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W. J. EVANS.

SLAB AND CORE HOLDER.

APPLICATION FILED FEB. 11, 1907.

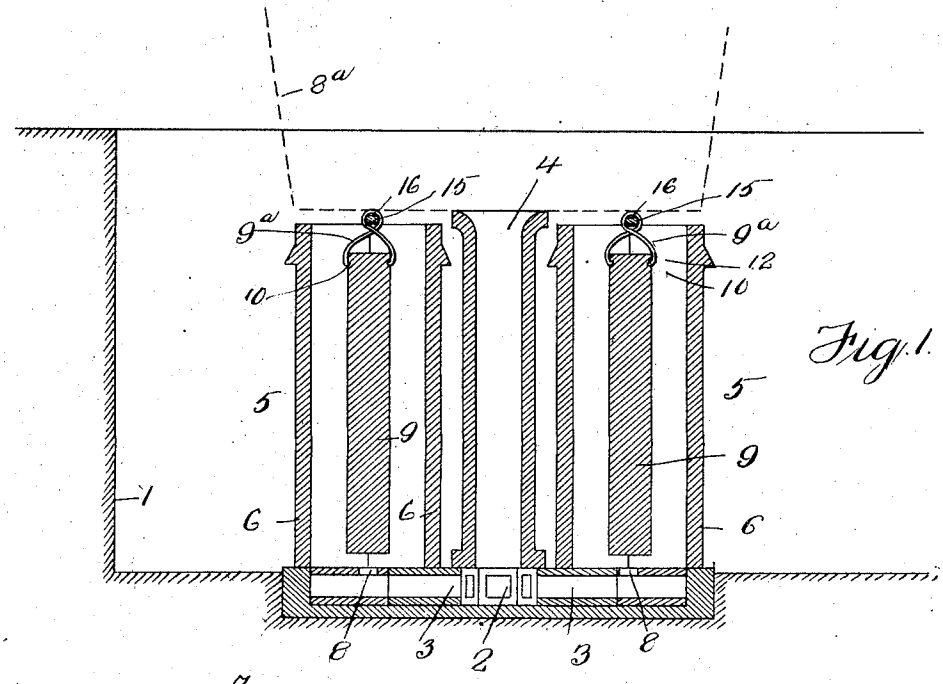


Fig. 1.

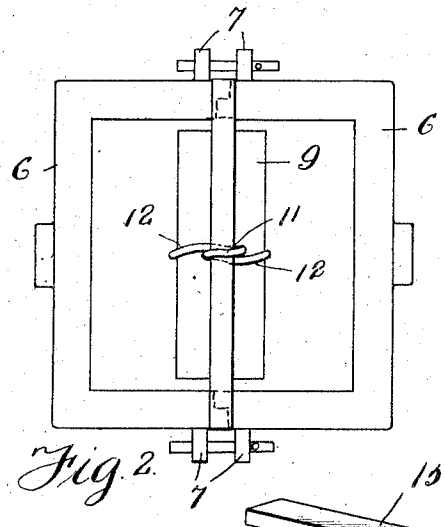


Fig. 2.

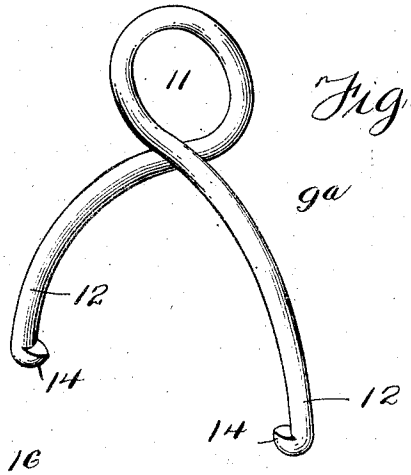


Fig. 3

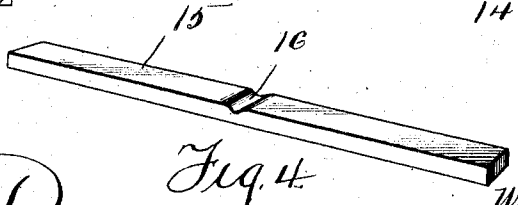


Fig. 4.

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SLAB AND CORE HOLDER.

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To all whom it may concern:

Be it known that I, WILLIAM J. EVANS, a citizen of the United States of America, residing at Aspinwall, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Slab and Core Holders, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to slab and core holders, and the invention has for its object to provide positive and reliable means for suspending a slab or core within a mold.

My invention aims to provide a novel holder for gripping, temporarily holding, and correctly positioning a slab within a mold. In this connection, my improved holder is designed for suspending soft metal slabs in molds of that type commonly styled "two-part" molds. The slabs are used in the production of ingots having soft metal centers, the ingots being used in the manufacture of plow shares and similar articles.

My invention further aims to dispense with the numerous devices heretofore employed for supporting and properly positioning a slab within a mold. It has been the practice to use small billets and tubes for supporting a slab in a mold, but in order to correctly position a slab, the slabs have been heretofore sawed to obtain an even supporting base or bottom. The sawing of the slabs necessitates considerable time and labor, and in alone dispensing with this operation, I expedite the preparation of a mold for pouring, and add a meritorious feature to my invention.

In dispensing with the billets, tubes, and like devices for holding a slab, I dispense with the tedious operation of correctly centering a slab in a mold, besides obviating the necessity of pouring the molten metal in to the top of the mold. To this end, I have devised a resilient holder which is substantially triangular, the holder being sprung into engagement with the edge of the slab and also providing a grooved or notched bar for suspending the slab and holder in a mold.

The detail construction entering into my invention will be hereinafter more fully described and then specifically pointed out in the appended claims, and referring to the drawing forming part of this application, like numerals of reference designate corresponding parts throughout the several views, in which:—

Figure 1 is a vertical sectional view of a conventional casting pit, channels, and molds, and the slabs suspended within said molds by the employed device, Fig. 2 is a plan view of one of the molds illustrating the slab suspended therein, Fig. 3 is a perspective view enlarged of my improved triangular shaped resilient holder, Fig. 4 is a perspective view of the bar or cross head employed for supporting the holder and slab.

In the accompanying drawing, 1 designates a casting pit in the bottom of which is located a metal conveying spider consisting of a hub 2 having radiating channels 3. Upon the hub 2 is constructed a center fountain 4, while upon the channels 3 are placed two-part molds 5. The molds 5 are of a conventional form comprising two sections 6 connected together by lugs and pins 7. The channels 3 are provided with openings 8, through which the molten metal is adapted to pass into the molds 5, said metal being poured from a ladle or similar receptacle indicated by dotted lines at 8^a into the center fountain 4 from whence it is distributed through the medium of the hub 2 to the numerous radiating arms of the metal conveying spider and flows upward into the molds through the apertures 8. The construction just described is commonly used in the "up-pouring" method of producing ingots having soft metal centers, and I have simply described this construction in order that the use of my improved holder will be readily understood as used in connection with the same.

Soft metal slabs 9 having been provided, the same near their edges are provided with notches or recesses 10 in order to receive the inturned ends 14 of the improved holder 12; and thus firmly hold a slab. The holder is preferably made of a metal rod bent centrally to provide a loop 11 and curved arms 12, the ends of said arms being provided with inwardly extending lugs 14 adapted to engage in the notches or recesses 10 of the slab. The loop 11 corresponds to the convolution of a spring, and imparts a resiliency to the holder and permits the arms 12 to be sprung apart and the holder placed in engagement with the edge of the slab and be held in engagement with the slab by the resiliency of the holder.

In connection with the holder 9^a, I use a bar or cross head 15 having a transverse groove 16 formed centrally therein, in which the loop 11 of the holder rests, when one of the bars 15 is placed in said loop. After the holder has been placed in engagement with a soft metal slab, and the bar 15 passed through the loop 11 of said holder, the slab is lowered into the mold, said slab being suspended from the top edges of the mold directly above one of the openings 8 of the channel 3. It is an extremely simple operation to center a slab within a mold, as a person skilled in the art can easily determine at a glance whether the slab is plumb or equidistant from the sides of the mold.

After the molten metal has been poured into the center fountain 4 through the channels 3 and into the mold 5 to surround and cover the slab, the mold is gripped and bodily removed from the casting pit, permitted to cool, and then the parts of the mold separated and removed from the ingot. The bar 15 is then removed from the holder in order that it may be used again, and then the holder is cut or broken from the ingot, parts of the arms 12 remaining in the ingot.

From the foregoing description taken in connection with the drawing, it will be observed that I have devised a simple and inexpensive holder for suspending slabs in molds, and in this connection I desire it to be understood that the holders can be readily used in connection with any type of mold or pouring device employed for producing ingots having soft metal centers.

What I claim and desire to secure by Letters Patent, is:—

The combination with a mold, of a slab having oppositely disposed recesses near the upper end, a holder formed from a single piece of wire bent centrally into a loop and with outwardly curving resilient arms having inturned terminals adapted to yieldably engage the recesses in said slab, and a bar bearing upon the upper face of the mold and extending through the loop of the holder and with a flat upper face provided with a transverse recess with which the material of the loop engages, whereby the loop is suspended within the mold and prevented from rotating therein.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM J. EVANS.

Witnesses:
K. H. BUTLER,
MAX H. SROLOVITZ.