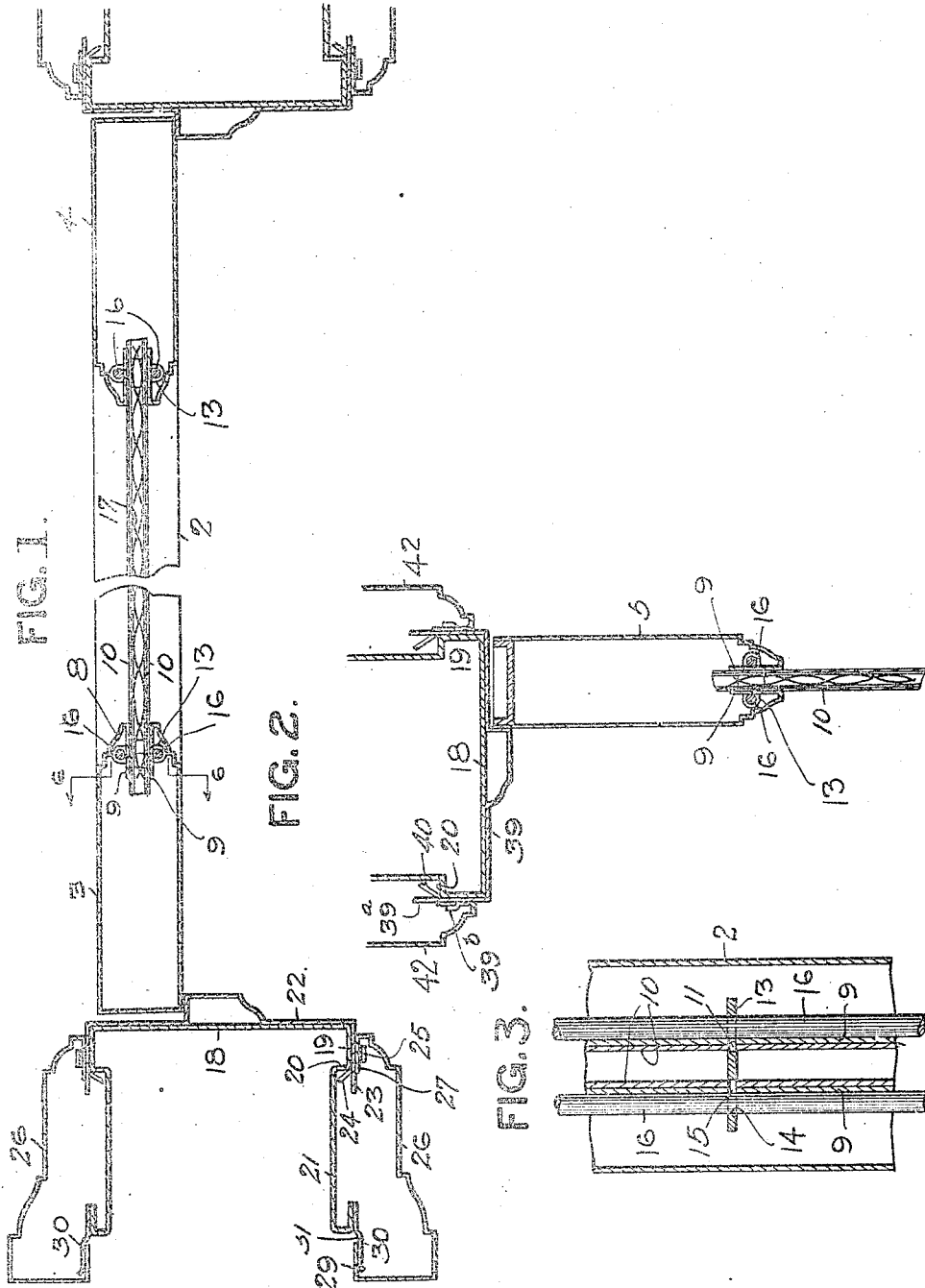


E. OHNSTRAND.
METAL DOOR CONSTRUCTION.
APPLICATION FILED FEB. 23, 1910.

981,875.

Patented Jan. 17, 1911.



WITNESSES.

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UNITED STATES PATENT OFFICE.

ENOCH OHNSTRAND, OF JAMESTOWN, NEW YORK, ASSIGNOR TO ART METAL CONSTRUCTION COMPANY, OF JAMESTOWN, NEW YORK, A CORPORATION OF NEW YORK.

METAL-DOOR CONSTRUCTION.

981,875.

Specification of Letters Patent. Patented Jan. 17, 1911.

Application filed February 23, 1910. Serial No. 545,491.

To all whom it may concern:

Be it known that I, ENOCH OHNSTRAND, a resident of Jamestown, in the county of Chautauqua and State of New York, have invented a new and useful Improvement in Metal-Door Construction; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to metal door construction.

The object of the invention is to provide a simple and efficient means for rigidly connecting the panels of the door with the stiles and rails so as to give a neat finished appearance.

To these ends my invention comprises, generally stated, a metal door with the stiles and rails provided with inwardly projecting flanges, a panel inserted between said flanges, tie-members adapted to enter openings in said flanges and panels, and locking members engaging said projections and securing said panels in position.

Referring to the drawings, Figure 1 is a cross section of my improved door construction; Fig. 2 is a cross section of the upper stile of the door; and Fig. 3 is an enlarged section on the line 6-6 Fig. 1.

Referring to the drawing the numeral 2 designates a metallic door formed of sheet-metal of the proper gage to give the necessary strength and rigidity, and said door is composed of the ordinary stiles 3 and 4 connected at the top, middle and ends by the rails 5, 6 and 7. The stiles and rails are each formed preferably from one piece of metal, as indicated in Fig. 1, the metal being bent around in such a manner as to form the molding 8 around the panels. After forming the molding 8 the metal is then bent inwardly to form the flanges or inwardly projecting portions 9.

The panels 10 are formed of two sheets of metal, each panel being cut at intervals to form openings 11 to receive the lugs or straps 13 with openings 14 formed therein. In order to secure the panels to the stiles and rails of the door the panels are inserted between the flanges 9 and the said flanges 9 are provided with slots or openings 15 coinciding with the openings 11 to receive the straps or tie-members 13. After the lugs 13 have been inserted within the openings 15 and 11 rods 16, or other locking devices, are inserted in the openings 14 and

said rods act to lock the panels securely in place so as to secure the panels to the stiles and rails. These rods 16 form a very snug fit with the openings 14 and when driven into place the panels are held rigidly in position. In the space formed between the sheets of the panels 10 I insert a sheet of expanded metal 17, and between the expanded metal and the inner faces of the panels I interpose a sheet of asbestos paper, or other suitable material. This expanded metal and the asbestos sheet act as sound deadeners for the panels.

I provide the metal frame 18 of the doorway which has the recess 19 forming the shoulders 20 and the flanges 21. I secure to the frame 18 the metal trims 22, said trims having the inwardly extending flanges 23. These flanges are cut at intervals to form the lugs 24 which are bent to engage the shoulders 20 on the frame 18. The flanges 23 of the trims 22 are further cut at intervals and bent up to form the hook-lugs 25. To these trims I secure the trims 26. These trims 26 are provided with the inwardly extending flanges 27 which have formed at intervals thereon the openings 28. The trims 26 are brought into engagement with the trims 22 by slipping said trims 26 over the hooks 25 of the trims 22 and by means of the openings 28. The outer ends of the trims 26 are also provided with the inwardly projecting flanges 29. These flanges engage the vertical strips 30 which are riveted or otherwise secured to the flanges 21 on the frame 18. The strips 30 are slightly off-set as at 31 to permit of the trims readily slipping into engagement therewith.

To secure the trims 39 at the top of the frame 18 I provide said trim with the flange 39^a with the lugs 40 which are bent to engage the shoulders 20 and said trim has also the hook-lugs 39^b. The trims 42 have the openings 43 engaged by the hook-lugs 44. A strip 45 is riveted or otherwise secured to the frame 18 and the flange 46 of the trim 42 engages said strip.

This door frame forms the subject of an additional application filed the seventh day of June, 1910, Serial No. 565,629.

What I claim is:

1. A metal door comprising stiles having flanges projecting toward the interior of the stiles, said flanges having openings formed therein, panels inserted between said flanges

having openings, tie-members engaging said openings, and means for locking said panels in position.

2. A metal door comprising stiles having
5 inwardly projecting flanges with openings
formed therein, panels inserted between said
flanges having openings, tie-members en-
gaging said openings, and locking devices
passing through said members.
10 3. A metal door comprising stiles having
inwardly projecting flanges having openings

therein, panels inserted between said flanges
having openings, tie-members engaging said
openings, and rods passing through said tie-
members.

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In testimony whereof, I the said ENOCH
OHNSTRAND have hereunto set my hand

ENOCH OHNSTRAND.

Witnesses:

MARTHA OHNSTRAND,
ABERTH E. OHNSTRAND.