H. E. WHITE.

METAL FRAMING JOINT.

APPLICATION FILED AUG. 26, 1914.

1,165,049. Patented Dec. 21, 1915.

FIG. 1

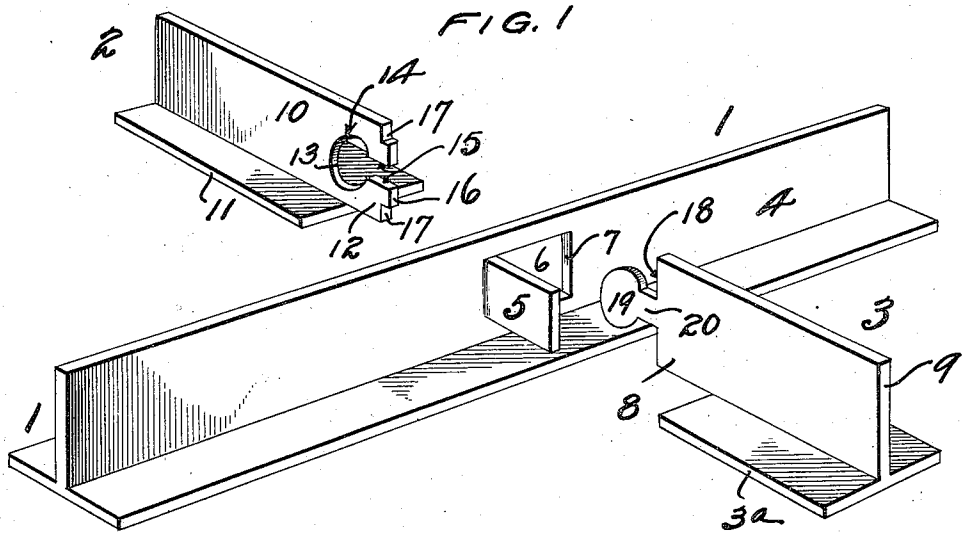


FIG. 2

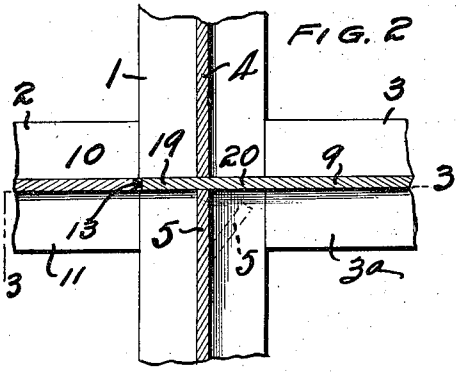


FIG. 3

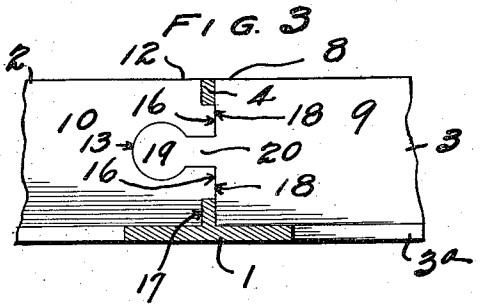
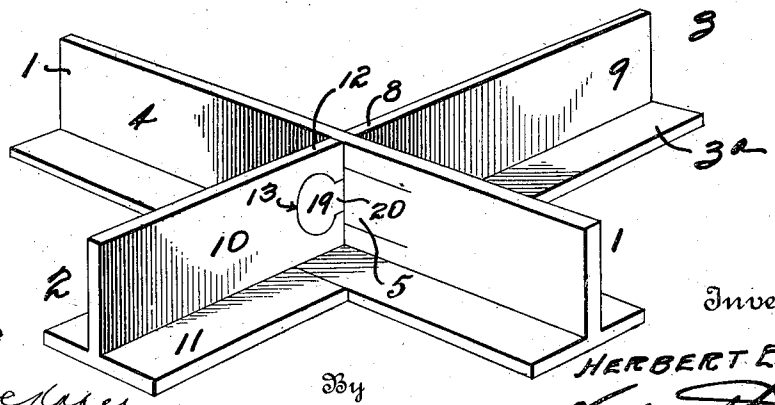


FIG. 4



Witnesses

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UNITED STATES PATENT OFFICE.

HERBERT E. WHITE, OF YOUNGSTOWN, OHIO, ASSIGNOR TO THE GENERAL FIRE-PROOFING COMPANY, OF YOUNGSTOWN, OHIO, A CORPORATION OF OHIO.

METAL FRAMING-JOINT.

1,165,049. Specification of Letters Patent. Patented Dec. 21, 1915.

Application filed August 26, 1914. Serial No. 858,733.

To all whom it may concern:

Be it known that I, HERBERT E. WHITE, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Metal Framing-Joints, of which the following is a specification.

This invention relates to a novel and practical metal framing joint designed to permanently and rigidly unite, in a neat finish, the frame members of metal structures employed in fireproof building construction, such as steel sashes and the like.

The primary object of the invention is to provide a mechanically-interlocked framing joint that is simple and substantial, and which may be easily formed and quickly assembled.

It is also the purpose of the invention to provide a construction of joint possessing great strength and rigidity, and one which may be economically manufactured without sacrificing the advantages of either of these features, and at the same time preserving a high standard of neatness.

With the above and other objects in view which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

A preferred and practical embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the metallic frame members of the joint about to be assembled. Fig. 2 is a horizontal sectional view of the joint with the locking tongue closed, the open position of the latter being indicated by dotted lines. Fig. 3 is a vertical sectional view of the joint, on the line 3—3 of Fig. 2. Fig. 4 is a perspective view of the completed joint.

Similar reference characters designate corresponding parts throughout the several figures of the drawings.

With particular reference to the details of construction shown in the drawings, it will be observed from Fig. 1 that the frame members of the improved joint are usually T-bars, and that the joint includes a main frame member 1 and oppositely arranged connecting frame members 2 and 3 respectively.

The main frame member 1 is provided in its body portion 4 with a bendable locking tongue 5 which is displaced from the body to provide a keeper hole 6. The abutment edge 7 of this hole which is opposite the hinging point of the tongue 5 is preferably cut-away further after the tongue has been punched from the bar-body. This provides an accurate fit at the corners of the joint by leaving enough space between the said abutment edge 7 and the cut end of the bendable locking tongue 5 to accommodate the thickness of the locking elements of the opposite connecting frame members.

The connecting frame member 2 has its bar-body 10 projecting beyond the flange 11 thereof to form a locking ear 12 having therein a key-hole mortise 13 consisting of an enlarged opening 14 in communication with a contracted slot 15 opening through the end 16 of the bar 12. The opposite corners of the ear end 16 are notched as at 17 to permit the said end 16 to abut with the end shoulders 18 of the bar-body 9 of the connecting frame member 3. Also, the notches 17 interlock with opposite edges of the hole 6 and thus take a firm abutment against one face of the bar-body 4 of the frame member 1 and permit the end 16 of the ear 12 to be flush with the opposite face of the said bar-body, as clearly shown in Fig. 3 of the drawings.

A projection 8 at one end of the bar-body 9 is formed with a locking tenon 19 connecting with the body by a neck portion 20, thus having a form, as well as dimensions, corresponding to the key-hole mortise 13 with which it registers. In this connection it will be observed that the tenon and mortise 19 and 13 constitute substantially a dove-tail joint.

With the frame parts in the position shown in Fig. 1 of the drawings, the connecting frame member 2 is disposed in such relation to the main frame member 1 that the ear end 16 may be placed within the keeper hole 6 so that one face thereof is in contact with the abutment edge 7 of the body 4 of the main frame member. In this position, the key-hole mortise 13 is arranged to receive

the locking tenon 19 of the bar projection 8 and thus provide the dove-tail joint constituting the interlock between the opposite frame members which meet in the keeper hole or opening 6. The width of the keeper hole is sufficient to permit the tenon 19 to pass the end of the ear 12 so that the former may be pushed into registering relation with the key-hole mortise 13, thereby placing one side of the neck 20 in contact with the abutment edge 7 of the hole 6 in the same manner as one side face of the end 16 of the ear 12. When the connecting frame members are thus interlocked, the bendable locking tongue 5 is forced back into alinement with the bar body 4 so that its cut end forcibly bears against the neck 20 of the locking tenon and also against the end 16 of the ear 12, thereby holding them both in rigid and binding contact with the abutment edge 7, as clearly shown in Figs. 2 and 4 of the drawings.

From the foregoing, it is believed to be apparent that the many features and advantages of the invention are obvious without further description, and that minor details of construction and design may be resorted to without departing from the spirit of the invention or sacrificing any of the advantages of the construction covered by the appended claims.

I claim:

1. A metal framing joint comprising a main frame member, including a bar portion provided with an opening formed in it by a bendable tongue, opposite frame members meeting in said opening and interlocked therein by means of a dove-tail joint, said bendable tongue closing the remainder of said opening and preventing lateral relative displacement of the opposite frame members.

2. A metal framing joint comprising a main frame member having a bendable locking tongue displaced therefrom forming a keeper hole, and opposite frame members connected by a dove-tail joint disposed within the hole, said bendable tongue having its cut end engaging the lateral faces of the interlocked ends of the connecting frame members.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

HERBERT E. WHITE.

Witnesses:
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O. D. KAISER.