

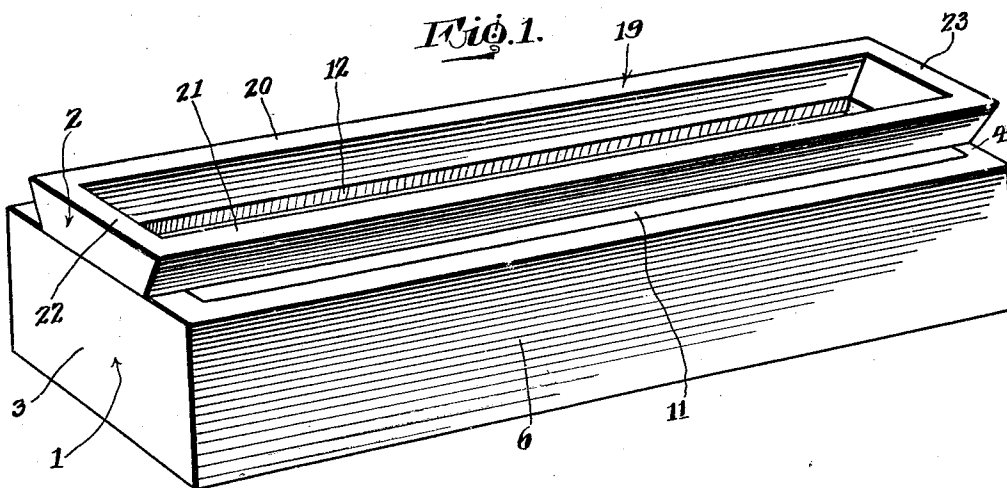
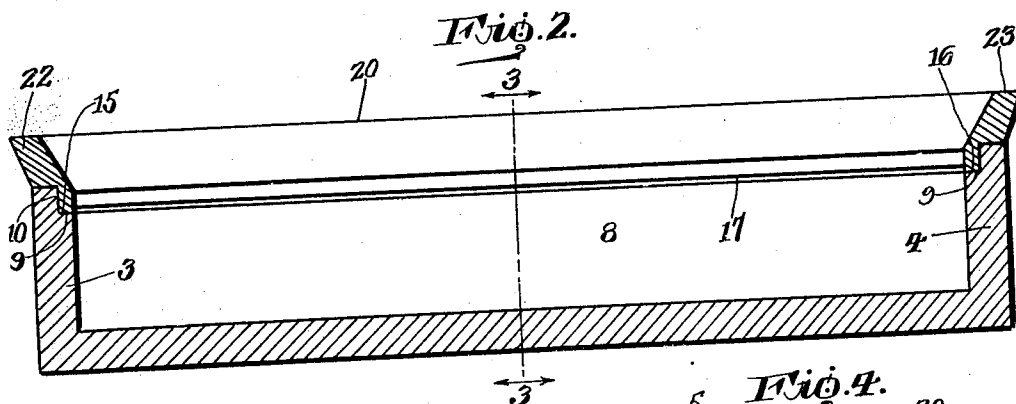
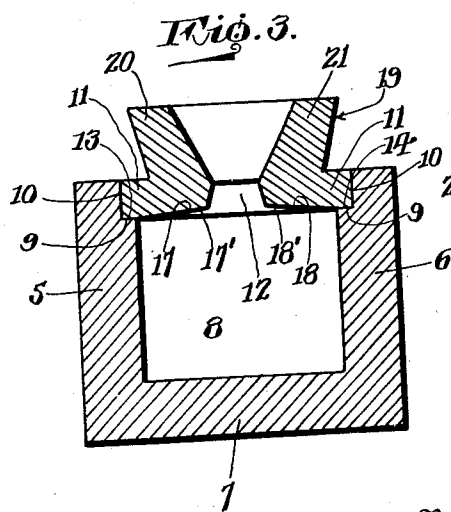
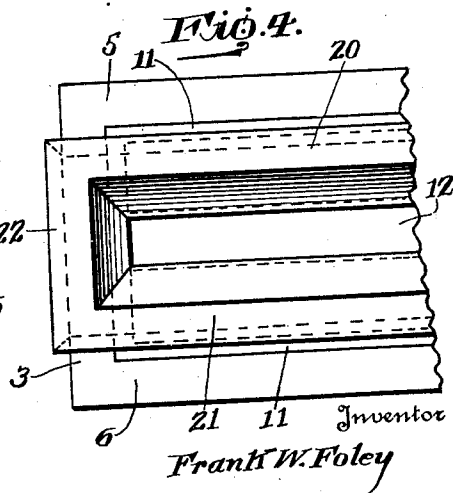
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F. W. FOLEY

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BRIDGE MOLD

Filed Aug. 13, 1931



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Geo. P. Kimmel
Attorney

UNITED STATES PATENT OFFICE

FRANK W. FOLEY, OF DOLLAR BAY, MICHIGAN

BRIDGE MOLD

Application filed August 13, 1931. Serial No. 556,924.

My invention relates to an improved bridge mold designed primarily for molding copper with flat shapes, but it is to be understood that it may be employed in any connection for which it is found applicable.

The essential objects of my invention are to lessen the amount of set on the molded body; to materially reduce the period of planing or milling operation to remove the set, such operation being termed scalping; to expedite production at a decrease in production costs; and to attain these ends in a strong, durable, compact, thoroughly efficient and comparatively inexpensive structure.

To the above ends essentially my invention consists of such parts and in such combination of parts as fall within the scope of the invention as claimed.

In the drawings:

Figure 1 is a perspective view of a mold in accordance with this invention.

Figure 2 is a longitudinal sectional view thereof.

Figure 3 is a section on line 3—3 Figure 2.

Figure 4 is a fragmentary view of the mold in top plan.

The molding cavity or chamber can be of any suitable dimensions and contour, is shown as being of rectangular form having its length materially greater than its width and height.

The mold is formed of a body section 1 and a gate section 2 and the former comprises a pair of end walls 3, 4, a pair of side walls 5, 6, and a bottom 7 preferably integrally connected with each other. The height, thickness and length of the end walls, the height, thickness and width of the side walls and the length, thickness and width of the bottom can be as desired. The side and end walls and the bottom provides the molding cavity or chamber 8. The inner face of each end wall and each side wall at the upper portion thereof is rabbeted to provide an endless ridge 9 and an endless shoulder 10. The height of the shoulder being greater than the width of the ledge.

The gate section 2 includes a rectangular base part 11 formed at its longitudinal median with an elongated rectangular slot 12

which has its end walls arranged in close proximity to the ends of base part 11 and is of a length corresponding to the length of the molding cavity 8. The end walls of slot 12 are perpendicular and the side walls oppositely beveled. The outer marginal portion of each side of the lower face of base part 11 is flat, as indicated at 13, 14. The outer marginal portion of each end of the lower face of base part 11 is flat as indicated at 15, 16. The lower face of base part 11 is oppositely beveled as at 17, 18. The bevel portions 17, 18 extend at an upward inclination throughout from the flat marginal portions 13, 14 respectively to the side walls of slot 12. The ends of the beveled portions 17, 18 are arranged between the end marginal portions 15, 16 thereby providing two pair of oppositely extending shoulders. The shoulders of each pair are indicated at 17', 18'. Each shoulder gradually increases in height from a marginal portion 13 or 14 to a side wall of the slot 12. The height of base part 11 corresponds to the height of shoulder 10 and when in position seats on ledge 9. The slot 12 provides a gate opening.

The gate section 2 also includes a funnel part 19 of rectangular contour in plan and of less width and greater length than base part 11. The part 19 is integral with part 11 and extends beyond each end of the latter. The sides of part 11 extend laterally from the sides of the part 19, and the latter includes a pair of upstanding side portions 20, 21 and a pair of upstanding end portions 22, 23. The inner faces of said portions are beveled throughout and the bevel extends towards and merges into the top of the side and end walls of the slot. The outer faces of said portions are also beveled throughout.

When the gate section is mounted upon the body section, the flat marginal portions on the lower face of the base part seat on the ledge 9 and the beveled portions 17, 18 extend at an upward inclination from those parts of ledge 9 formed on the side walls 5, 6.

The construction of the gate section facilitates the pouring of the copper. The base part 11 is a very essential feature because when pouring the copper the metal flows

from the sides of the molding cavity towards the center thereof and carries the gases contained in the copper in that direction. The gases strive to escape and the only outlet for them is through the slot 12. This being in the center the gases materially will hasten to this opening to be freed. Consequently with the base part 11 forming the top of the molding cavity and resting on the copper, the only set on the casting will be at slot 12. The set is on the copper only where the hot metal is exposed to the air. The gate section will rest on the copper after the latter reaches the ledge 9 and wherever the gate section rests there will be no set, and as the major portion of the lower face of the base part rests upon the copper the set will be materially reduced resulting in a short scalping action, as the set will only be at the portion of the copper exposed by slot 12. The extended ends of part 19 facilitates the removal from and the insertion into of section 2 in section 1.

What I claim is:—

1. A mold comprising a body section providing an open top molding cavity, and a gate section having a part of its lower face, at the sides and ends of the latter removably seating within and upon the sides and ends of said body section and having another part of its lower face, at the ends of the latter removably seating upon the top edges of the ends of the body section, said gate section providing a closure for the top of the body section, said gate section having a central slot providing a gate opening, and said gate section having the remaining part of its lower face formed with oppositely disposed upwardly inclined portions.

2. A mold comprising a body section providing an open top molding cavity, and a gate section having a part of its lower face, at the sides and ends of the latter removably seating within and upon the sides and ends of said body section and having another part of its lower face, at the ends of the latter removably seating upon the top edges of the ends of the body section, said gate section providing a closure for the top of the body section, said gate section having a central slot providing a gate opening, and said gate section having the remaining part of its lower face formed with oppositely disposed upwardly inclined portions lengthwise thereof and extending toward and terminating at said slot.

3. A mold comprising a body section providing an open top molding cavity, and a gate section having a part of its lower face, at the sides and ends of the latter removably seating within and upon the sides and ends of said body section and having another part of its lower face, at the ends of the latter removably seating upon the top edges of the ends of the body section, said gate section

providing a closure for the top of the body section, said gate section having a central slot providing a gate opening, and said gate section having the remaining part of its lower face formed with oppositely disposed upwardly inclined portions lengthwise thereof and extending toward and terminating at said slot, said beveled portions having their ends terminating adjacent the ends of the gate section and providing the lower face of the latter with two pairs of oppositely disposed transverse shoulders at the ends of said slots and each gradually increasing in height towards a side of said slot.

4. A mold comprising a body section providing an open top molding cavity, a gate section having a part of its lower face, at the sides and ends of the latter removably seating within and upon the sides and ends of said body section and having another part of its lower face, at the ends of the latter removably seating upon the top edges of the ends of the body section, said gate section providing a closure for the top of the body section, said gate section having a central slot providing a gate opening, said gate section having the remaining part of its lower face formed with oppositely disposed upwardly inclined portions, and said gate section having a funnel shaped upper portion leading to said slot.

5. A mold comprising a body section providing an open top molding cavity, a gate section having a part of its lower face, at the sides and ends of the latter removably seating within and upon the sides and ends of said body section and having another part of its lower face, at the ends of the latter removably seating upon the top edges of the ends of the body section, said gate section providing a closure for the top of the body section, said gate section having a central slot providing a gate opening, said gate section having the remaining part of its lower face formed with oppositely disposed upwardly inclined portions lengthwise thereof and extending toward and terminating at said slot, and said gate section having a funnel shaped upper portion leading to said slot.

6. A mold comprising a body section providing an open top molding cavity, a gate section having a part of its lower face, at the sides and ends of the latter removably seating within and upon the sides and ends of said body section and having another part of its lower face, at the ends of the latter removably seating upon the top edges of the ends of the body section, said gate section providing a closure for the top of the body section, said gate section having a central slot providing a gate opening, said gate section having the remaining part of its lower face formed with oppositely disposed upwardly inclined portions lengthwise thereof and extending toward and terminating at said

slot, said beveled portions having their ends terminating adjacent the ends of the gate section and providing the lower face of the latter with two pairs of oppositely disposed transverse shoulders at the ends of said slots and each gradually increasing in height towards a side of said slot, and said gate section having a funnel shaped upper portion leading to said slot.

7. A mold comprising a body section providing an open top molding cavity, and a gate section removably seating on the top edge of the body section and extending into the latter and seating against the upper portion of the walls of said cavity, said gate section having an opening disposed centrally and lengthwise with respect to the molding cavity, each side wall of said opening having oppositely inclined portions.

8. A mold comprising a body section providing an open top molding cavity, a gate section removably seating on the top edge of the body section and extending into the latter and seating against the upper portion of the walls of said cavity, said gate section having a slot disposed centrally of said molding cavity, and said gate section having a funnel shaped upper portion leading to said slot.

9. A mold comprising a body section providing an open top molding cavity, a gate section removably seating on the top edge of the body section and extending into the latter and seating against the upper portion of the walls of said cavity, said gate section having a slot disposed centrally of said molding cavity, said sections being of rectangular contour, said slot disposed lengthwise of said gate section, and the latter being of a length to extend beyond the top of the upper ends of said body section.

10. A mold comprising a body section providing an open top molding cavity, a gate section removably seating on the top edge of the body section and extending into the latter and seating against the upper portion of the walls of said cavity, said gate section having a slot disposed centrally of said molding cavity, said gate section having a funnel shaped upper portion leading to said slot, said sections being of rectangular contour, said slot disposed lengthwise of said gate section, and the latter being of a length to extend beyond the top of the upper ends of said body section.

11. A mold comprising a body section providing an open top molding cavity, a gate section seating on the top edge of the body section and extending into the latter and seating against the upper portion of the walls of said cavity, said gate section having a slot disposed centrally of said molding cavity, said sections being of rectangular contour, said slot disposed lengthwise of said gate section, the latter being of a length to extend beyond the top of the upper ends of said body

section, and said gate section being of less width than said body section.

12. A mold comprising a body section providing an open top molding cavity, a gate section seating on the top edge of the body section and extending into the latter and seating against the upper portion of the walls of said cavity, said gate section having a slot disposed centrally of said molding cavity, said gate section having a funnel shaped upper portion leading to said slot, said sections being of rectangular contour, said slot disposed lengthwise of said gate section, the latter being of a length to extend beyond the top of the upper ends of said body section, and said gate section being of less width than said body section.

13. A mold comprising a body section providing an open top molding cavity, and a removable, one-piece gate section including a funnel slotted base part for seating in and upon the base section and a funnel shaped part for seating on the top edges of the ends of the body section, said base section forming a removable top for said cavity.

14. A mold comprising a body section providing an open top molding cavity, and a removable, one-piece gate section including a funnel slotted base part for seating in and upon the base section and a funnel shaped part for seating on the top edges of the ends of the body section, said base section forming a removable top for said cavity, the side walls of said slot being oppositely beveled.

15. A mold comprising a body section providing an open top molding cavity, a removable, one-piece gate section including a funnel slotted base part for seating in and upon the base section and a funnel shaped part for seating on the top edges of the ends of the body section, said base section forming a removable top for said cavity, and said base section having its lower face formed with oppositely extending beveled portions merging into the side walls of said slot.

16. A mold comprising a body section providing an open top molding cavity, a removable, one-piece gate section including a funnel slotted base part for seating in and upon the base section and a funnel shaped part for seating on the top edges of the ends of the body section, said base section forming a removable top for said cavity, the side walls of said slot being oppositely beveled, and said base section having its lower face formed with oppositely extending beveled portions merging into the side walls of said slot.

17. A mold comprising a one-piece body section providing an open top molding cavity and rabbeted on its inner face to form a shoulder below the top edge thereof, and a removable one-piece gate section including a lengthwise slotted base part having a part of its lower face flat for seating on said shoulder and the remaining part of its lower face

bordering the slot and being oppositely beveled, and said gate section further including a funnel shaped upper part registering with the slot, of greater length than said base part and seating upon the top edges of the ends of the body section.

18. A mold comprising a one-piece body section providing an open top molding cavity, and a one-piece gate section removably seating upon the inner face of the body section in proximity to the top edge of the latter and removably seating upon said top edge, said gate section having a central slot forming a gate opening, and said gate section having a part thereof forming a removable top wall for the top of the molding cavity and with said wall positioned below said top edge.

19. A mold comprising a one-piece body section providing an open top molding cavity, a one-piece gate section removably seating upon the inner face of the body section in proximity to the top edge of the latter and removably seating upon said top edge, said gate section having a central slot forming a gate opening, said gate section having a part thereof forming a removable top wall for the top of the molding cavity and with said wall positioned below said top edge, and said gate section formed of a base part and a top part, the latter being of greater length and of less width than the former and of greater length and of less width than said body section, said base part being housed by said body section.

In testimony whereof, I affix my signature hereto.

FRANK W. FOLEY.