3 Sheets--Sheet 1.

S. W. WOOD.

Folding Guides for Sewing-Machines.

No. 138,306. Patented April 29, 1873.

Fig. 1.

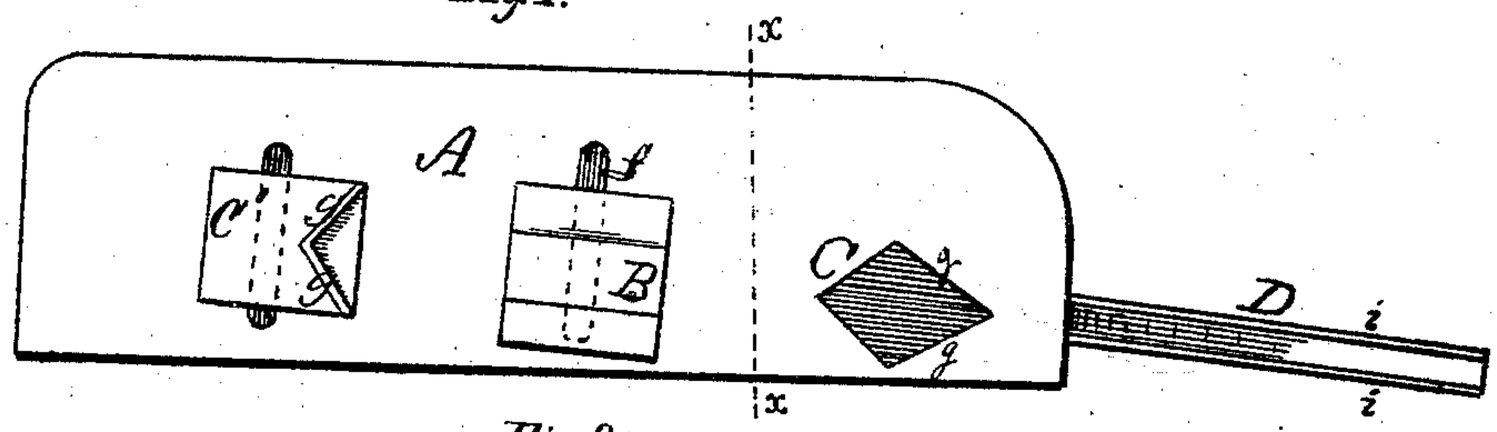


Fig. 2.

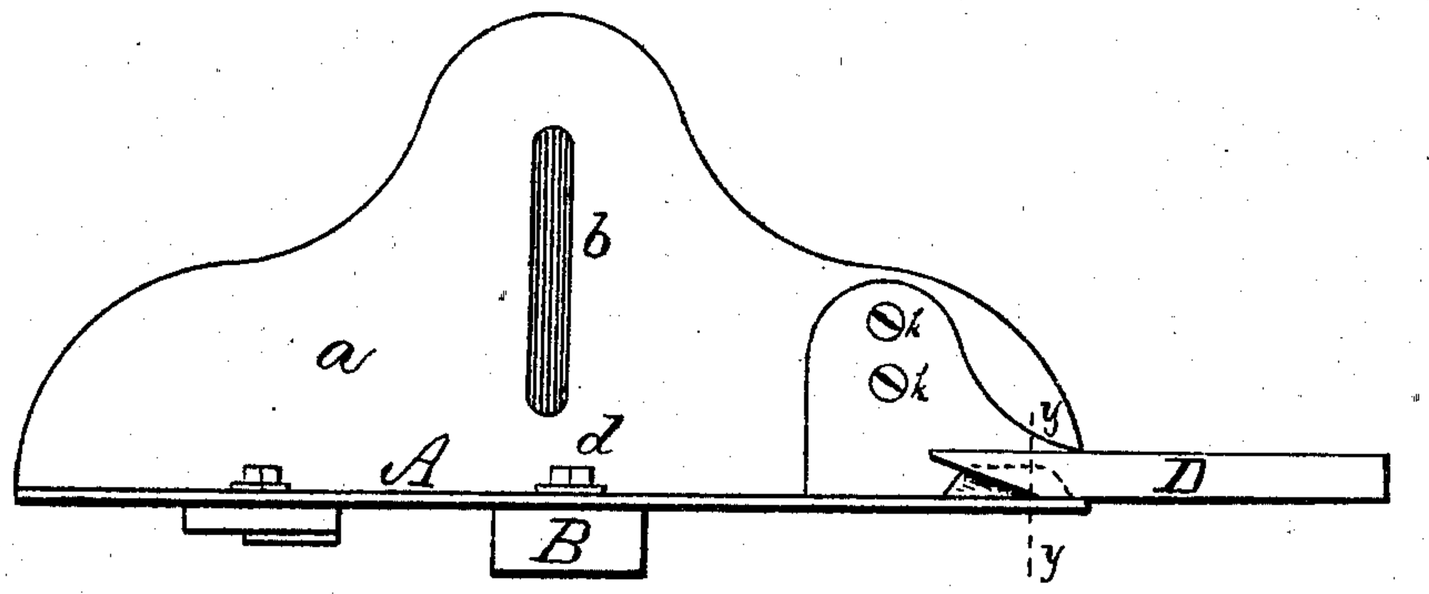


Fig. 7.

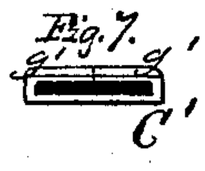


Fig. 3.

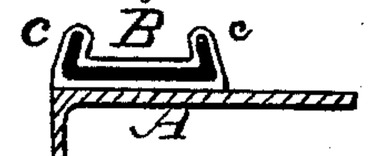


Fig. 4.

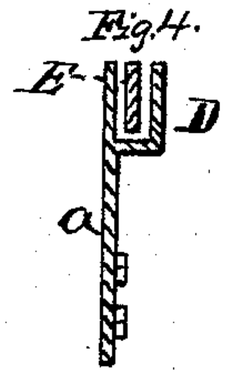
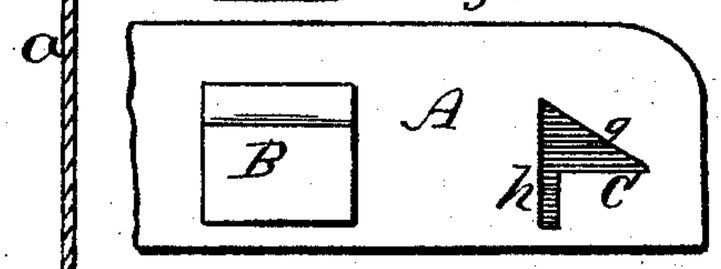


Fig. 5.

Fig. 6.



Witnesses

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3 Sheets--Sheet 2.

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Folding Guides for Sewing-Machines.

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Fig. 8.

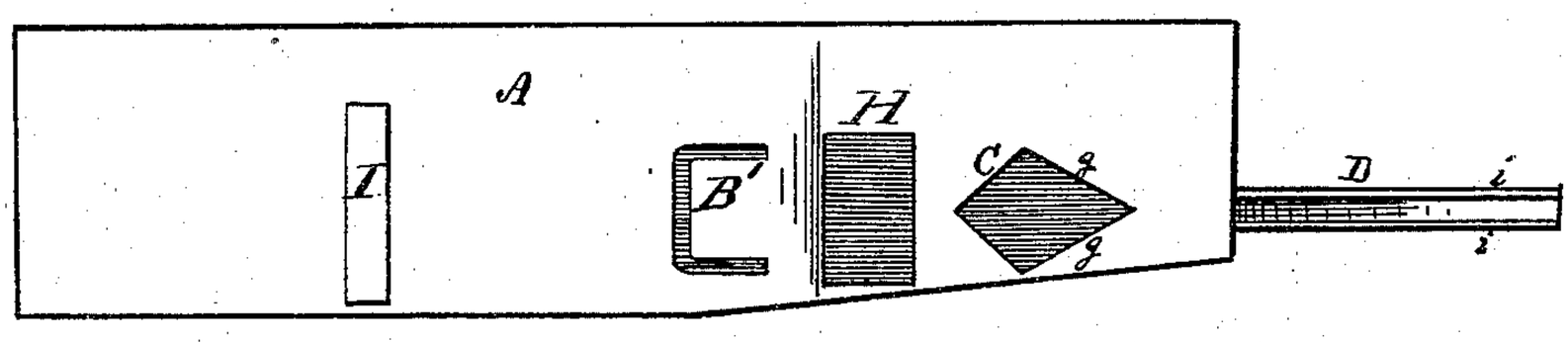


Fig. 9.

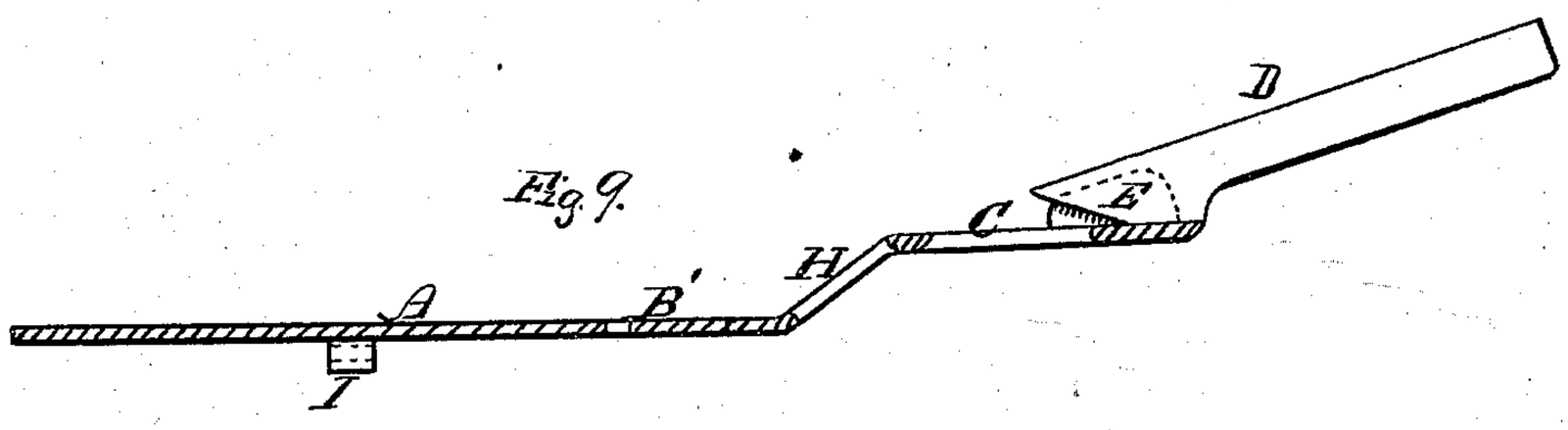
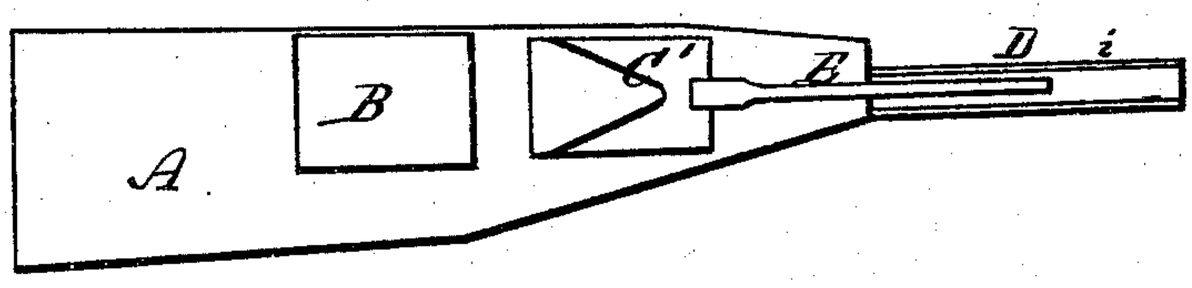


Fig. 16.



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Folding Guides for Sewing-Machines.

No. 138,306. Patented April 29, 1873.

Fig: 10.

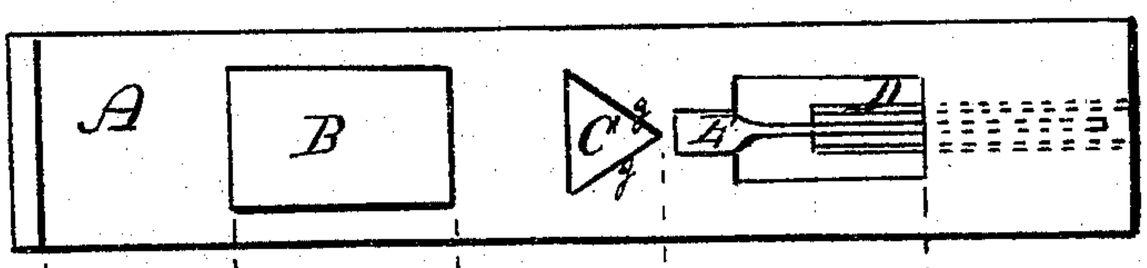


Fig: 11

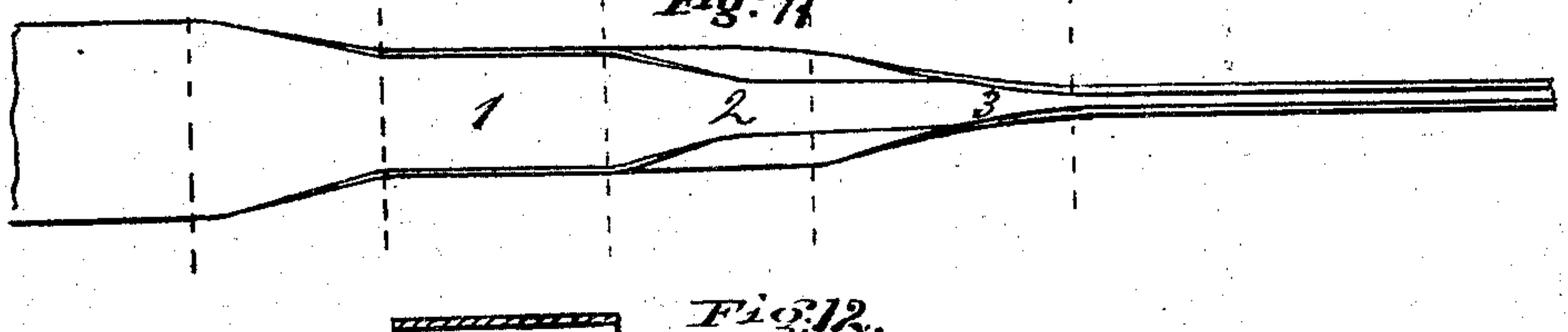


Fig: 12.

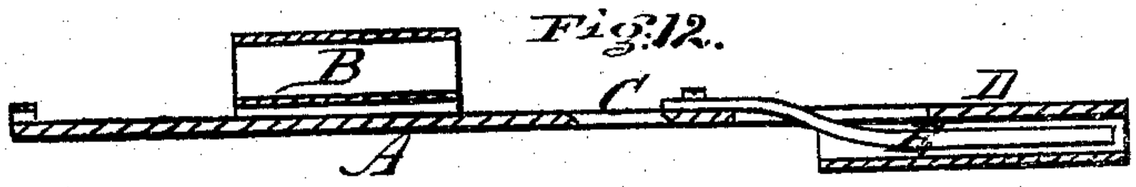


Fig: 13.

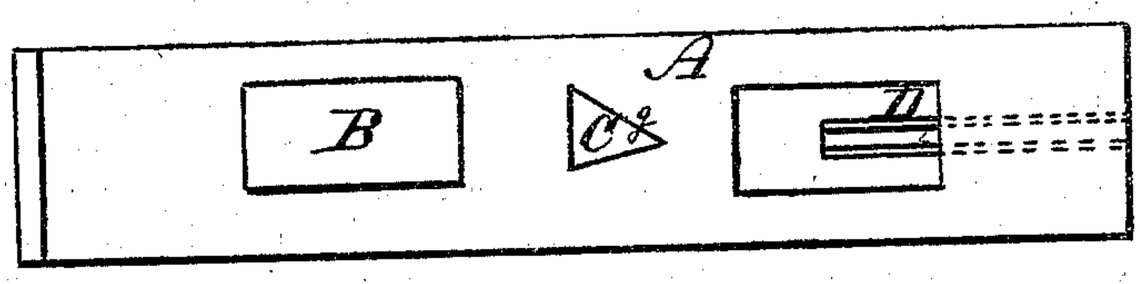


Fig: 15

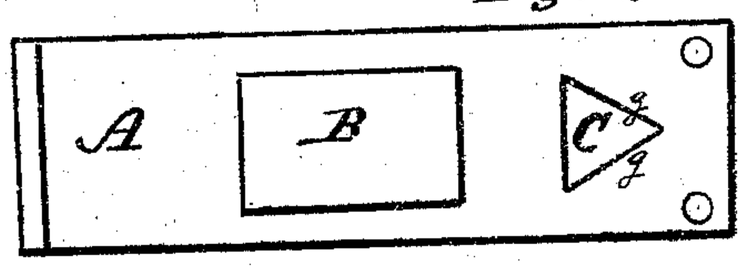
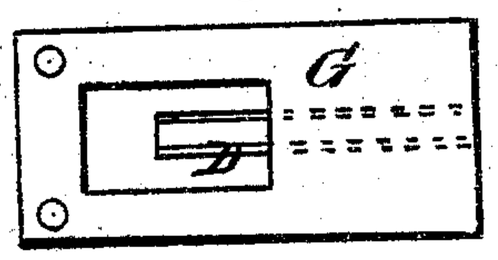


Fig: 14.



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UNITED STATES PATENT OFFICE.

STEPHEN W. WOOD, OF CORNWALL, NEW YORK.

IMPROVEMENT IN FOLDING-GUIDES FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **138,306**, dated April 29, 1873; application filed April 9, 1873.

To all whom it may concern:

Be it known that I, STEPHEN W. WOOD, of Cornwall, county of Orange and State of New York, have invented an Improved Folding-Guide for Sewing-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing making part of this specification—

Figure 1 being a side elevation of the improved folding-guide; Fig. 2, a top view of the same; Fig. 3, a cross-section thereof through the line *x x* of Fig. 1; Fig. 4, a cross-section in the line *y y* of Fig. 2; Fig. 5, a view showing a modified form of one of the parts of the folding-guide; Fig. 6, a side view of a part of the folding-guide, showing a modified form of construction; Fig. 7, an end view of part of the folding-guide detached; Fig. 8, a view showing another modification of the folding-guide by using a succession of guide-slots to the guide-plate; Fig. 9, a longitudinal section of the modification shown in Fig. 8; Fig. 10, a side elevation of the folding-guide with a representation of the divisions thereof indicated by dotted lines, showing the successive functional actions which they leave on the binding-strip; Fig. 11, a portion of a binding-strip shown in connection with Fig. 10 to indicate the several stages in the operation of folding; Fig. 12, a longitudinal section of the folding-guide as represented in Fig. 10; Fig. 13, a view the same as Fig. 10, but showing a modified form of one part thereof; Figs. 14 and 15, side views, showing the folding-guide in two separate parts for either single or double folding of the strip; Fig. 16, a side view, showanother modification of one part of the folding-guide.

Like letters indicate corresponding parts in all of the figures.

My invention consists in several features of improvement, which I shall proceed to specify in order.

The main part or body of the guide is a vertical plate, A, provided with a horizontal flange, *a*, which is secured upon the cloth-plate of the sewing-machine by means of a screw passed through a slot, *b*, in proper position relative to the needle of the machine. The functional parts of the folding-guide are three, operating in succession—first, an edge-turning throat or guide, B, which turns up the edges of the binding-strip, as indicated in Fig. 3; second, a laying aperture or guide, C, which lays the turned edges flat upon the middle part or body of the strip; third, a folding throat or guide, D, which folds together the two laid edges, between which the cloth to be bound is inserted. The edge-turning throat B, into which the binding-strip is first inserted, has simply the slot-like form with turned edges *c c*, corresponding to the form to be given to the strip before it is presented to the next functional part, C. If only one edge of the strip is to be folded there is only one turned edge *c* to this throat or guide B, as shown in Fig. 5. It is attached to the plate A by a set-screw, *d*, passed through a vertical slot, *f*, in the plate, so that the throat can be adjusted up and down laterally to the binding-strip. By this lateral adjustment the binding-strip can be folded one edge just even with the other, or one edge lapping more or less beyond the other. The laying-guide C consists of an angular aperture through the plate A, or through another plate attached to the folding-guide, the form being substantially as shown in Fig. 1, so that the oblique edges *g g* thereof shall be presented to the binding-strip, which passes through it from one side of the plate to the other. If only one edge of the strip is to be folded, only one edge, *g*, of the aperture is oblique, as shown in Fig. 6, there being a lateral slot, *h*, to give room for the passage of the other edge without folding it. The folding-throat D receives the binding-strip after passing through the aperture C and folds the two edges thereof together, or one edge upon the body of the strip if only one edge of the strip is to be folded. The sides *i i* are parallel, and far enough apart to admit the folded edges of the strip together with the edge of the cloth upon which the binding-strip is to be sewed. It is open at one edge to receive the edge of the cloth. It is attached to the plate A or to the flange thereof by screws *k k*, so that it can be removed if the binding-strip is not to be completely folded. Centrally within the folding-throat D is located a tongue, E, projecting from the plate A so that its sides and outer edge shall not

come in contact with the interior surface of the throat, but shall leave room for the free passage of the strip beside it. The tongue may be rigid and have the form and position shown in Figs. 2 and 4, or it may be elastic and arranged as shown in Figs. 10, 12, and 16. It is not necessary to the proper working of the folding-guide; but it is preferably used, as the folding is made more accurate when it is used.

The successive parts of the operation of folding by this improved folding-guide are clearly indicated in Figs. 10, 11, and 12, the divisions 1 2 3 of the strip shown in Fig. 11 indicating successively the stages of folding by the three guides B C D of the instrument.

In Fig. 13 the guide-aperture C is shown fully oblique on one side for laying one edge of the strip, and only slightly oblique on the other side—not intended to be sufficient to lay the other edge of the strip; but, when only one edge is to be folded, the form shown in Fig. 6 is preferable, since the side notch *h* receives the edge not to be folded and prevents any doubling thereof. When only the edges of the strip are to be folded the double folding-guide D is to be dispensed with. As arranged in Figs. 1 and 2, this part is detachable from the flange *a* of the plate A by removing the screws *k k*.

In Figs. 14 and 15 the guide D is shown attached to a separate plate, G, Fig. 14, while the other guides belong to the plate A, Fig. 15. Thus one plate may be used alone or both together, as required. The oblique edge *l*, Fig. 2, of the guide-throat D serves to direct the folds of the strip into the guide and to prevent its puckering between the guides C and D.

It is not necessary that the obliquely-edged guide C should be an aperture through the plate. It may have the form of a throat or tube, C′, as shown at the left-hand side of the guide-throat B in Figs. 1 and 2, there being oblique edges *g′ g′* at the mouth of the throat, as seen in Fig. 1. This modified guide is represented in proper relation to the guide-throat B for receiving the binding-strip when moving from right to left. On the other hand it is not necessary that the edge-turning guide B should have the form of a throat or tube; but it may be a suitably-formed aperture through a plate, as shown in Figs. 8 and 9. Here the aperture B′ through the plate A, having the bent form substantially as represented, serves to turn the edges of the binding-strip, which then passes through an aperture, H, in the plate, the latter being bent to an angle at that part, as shown in Fig. 2, so that the strip may pass directly to the laying-aperture C in the plate without bending or pressing out of position or shape.

To direct the strip properly into the guide-aperture B′ it is first passed through a loop, I, on the plate, as represented.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the edge-turning guide-throat B, or its equivalent, with the plate having the edge-laying guide-aperture C, as and for the purpose set forth.

2. The combination of the edge-turning guide-throat B, or its equivalent, and the plate provided with the guide-aperture, with the folding guide or throat D, the combination operating substantially as described.

STEPHEN W. WOOD.

Witnesses:

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E. M. GALLAHER.