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MOLD FOR A CONTINUOUS FEED PRINTING STRIP MATERIAL CASTER

Original Filed May 20, 1952

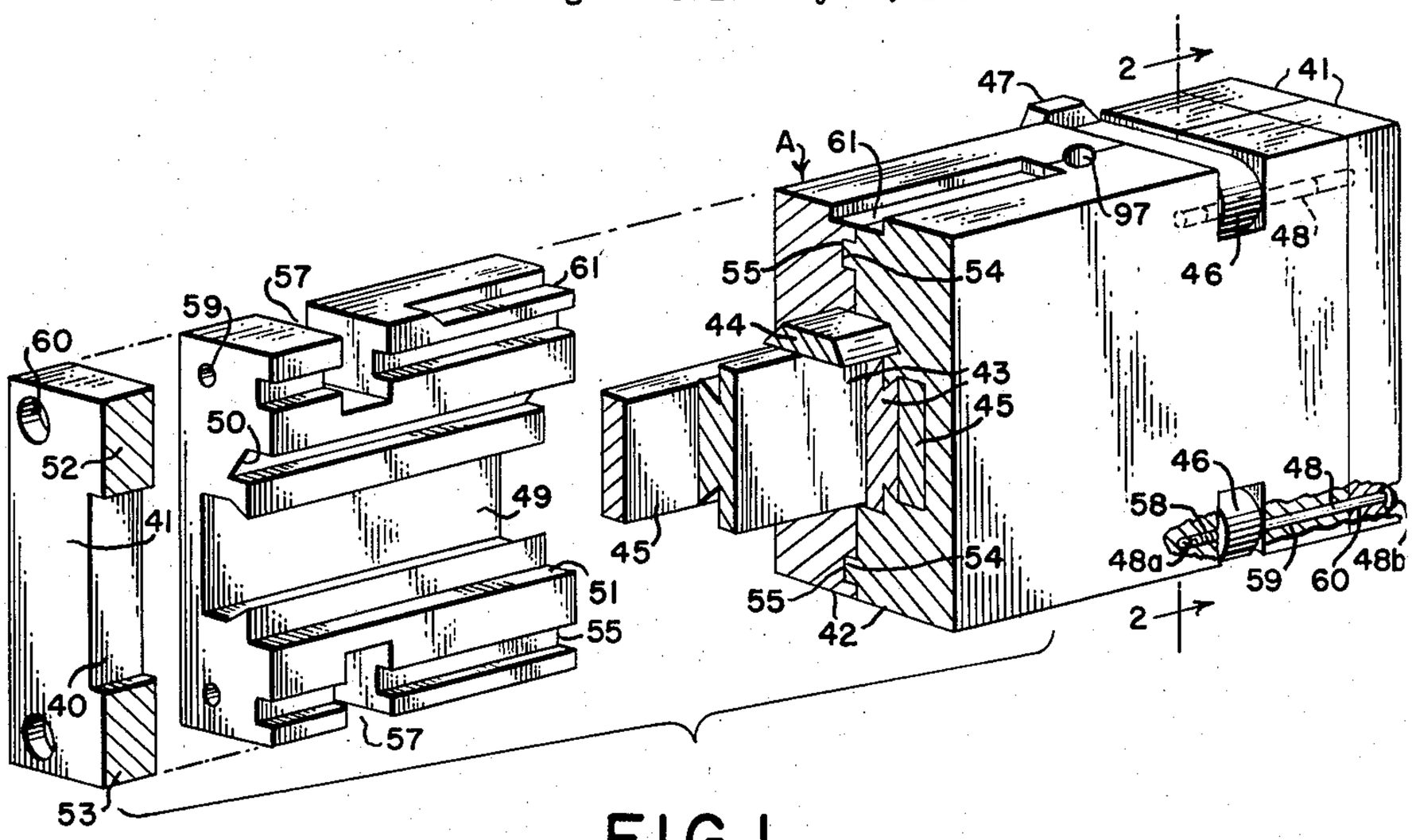

FIG. 1

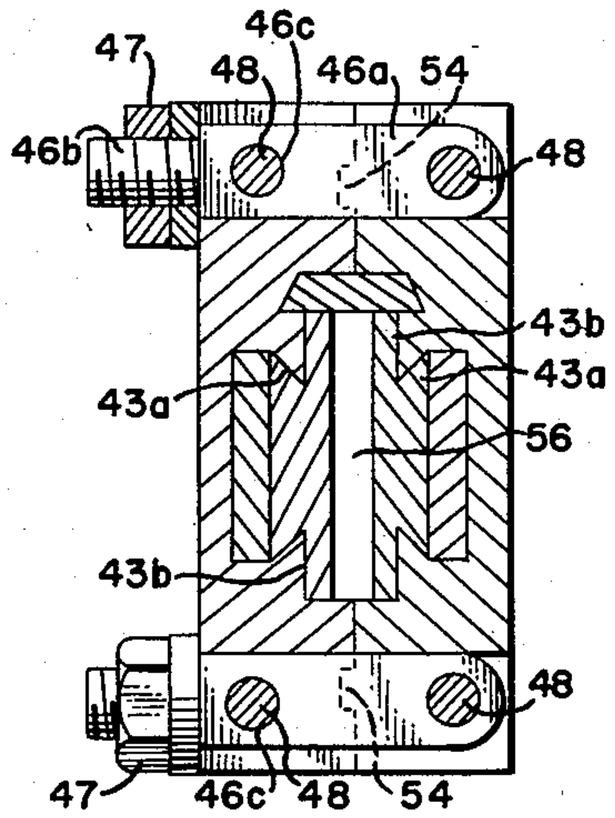

FIG. 2

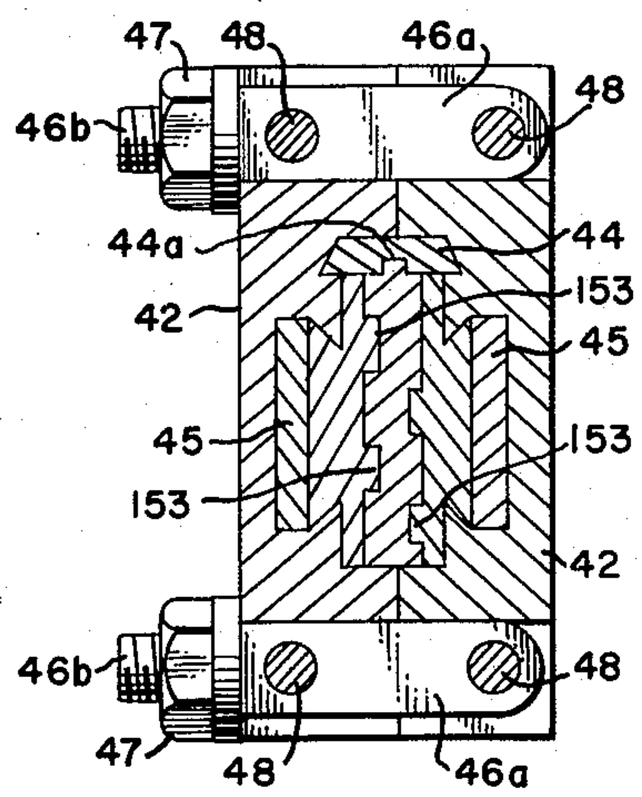

FIG. 3

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MOLD FOR A CONTINUOUS FEED PRINTING STRIP MATERIAL CASTER

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4 Claims. (Cl. 22—57.2)

The present invention relates to a mold for a continuous feed printing strip material caster and is a divisional application of the application Serial No. 288,932 filed on May 20, 1952, by Andrew J. Sitton for a Continuous Feed Printing Strip Material Caster.

An object of the present invention is to provide an improved strip material caster in which the slugs are formed with recesses on the opposite side faces thereof to reduce the weight of the slugs and to effect a saving in the amount of material being used.

A further object of the present invention is to provide a mold capable of producing recessed slugs as described in the preceding paragraph.

The present invention also aims to provide a device of this character which is adapted to be an addition to or attachment for a line-casting machine.

The present invention aims to provide a mold in which slugs of various sizes may be made.

The present invention also aims to provide a mold in which slugs may be made having substantially flat sides with unrecessed surfaces.

With the foregoing and other objects in view, the invention will be hereinafter more fully described and more particularly pointed out in the appended claims.

In the drawings in which the same parts are denoted by the same reference numerals throughout the several views,

Figure 1 is an exploded perspective view of the mold with parts in section and with parts broken away,

Figure 2 is a sectional view taken on the line 2—2 of Figure 1, and

Figure 3 is a view similar to Figure 2 showing modified forms of spacers.

Referring more particularly to the drawings, A generally indicates the mold which comprises locking members 41 at each end of the mold which are provided with cooperating recesses 40 to form an inlet opening at one end of the mold and an outlet opening at the opposite end of the mold. In addition to the locking members 41 of the mold comprises two half sections 42, a pair of side spacers 43, a top spacer 44, a pair of binding strips 45, wing bolts 46, nuts 47 and retaining screws 48. Each half section 42 has a longitudinally extending dovetail groove 49 disposed intermediate its upper and lower face and a longitudinally extending recess 50 spaced from and above the dovetail groove 49. Each recess 50 has substantially horizontally extending upper and lower walls and an upwardly and inwardly inclined side wall. Inwardly of the lower portion of the dovetail groove 49 each half section of the mold has a longitudinally extending ledge 51.

The intermediate portion of each locking member 41 is wider than the intermediate portion of the half sections 42 so that the intermediate portions of the members will overlie the dovetail groove when the parts are in assembled relation. The upper lug 52 formed by the provision of the recess 40 in each locking member 41 will

overlie the recess 50 of its half section and the upper surface of the lower lug 53 of each member 41 will be coextensive with the upper face of its ledge 51. The formation of the dovetail grooves 49 and the recesses 50 provide an intermediate space between the half sections and this space is maintained when the half sections are assembled by the opposed faces of the ungrooved portions of the half sections above and below the grooves and recesses abutting one another. One of the half sections 42 is provided with a longitudinally extending tongue or rib 54 adjacent its upper and lower face and the other half section has correspondingly shaped and located groves 55 for receiving the ribs 54.

Each side spacer 43 is elongated and has a dovetail portion 43*a* adapted to be received by the dovetail groove of one of the half sections of the mold and a base portion 43*b*. The binding strips 45 are of elongated flat shape and are adapted to be received by the dovetail grooves 49 of the mold half sections in order to tightly bind the side spacers 43 in position. A series of side spacers may be provided having base portions 43*b* of different thicknesses to determine the width of the space 56 between the bases of opposed side spacers. This space 56 determines the thickness of the finished slug. The top spacer 44 is elongated and has its opposite sides inclined upwardly and inwardly and its upper and lower faces flat to conform to the shape of the recesses 50.

The upper and lower faces of each half section 42 adjacent its opposite ends are provided with cooperating sockets 57 for receiving the wing bolts 46 each of which may comprise an oblong shaped body portion 46*a* and a screw threaded shank 46*b* for receiving the nuts 47. Through openings 46*c* are formed in the body portion of each wing bolt adjacent the opposite ends thereof. Inwardly of the sockets 57 the mold half sections are provided with screw threaded recesses 58 which open into the sockets 57 and are in alignment with through openings 59 and 60 formed in the mold half sections outwardly of the sockets 57 and in the locking members 41 when the parts are in assembled relation. The retaining screws 48 extend through the aligned openings 59 and 60 and have their screw threaded end portions 48*a* received by the threaded recesses 58 of the mold half sections. The heads 48*b* of the screws 48 engage the outer faces of the locking members 41 to retain the locking members in position.

The conventional well 61 for indicating that the mixture in the mold A is being maintained at the proper temperatures as it moves through the mold may be formed by cutting away the intermediate inner edge portion of the upper face of each mold half section. The rear end portion of the ledges 51 of the mold sections are inclined upwardly and rearwardly towards the mold inlet.

In Figure 3 of the drawings a modified form of side spacer 43 is shown in which the base portion 43*b* of each spacer is provided with longitudinally extending ribs 153. It will be noted that the ribs of one spacer are vertically staggered with respect to the ribs on the other spacer so that when this type of spacer is used the finished slug will have recesses formed on the opposite sides thereof which are vertically staggered with respect to each other. The provision of these recesses will effect a saving in the amount of material thereby reducing the cost of production and the amount of material necessary to be kept tied up. The formation of the recesses will also reduce the weight of each slug from about five percent to thirty percent. This reduction of weight is very important since each slug comprises about eighty-five percent lead which is extremely heavy and it is necessary for a workman to handle a large number of these slugs at one time. Moreover, the provision of the recesses will in-

sure against the possibility of "work-ups" during the printing operations.

As illustrated in Figure 3 of the drawings, the top spacer may be provided with a longitudinally substantially centrally disposed groove **44***a* in its lower face for forming a rib on the upper face of the slug. The grooved top spacer will be used for making a "rule" slug and top spacers having grooves **44***a* of different widths may be provided. An ungrooved top spacer as shown in Figure 2 of the drawings may be used with the side spacers of Figure 3 if desired.

The mold A may be disassembled for the purpose of inserting different sized or shaped side spacers **43** and top spacer **44** by loosening the retaining screws **48** and the nuts **47** and removing the outermost locking members **41** adjacent to outlet of the mold. After the desired spacers have been inserted in the mold the mold will be reassembled and it will be noted that the inner ends of the spacers **43** and **44** and the binding strips **45** will engage the overlying portions of the locking members **41** which are adjacent to the inlet end of the mold to limit their insertion into the mold. After the locking members at the outlet end of the mold have been secured in position they will engage the outer ends of the spacers and binding strips to prevent accidental movement of the spacers and binding strips from the mold.

It is obvious that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, such changes and modifications being restricted only by the scope of the following claims.

What I claim is:

1. A mold for receiving a molten metal mixture from a pot of a line-casting machine or the like for forming a strip material to be used as slugs in printing operations comprising two mold half sections each having a dovetail groove, said sections having cut away portions cooperating with one another to provide a strip material receiving space, side spacers having dovetail portions adapted to be received by said dovetail grooves and having base portions for reception by and partially filling said strip material receiving space, binding strips adapted to be received by said dovetail grooves for locking said side spacers in said dovetail grooves, each of said sections having a longitudinally extending groove, a top spacer having its opposite edge portions received by said longitudinal grooves and engaging the upper edges of the base portions of said side spacers, means for detachably securing said mold sections together, and locking members for locking said spacers and binding strips within said mold sections.

2. A mold as claimed in claim 1 characterized by the fact that the opposed faces of the base portions of said side spacers are provided with longitudinally extending ribs, the ribs of one side spacer being vertically arranged in staggered relation to the ribs of the other side spacer so that vertically staggered recesses are formed on opposite sides of the slug to reduce the weight of the slug without materially reducing its strength.

3. A mold as claimed in claim 2 characterized by the fact that a set of top spacers is provided each having a longitudinally extending groove having a width different from that of each of the other top spacers.

4. A mold for receiving a molten metal mixture from a pot of a line-casting machine or the like for forming a strip material to be used as slugs in printing operations comprising two mold half sections each having a dovetail groove, said sections having cut away portions cooperating with one another to provide a strip material receiving space, side spacers having dovetail portions adapted to be received by said dovetail grooves and having base portions for reception by and partially filling said strip material receiving space, binding strips adapted to be received by said dovetail grooves for locking said side spacers in said dovetail grooves, each of said sections having a longitudinally extending groove, a top spacer having its opposite edge portions received by said longitudinal grooves and engaging the upper edges of the base portions of said side spacers, means for detachably securing said mold sections together comprising wing bolts having a screw threaded shank and a body portion, said mold half sections having cooperating sockets adjacent each end thereof for receiving the body portion of one of said bolts, a nut adapted to be received by the threaded shank of each bolt, each bolt having a through opening formed therein adjacent each of its ends, each mold section having a screw threaded recess formed therein inwardly of each socket and opening thereinto, each mold section having a through opening formed therein outwardly of each of said sockets and in alignment with the openings in said bolts and with said screw threaded recesses, and retaining screws extending through said aligned openings and having their screw threaded end portions received by said screw threaded recesses.

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