

No. 814,944.

PATENTED MAR. 13, 1906.

A. H. DE VOE.
FOLDER FOR SEWING MACHINES.
APPLICATION FILED JUNE 17, 1904.

Fig. 1.

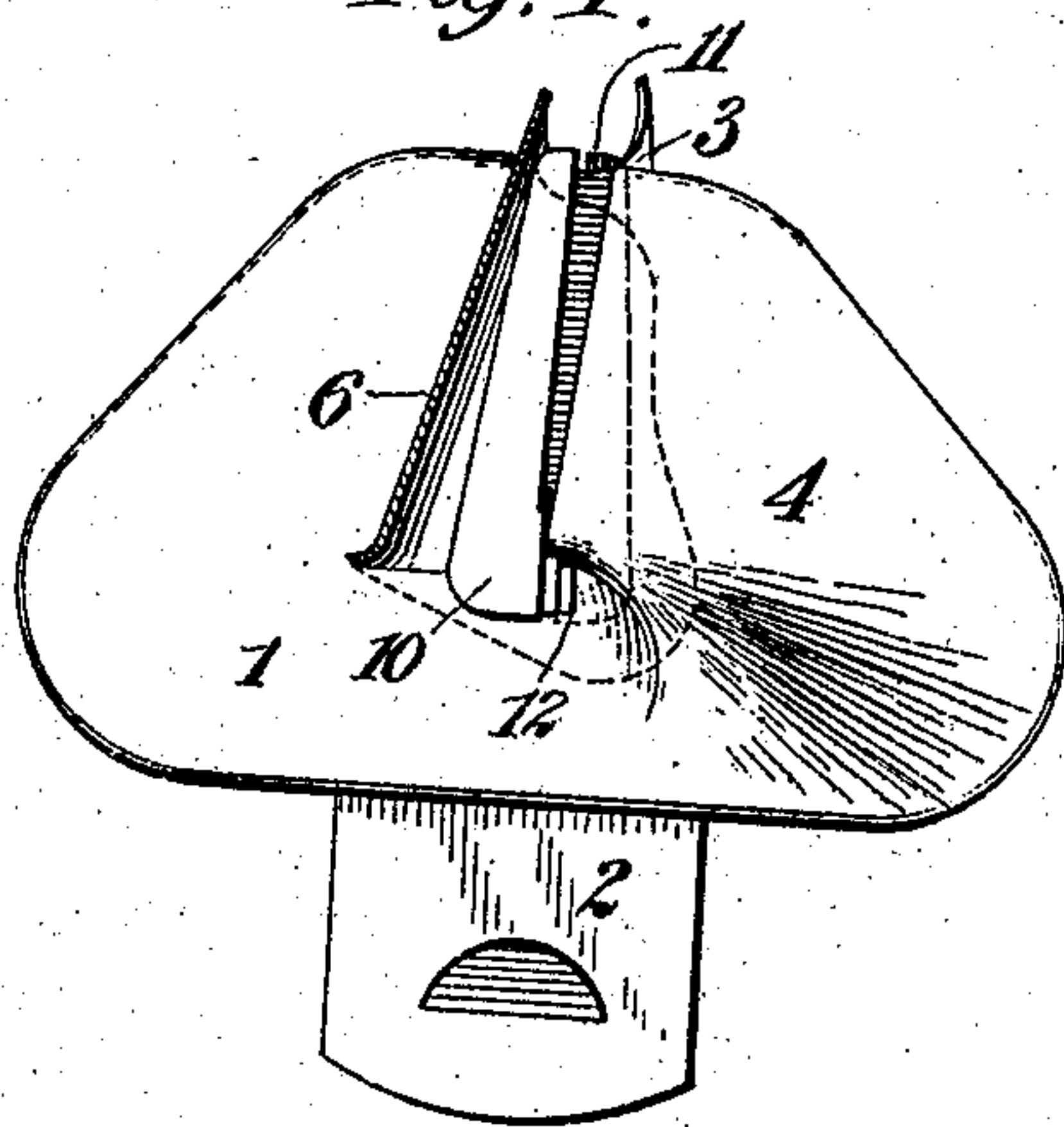


Fig. 2.

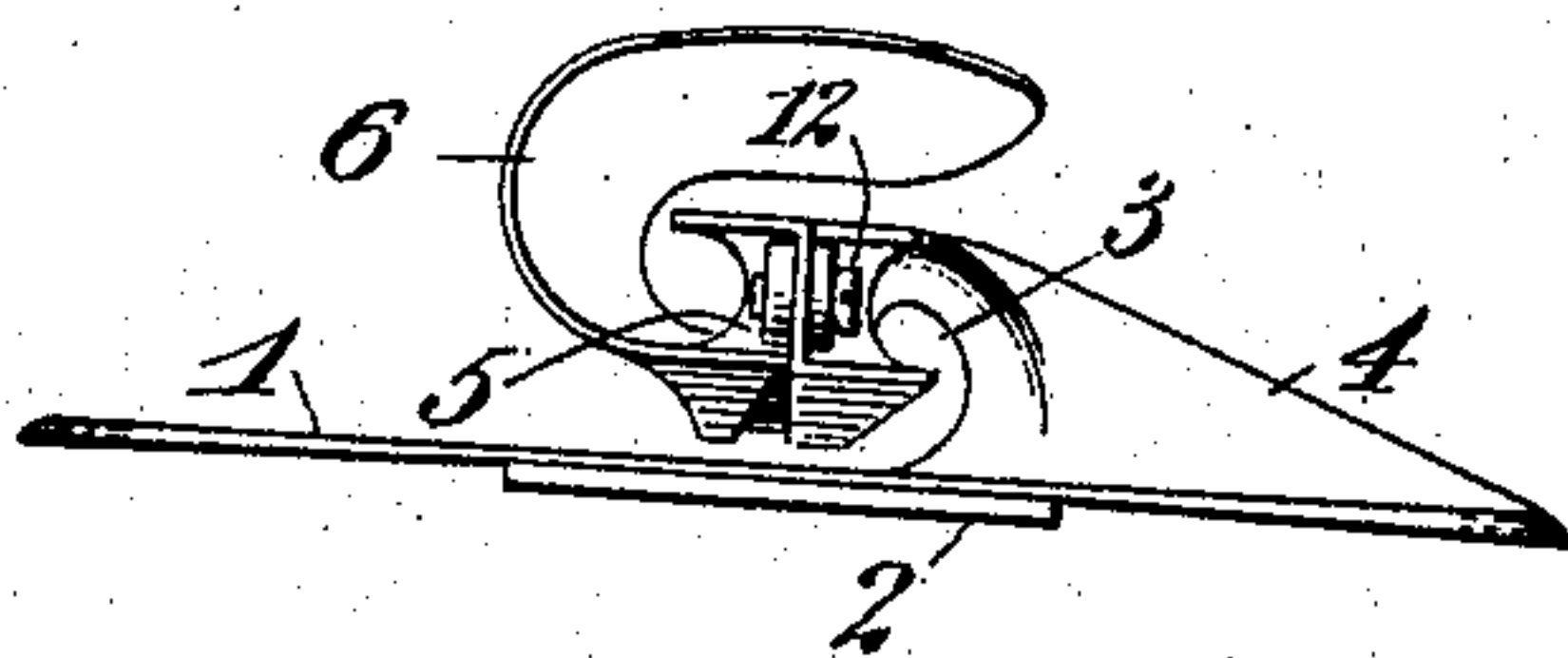


Fig. 3.

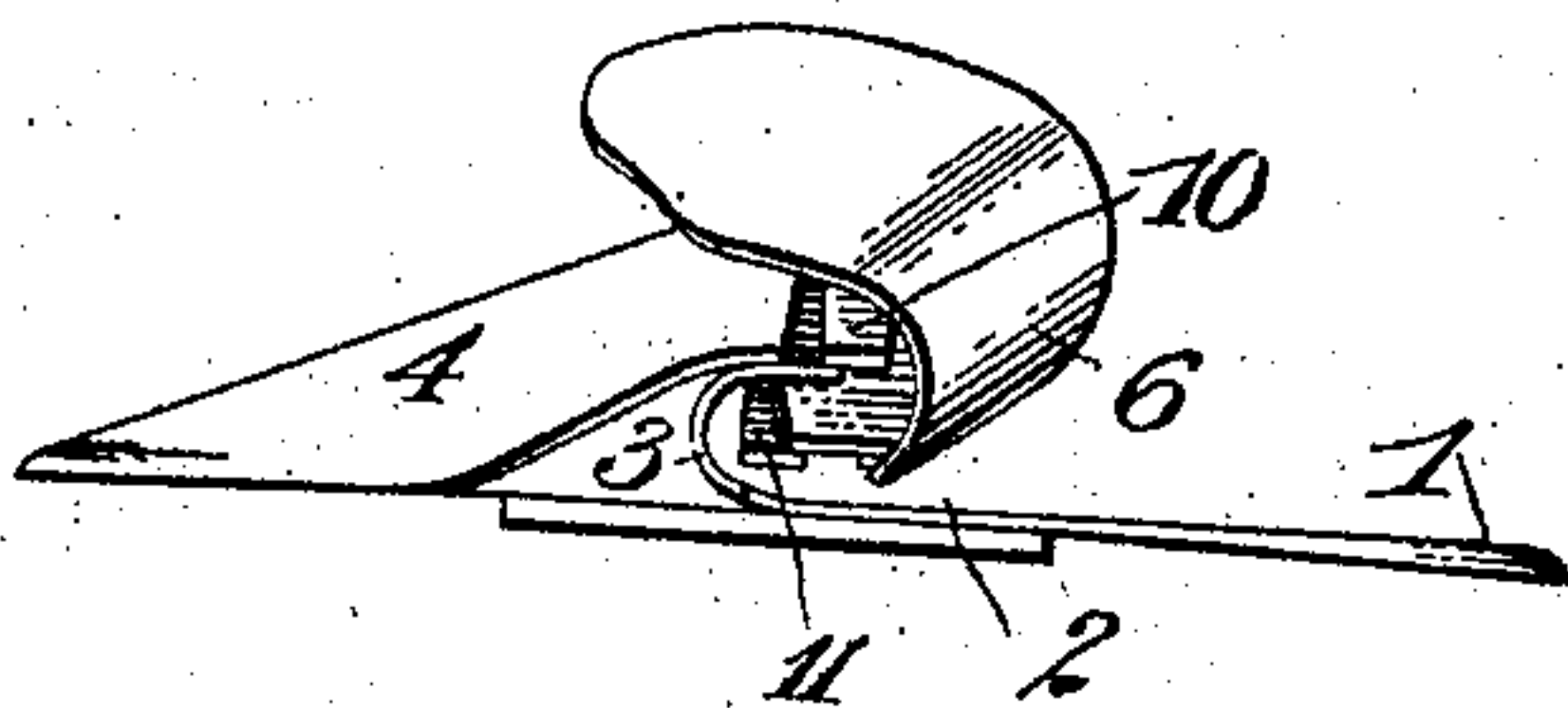


Fig. 4.

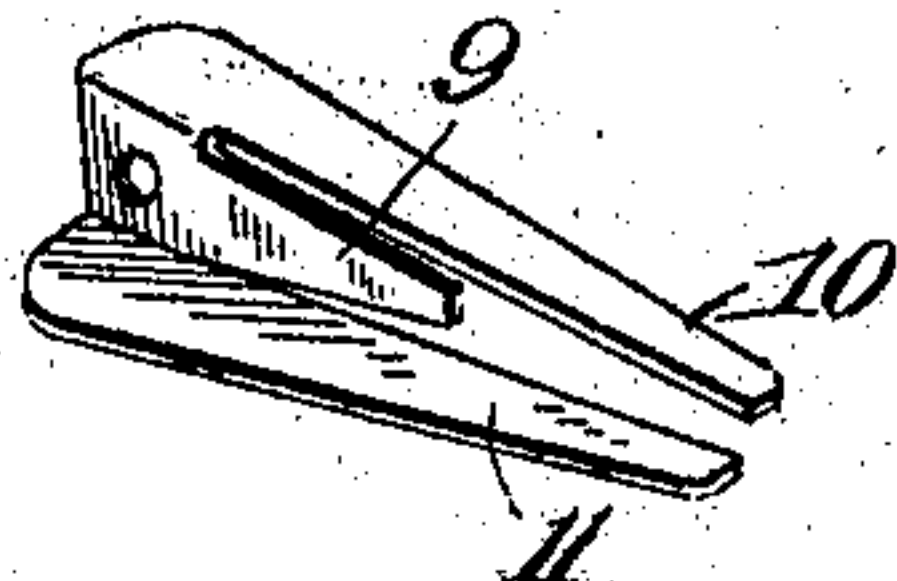
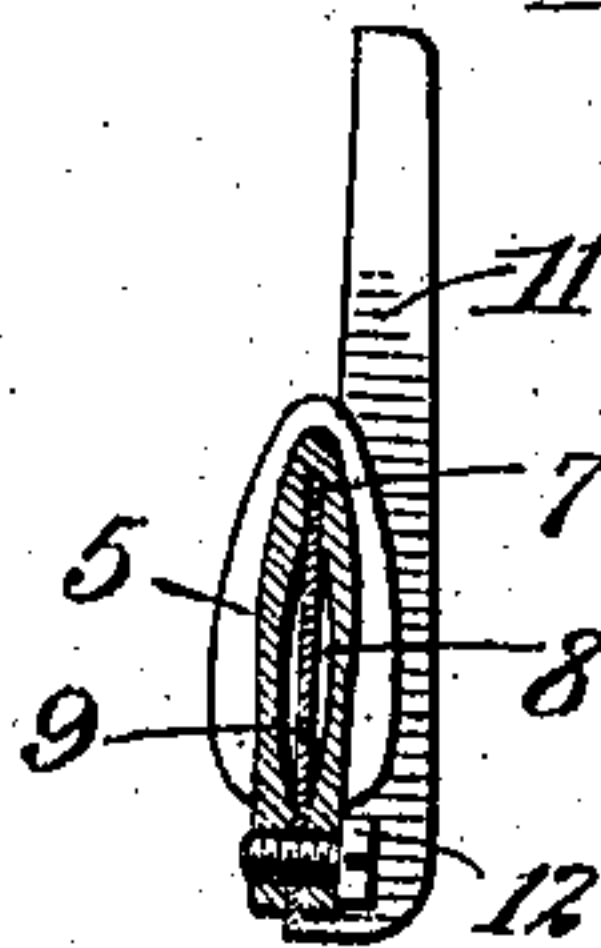


Fig. 5.



Witnesses
Paul S. Ober
H. Konemann.

Inventor
Albert H. de Voe
By his Attorney
Harry J. Miller.

UNITED STATES PATENT OFFICE.

ALBERT H. DE VOE, OF ELIZABETH, NEW JERSEY, ASSIGNOR TO THE
SINGER MANUFACTURING COMPANY, OF ELIZABETH, NEW JERSEY,
A CORPORATION OF NEW JERSEY.

FOLDER FOR SEWING-MACHINES.

No. 814,944.

Specification of Letters Patent.

Patented March 13, 1906.

Application filed June 17, 1904. Serial No. 212,927.

To all whom it may concern:

Be it known that I, ALBERT H. DE VOE, a citizen of the United States, residing at Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Folders for Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention has for its object to provide a sewing-machine folder, such as a hemmer or feller, with means whereby it may be permitted to yield to accommodate variations in thickness of the material, such as are produced by cross-seams, while maintaining a substantially uniform width of the hem or fold and even spacing of the line or lines of stitching in relation to the edges of the folded material.

20 The improvement is specifically shown and described herein as embodied in a lap-seam feller, but is evidently adapted for application to other forms of attachments of this class.

25 The invention consists primarily in a rigid folding tube or tubes fixed upon a suitable base-plate and provided with a laterally or edgewise yielding tongue sustained intermediate the upper and lower portions of such tube or tubes around which the edge of the material is folded. The lower or primary folding-tube or edge-turning scroll preferably has the lower portion attached to the base-plate and the upper portion connected with one edge of a material supporting and guiding wing of which the other edge is attached to and merges into said base-plate and the intermediate portion of the receiving end of said scroll, while a second scroll is attached rigidly to the first-named scroll with its upper side above the said material supporting and guiding wing.

35 In the accompanying drawings, Figure 1 is a plan view of the bed-plate slide of a sewing-machine provided with a lap-seam feller embodying the present improvements, the upper portion of the left-hand scroll being removed, but represented in outline in dotted lines. Figs. 2 and 3 are end elevations of the attachment viewed from the receiving and delivery ends, respectively. Fig. 4 is a perspective view of the integrally-formed yield-

ing tongues with intermediate spring-finger detached from the feller. Fig. 5 is a sectional plan view, upon a larger scale, of the intermediate block to which the scrolls are attached to illustrate the method of application of the yielding tongues.

40 As shown in the drawings, the bed-plate 1 of the attachment is permanently attached to the top of the sewing-machine bed-plate slide 2. The lower or right-hand scroll 3, in the usual form of a conical half-tube, has its lower portion attached to the base-plate 1, with which its adjacent curved guiding-surface forms a continuation, while its upper portion is attached to one edge of the laterally and downwardly inclined material supporting and guiding wing 4, of which the other edge joins that of the bed-plate 1, while its forward portion merges into the said bed-plate and the adjacent end of the scroll 3. A common attachment-block 5 rigidly connects the upper left-hand side of the scroll 3 at the receiving end portion with the lower portion of the right-hand side of the upper or left-hand scroll 6, of which the open side is disposed above the material supporting and guiding wing 4, by which the upper layer of fabric is guided into the same. By the connections of the scroll 3 and wing 4 with the bed-plate 1 in the manner described, so as to present to the material a single warped surface over which it is guided into the attachment, abrupt corners or angles are avoided into which projecting portions of cross-seams or loose threads hanging from the material might be caught and so might impede its passage through the feller, and thus cause obstructions operating to choke the guiding-tubes, as in attachments of this class heretofore in common use.

45 The block 5 is divided vertically and longitudinally by means of a slot 7, extending nearly to its forward end and provided with an enlargement 8 intermediate the ends, in which is introduced the spring-finger 9, extending longitudinally from an elastic connecting member to which are attached two flat spring-tongues 10 and 11, formed integral with and substantially at right angles to the same, as shown particularly in Fig. 4. As represented herein, the tongue 10 lies with one edge resting upon the upper side of the

upper edge portion, constituting a rigid lateral tongue of the block 5, while the tongue 11 similarly rests upon the under face of the lower edge portion, constituting also a rigid lateral tongue of the block 5. The spring member 9 10 11 is held in place in the slot 7 by means of a screw 12, passing through holes in the rear end of the same and the divided end portion of the block 5, the joint thus formed being made sufficiently loose, and the faces of the slot 7 adjacent thereto are in practice suitably shaped to permit the tongues 10 and 11 to yield edgewise against the normal action of the spring-finger 9, for the bending of which under such action the enlargement 8 of the slot 7 affords provision. As this spring member is formed from a single thin sheet-metal blank, it is evident that the tongues 10 and 11 will readily spring vertically and their intermediate elastic connection within the loose bearing afforded by the block adjacent the fastening-screw 12 will permit them also to independently yield edgewise.

It is obvious that the small amount of clearance space necessary for the described action of the spring connection intermediate the spring-tongues 10 and 11 and the preferable slight rounding of the walls of the slot 7 adjacent the fastening-screw 12 are not of such proportions as may be represented in the drawings, and hence no attempt has been made to illustrate this feature. It is evident that as the opposite ends of the slot 7 are of such width as to loosely support the continuous portions of the spring member comprising the tongues 10 and 11 the latter will readily perform their described functions, it being understood that the spring connection intermediate the tongues will cause them to yield edgewise in the same direction in the plane of the fold produced by the folder, excepting when such corresponding movement is resisted by variations in the thickness of the material engaging each, when they will yield independently, and thus obviate the clogging which would otherwise occur in the passage of material of uneven thickness into the folder.

In the operation of the attachment the edges of the two overlapping layers of the material are introduced into the rearward ends of their respective edge-turning scrolls and are turned over and interlocked in their passage through the feller for delivery to the stitch-forming mechanism in the usual way, the lower layer riding up easily over the forward end of the wing 4 without any attention on the part of the operator and without any liability to catch upon any sharp corners or in any angular recesses presented at the receiving end of the attachment. As any cross-seams are introduced the rigidity of the two scrolls prevents the widening of the fold, the extra thickness of the material being accom-

modated principally by the lateral or edgewise and also by the vertical yielding of the spring-tongues 11 and 12 in their respective tubes or scrolls, such tongues springing back to their normal positions as the cross-seams are delivered from the forward end of the attachment, thus serving to maintain preferably a light tension upon the folds of material in conjunction with the curved inner walls of their respective scrolls in respect of which they are self-adjusting.

As represented herein the upper portion of the right-hand scroll 3 and lower portion of the left-hand scroll 6 each forms a rigid supporting-tongue of which the spring-tongues constitute laterally-yielding extensions, over which the material is folded by the other scroll embracing the same; but it will be readily seen that the width of the spring-tongues 10 and 11 will determine whether or not the edge portions of the scrolls afforded by the lateral flanges of the block 5 shall be necessary to operate as continuations of the spring-tongues to support the material for such purpose.

While the present improvement is represented herein as embodied in a lap-seam feller, it is evident that it may be readily embodied in hemmers and other edge turning or folding attachments requiring the similar handling of the material. It is thus evident that the improvement is not limited to the precise details of construction and arrangement herein shown and described, but is susceptible of considerable modification without departure from the present invention, the essential feature of which is the construction of the folder for delivery of the fold or hem in a uniform width to the stitch-forming mechanism, while amply providing for variations in thickness of the material.

Having thus set forth the nature of my invention, what I claim herein is—

1. A sewing-machine folder comprising a base-plate, an edge-turning scroll rigidly attached thereto and having the opposite guiding edges of its delivery end rigidly connected together and spaced a fixed distance apart, and flat supporting-tongues for the material disposed intermediate the upper and lower portions of said scroll and each adapted to yield edgewise and inwardly from the guiding edge in conjunction with which it acts in the production of a fold in the material.

2. A sewing-machine folder comprising two rigidly-sustained edge-turning scrolls having the guiding edges of their delivery ends a fixed distance apart, a rigid material-supporting tongue embraced by each of said scrolls, and an edgewise-yielding spring-tongue normally resting against the edge portion of each of said rigid tongues, and adapted to yield inwardly away from the guiding edge of its respective scroll.

3. A sewing-machine folder comprising a

base-plate, two edge-turning scrolls carried
thereby and having the guiding edges of their
delivery ends a fixed distance apart, an im-
intermediate slotted block to which each of
5 said scrolls is rigidly secured, and a pair of
material-supporting tongues having an elas-
tic connection which is provided with an in-
intermediate spring-finger disposed in trans-
verse relation to said tongues and loosely se-
10 cured in the slot of said block for yieldingly

maintaining said tongues in normal position
each within its respective scroll.

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

ALBERT H. DE VOE.

Witnesses:

W. H. HUGG,
H. J. MILLER.