United States Patent [19]

Maier

[11] **3,767,099**

[45] **Oct. 23, 1973**

[54] **MEANS FOR HOLDING A FASTENING ELEMENT DRIVING DEVICE IN POSITION AGAINST A WALL SURFACE**

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[22] Filed: **Feb. 12, 1971**

[21] Appl. No.: **114,901**

[30] **Foreign Application Priority Data**

Mar. 18, 1970 Germany ..... P 20 12 908.2

[52] **U.S. Cl.** **227/9**

[51] **Int. Cl.** **B25c 1/08**

[58] **Field of Search** 227/8, 9, 10, 11

[56] **References Cited**

UNITED STATES PATENTS

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[57] **ABSTRACT**

For attaching exothermic plates to a mold wall a tool for driving fastening elements by means of an explosive charge is secured to the lower end of an elongated upright support member and a support arm extends laterally outwardly from the support member across the top of the wall to which the plates are to be attached and the support arm has a serrated edge part which is arranged to engage the upper outer edge of the mold wall for holding the tool in place during the driving operation.

1 Claim, 2 Drawing Figures

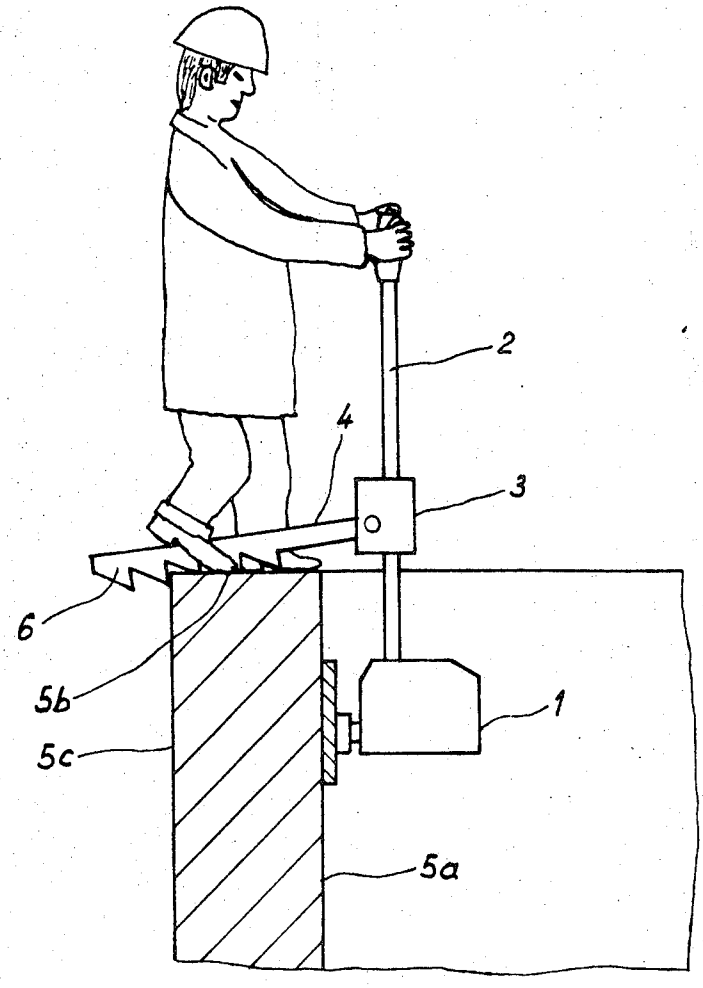


Fig 1

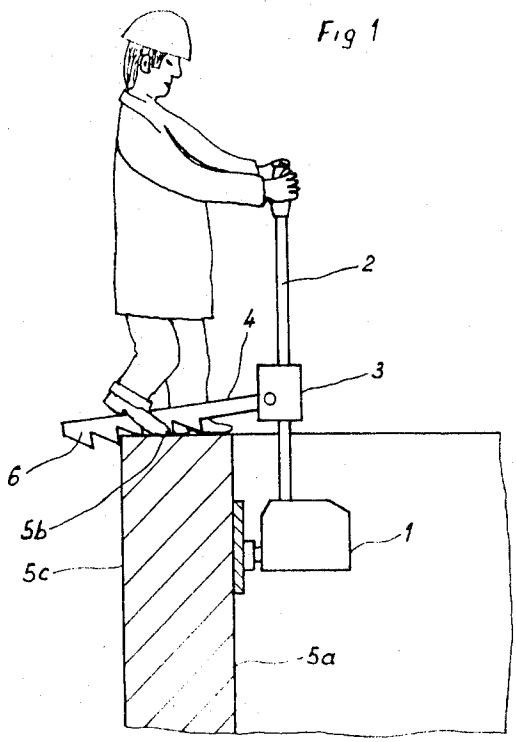
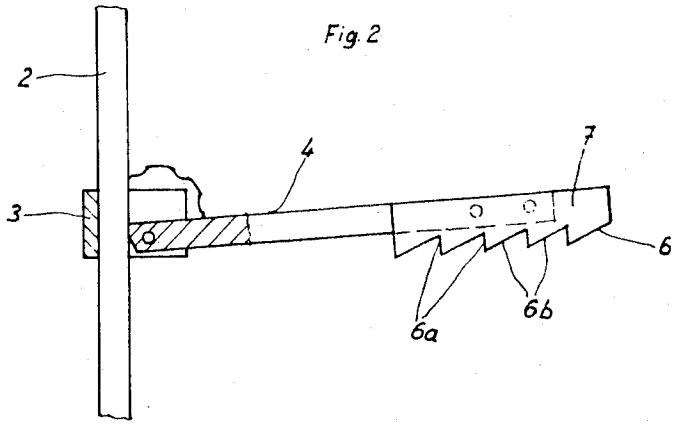


Fig. 2



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MEANS FOR HOLDING A FASTENING ELEMENT DRIVING DEVICE IN POSITION AGAINST A WALL SURFACE

SUMMARY OF THE INVENTION

The present invention is directed to a device for securing exothermic plates on the wall of a mold and, more particularly, it is directed to a support arrangement for holding a tool in position while the tool drives fastening elements into the mold wall for securing the exothermic plates.

As is well known, molds have, at least in part, greatly varying wall thicknesses. Consequently, fastening element devices for securing exothermic plates in the mold are provided with a movable downwardly extending stop which can be locked in various positions along a supporting arm so that the stop forms an abutment for holding the fastening element device in place while it secures the exothermic plates on the mold wall. If considerable differences in wall thickness occur within a single mold, as frequently happens, the stop must be shifted a number of times to secure the plates along the entire inner circumference of the mold.

Accordingly, it is the primary object of the invention to provide a stop or holding means on the supporting arm which is easily adaptable to different wall thicknesses in a mold to hold the fastening element device in position and to facilitate the displacement of the stop means for varying wall thicknesses.

Therefore, in accordance with the present invention, the fastening element device is supported on the lower end of a supporting member and a supporting arm extends laterally from the supporting member across the top of the mold wall and the lower surface of the support arm includes an elongated serrated portion facing the top of the mold wall so that it engages the outer edge of the wall for a broad range of wall thicknesses.

As a result, the serrated part can engage the outer edge of the wall for adapting to varying wall thicknesses without shifting or displacing a stop member, the serrated or toothed part of the support arm being shaped to bear against the upper edge of the mold wall and to provide a positive engagement for holding the fastening element driving tool against the surface of the mold so that sufficient contact pressure can be developed for inserting the fastening elements.

Preferably, the serrated or toothed part of the support arm has a saw toothed configuration with each tooth presenting a generally upright surface for engagement with the upper outer edge of the mold wall and an upwardly and outwardly sloping surface which extends from the lower end of the upright toothed surface to the upper end of the next outwardly positioned tooth.

With this arrangement greater security is provided against against slipping of the teeth while easy displacement of the serrated part is provided when the thickness of the wall surface varies.

The various features of novelty which characterize the invention are pointed out with particularity in the claims annexted to and forming a part of this disclosure. For a better understanding of the invention, its operating advantages and specific objects attained by its use, reference should be had to the accompanying drawing and descriptive matter in which there is illustrated and described a preferred embodiment of the invention.

BRIEF DESCRIPTION OF THE DRAWING

In the drawing FIG. 1 is a schematic representation of a device in accordance with the present invention; and FIG. 2 is a portion, on an enlarged scale, of a part of the device illustrated in FIG. 1.

DETAILED DESCRIPTION OF THE INVENTION

In FIG. 1, an operator is shown standing on the top of a mold wall and manipulating a device for driving fastening elements which secure exothermic plates to the inner mold wall. The device comprises a tool 1 for driving fastening elements by means of an explosive charge, which tool is located on the lower end of an explosive charge, which tool is located on the lower end of an upright or vertically arranged support member 2. As indicated, the operator controls the tool from the upper end of the support member. Positioned on the support member 2 slightly above the top *5b* of the mold wall is a holding clamp 3 which secures a support arm 4 to the support member. The holding clamp is movably positionably along the support member 2. The support arm extends laterally outwardly from the support member above the top *5b* of the mold wall with its outer end projecting outwardly beyond the exterior surface *5c* of the mold wall. Outwardly from the support member, the lower surface of the support arm has a serrated part 6 which presents a number of teeth extending downwardly toward the top *5b* of the mold wall. To prevent any tendency of the serrated part 6 to be displaced from the edge of the mold wall the operator can rest one foot on the arm so that it will remain in position, as is shown in FIG. 1.

In FIG. 2 the arrangement of the serrated portion 6 for securing the support arm against the mold wall is shown more clearly. Each tooth of the serrated part has a vertically or upwardly extending tooth flank *6a* which faces toward the support member 2 and is arranged to contact the similarly upwardly extending outer edge portion of the mold wall. The other tooth flank *6b* extends from the lower end of the upright tooth flank *6a* upwardly and outwardly to the upper end of the next outer upright tooth flank *6a*. The upright tooth flanks *6a* are much shorter in length than the sloping tooth flanks *6b*.

There are several possibilities for arranging the serrated part 6 on the support arm 4. As indicated in FIG. 1 serrated or saw toothed part 6 can be an integral part of the support arm or, as illustrated in FIG. 2, it can be formed in a separate part 7 which is secured to the end of the support arm located outwardly from the support member 2.

While a specific embodiment of the invention has been shown and described in detail to illustrate the application of the inventive principles, it will be understood that the invention may be embodied otherwise without departing from such principles.

I claim:

1. A device for attaching exothermic plates on the wall surface of a mold including an elongated rod-shaped support member arranged in an upright position, a tool for driving fastening elements mounted on the lower end of said support member for securing the exothermic plates to the wall surface of the mold, wherein the improvement comprises an elongated support arm secured to said support member intermediate said tool and the upper end of said support member,

said support arm extending transversely of said support member so that it projects beyond the opposite side of the mold wall to which the plates are attached, said support arm including a fixedly secured serrated edge portion arranged to contact the edge of the surface of said wall opposite the surface thereof to which the exothermic plates are secured, said serrated edge portion comprising a plurality of teeth disposed in a series side-by-side arrangement along the length of said support arm and said teeth projecting downwardly from the lower side of said support arm, each of said teeth having a flank extending in the upward direction and facing in the direction of said support member and another flank sloping upwardly and outwardly from the lower end of said upwardly directed flank to the upper edge of the adjacent outwardly positioned said tooth, so that a selected one of said teeth formed in said serrated edge portion can be engaged with the edge of said wall opposite the surface thereof to which the exothermic plates are secured and holds said tool against the surface of the mold without requiring adjustment in the position of said teeth relative to said support arm for affording the holding action.

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