F. KNADLER.

MOLD FOR CASTING CHAINS.

APPLICATION FILED FEB. 5, 1918.

1,314,874.

Patented Sept. 2, 1919.

2 SHEETS—SHEET 1.

Fig. 1.

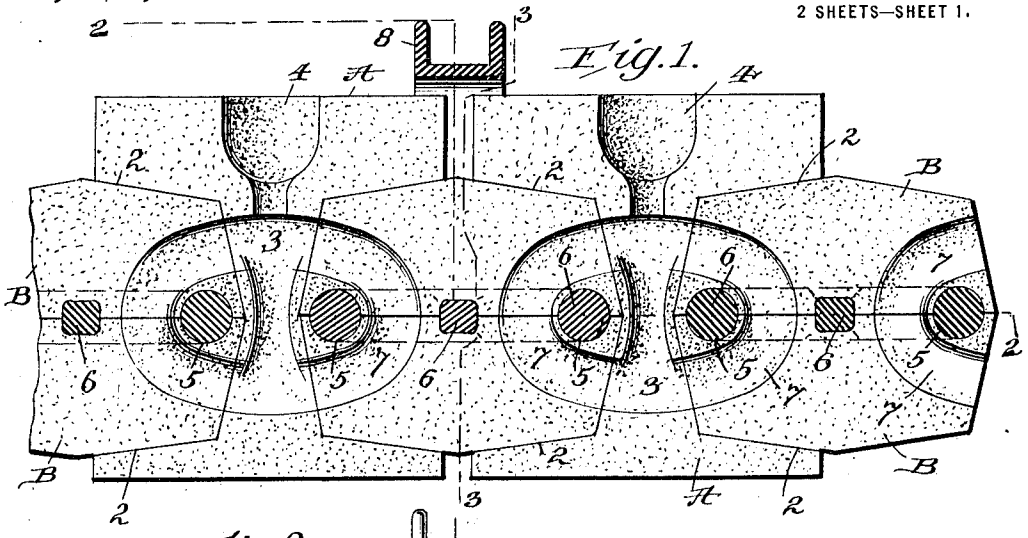


Fig. 2.

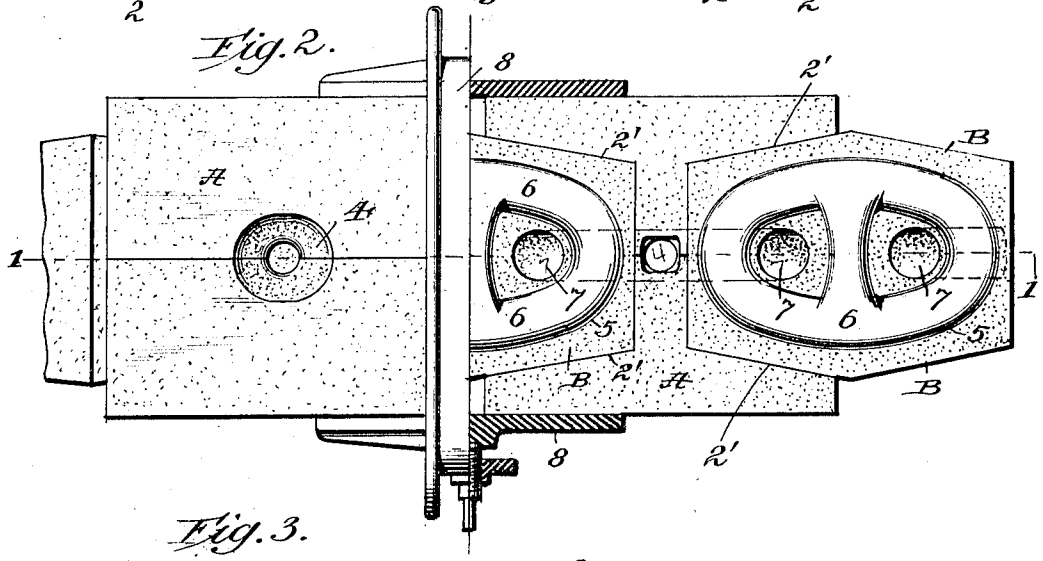
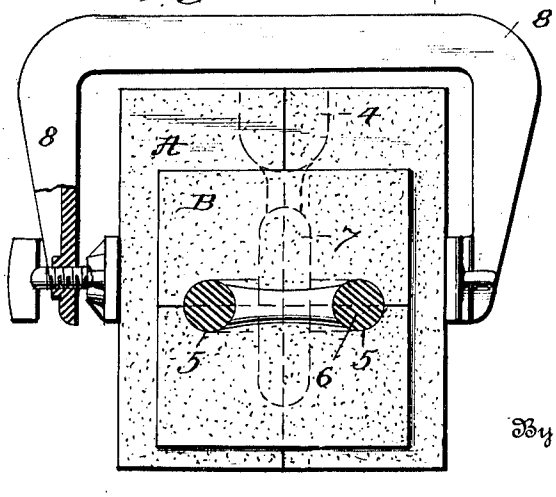


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

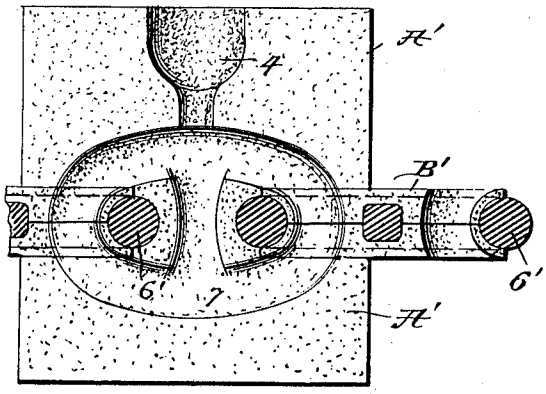


Fig. 6.

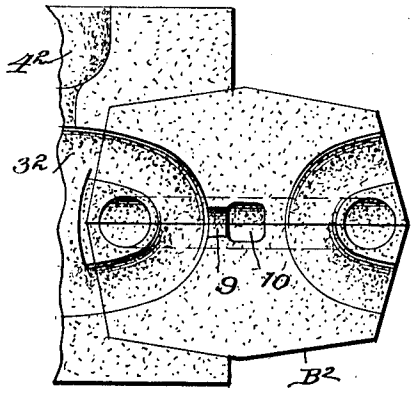


Fig. 5

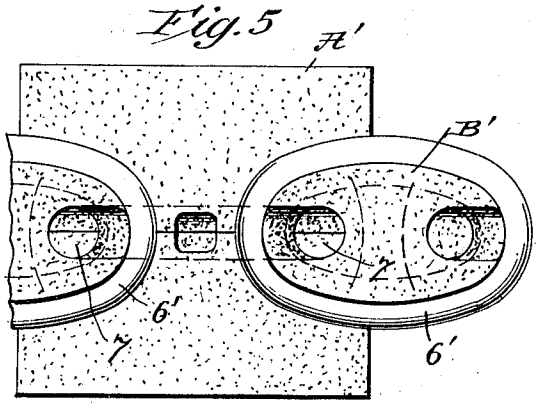
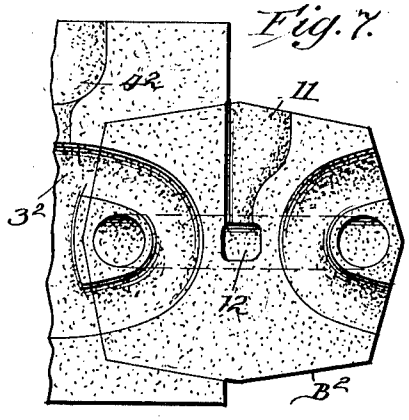


Fig. 7.



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UNITED STATES PATENT OFFICE.

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MOLD FOR CASTING CHAINS.

1,314,874. Specification of Letters Patent. Patented Sept. 2, 1919.

Application filed February 5, 1918. Serial No. 215,519.

To all whom it may concern:

Be it known that I, FREDERICK KNADLER, a citizen of the United States, residing at Cleveland, Cuyahoga county, Ohio, have invented new and useful Improvements in Molds for Casting Chains, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1, is a section, on line 1—1 of Fig. 2, of a pair of molds embodying my invention; Fig. 2, is a plan of the mold, partly in section on lines 2—2 of Fig. 1; Fig. 3 is a vertical section on line 3—3 of Fig. 1; Fig. 4 is a vertical section of a modification of my invention, and Fig. 5 is a horizontal section thereof; Figs. 6 and 7 are vertical sections of further modifications of my invention.

My invention relates to molds for casting chains, and particularly to an arrangement whereby continuous sections of chain are made by casting. My invention also consists in the design and arrangement of parts which I shall hereinafter describe and claim.

Referring to the drawings, each mold consists of the outer mold-members A, divided in a vertical plane, and an inner mold-member B preferably divided horizontally. The outer mold-members A, are open at the ends to receive the inner mold-members, the openings having tapered sides 2, 2′ so as to wedge the two inner mold-members B together and also help guide the inner mold-members into position in the outer mold-members. In each outer mold-member is formed the impression 3 corresponding to a part of the link to be cast, and also the impression 4 which forms the gate through which the metal may be poured.

The inner mold-members B are each formed with an impression 5 into which a preformed link 6 is dropped, so that when the two mold-members B, are placed together that link is completely embedded in them. Each of the mold-members B also contains the passages 7, which are so arranged that when the mold-members are assembled with the outer mold-members, they form with the impressions 3 the shape of a complete link, into which the metal may be poured through the gate 4. The preformed links 6 are completely insulated from this connecting link by the mold-members B to prevent the molten metal from coming into contact with the preformed link 6.

In forming a chain the molds are built up by securing together the outer mold-members A by any suitable clamp, for instance such as that shown at 8. Into the ends of the outer mold-members A are inserted a pair of inner mold-members B between which have been placed one of the preformed links. The fact that the inner mold-members are tapered or wedge-shaped and enter similarly shaped recesses in the outer mold-members, serves to guide these mold-members accurately into the outer mold-members and to press the two halves of the inner mold-members firmly together so that the likelihood of a "shift" between the inner and outer mold-members is minimized. Another pair of outer mold-members such as is shown in Figs. 1 and 2, is then placed over the exposed ends of the inner mold-members, and this process continued until a continuous series of molds is built up providing for the proper number of links. When these molds are poured each two preformed links 6 are connected by a third link, making a continuous length of chain.

Where one of the links is found to be defective or not properly formed it is cut out of the chain and the adjacent links placed in inner mold-members, in which case it is necessary to cut away the outer ends of the inner mold-members to avoid interference with the other links of the section of chain. These inner mold-members are placed in a pair of outer mold-members and a connecting link poured just as in the case of the original chain.

In case the foundry floor is not long enough to accommodate the series of molds necessary to form a given length of chain, the chain may be made in sections of any convenient length and after the sections have been completed they may be joined by another link in the manner just described.

In Figs. 4 and 5, I have shown a modification of the mold-member arrangement in which the preformed links 6′ are embedded partly in the outer mold-members A′ and partly in the inner mold-member B′. In this form the inner mold-member merely fills the inside of the link.

If desired the inner mold-member may be made by ramming up the preformed link in the core box, its correct location in the core box being secured by lugs in the core box, thereby doing away with the necessity of

making the inner mold-member in two parts.

In Fig. 6 a further modification is shown in which two of the adjacent links of the chain may be cast in one operation, the metal being poured through the gate 4^2 and flowing through the impression 3^2 for the first link and a channel 9 into the impression 10 for the connecting portion of the second link. The links are thus cast in pairs and may be broken apart or cut apart by an acetylene flame.

The modified form shown in Fig. 7, is similar to that shown in Figs. 1–3, except that a separate gate 11 is provided leading to the impression 12 for the connecting portion of the second link so that the second link may be cast in the mold separately from the first.

The terms and expressions which I have employed are intended to be used as terms of description and not of limitation since I recognize that modifications and rearrangements of the constructions which I have described may be made within the scope of the invention claimed.

What I claim is:

1. In molds for casting chains, a pair of outer mold-members having an impression therein for the formation of part of a link, a pair of inner mold-members having an impression therein for a link to be interlinked with the first-named link, said inner mold-members having taper surfaces, corresponding surfaces on the outer mold-members, said surfaces being adapted to wedge the inner mold-members together and guide them into position for casting, and clamping means to hold the mold-members together.

2. In a mold for casting links, a plurality of inner mold-members, each member having oppositely tapered faces, a plurality of outer mold-members complementary to the inner mold-members having tapered recesses therein, each outer mold-member engaging tapered faces on at least two inner mold-members for wedging the members into casting position, each outer mold-member having part impressions for a link therein, the inner mold-members having complementary part impressions in the ends thereof, said inner mold-members also containing impressions for links to be inter-connected with the first named link, the outer mold-members also containing a gate for pouring metal into the first named impression to form a link connecting the link in complementary inner mold-members, and means for clamping the mold-members together.

3. In molds for casting chains, a pair of outer sand mold-members having an impression therein for the formation of part of a link, a pair of inner sand mold-members having an impression therein for a link to be interlinked with the first named link, the outer members being recessed to receive the ends of the inner members, and means for wedging and holding the mold-members together.

FREDERICK KNADLER.