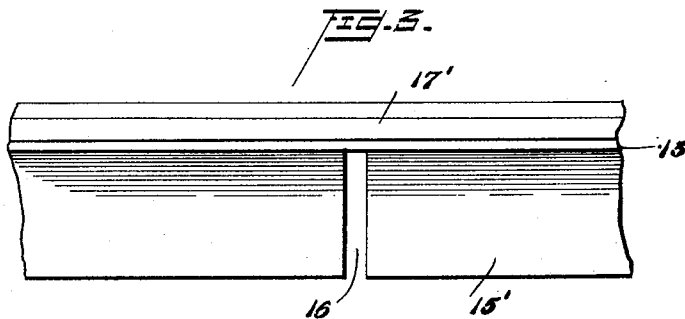
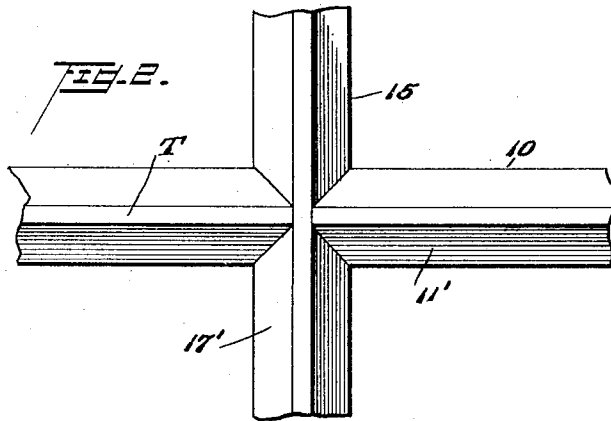
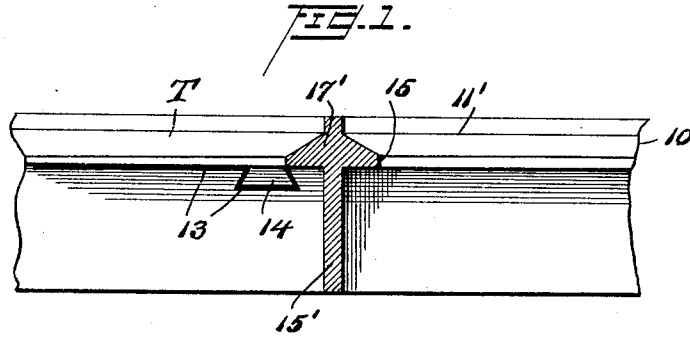


SASH.

1,400,260.

2 SHEETS—SHEET 1.



Inventors,

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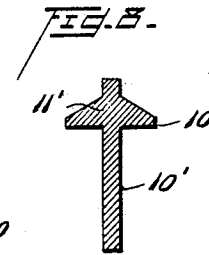
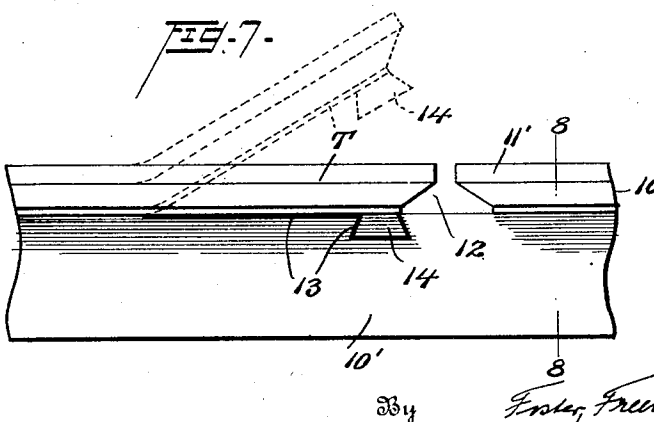
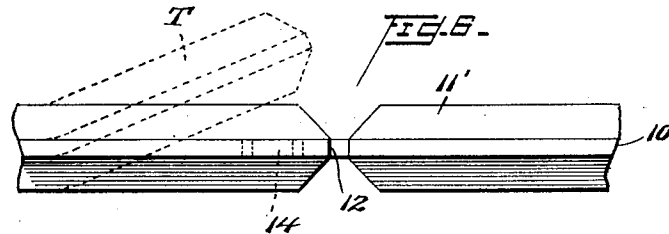
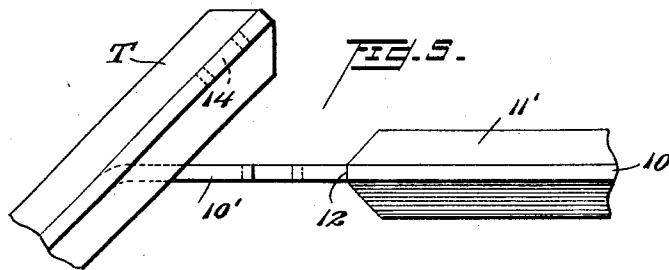
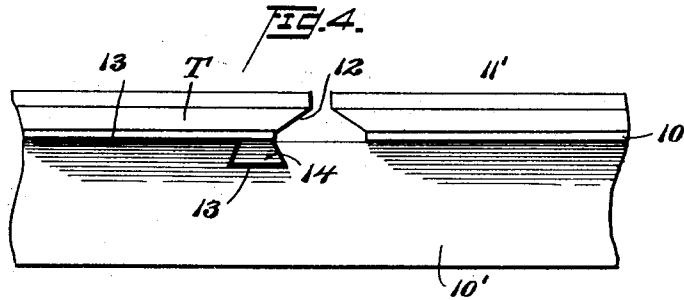
SASH.

APPLICATION FILED DEC. 30, 1919.

1,400,260.

Patented Dec. 13, 1921.

2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

ROBERT H. BLISS AND GRAYDON C. BLISS, OF SYRACUSE, NEW YORK.

SASH.

1,400,260.

Specification of Letters Patent.

Patented Dec. 13, 1921.

Application filed December 30, 1919. Serial No. 348,367.

To all whom it may concern:

Be it known that we, ROBERT H. BLISS and GRAYDON C. BLISS, citizens of the United States, and residing, respectively, at Syracuse, Onondaga county, State of New York, have invented certain new and useful Improvements in Sashes, of which the following is a specification.

The object of this invention is to provide an improved metallic frame work construction particularly applicable for use in connection with door and window sashes. Many suggestions have heretofore been advanced for fastening the mullions together at their intersections, and it is the particular object of this invention to provide an improved joint for the mullions of the sash whereby these members may be secured together in such manner that the joints will have maximum strength and rigidity while at the same time the joints are simple and convenient to construct.

One form of our invention is illustrated in the accompanying drawings in which:

Figure 1 is a side view of a portion of a sash showing two crossed mullions jointed together;

Fig. 2 is a top view of the same;

Fig. 3 is a side view of one of the mullions;

Fig. 4 is a side view of a mullion which crosses the mullion illustrated in Fig. 3;

Fig. 5 is a top view of the mullion shown in Fig. 4 after having been bent in the operation of preparing the same to unite with the cross mullion;

Fig. 6 is a similar view but showing the mullion bent in a different manner, to receive the cross mullion;

Fig. 7 is a side view of the same; and

Fig. 8 is a section along the line 8—8 of Fig. 7.

We illustrate one joint of a door or window sash, but it will be understood that the sash may comprise any number of crossed mullions dividing the same into the desired number of squares or oblong areas, to suit the use to which the sash is put. Each of the joints is however constructed in the way illustrated in the drawings and hereinafter described.

The mullion 10, which is preferably of rolled metal and is bendable, is substantially T shaped, having a web portion 10' and a head portion 11'. A dove-tailed notch 12 extends transversely through the head portion, and on one side of this notch the head 11' is severed from the web 10' for a considerable distance, as indicated by the heavy line 13 in Figs. 4 and 7. A small portion 14 of the web is however, left integral with the head, this portion 14 being dove-tailed as illustrated, and located near the free end of the severed portion of the head. The severed portion T of the head of the mullion comprises a tongue, and will be hereinafter referred to as such. The dove-tailed portion 14 which fits into the dove-tailed notch in the web 10' constitutes when in said notch, a locking means preventing the free end of the tongue T from bending upwardly in the plane of the web when for any reason the sash is strained, to permit the displacement of a cross mullion which has been inserted in the notch 12.

This cross mullion 15 is similar to the mullion just described but is notched in a different manner, as illustrated in Fig. 3, a notch 16 extending from the bottom of the web 15' up to the base of the head portion 17'. Into this notch 16 the web 10' of the first mullion fits when the members are secured together.

In forming a joint the member 10 is bent in the manner illustrated in Fig. 5 or in Figs. 6 and 7. In Fig. 5 the web has been bent and the tongue T has remained in alinement with the unsevered portion of the head. In Figs. 6 and 7 the tongue T is shown as bent laterally and upwardly, Fig. 7 showing the degree of upward bending. In either case, however, the object of the bending is to provide sufficient space between the end of the tongue T and the other side of the notch 12 to permit the insertion of the crossed mullion 15 into the notch 12. After being bent as described, and the crossed mullion 15 placed in position, the tongue and web of the mullion 10 are again relatively moved to original position, in which position the dove-tailed member 14 enters the corresponding dove-tailed notch in the web

10 and firmly locks the free end of the tongue to the web as described before. In this position the dove-tailed head 17' of the cross mullion 15 is firmly held in the notch 12.

5 It will be apparent from the above description that the sash joint illustrated is of great simplicity and strength and it is easy to construct and small in cost. Likewise it will be apparent that modifications of the invention may be made and we do not limit ourselves to the exact form illustrated.

Having thus described the invention what is claimed as new and desired to be secured by Letters Patent is:

15 1. A sash comprising intersecting mullions, a first mullion having a notch in one edge, and a second mullion having a portion adapted to fit in said notch, the first mullion having a bendable tongue adjacent the notch, the free end of the tongue forming one side of the notch, said tongue being adapted to be bent laterally to provide space additional to the notch to permit the insertion of the second mullion into the notch, and to be moved into its original position after said second mullion has been placed in said notch, with its free end engaging said second mullion, and said tongue and first mullion having portions interlocking when the tongue is in its original position, for the purpose set forth.

2. A sash comprising intersecting mullions, a first mullion having a dove-tailed notch in one edge and a second mullion having a dove-tailed portion to fit said notch, the first mullion having a bendable tongue adjacent the notch, the free end of the tongue forming one side of the notch, said tongue being adapted to be bent laterally to provide space additional to the notch to permit the insertion of the second mullion into the notch, and to be moved into its original position after said second mullion has been placed in said notch, with its free end engaging said second mullion and said tongue and first mullion having portions interlocking when the tongue is in its original position, for the purpose set forth.

3. A sash comprising intersecting mullions, a first mullion having a notch in one edge, and a second mullion having a portion adapted to fit in said notch, the first mullion having a bendable tongue adjacent the notch, the free end of the tongue forming one side of the notch, said tongue being adapted to be bent laterally to provide space additional to the notch to permit the insertion of the second mullion into the notch, and to be moved into its original position after said second mullion has been placed in said notch, with its free end engaging said second mullion and said tongue having a dove-tailed projection and said first mullion having a dove-tailed notch adapted to receive said

projection, whereby the tongue is locked to the mullion when in its original position, for the purpose set forth.

4. A sash comprising intersecting mullions, a first mullion having a notch in one edge, and a second mullion having a portion adapted to fit in said notch, the first mullion having a tongue adjacent the notch, the free end of the tongue forming one side of the notch, said tongue and first mullion being relatively bendable laterally to provide space additional to the notch to permit the insertion of the second mullion into the notch, and to be bent to original position after said second mullion has been placed in said notch, with the free end of the tongue engaging the second mullion and said tongue and first mullion having portions interlocking when in said position, for the purpose set forth.

5. A sash comprising intersecting mullions, a first mullion having a dove-tailed notch in one edge, and a second mullion having a dove-tailed portion adapted to fit in said notch, the first mullion having a bendable tongue adjacent the notch, the free end of the tongue forming one side of the notch, said tongue being adapted to be bent laterally and outwardly to provide space additional to the notch to permit the insertion of the second mullion into the notch, and to be moved into its original position after said second mullion has been placed in said notch, with its free end engaging said second mullion, said tongue having a dove-tailed projection and said first mullion having a dove-tailed notch adapted to receive said projection, whereby the tongue is locked to the mullion when in its original position, for the purpose set forth.

6. A sash comprising intersecting mullions, a first mullion having a notch in one edge, and a second mullion adapted to fit in said notch, the first mullion having a tongue adjacent the notch, the free end of the tongue forming one side of the notch, the tongue and body portion of the first mullion being relatively bendable laterally to provide space additional to the notch to permit the insertion of the second mullion into the notch, and to be bent to original position after said second mullion has been placed in said notch with the free end of the tongue engaging the second mullion, and said tongue and body portion having dovetailed portions which interlock when in said position, for the purpose set forth.

7. A sash comprising intersecting mullions, a first mullion having a notch in one edge, and a second mullion having a portion adapted to fit in said notch, the first mullion having a tongue adjacent the notch, the free end of the tongue forming one side of the notch, the body portion of the first

mullion being bendable relatively to the tongue to provide space additional to the notch to permit the insertion of the second mullion into the notch, and to be bent to
5 original position after said second mullion has been placed in said notch with the free end of the tongue engaging the second mul-

lion and said tongue and first mullion having portions interlocking when in said position, for the purpose set forth.

In testimony whereof we affix our signatures.

10

ROBERT H. BLISS.
GRAYDON C. BLISS.