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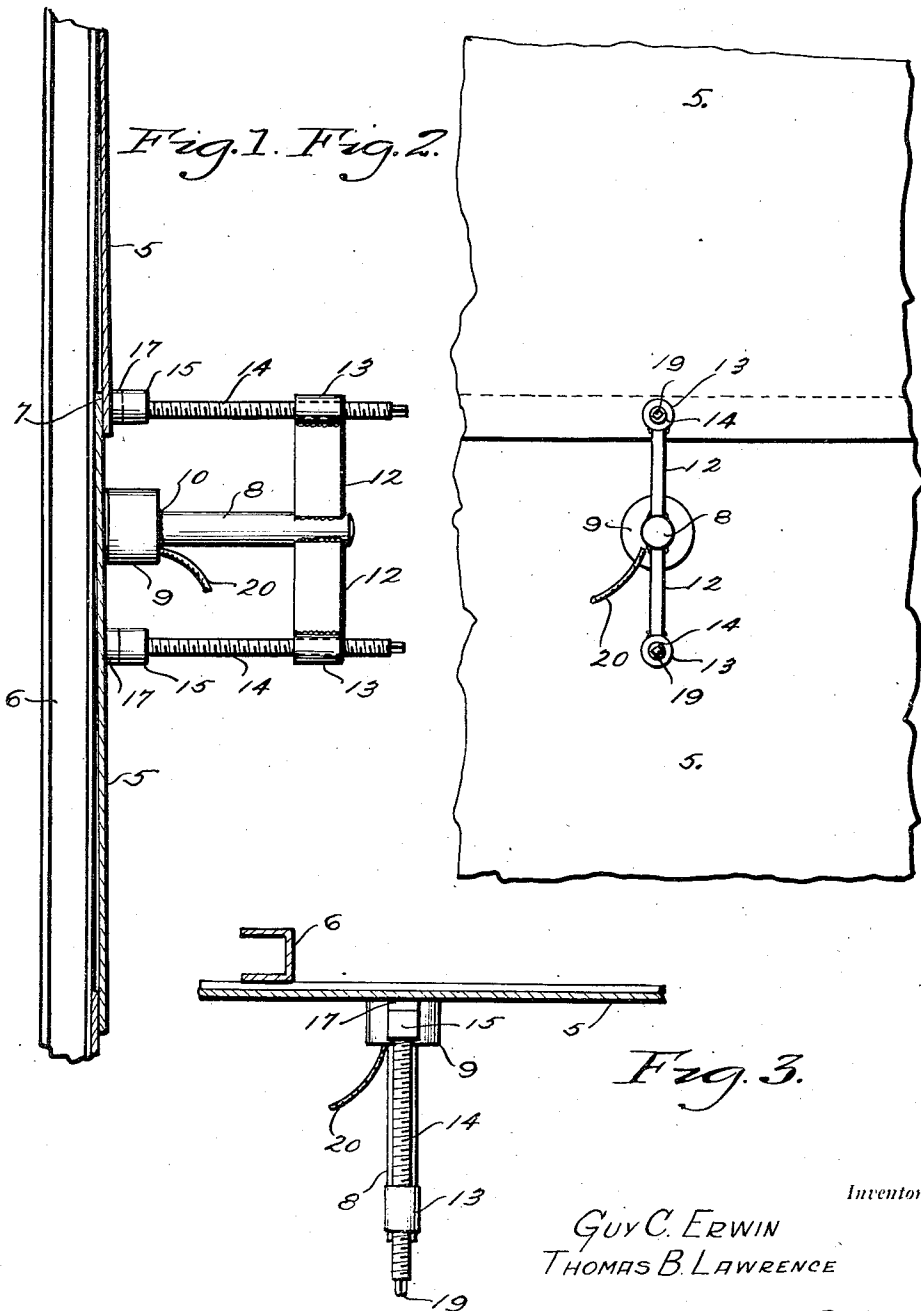
G. C. ERWIN ET AL

2,379,136

FITTING-UP TOOL

Filed Jan. 13, 1944

2 Sheets-Sheet 1



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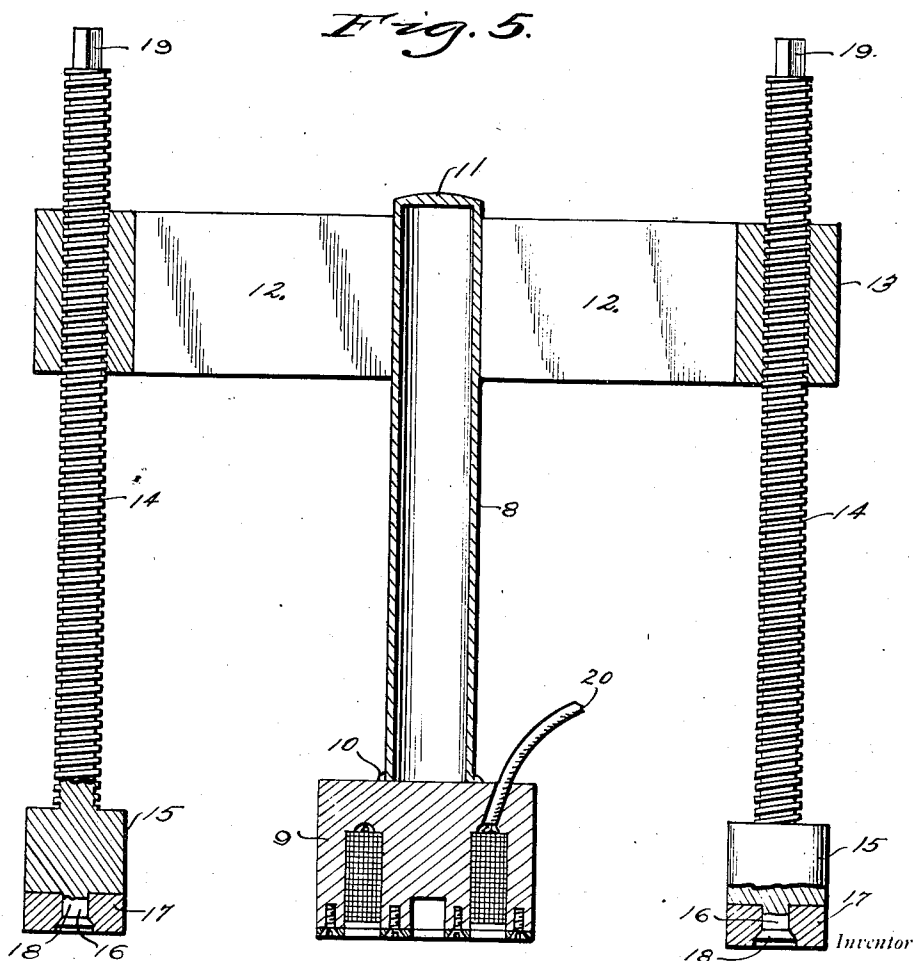
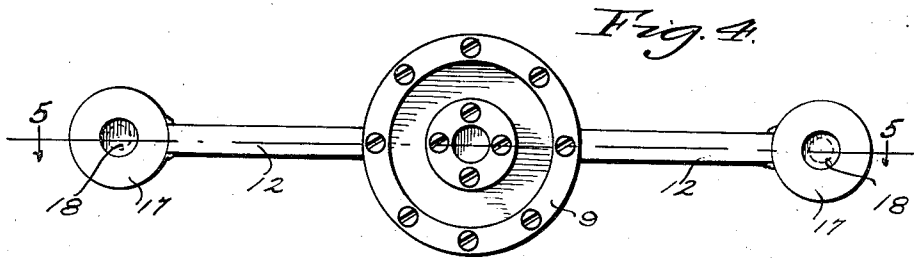
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UNITED STATES PATENT OFFICE

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FITTING-UP TOOL

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Application January 13, 1944, Serial No. 518,146

2 Claims. (Cl. 113—99)

This invention relates to improvements in fitting-up tools such as are used in assembling plates of metallic structures, the tool being used to assist in welding or otherwise securing the seams between adjacent plates by forcing adjacent edges of the plates into and maintaining them in proper relation.

The primary object of the present invention is to provide a tool of the above kind whose use requires no attachment of temporary lugs or the like to the plates being assembled and secured together, thereby minimizing the expenditure of time, labor and material.

A more specific object of the invention is to provide a tool of the above kind which is extremely simple in construction, durable, and efficient in use.

Briefly described, the present tool embodies a post having an electro-magnet fixed to one end thereof and provided at the other end with lateral oppositely projecting arms which terminate at their outer ends in internally threaded barrels whose axes are parallel with the post, jack screws being threaded through the barrels and having work-engaging heads at their inner ends disposed at opposite sides of the electro-magnet.

The present invention consists in the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawings and claimed.

In the drawings, wherein like reference characters indicate corresponding parts throughout the several views:

Figure 1 is a view showing in side elevation a setting-up tool constructed in accordance with the present invention, and illustrating the tool in use while effecting a lapped joint between adjacent plates of a metallic structure.

Figure 2 is an outer end elevation looking toward the left of Figure 1.

Figure 3 is a top plan view of the construction shown in Figure 1.

Figure 4 is an enlarged inner end elevation of the tool per se, and

Figure 5 is a substantially central longitudinal section taken on line 5—5 of Figure 4.

Referring to Figures 1 to 3, inclusive, the invention is shown in use while effecting a joint between adjacent plates 5 laid across a frame member 6 of a metallic structure, adjacent edges of the plates being overlapped, as at 7, to effect a lap weld or lap joint.

The present tool consists of a post 8 centrally fixed at one end to the back of a relatively strong electro-magnet 9, as by welding or the like, at 10.

The post 8 is preferably in the form of a stout tube having its outer end closed, as at 11, and provided at this end with a pair of rigid arms 12 that project laterally from opposite sides of the post 8 and terminate at their outer ends in rigid internally threaded barrels 13 whose axes are parallel with the post 8. Threaded through the barrels 13 are jack screws 14 which are disposed parallel with and at opposite sides of the post 8 and terminate at their inner ends in work-engaging heads 15 disposed at opposite sides of the electro-magnet 9. The heads 15 preferably include inner relatively large bodies provided with projecting axial pins 16 on which are secured rotatable axially apertured facing discs 17. The pins 16 are headed, as at 18, to secure the facing discs 17 upon said pins, and the outer ends of jack screws 14 may be squared, as at 19, to facilitate turning of the same by a suitable handle or wrench.

While the heads carried by the outer ends of arms 12 are preferably in the nature of screw jacks, as shown and described, it will of course be understood that other types of jacks may be used in lieu thereof. The electro-magnet 9 has a conductor cable 20 for supplying current thereto from a suitable source.

In use, the jacks are retracted, and the electro-magnet 9 is energized so as to flatly and securely fasten itself to one of the plates 5. The jack which is lowermost is then adjusted toward this plate so as to contact the same, firmly, and prevent lateral tilting of post 8 when the other jack is brought into engagement with the next higher plate 5 at the seam 7. The latter engagement causes the adjacent edge portions of the plates to be brought into proper relation for effecting a joint therebetween by welding or the like, the tool maintaining this relation until the joint has been secured.

It will be noted that the tool coacts directly with the plates and requires, in its use, no attachment of temporary lugs or the like to the plates being assembled. Accordingly, use of the tool involves a minimum expenditure of time, labor and material, and makes it possible to carry out the assembling and joining of plates in an expeditious manner.

What I claim as new is:

1. A fitting-up tool of the character described comprising a straight elongated post, an electro-magnet, said post having one end rigidly fixed to the back of the electro-magnet centrally of the latter, rigid arms fixed to and projecting laterally from opposite sides of the other end of said post,

and jacks carried by the outer ends of said arms and including work-engaging elements movable relative to the arms parallel to the post.

2. A fitting-up tool of the character described comprising an electro-magnet, a straight elongated post rigidly fixed at one end to the back of the electro-magnet centrally of the latter, arms rigid with and projecting laterally from opposite sides of the other end of said post, said arms ter-

minating at their outer ends in internally threaded barrels whose axes are parallel with the post, jack screws threaded through said barrels parallel with the post, and work-engaging heads on the inner ends of said jack screws disposed at opposite sides of the electro-magnet.

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