke the cam  $M'$  will have receded from the arm  $L$  and allowed the hooked end of the pulling-in device to drop onto the material being operated upon on the table. At this point the cam  $M$  forces the pulling-in device backward, and thereby draws one of the corrugations or folds of the material back into proximity to the forward end of the sewing-machine presser-foot  $c$ .

For purposes of my present improvement I provide the presser-foot  $c$  with an upward turn at its front end and extend the same upward to a greater distance than is usual, as shown at  $c'$ . The purpose of this is to prevent the material from catching over it and to form a suitable guide for directing the folds underneath it.

In order to determine the length of stroke of the pulling-in device to suit folds or corrugations of varying widths, I provide an adjusting-screw  $N$ , which is conveniently seated in a projection  $n$  on the inner side of the arm  $I$ , its free end engaging the rear side of one of the upwardly-extending lugs  $f'$  of the plate  $F$ . I further provide said screw with a nut  $n'$  for locking the screw in the desired adjustment.

As a support for the flattener  $O$  a bent arm  $P$  is provided extending from a point above

and at the rear of the shaft  $G$  forwardly and outwardly to a point in front of the presser-foot and needle, where the upper end of the said flattener is fixed thereto. The flattener may conveniently consist of two wires, or a wire bent  $U$  shape, and secured at their or its upper end by means of a set-screw  $p$  or other suitable clamp, the lower ends being bent rearwardly, as shown at  $o$ , and sufficiently far apart to receive the presser-foot between them. The arm  $P$  is supported at its rear end upon an outwardly-extended stud  $q$ , secured to the top of a standard  $Q$ , fixed at its lower end to the base  $F$  and extending upwardly and rearwardly therefrom. The rear end of the arm  $P$  is conveniently bifurcated, the stud  $q$  extending through the two branches and the spring  $q'$  being engaged with the stud and with the arm in such a manner as to hold the front end of the arm in a normally-depressed adjustment.

The shaft  $G$  is provided with a third cam  $M^2$ , fixed thereon below the arm  $P$  and in position to engage a bearing  $R$ , depending from the arm  $P$ . The cam  $M^2$  is of such form that during a portion of its revolution—about one-quarter—the flattener  $O$  will be allowed to rest in contact with the material being operated upon, and then for about one-half of its revolution it will be lifted slightly from the goods, and then for the remaining one-quarter it will be lifted above the crown of one of the corrugations. The movements of this cam  $M^2$  are so timed with respect to the movements of the cams hereinbefore referred to that the flattener will be held in its position in extreme elevated adjustment, while the pulling-in device draws one of the corrugations or folds beneath it, and will then suddenly drop to its lowermost limit directly on the crown of one of the folds, thereby flattening it out forwardly and backwardly and holding it in such position until one stitch is taken, when it will be slightly lifted from the goods to allow the feed device of the sewing-machine to move the material along in the usual manner.

Upon the table of the sewing-machine an inner guide  $S$  and an outer guide  $S'$  are provided, each of said guides having a slot  $s$ , formed therein, extending transversely to the direction in which the material is fed for the purpose of adjusting the said guides to suit the different widths of trimming to be sewed. Binding-screws  $s'$  extend through the slots  $s$  into the table to secure the guides in position. In practice I prefer to provide the guides with upwardly-projected flanges  $s^2$ , adjacent to the edges of the material, and to extend the flange  $s^2$  of the inner guide farther to the rear than the flange of the outer guide, as shown at  $s^3$ , Fig. 5.

The operation of the several parts has been so fully set forth at the different steps of the description that it is not thought necessary to repeat it here. The corrugated material as fast as it is pulled in and flattened is fed beneath the presser-foot of the sewing-machine.



chine, and a line of stitching is formed along the middle of the strip holding the folds flat at that point, but permitting the edges of the trimming to spread open in fluted form, presenting a very attractive appearance.

While I have shown the attachment in connection with a sewing-machine of the single-thread type, it is to be observed that its use is not limited to such a machine, but that it may be attached to any of the machines in common use with such slight variations in the support as would suggest themselves to the mind of an ordinary mechanic.

It is further evident that slight changes might be resorted to in the form and arrangement of the several parts defined without departing from the spirit and scope of my invention. Hence I do not wish to limit myself strictly to the construction herein set forth; but

What I claim as my invention is—

1. The combination, with the presser-foot and the feed and stitch-forming mechanisms of a sewing-machine, of an attachment comprising a pulling-in device having successive movements upward, forward in a direction opposite that in which the material is fed, downward, and rearward, a flattener independent of the sewing-machine presser-foot, having an upward and downward movement, and means for automatically imparting said movements to the pulling-in device and the flattener, substantially as set forth.

2. A sewing-machine attachment comprising an actuating-shaft, cams secured to said shaft, a rocking arm in engagement with one of the cams, a pulling-in device having a rocking connection at one end with said rocking arm, a cam for lifting the pulling-in device, means for communicating motion from the cam to the said pulling-in device, and a spring for holding the rocking arm in engagement with the cam, substantially as set forth.

3. The combination, with the presser-foot and the feed and stitch-forming mechanisms of a sewing-machine, of an attachment com-

prising an actuating-shaft having cams fixed thereon, an upright rocking arm actuated by one of the cams and carrying a pulling-in device pivoted thereto at its upper end, a rocking arm having an engagement with another of the cams and carrying a flattener independent of the sewing-machine presser-foot, and means for holding the said rocking arms in engagement with the cams, substantially as set forth.

4. The combination, with an actuating-shaft driven by the main shaft of a sewing-machine and provided with a series of cams fixed thereon, of an upright rocking arm in engagement with one of the cams, a spring for holding said arm in engagement with the cam, a pulling-in device secured at one end to said rocking arm and receiving a forward and backward movement thereby, the said pulling-in device having a rocking attachment with the said rocking arm, and an arm having a connection at one end with the said pulling-in device and having an engagement at its opposite end with one of the cams, and means for holding the arm in engagement with the cam, whereby a vertically-reciprocating movement is imparted to the said pulling-in device during its forward and backward movement, substantially as set forth.

5. In combination with the ordinary parts of a sewing-machine, a pulling-in device provided with a hooked bifurcated end reaching in front of the needle, a bifurcated flattener independent of the sewing-machine presser-foot, located between the branches of the pulling-in device, a rocking arm as a support for the pulling-in device, a rocking arm as a support for the flattener, an actuating-shaft common to the two devices, and intermediate mechanisms between the shaft and said rocking arms for imparting the desired motions thereto, substantially as set forth.

WILLIAM T. HOSE.

Witnesses:

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GEO. BARRY.