C. A. FULLERTON, L. A. RUSHWORTH & W. H. PAETH.

METALLIC FRAMING.

APPLICATION FILED JAN. 14, 1914.

1,158,378.

Patented Oct. 26, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

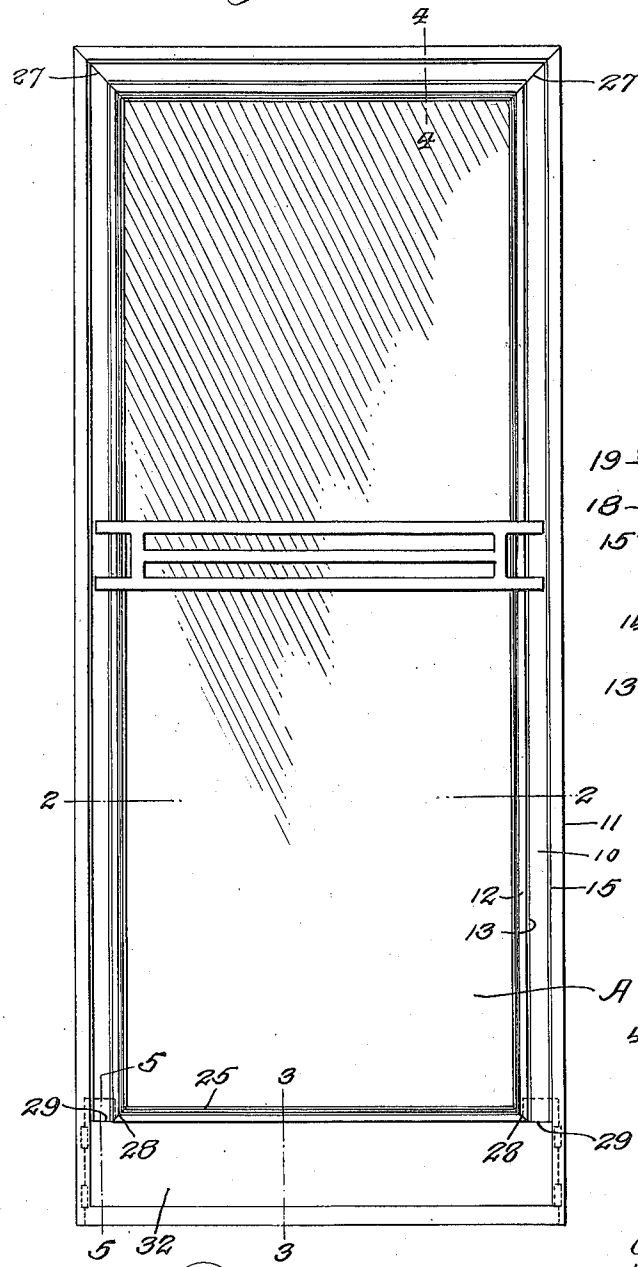


Fig. 7.

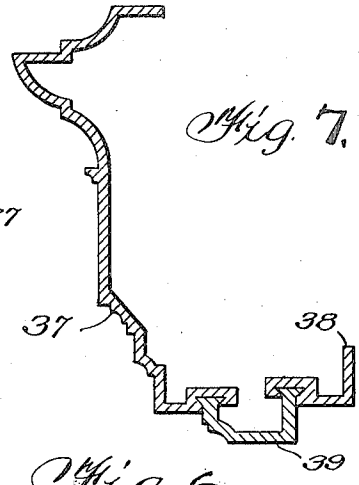
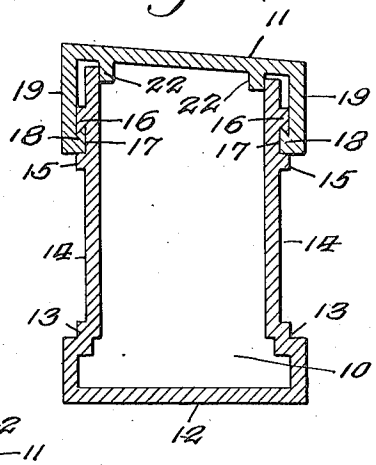


Fig. 6.



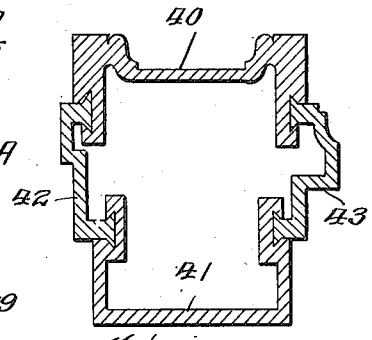


Fig. 8.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

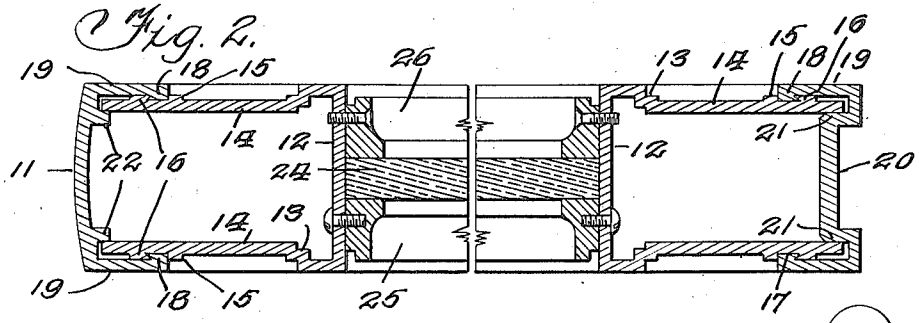


Fig 4.

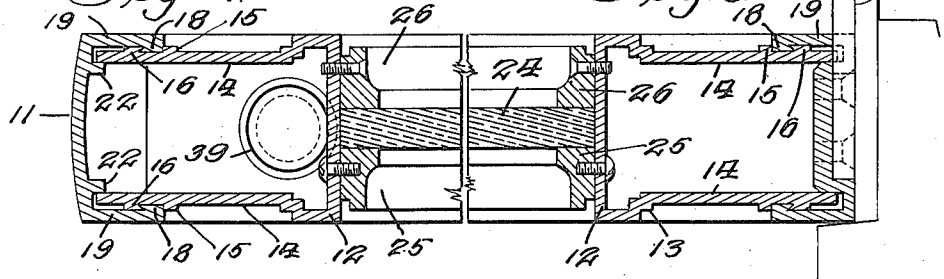
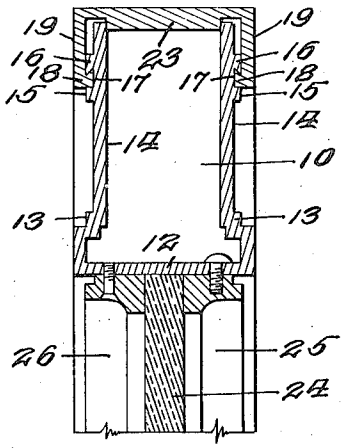


Fig 5.

Fig 3.



Witnesses

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UNITED STATES PATENT OFFICE.

CLARENCE A. FULLERTON AND LEROY A. RUSHWORTH, OF NEW YORK, N. Y., AND WILLIAM H. PAETH, OF PROVIDENCE, RHODE ISLAND, ASSIGNORS TO GORHAM CO., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

METALLIC FRAMING.

1,158,378. Specification of Letters Patent. Patented Oct. 26, 1915.

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To all whom it may concern:

Be it known that we, CLARENCE A. FULLERTON, LEROY A. RUSHWORTH, and WILLIAM H. PAETH, citizens of the United States, and residents of New York, county of New York, and State of New York, and Providence, county of Providence, and State of Rhode Island, respectively, have invented certain new and useful Improvements in Metallic Framing, and do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to metallic construction for "doors", frames, tubular and open metal sections wherein it may be necessary to connect two or more metallic sections transversely and more or less continuously through their lengths, and the like and has for an object to provide an improved means for forming the frames of interlocked metal.

A further object is to provide means for forming tubular sections which are subsequently formed into doors or the like.

Further objects will be apparent from the following specification, appended claims and drawings in which,

Figure 1 is a side elevation of a door constructed in accordance with this invention. Fig. 2 is a cross sectional view as on the line 2—2 of Fig. 1. Fig. 3 is a vertical sectional view as on the line 4—4 of Fig. 1. Fig. 4 is a cross sectional view looking upwardly showing how the door is mounted when used for a double swinging door. Fig. 5 is a cross sectional view showing how the hinge is applied to one of the stiles, Fig. 6 is a cross sectional view through a modified form, and Figs. 7 and 8 are cross sectional views of modified forms.

This invention provides for the construction of bronze doors and the like. It provides a simplified means of forming the frame work of the door in permitting the interlocking of sections of drawn or otherwise formed lengths of metal. This frame work when made up possesses the necessary strength for such usage and also presents a comparatively light structure.

In carrying out this invention, the stiles and head rail of a door, a railing or any other similar structure are formed of two lengths of metal which may be drawn or otherwise formed in the desired shape, and these lengths of metal are assembled by sliding one section longitudinally over or within the other.

Referring to the drawings in which similar reference numerals indicate similar parts throughout the several views there is shown a door "A" which has the stiles and head rail thereof formed of U shaped channels "10" to which applied a cap section "11". The metal comprising the channel sections "10" and caps "11" may be worked through dies, cast or machined and may be of any desired cross sectional configuration. In the drawings the channel sections "10" have portions "12" of increased width, and stepped portions "13" which terminate in the constricted side flanges "14". These flanges are provided at desired points with beads "15" and with dovetailed flanges "16" between the beads "15" and the edges of the flanges "14", to form dovetailed recesses "17" to receive corresponding beads "18" carried by the flanges "19" of the cap pieces "11". The cap pieces "11" may have portions thereof depressed as at "20" to form shoulders "21", or these cap pieces may have flanges "22" formed on the inner side thereof as shown in Fig. 8 or as shown in Fig. 4, they may have a portion of the metal constituting said cap of increased thickness as shown at "23" to form shoulders to arrest the inward movement of the flanges "14". It is apparent that this form of locking means presents a rigid construction in which the flanges "14" are subsequently trussed. When this construction is used for bronze doors and the like, the frame of the door is formed of this metal and any desired panel may be inserted in this frame. As shown in the drawings the panel may be of plate glass or any other desired material and this panel "24" is retained by fillets "25" and "26" of which, the fillet "25" is secured by passing screws through the portions "12" into the under side of the fillet "25", while the fillet "26" may be removed when it is desired to insert or remove the panel "24". When the frame is made up as shown in Fig. 1, the stiles and head rail are mitered as at 27 and the base is fitted by mitering the stiles as at

28 having the flanges 14 abut against the shoulder 29 formed on the side plating 32.

When the door is to be swung on strap hinges, as shown in Fig. 5 of the drawings a portion of the cap "11" is removed to admit the leaf of the hinge into the recessed portion of the cap as shown. The leaf may then be fastened to the door in the usual manner and to the stile of the door casing as in common practice.

As doors or the like made in accordance with this invention will be required for use in various places and under various conditions, different cross sectional outlines will be required for the different uses. Fig. 6, shows one of the many possible modifications which can be made.

Figs. 7 and 8 show modifications wherein more than two pieces of material are secured by the construction disclosed in this invention.

It is apparent from the foregoing and the drawings that the parts "10" and "11" must be assembled by sliding one portion into or over the others by a longitudinal movement and that when the parts are so assembled they are positively interlocked to reinforce the intermediate sections.

Having thus described our invention, we claim,

1. In a construction of the class described, interlocked channel structures having complemental flanges, the flanges of one section extending between the flanges of other section, said flanges being in parallel planes, beads formed on the adjacent faces of said flanges, some of said flanges having parallel beads forming undercut slots, and others of said flanges having undercut beads to engage in said undercut slots, and projections formed in one of said channel structures to engage extending ends of the flanges of the other channel structure.

2. In a construction of the class described, interlocked channel structures having complemental flanges, the flanges of one section extending between the flanges of the other section, some of said flanges having spaced beads being undercut to present a dovetail slot between said beads, and the other of said flanges being provided with inwardly directed beads, said last mentioned beads being undercut to conform with the slot of the first mentioned beads, said last mentioned beads being slidable between the first mentioned beads and projections formed in one of said channel members to engage the ends of the inserted flanges to reinforce the same.

3. In a construction of the class described, channel structures having complemental flanges therein, the flanges of one member extending between those of the other member, said flanges being of different widths to cause the flanges of one section to terminate at points within the width of the other flanges, one of said channel structures having projections formed on the base thereof, to engage the ends of the wider flanges, spaced beads formed on said wider flanges, said beads comprising an undercut slot, and inwardly directed undercut beads formed on the inner faces of the smaller flanges to engage in said undercut slot of the larger flanges, said arrangement comprising a structure in which the flanges are reinforced in having the larger flanges supporting on the opposite edges thereof.

In testimony whereof we affix our signatures in presence of witnesses.

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