

No. 840,639.

PATENTED JAN. 8, 1907.

G. W. LOGGIE.
STAVE COLUMN.

APPLIOATION FILED JUNE 19, 1906.

Fig. 5.

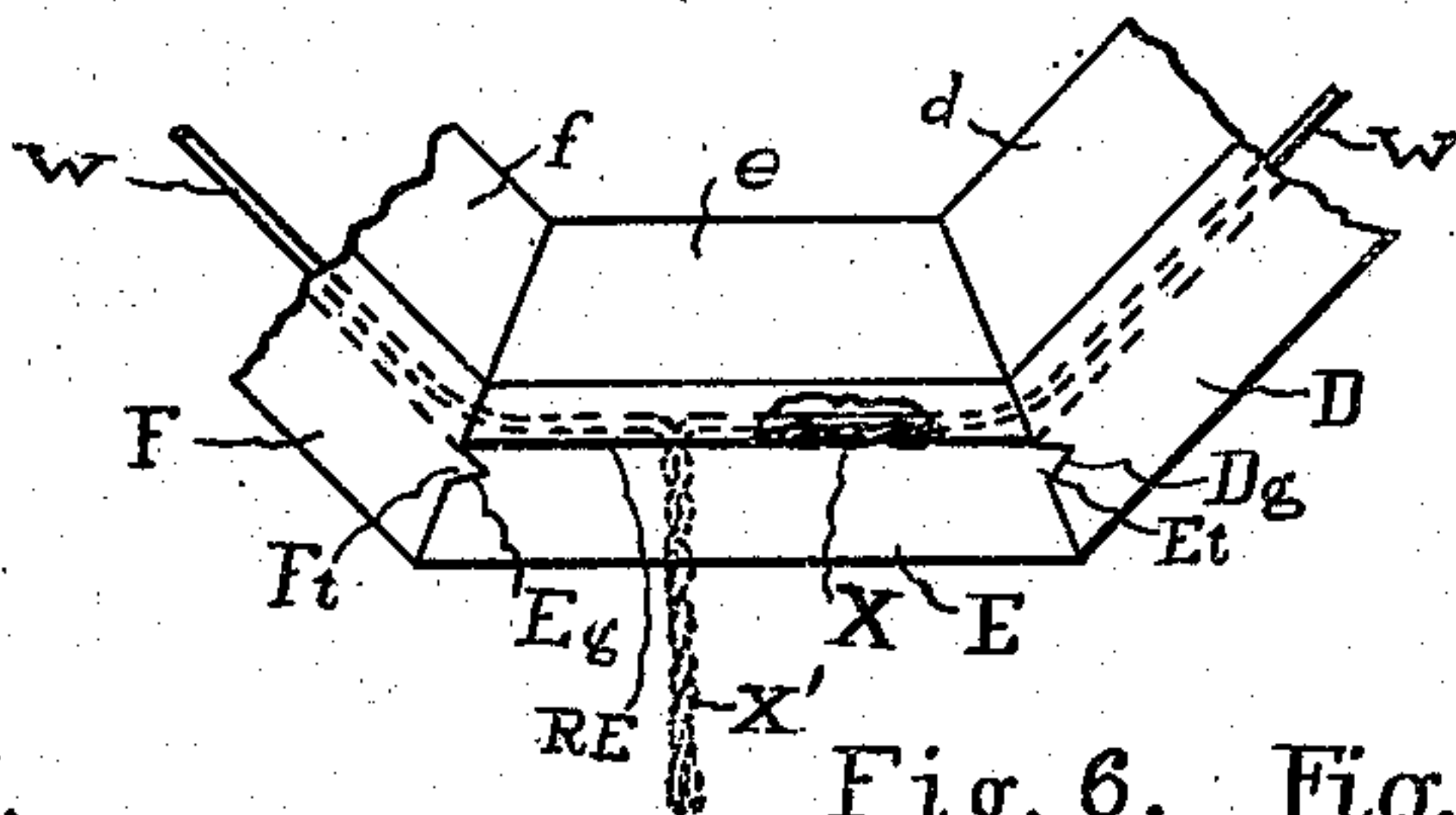


Fig. 1.

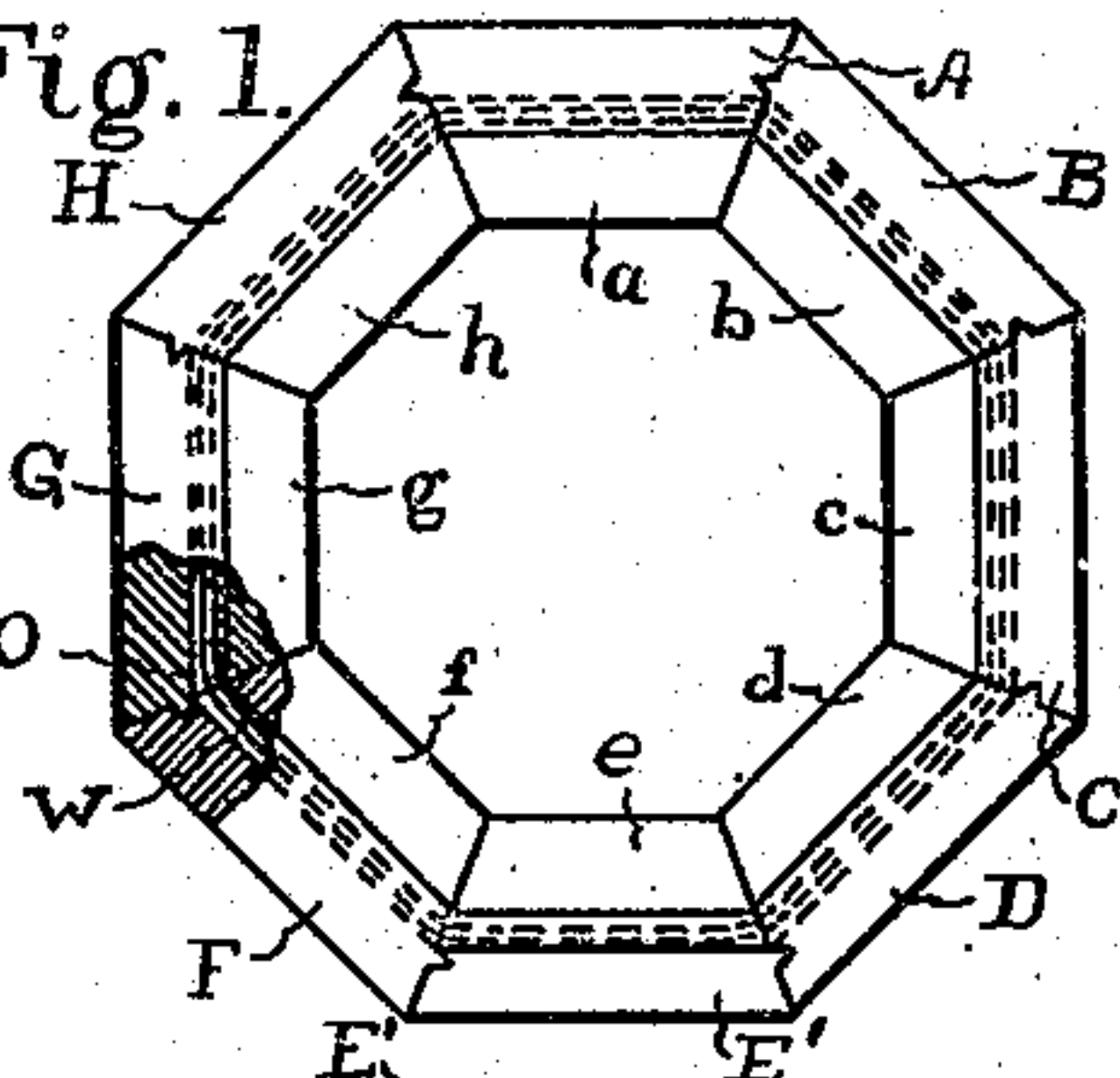


Fig. 7.

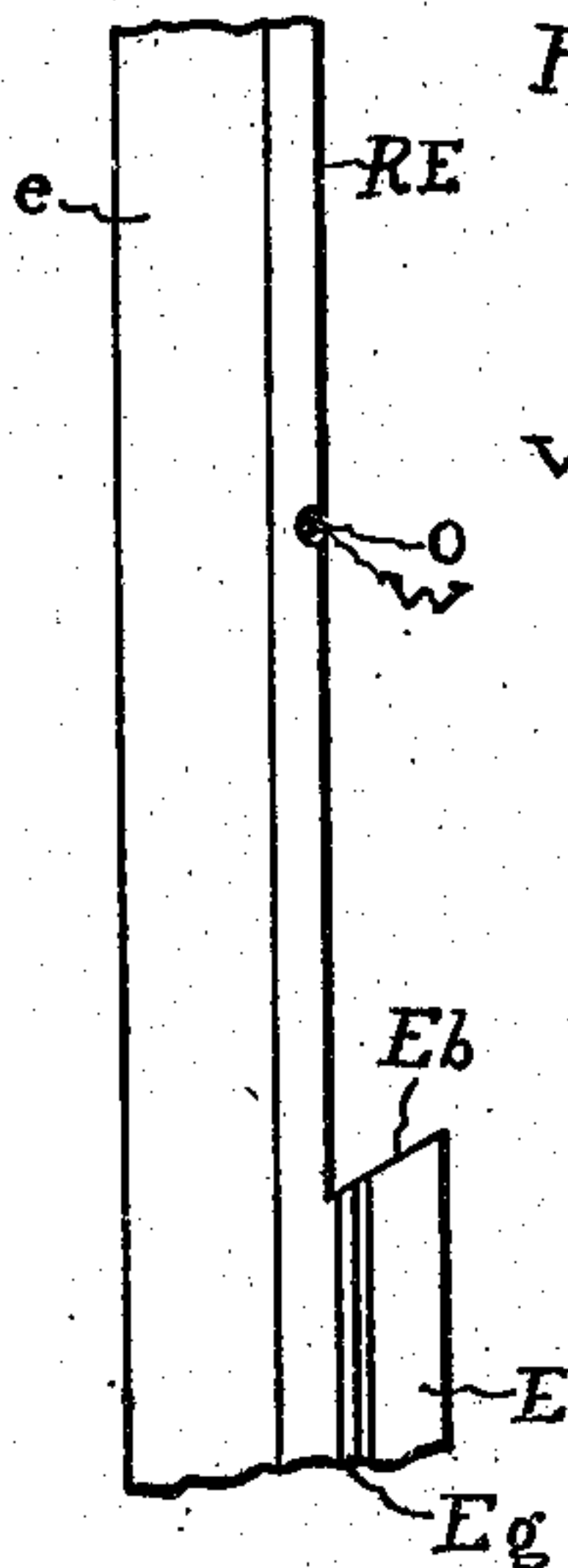


Fig. 6. Fig. 2.

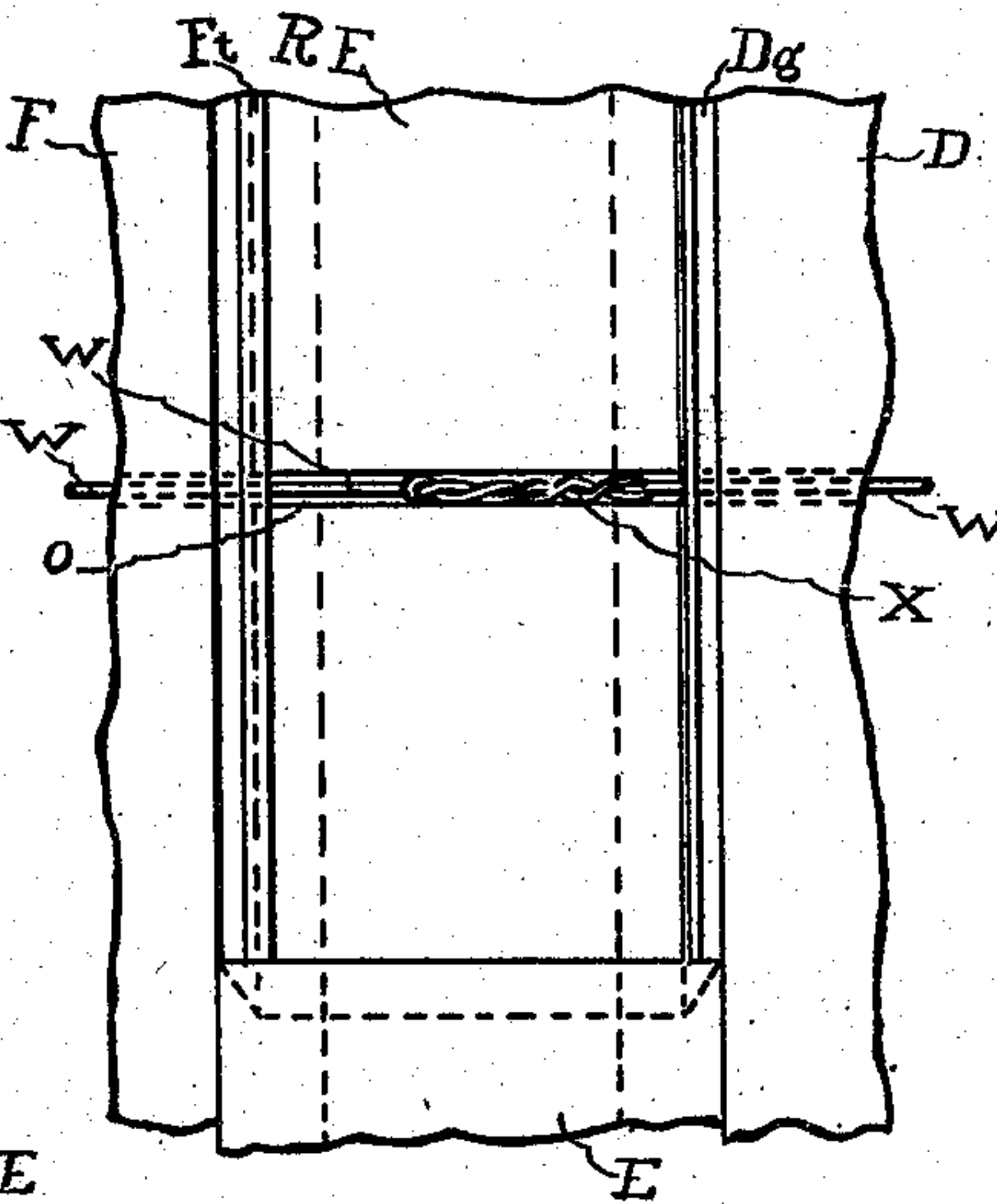
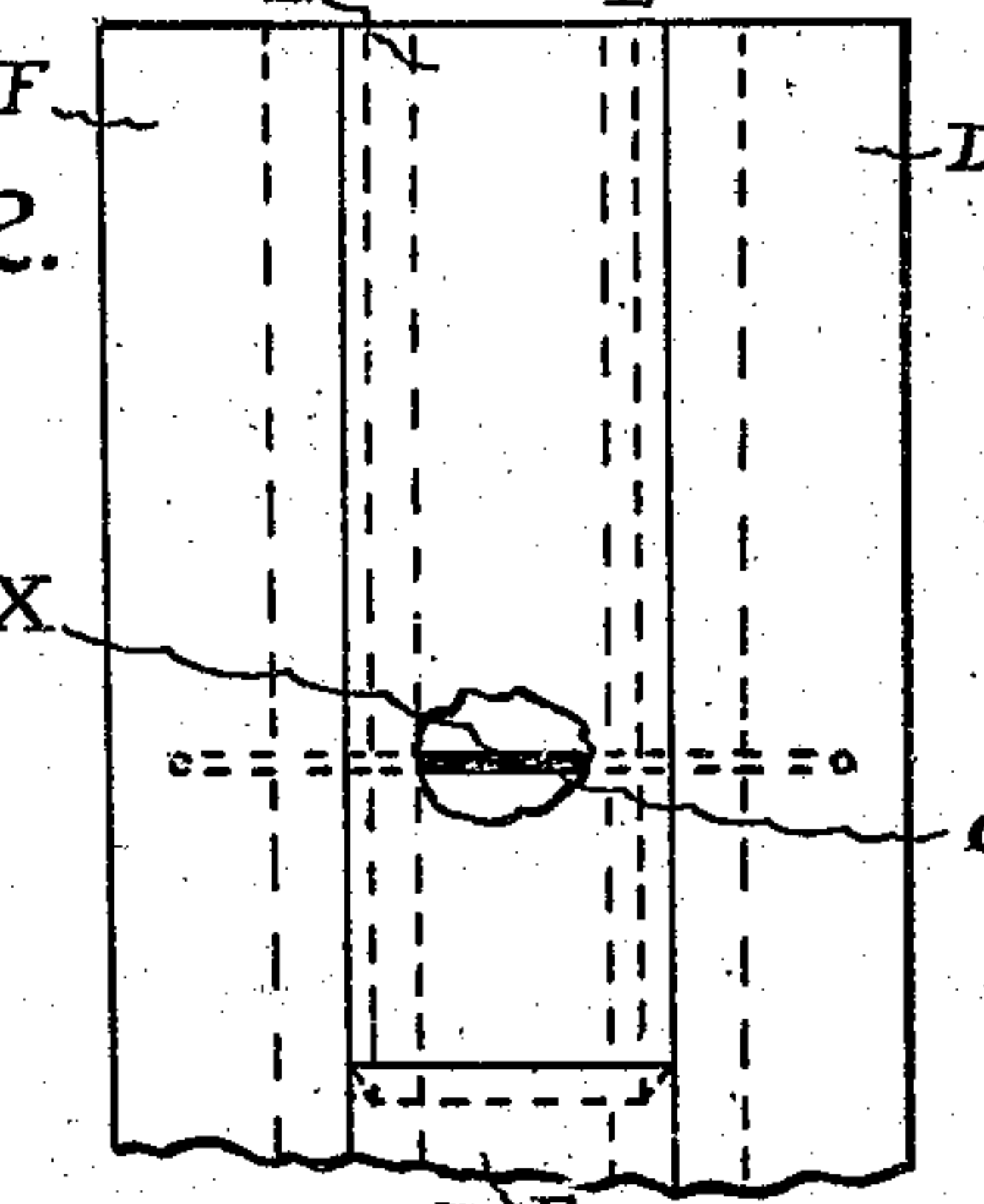


Fig. 9.

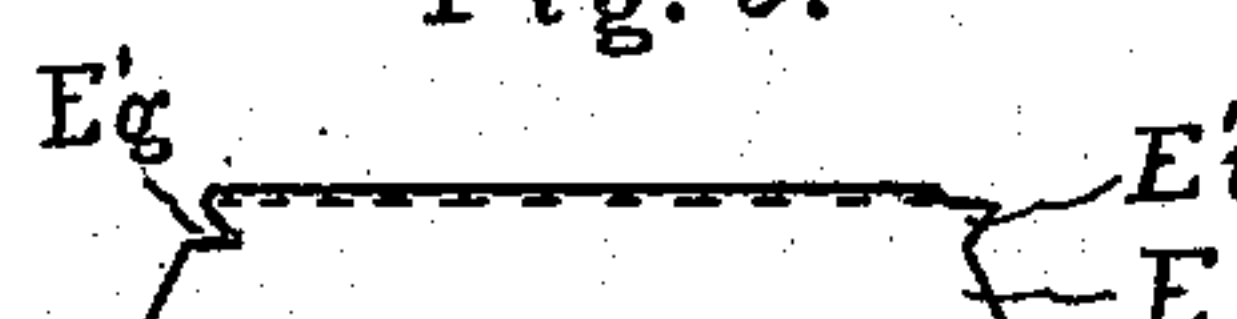


Fig. 3.

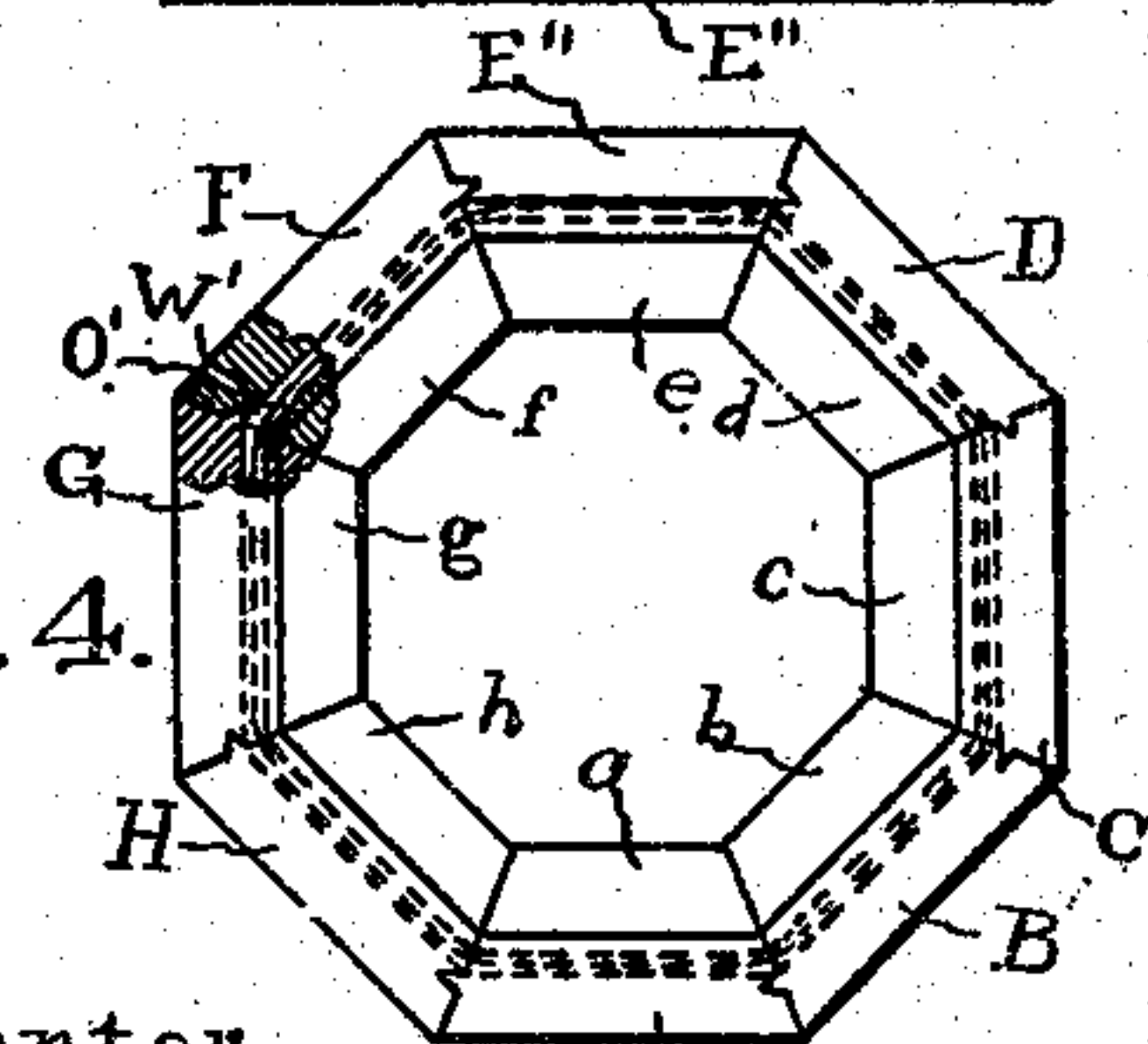


Fig. 10.

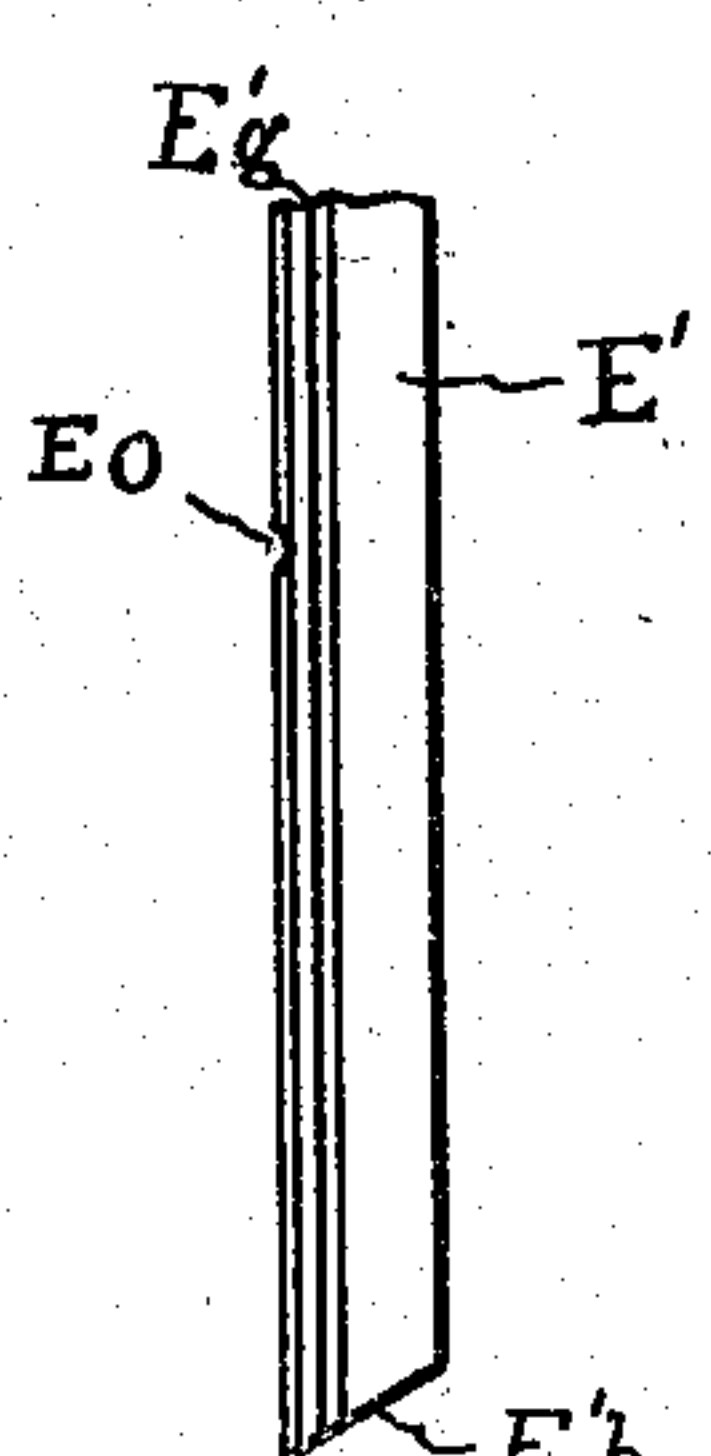
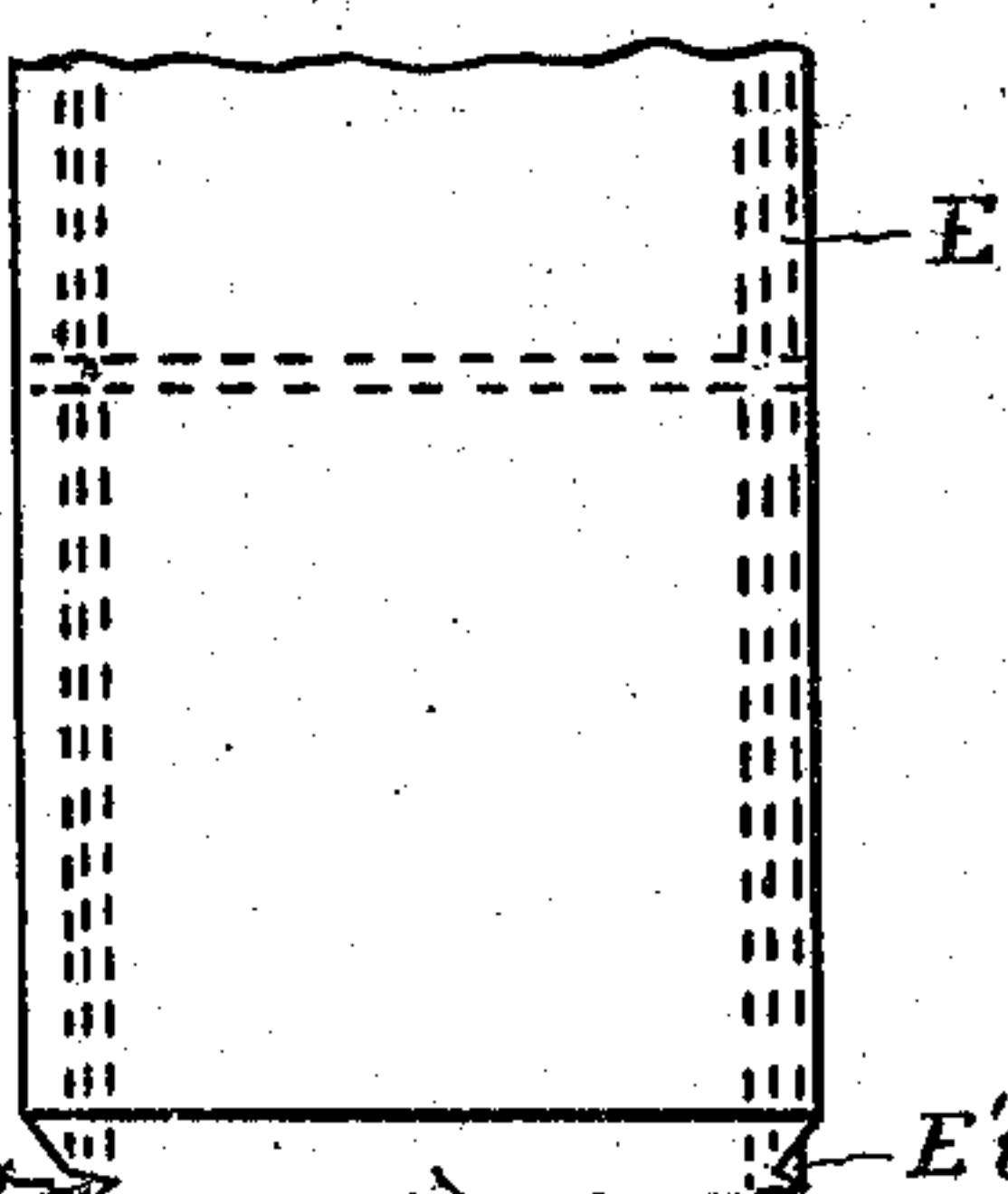


Fig. 8.



Witnesses E^b E^m
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UNITED STATES PATENT OFFICE.

GEORGE W. LOGGIE, OF BELLINGHAM, WASHINGTON.

STAVE-COLUMN.

No. 840,639.

Specification of Letters Patent.

Patented Jan. 8, 1907.

Application filed June 19, 1906. Serial No. 322,431.

To all whom it may concern:

Be it known that I, GEORGE W. LOGGIE, a citizen of the United States, and a resident of Bellingham, in the county of Whatcom and State of Washington, (whose post-office address is Bellingham, Washington,) have invented certain new and useful Improvements in Stave-Columns, of which the following is a specification.

My invention relates to an improvement in stave-columns; and it consists in banding them with wire in such a manner that the wire band is out of the way of the subsequent turning down required to finish the columns and also far enough from the ends to be beyond where the column will be cut off before erecting.

Stave-columns are usually built of eight or more staves, properly beveled, tongued, grooved, and glued together. Such columns are built either of straight or tapering staves, and sometimes the staves are crowned in the middle. These staves are either made of one piece or built up of two or more pieces glued together. In whatever way such columns are made they have hitherto been liable to come unglued, especially at the ends, thus rendering them unfit for the best use. My invention is designed to obviate this difficulty.

In the accompanying sheet of drawings, Figure 1 is a plan view of the larger end of an eight-stave tapering column. Figs. 2 and 3 are a side elevation of the same with the central portion removed. Fig. 4 is a plan view of the smaller end of the same. Fig. 5 is a plan view of a portion of the larger end of said column on a larger scale. Fig. 6 is an elevation of the same. Fig. 7 is a side elevation of a part of Fig. 6. Fig. 8 is an elevation of a portion of a piece removed from one of the staves shown in Figs. 5, 6, and 7. Fig. 9 is a plan view of one end of Fig. 8, and Fig. 10 is a side elevation of Fig. 8.

This column is composed of the tapering staves *Aa*, *Bb*, *Cc*, *Dd*, *Ff*, *Gg*, and *Hh*, and the parallel stave *Ee*, all properly mitered, tongued, and grooved. Stave *Aa* is built up of a whole piece of wood *A*, constituting the outer half, and a piece *a*, which may be in two or more pieces side by side or abutted together, constituting the inner half of said stave. The other staves are built up in the same manner. The tongues and grooves are in the solid outer piece. In Figs. 5, 6, and 7 *Dg* is the groove in stave *D*. *Et* is the tongue

in stave *E*. *Eg* is the groove in stave *E*, and *Ft* is the tongue in stave *F*. Transversely through each stave are bored two small holes *O* and *O'*. These holes are located between the tongues and grooves and the inside of said outer pieces and are so placed that when the staves are assembled, as in Figs. 1, 2, 3, and 4, holes *O* in the several staves register with each other, and holes *O'* similarly register with each other, as indicated in dotted lines in these figures. By means of a thin band-saw a piece *E'* is cut from the outer side of one end of parallel stave *E* by making a cut in that end on a plane parallel with the tongue and groove of this stave and on the inside from said tongue and groove and so located that the saw passes through hole *O* only sufficient to open said hole on the side nearest said tongue and groove and also by cutting laterally across said stave from the outside, making a kerf inclined at an acute angle with and meeting the ends of the afore-said kerf.

In Figs. 5, 6, and 7, which illustrate a portion of staves *D*, *E*, and *F*, the surface *Re* was made by the first-mentioned cut, while the surface *E'b* was made by the second-mentioned cut. Piece *E'*, which has been removed by the said cutting, is shown in Figs. 8, 9, and 10, in which *E'b* is the surface made by said second cut. *EO* is a portion of the hole *O* left in this piece by said first cut. *E'g* is the groove, and *E't* the tongue, on piece *E'*. In the same way piece *E''* is cut out of the other end of stave *E*. Piece *E''* resembles piece *E'* in every respect.

In assembling such a column the surfaces of the staves which are to lie together are smeared with glue and the staves are laid side by side in proper relation, outside downward, with stave *E* omitted. A wire *W* is then threaded through holes *O*, and a wire *W'* through holes *O'*. The outer edges of the plat thus formed are bent upward and suitable clamps loosely adjusted over the same. Then stave *E* with pieces *E'* and *E''* omitted is put in its proper place and the clamps tightened to bring all joints snugly together. The ends of wire *W* are then twisted together with such force as to form a band in holes *O*, which is snugly embedded in said holes, especially at the edges of the staves, as more plainly shown in the sections removed in Figs. 1 and 4. The twisted ends of this wire are shown in dotted outline at *X'*, Fig. 5. Subsequently this twisted part is cut off to a

suitable length and then bent down to lie in the hole O alongside of wire W, as indicated at X, Figs. 2 and 5 and 6. Similarly the ends of wire O' are twisted together and bent over to occupy the position illustrated at Y, Fig. 3. Pieces E' and E'' are then properly smeared with glue and driven in their respective places to perfect the stave E. In addition to the glue each of these pieces E' and E'' is held in place by the tongue and groove described and by the mitered inside end. After the glue is set the column is ready to be turned down to the finished size, when there will be no external indications of the concealed wire bands described. Should the glue in the joints soften by exposure to moisture, as frequently happens, these concealed bands will hold the staves in proper place, thus relieving the weakened glue of the strain that might otherwise cause the joints to open.

Parallel stave E is made equal in width to the mean width of the tapered staves, and the angle of the mitered edges is the same as in the other staves. Consequently the joints between E and its neighbors are not perfect. However, this difference is so slight that the elasticity of the wood easily makes it up. The larger the number of staves used the less becomes this difference. However, when it becomes objectionably large I use two parallel staves in each column placed opposite each other, which makes the joining perfect.

In very short columns I cut out the outside of the parallel stave E its entire length when pieces E' and E'' are merged into one. Sometimes I find it desirable to put more than one band around each end of a column. In this case I bore a set of holes for each band desired.

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

1. In a stave-column the combination of a number of tapering staves, the tapering ends of which lie in the same direction and one or more parallel staves.

2. In a stave-column, the combination of a number of tapering staves; with a parallel stave; and a longitudinal piece cut from and reset in the outside of said parallel stave at each end of the same.

3. In a stave-column the combination of a number of tapering staves, with a parallel stave, there being transverse holes through said staves so placed that said holes may register in sets; and a longitudinal piece cut from and reset in the outside of said parallel stave at each end of the same, said piece be-

ing cut deep enough to uncover one or more of said holes in said stave.

4. In a stave-column the combination of a number of tapering staves; a parallel stave; a longitudinal tongue and groove in each stave to match with a groove and tongue in its neighboring staves; there being transverse holes through said staves nearer the axis of said column than said tongues and grooves and so placed that said holes may register in sets and each set form within the wall of said column the figure of a polygon; and a longitudinal piece cut from and reset in the outside of said parallel stave at each end of the same, said piece being cut from the full width of said stave and deep enough to include the tongue and groove of that part of said stave, and, also deep enough to uncover one or more of said transverse holes, and the inner end of said piece is cut on an acute angle.

5. In a stave-column the combination of a number of tapering staves, with a parallel stave; there being transverse holes through said staves so placed that said holes may register in sets; a longitudinal piece cut from and reset in the outside of said parallel stave at each end of the same, said piece being cut deep enough to uncover one or more of said holes in said parallel stave; and a band in each set of said holes.

6. In a stave-column the combination of a number of tapering staves, with a parallel stave; a longitudinal tongue and groove in each stave to match with a groove and tongue in its neighboring staves; there being transverse holes through each of said staves nearer the axis of said column than said tongues and grooves and so placed that said holes may register in sets and each set form within the wall of said column the figure of a polygon; a longitudinal piece cut from and reset in the outside of said parallel stave at each end of the same, said piece being cut from the full width of said stave and deep enough to include the tongue and groove of that part of said stave, and also deep enough to uncover one or more of said holes in said stave, and the inner end of said piece is cut at an acute angle; and a wire in each of said sets of holes drawn tightly with its ends twisted together and bent downward to lie in said hole.

Signed at Bellingham, in the county of Whatcom and State of Washington, this— day of June, A. D. 1906.

GEORGE W. LOGGIE.

Witnesses:

E. G. CORDINGBY,
HARRY MORGAN.