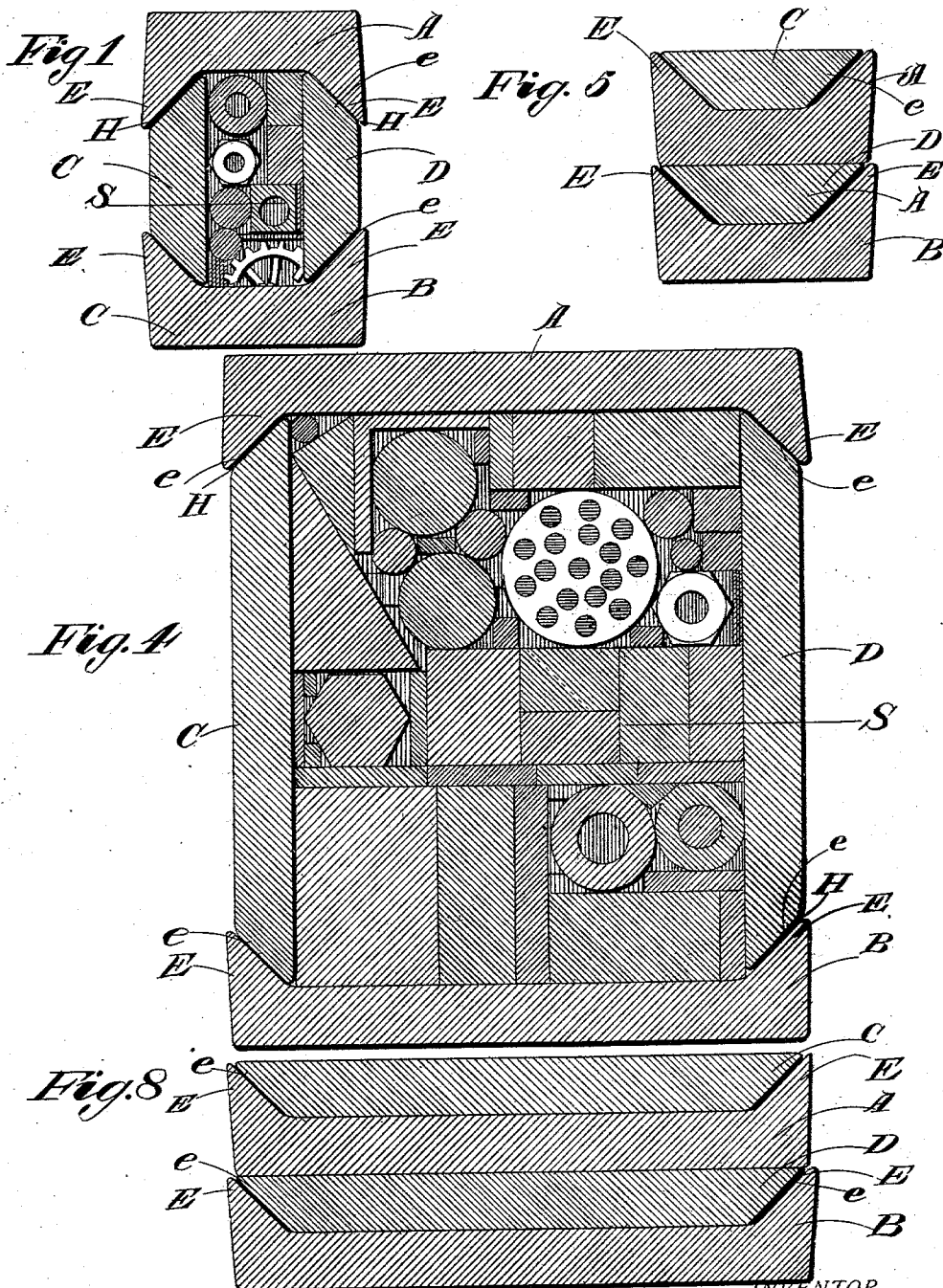


R. ROWLEY.
COMPOUND METAL INGOT.
APPLICATION FILED OCT. 27, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES
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2 SHEETS—SHEET 2.

Fig. 2

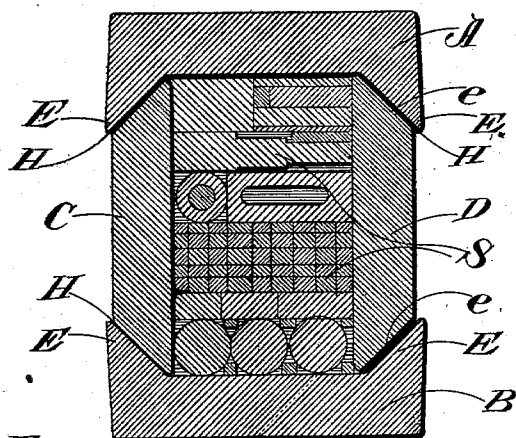


Fig. 6

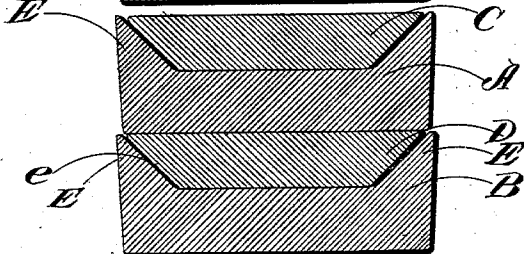


Fig. 3

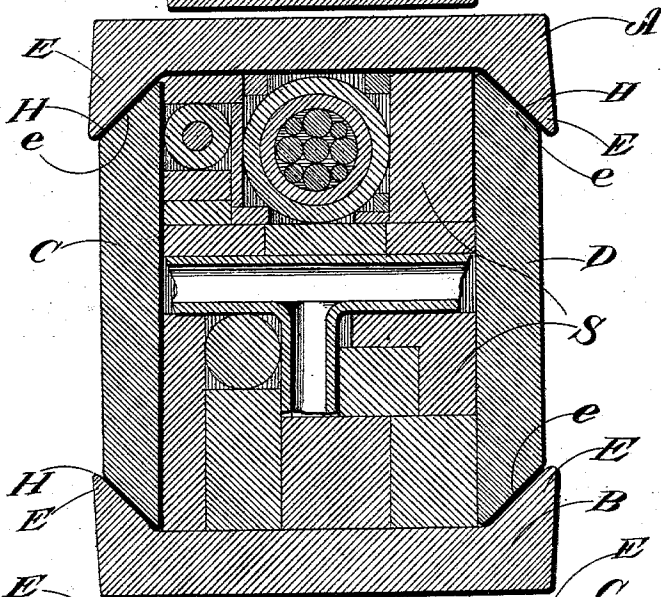
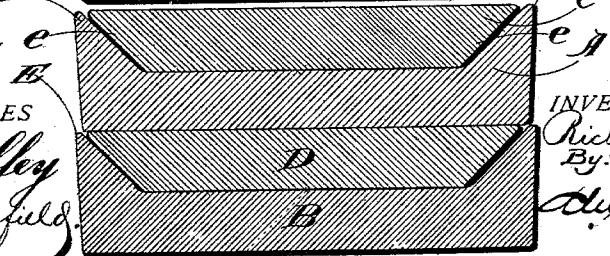


Fig. 7



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UNITED STATES PATENT OFFICE.

RICHARD ROWLEY, OF CLEARFIELD, PENNSYLVANIA.

COMPOUND METAL INGOT.

SPECIFICATION forming part of Letters Patent No. 758,387, dated April 26, 1904.

Application filed October 27, 1903. Serial No. 178,761. (No model.)

To all whom it may concern:

Be it known that I, RICHARD ROWLEY, of Clearfield, in the county of Clearfield and State of Pennsylvania, have invented certain new and useful Improvements in Compound Metal Ingots; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention relates to metal-working, and is an improvement in compound metal ingots especially designed for use in working scrap metal into bars without repuddling same; and it consists in a novel construction of the box or composite ingot as hereinafter described and claimed.

The object of the invention is to facilitate the working up of old and waste or scrap metal into bars at one operation and to provide muck iron-bars for box and solid piles, but especially for the box or scrap piles or ingots, and which when used as a box will be self-tying, so that it can be readily set up and manipulated in the heating-furnaces and rolls without requiring any binding devices, and which muck-bars will have interlocking-joints or joints which will be at such angles to the exterior faces of the bars that a tool introduced into a joint will find itself opposed by solid metal and splitting of the finished bar be prevented or liability thereof reduced to a minimum.

By my invention I can make composite ingots wherein the scrap metal is completely inclosed in a sheathing whose joints are not on radial lines nor perpendicular to the axis or faces of the box, so that the ingots can be worked into bars or rods of any desired exterior contour. The muck-irons are also of such form in cross-section that they can be nested compactly when it is desired to roll them into solid bars without introduction of scraps.

The invention is illustrated in the accompanying drawings, in which—

Figures 1, 2, 3, and 4 are similar cross-sections of box-piles or composite ingots embodying my invention. Figs. 5, 6, 7, and 8 are similar views illustrating, respectively, how

the muck-bars in Figs. 1, 2, 3, and 4 can be compactly arranged for solid piles or ingots, if desired.

Referring to Figs. 1 to 4 of the drawings, A and B designate the top and bottom or flanged muck-bars of my box and C D the opposite bevel-edged side muck-bars thereof. The bars A B are similar in cross-section, but set oppositely. The bars C D are also similar in cross-section, but set oppositely. Said bars A B are provided with flanges E on their inner faces and opposite edges. The outer faces of said flanges may be flush with and form a continuation of the side faces of the bar. The inner faces of said flanges are beveled, the flanges being triangular in cross-section. The sides of bars C D are beveled, as shown at *e*, on an angle corresponding to the inclination of the inner faces of flanges E, and if the side bars be set at right angles to the top and bottom bars with their bevel-faces *e* flush against the inner faces of ribs E the box will be rectangular in cross-section. As shown in Figs. 1 to 4, the outer faces of bars C D may be flush or substantially flush with the outer sides of flanges E and bars A B. Thus the bars form a hollow pile, which can be filled with scrap or other metal of irregular shapes or dimensions, as indicated at S in Figs. 1 to 4. It will be observed by reference to these figures that the joints H between the bars A B C D are at the angles of the box and extend at approximately right angles to the corners, so that cleavage along the joints would not extend toward the axis of the bar, and if a tool is driven into the bar perpendicular to any face thereof it will not follow a joint, but will intersect the same.

In making a composite pile bar B is laid flanges uppermost. Then bars C D are set perpendicularly thereon, with their lower beveled edges against the flanges on bar B. Scrap-iron or other material S is then placed between the bars C D, and the latter will be held in position between the fillings and the flanges E. When the pile is filled, the top bar A is placed flanges downmost on top of bars C D, as shown in Figs. 1 to 4, and the whole composite ingot or box-pile can be handled either in or out of the furnace by lifting from the

bottom or by bar B without danger of disarrangement, so as to render it unfit for use and without any fastenings or bands. Such box-piles can be quickly and cheaply set up and handled, and the muck-bars A B C D can be readily formed, as the flanges E are easy to roll, and all the muck-bars can be rolled in ordinary rolls as readily as flat muck-bars.

In order to enable the muck-bars to be readily formed into solid piles when desired, as indicated in Figs. 5 to 8, I preferably so proportion the side bars to the top and bottom bars that the side bars can be placed flatwise against the top and bottom bars with their beveled faces against and between the flanges E E, and when so arranged will make a practically solid rectangular bar, the side bars filling the spaces between the flanges E flush to the tops thereof.

Figs. 5 to 8 show how the muck-bars in Figs. 1 to 4, respectively, can be compactly arranged to form solid piles.

The size of the muck-bars and piles can be varied to suit the wish of the manufacturer and the product desired. For instance, the side bars in Fig. 1 could be used with the top and bottom bars of Fig. 8 and would form a flat rectangular box. The side bars of any form shown can be used with the top and bottom bars of any other form shown, thus affording a great variety of sizes of composite ingots or box-piles, although the side bars should be used with the properly-proportioned top and bottom bars in making a solid pile, as in Figs. 5 to 8.

Having thus described my invention, what

I therefore claim as new, and desire to secure by Letters Patent thereon, is—

1. In combination, a muck-bar having opposed flanges on its opposite edges; with a muck-bar having its sides shaped to fit against the inner faces of the flanges on the other bar, said second bar being of a size conforming to and filling the space between the flanges on the first bar and forming when laid thereon a solid pile, substantially as described.

2. In combination, flat muck-bars each having flanges on its opposite edges, the inner faces of said flanges being beveled and their outer edges flush with the edges of the bar; with coacting flat muck-bars each having its sides beveled to fit against the inner faces of the flanges on the first bars, said coacting bars conforming in size to and filling the space between the flanges on the first bars and forming with the first bars a solid pile, substantially as described.

3. In a solid pile, the combination of opposite channeled bars A, B, each having beveled flanges E, E, on their outer edges, and opposed bars C, D, arranged between said first bars and having their side edges beveled to fit the inner beveled surfaces of said flanges, said bars forming a solid pile when placed together, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

RICHARD ROWLEY.

In presence of—

DESSA R. SLIGER,
BENJAMIN F. CHASE.