

(No Model.)

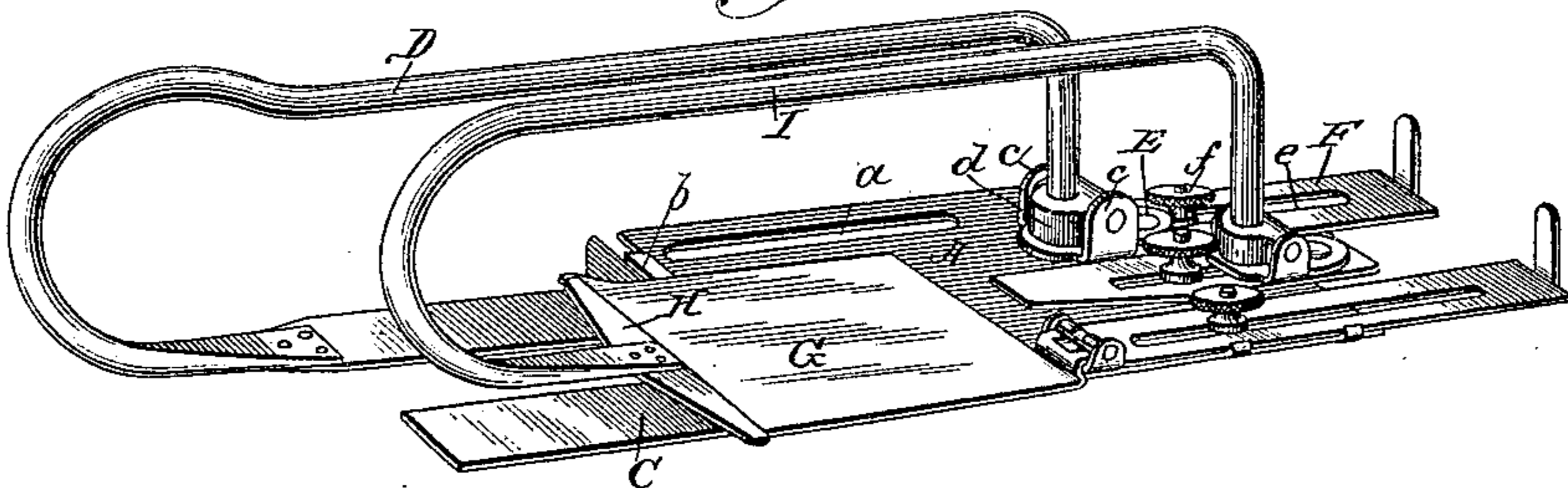
G. J. COUCHOIS.

PLAITING ATTACHMENT FOR SEWING MACHINES.

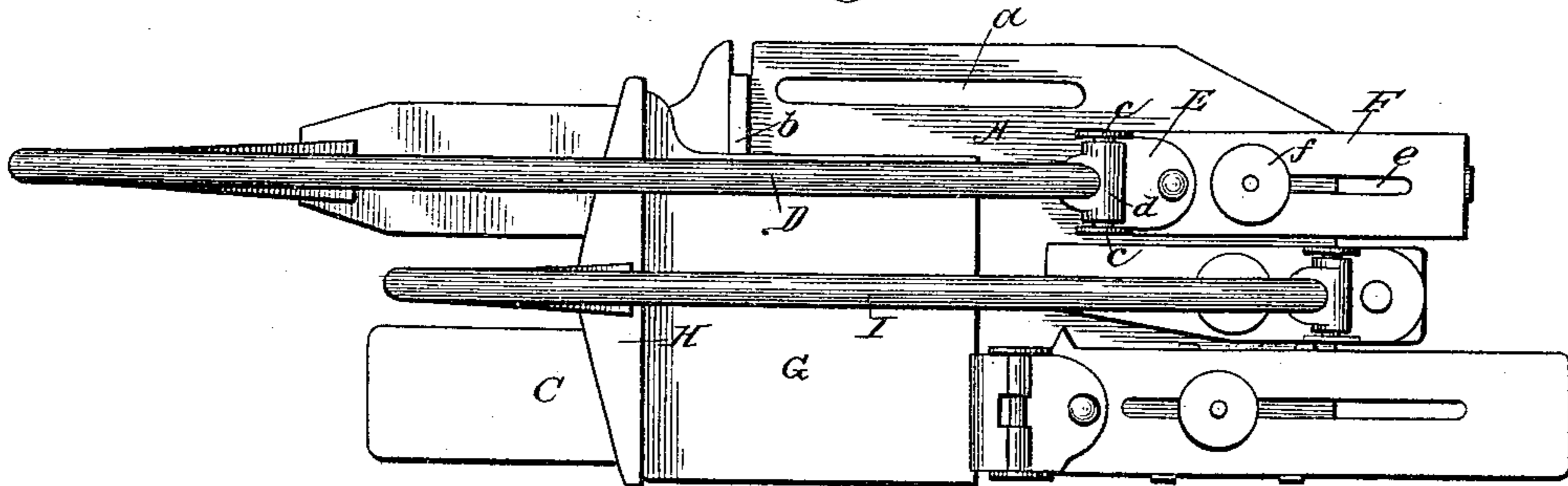
No. 354,101.

Patented Dec. 14, 1886.

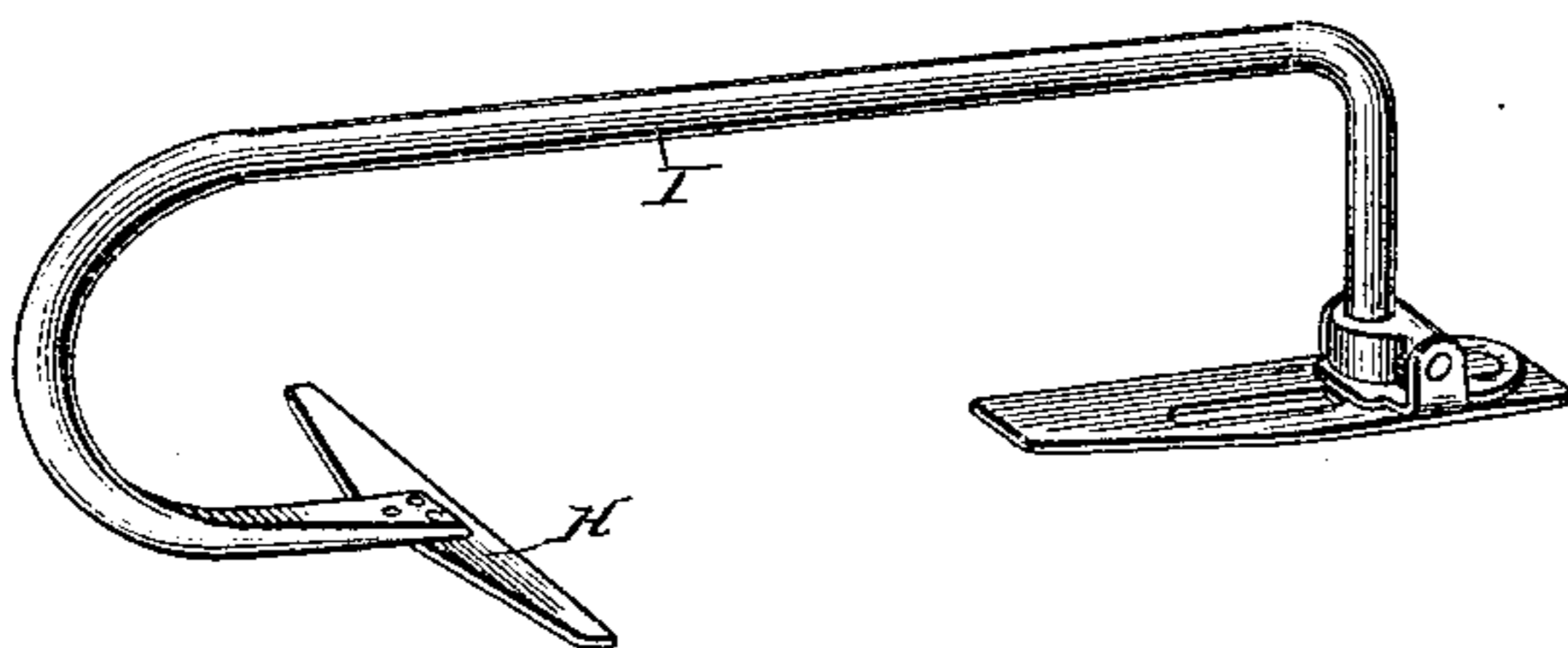
*Fig. 1.*



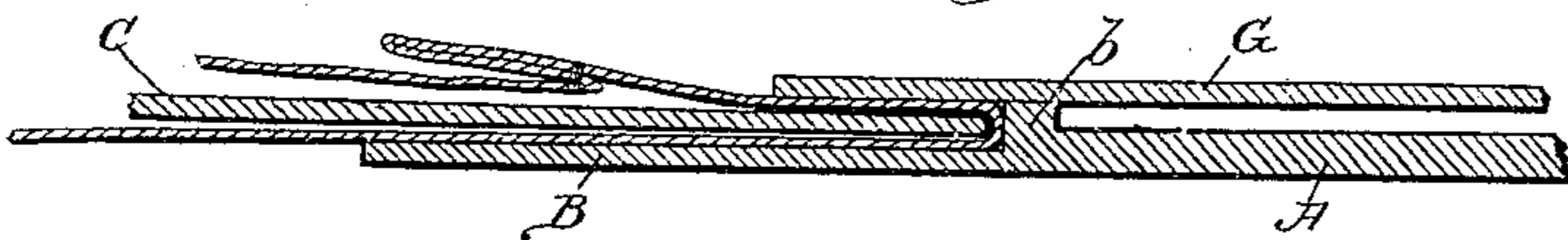
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*

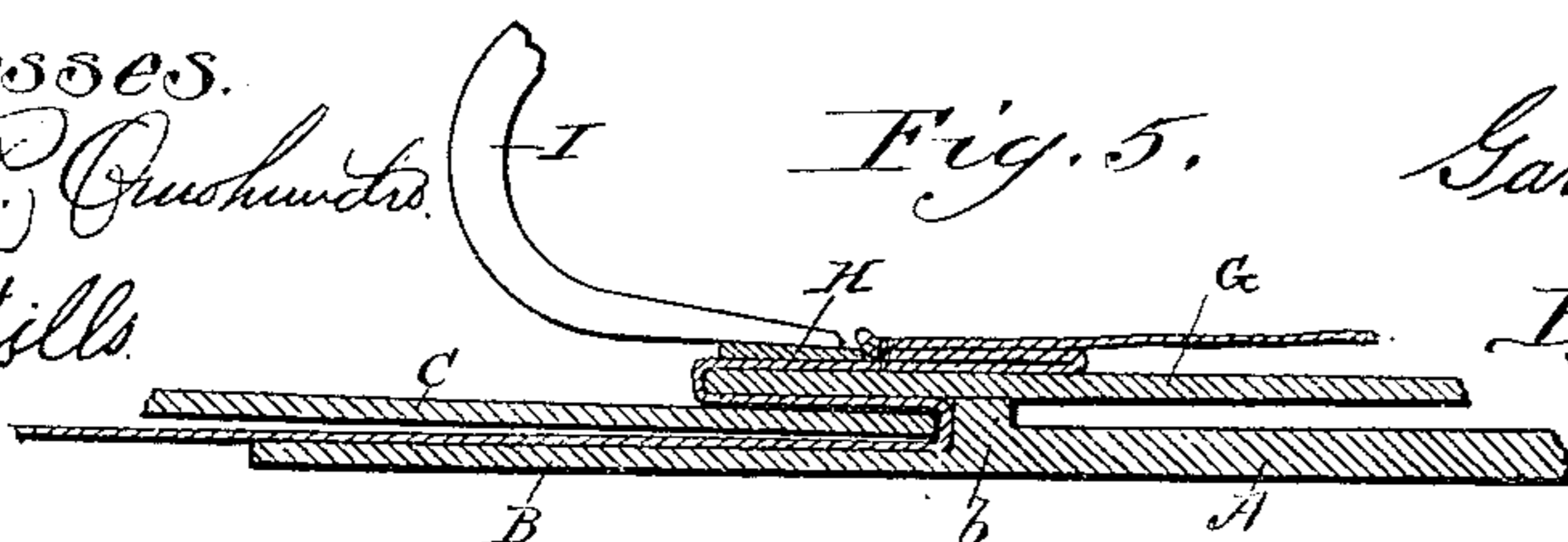


Witnesses.

Will R. Quinlan

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*Fig. 5.*



Inventor.

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# UNITED STATES PATENT OFFICE.

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## PLAITING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 354,101, dated December 14, 1836.

Application filed February 2, 1886. Serial No. 190,595. (No model.)

*To all whom it may concern:*

Be it known that I, GARRETT J. COUCHOIS, a citizen of the United States, residing in Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Plaiting Attachments for Sewing-Machines, of which the following is a specification.

This invention relates to improvements in plaiting attachments for sewing-machines in which the plaits are folded and sewed during their passage through the attachment, the seam of each plait serving as a guide for the next succeeding plait.

The prime object of this invention is to produce a plaiting attachment which shall fold and guide the material during its passage therethrough, and without the necessity of previously folding, creasing, or otherwise marking the material.

Another object is to provide a plaiting attachment by which the width of each plait and the distance between any two of them may be readily determined and fixed, whereby the uniform width and distance apart of each plait throughout its length is insured.

Other objects are to provide certain details of construction necessary to the successful carrying out of my invention, hereinafter fully described, and illustrated in the accompanying drawings, in which—

Figure 1 represents a perspective view of a plaiting attachment embodying my invention; Fig. 2, a plan view thereof; Fig. 3, a detail perspective view of plait gage and guide; Figs. 4 and 5, detail views illustrating the operation of inserting the material into the plaiter.

Referring by letter to the accompanying drawings, A indicates the main or bed plate of my device, provided with a slot, *a*, through which works a thumb-screw for securing the attachment to the bed-plate of the sewing-machine. Projecting from the forward end of this bed-plate, and beyond a shoulder, *b*, extending transversely across said plate, is a lip, B, upon which and abutting against the shoulder *b* normally rests a presser-plate, C, secured to the free end of an overhanging arm, D, which projects upwardly a suitable distance from said plate in the form of a semicircle, and then extends rearwardly in an approxi-

mately horizontal plane nearly to the rear end of the bed-plate A, where it drops in a vertical line to the bed plate, with which it is connected by means of a swiveled hinge-connection. This swiveled hinge-connection consists of a small swivel-plate, E, pivoted at the rear end thereof to a sliding plate, F, and having turned up on either side thereof, and near the forward end, ears or lugs *c c*, to and between which is hinged or pivoted a hinge-block, *d*, rigidly secured to the end of the overhanging arm D.

The swivel-plate E is pivoted to the sliding plate F near the forward end of said plate, which extends rearwardly a suitable distance, and has provided therein a slot, *e*, through which works a set-screw, *f*, for adjustably securing the said plate to the bed-plate A.

Such a connection as the one just described not only permits the elevation of the overhanging arm and presser-plate upon the hinge-connection in a line with the bed-plate, but it may be first swung up on the swivel in an approximately horizontal plane forward or toward the operator and away from under the sewing-machine head and arm, and then upwardly upon its hinge at any angle to the said arm.

Connected with the bed-plate A, near the rear end thereof and by means of just such another hinge and swivel connection as has been described, is a folder-plate, G, adapted and arranged to lie above but in approximately the same plane as the bed and presser plates, and to project above the said presser-plate and forward of the shoulder *b*, by which it is held free from contact with the said plate; or at least the greater portion of the weight of said folder-plate will be sustained by the said shoulder and the presser-plate relieved therefrom, for the purpose of reducing friction between the parts. This folder-plate is employed for gaging and determining the width of each tuck, in addition to its functions as a folder-plate, and it will be readily understood by reference to Figs. 4 and 5 that the said plate lies between and, in point of fact, produces a fold in the material by reason of its projection forward of the shoulder upon the bed-plate, against which the free end of the presser-plate abuts, under which latter plate the goods is first

passed previous to its being folded back and over the said folder-plate, and the distance that the said folder-plate projects beyond the shoulder on the bed-plate regulates and determines the width of each plait, all as will hereinafter be more fully described.

So far as has been described this device is identical with my tucking attachment for which an application for Letters Patent was filed November 24, 1885, Serial No. 182,826, with the exception of a keeping-spring for the holder-plate, which may be dispensed with in my plaiting attachment as being useless and unnecessarily productive of friction between the plates.

In addition to the parts previously described in this device, I employ a combined folder-gage and guide-plate, H, secured to the forward free end of an overhanging arm, I, similar in shape and construction to the overhanging arm D of the presser-plate C, projecting rearwardly and adjustably secured to the bed-plate, preferably between the presser and folder plates, by means of a hinge and swivel connection an exact duplicate of that previously described as connecting said presser and folder plates with the bed-plate. This gage and folder plate rests on top of the main folder-plate G, and is designed to engage and work against the seam of the tuck next previously formed, while at the same time it gages the distance between the plaits, or rather the amount one plait overlaps the other, for in practice the free end of a plait always overlaps the seam of the plait next to it. Thus it will be seen the plate I subserves the double purpose of a gage and plait-guide.

By reference to Figs. 4 and 5 the operation of inserting the material into the plaiter will be readily understood; and it consists, first, in throwing back upon their several hinge and swivel connections the gage-folder and presser-plate, and then laying the material face down upon the bed-plate, with the edge or hem projecting toward the right or rear of the bed-plate, (with reference to the drawings,) and projecting sufficiently over the shoulder *b* thereon. Then bring down the presser-plate and arm D until it rests upon the bed-plate lip B, with the free end thereof abutting against the said shoulder. Then fold the material back over the presser-plate and swing the folder-plate around and down upon it, projecting sufficiently over the shoulder to form the required width of plait, and the parts will now be in the position shown in Fig. 4. Then fold the material again over the folder-plate and bring down upon it the guide or gage plate H, with the free end of said plate engaging or working against the seam of the hem or tuck previously formed, and the parts will now be in the position shown in Fig. 5, and the material ready for delivery to the needle.

The width of each plait is readily determined by the distance the shoulder *b* projects to the right of the needle, and the forward

edge of the folder-plate should project just sufficiently beyond the line of the needle to permit the thread to enter and secure the fold formed by said material to the main body of the material under the presser-plate. Thus it will be seen that the adjustment of the folder-plate gages and indicates the width of each plait, and in order to more readily indicate this width to the operator a suitable scale may be stamped or otherwise formed on the bed-plate and an index-finger formed on the folder-plate, whereby the exact width of each plait may be determined, and without the necessity of measuring.

The guide or gage plate H, which works against the seam of the plait next previously formed, serves to guide the material through the attachment in a perfectly-straight line, thus insuring a uniform width of each plait, and a uniform relation between all of the plaits throughout their entire length, and it is designed to be adjusted so that its operating-edge will rest at any point between the shoulder on the bed-plate and the forward edge of the folder-plate, according to the distance the plait is desired to overlap the seam of the next plait, and, indeed, if desired, may be adjusted to the rear of the shoulder, and thus make each plait stand by itself, as is usual with tucks; but such an adjustment will not be found desirable, for the reason that plaits, in practice, are especially designed to overlap and conceal the seam.

By the employment of my device the necessity for folding, creasing, or otherwise marking the goods to be plaited is entirely avoided, for the plates herein shown and described automatically fold the goods, while the gage or guide plate just described guides the material through the attachment with ease and accuracy, and any novice, however unskilled in the art of sewing, may readily form the most perfect plaits that could be desired.

It is obvious that the hinge and swivel connections herein shown and described might be dispensed with as a hinge connection only, employed especially in connection with the guide or gage plate; but it is preferable to employ the connection shown and described as promoting the utility and convenience of the employment of this attachment.

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

1. In a plaiting attachment for sewing-machines, a bed-plate, a presser-plate, and a folder-plate, in combination with a guide or gage plate, and a hinge-connection between said guide or gage plate and the bed-plate, substantially as described.

2. In a plaiting attachment for sewing-machines, a bed-plate, a presser-plate, and a folder-plate, in combination with a guide or gage plate, and a hinge and swivel connection between said guide or gage plate and the bed-plate, substantially as described.

3. In a plaiting attachment for sewing-ma-

chines, a bed-plate, a presser-plate, and a folder-plate, in combination with a guide or gage plate, an overhanging arm secured at one end to said guide or gage plate, and an adjustable  
5 hinge-connection between said arm and the bed-plate, substantially as described.

4. In a plaiting attachment for sewing-machines, a bed-plate, a presser-plate, and a folder-plate, in combination with a guide or gage  
10 plate, an overhanging arm secured at one end to said plate, and an adjustable hinge and swivel connection between said arm and the bed-plate, substantially as described.

5. In a plaiting attachment for sewing-machines, the bed-plate, the presser and folder  
15 plate, and hinge-connections between the said

plates and the bed-plate, in combination with the guide or gage plate, and a hinge and swivel connection between said plate and the bed-plate, substantially as described. 20

6. In a plaiting attachment for sewing-machines, the bed-plate, the presser and folder plate, and an adjustable hinge and swivel connection between the said plates and the bed-plate, in combination with the guide or gage  
25 plate, and an adjustable hinge and swivel connection between said plate and the bed-plate, substantially as described.

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Witnesses:

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