

J. S. BANCROFT & M. C. INDAHL.
LOW QUAD MOLD FOR TYPE MACHINES.

APPLICATION FILED JUNE 3, 1909.

962,411.

Patented June 28, 1910.

3 SHEETS—SHEET 1.

Fig. 1.

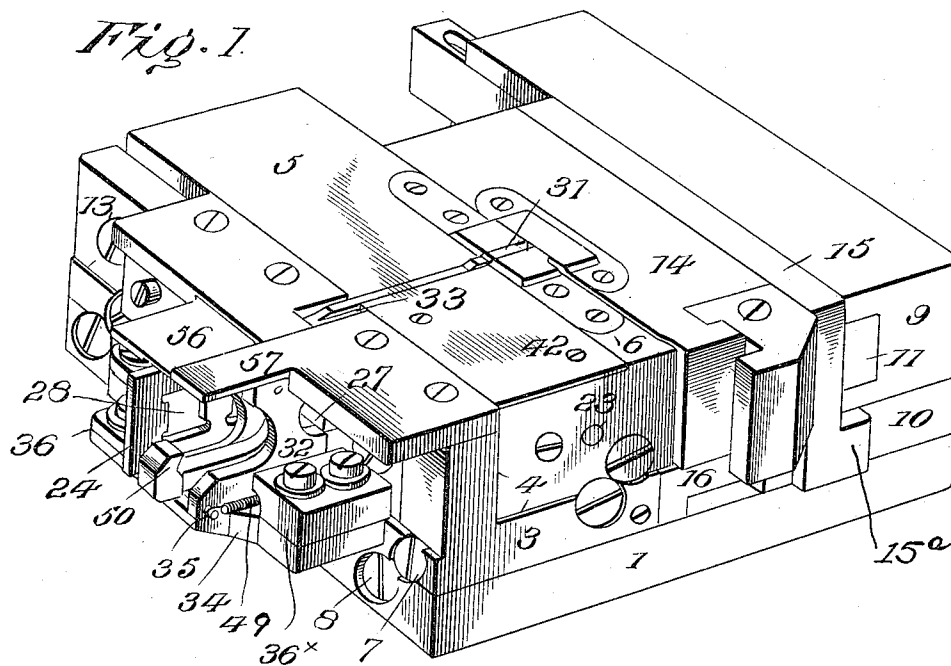


Fig. 2.

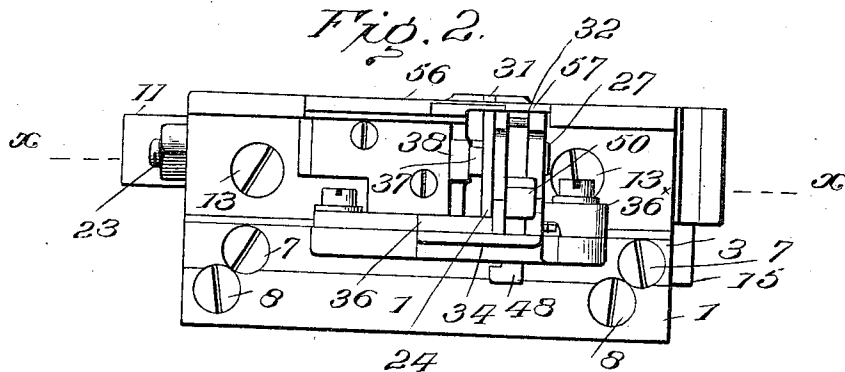
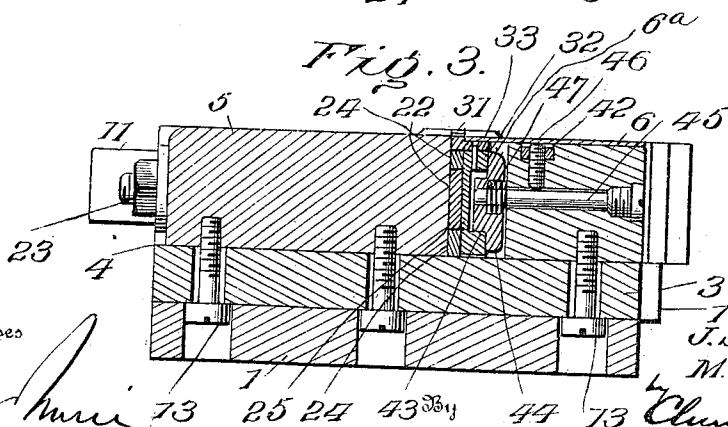


Fig. 3.



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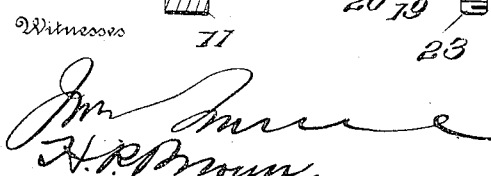
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3 SHEETS--SHEET 2.



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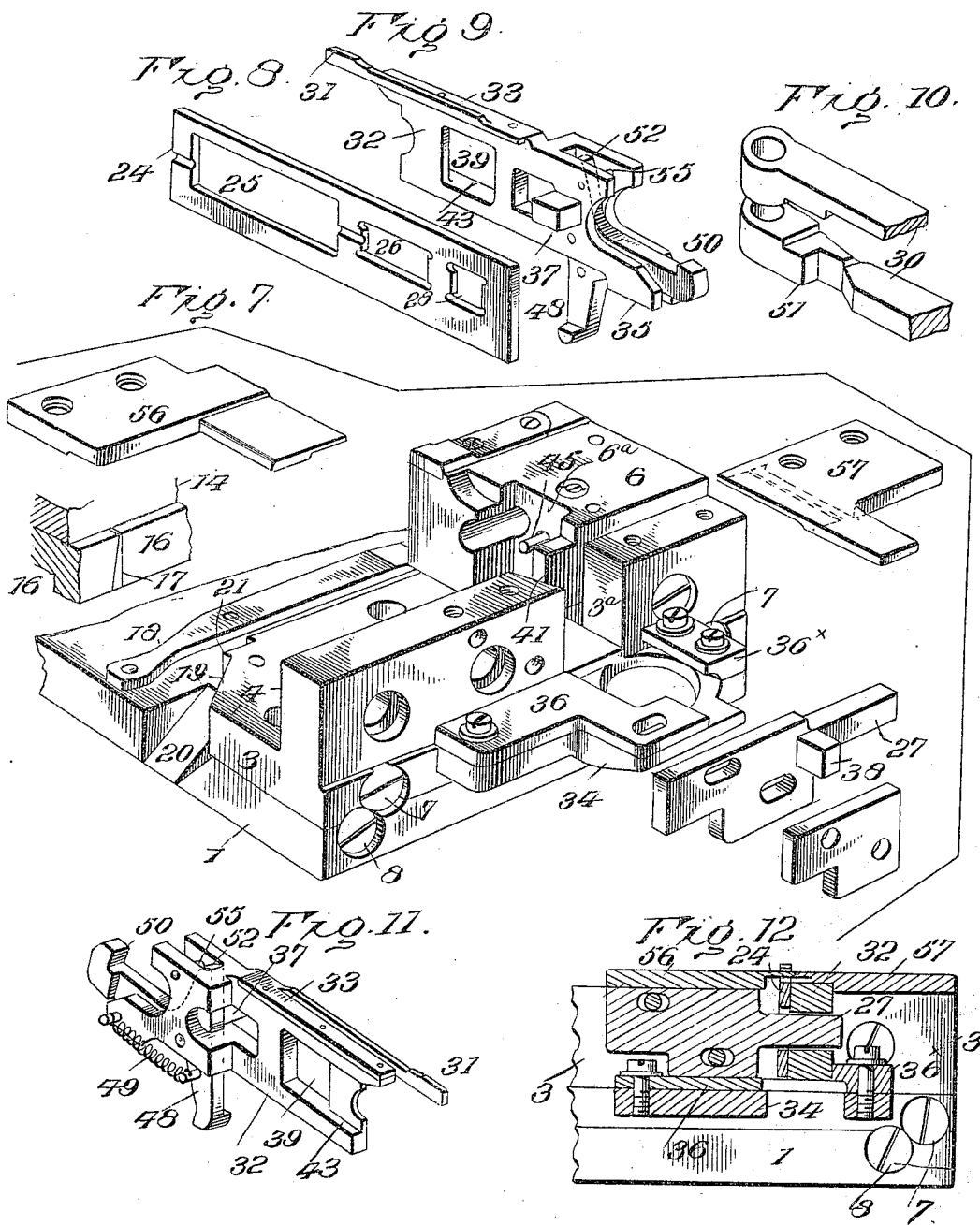
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

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LOW-QUAD MOLD FOR TYPE-MACHINES.

962,411.

Specification of Letters Patent. Patented June 28, 1910.

Application filed June 3, 1909. Serial No. 499,951.

To all whom it may concern:

Be it known that we, JOHN SELLERS BANCROFT and MAURITZ C. INDAHL, of Philadelphia, county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Low-Quad Molds for Type-Machines; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures of reference marked thereon.

The present invention relates to improvements in molds for type machines and especially to the class known as low quad molds for automatic type casting and composing machines, and it consists in the construction, combination and arrangement of parts hereinafter fully described, the novel features being pointed out in the claims.

In the accompanying drawings illustrating a preferred form of embodiment—Figure 1 is a perspective view of the mold. Fig. 2 is a rear end elevation. Fig. 3 is a transverse vertical section on the line $y-y$, Fig. 6. Fig. 4 is a vertical section on the line 3—3, Fig. 6, uniting the point block. Fig. 5 is a partial section corresponding with Fig. 4, omitting the main or lower mold blade section. Fig. 6 is a horizontal section on the line $x-x$, Fig. 2. Fig. 7 is a view in perspective of several parts of the mold detached and separated one of the side blocks, the mold blade, and some of the screws being omitted. Fig. 8 is a perspective view of the main or lower section of the mold blade. Fig. 9 is a perspective of the upper or cut-off section. Fig. 10 is a perspective of the head for the cross-pin. Fig. 11 is a perspective of the cut-off section looking from the end and side opposite Fig. 9. Fig. 12 is a detail sectional view through the front stop or gage. Figs. 13 and 14 are diagrammatic views showing the jet slide in two positions of adjustment.

Similar numerals designate like parts in the several views.

To the base plate 1, provided with the usual nozzle seat and jet opening 2, is adjustably secured an integral squaring block 3, the latter furnished with accurately dressed gaging surfaces 4 in planes at right

angles to receive the side blocks 5, 6. The squaring block 3 is secured to base plate 1 by bolts passing through elongated openings 55 permitting adjustment, the latter being effected through the agency of two or more pairs of screws 7, 8, the members 7 of one set entering the squaring block with their heads overlapping and engaging the base plate and those of the other set 8, entering the base plate and overlapping the squaring plate in a manner well understood. To the base plate 1 opposite and in parallel with the inner edge of squaring block 3 is erected the front abutment, preferably constructed in superposed sections 9, 10, the upper section 9 overhanging or projecting beyond the lower section on the inner side thereof to form a top bearing and provided with a longitudinal recess for the reception of a shoe 11, the latter backed up by adjusting screws 12. Side blocks 5, 6, are adjustably secured to squaring block 3 in the angle between its gaging surfaces 4, as by screws 13, the inner edges of said blocks overlapping the inner edge of squaring block 3, as indicated in Figs. 1, 4, 6 and 7. The cross-block 14 has attached to the side next the front abutment 9, 10, a wearing plate 15 provided with a lateral off-set or rib 15^a, Figs. 1, 4 and 6, projecting beneath and engaged by the overhanging portion of abutment section 9, and to the lower surface of said cross-block are secured the jet blocks 16, Fig. 7, the latter extending beyond the cross-block and contacting with the inner edge of the squaring block 3 beneath the overhanging portions of the side blocks. The jet blocks 16 are disposed in sequence longitudinally of the cross-block and separated to form a transverse channel for the ejector blade 17, the end of said channel next the squaring block constituting the jet opening through which molten metal is injected into the mold cavity above. As thus constructed and arranged the cross block is maintained in working contact with the side blocks by adjustable shoe 11 and is held down to its seat on the base plate 1 on opposite sides, that is to say, by its engagement beneath side blocks 5, 6, on one side and by the top bearing furnished by section 9 on the opposite side, whereby lateral tilt-

ing of the cross block in a direction to open the joints in the mold cavity between the side blocks and cross block and the consequent distortion of said cavity by throwing the face of the cross block out of parallelism with the mold blade is prevented.

The gate pusher 17 is grooved in its lower edge to receive the cam 18 fast on the base plate said cam operating, as the cross block is reciprocated, to effect a longitudinal motion of the gate pusher for discharging the gate. Heretofore the base plate was perforated to form a passage for the gate when discharged by the pusher, but it sometimes happened that the gate or jet would become lodged in the passage and obstruct the cross-block, besides which the presence of said opening in the base plate complicated in a measure the ever present problem of compensation and adjustment incident to variations in temperature. These defects have been cured by cutting away the corner of the squaring block 3, as at 19, Figs. 6 and 7, and recessing the base plate 1, as at 20, and locating the off-set section of cam 18 in such relation that the gate or jet will be discharged in rear of the shoulder 21, so that should the jet hang up or adhere to the cross block it will be engaged and removed by shoulder 21 upon the return of the cross-block, and be discharged over the edge of the base plate instead of through the latter. Side blocks 5, 6, are spaced as usual, to form the mold blade channel, by an interposed gage, *i. e.*, point block 22 corresponding in thickness with the point dimensions of the bodies of the type to be produced, a tie bolt 23 assisting in retaining the blocks in contact with the point block.

The lower or main section 24 of the mold blade does not differ essentially, save as to height, from the integral mold blade of the prior art, and is provided with the three regular openings to-wit 25 for the point block 22, 26, for the front stop 27 and 28 for the cross pin 29, the latter carried by the cross head 30 of the mold blade adjusting devices or mechanism.

The principal improvement in the mold blade resides in the equipment and application of the upper or cut-off section 31. The operating portion or that part overlying the casting end of the main section and occupying the upper portion of the mold blade channel adjacent the mold cavity is necessarily of reduced dimensions and liable to be displaced or sprung and thus open the joint between it and the main section, to the serious impairment of the functions of the mold blade.

Owing to the fact that the die case has its movement in close proximity to the top of the mold it is not permissible to materially increase the height of the latter as by the application of superposed guiding de-

vices for the cut-off section, consequently attempts have been made to control said section from below the upper surface of the mold and in rear of the side blocks, either by providing a beveled lateral extension on the cut-off section and a complementary undercut guide on the side block, by providing said section with a vertical extension or web in parallel with the main section in rear of the side blocks; by reducing the lateral dimensions of each section to one half or less of the width of the mold blade channel and disposing the reduced portions side by side within said channel; or by combinations of the above. There are objections to each of these schemes. The beveled side bearing is both difficult to make and to maintain in adjustment; the narrowing of the main section for the accommodation of the dependent web of the cut-off section not only increases the difficulties in the way of fitting but it also diminishes the strength and rigidity of the main section and its bearing in the mold blade channel; while the bearing afforded by the vertical extension of the cut-off section in rear of the side block is too remote to be completely effective unless an excessive degree of pressure is applied such as tends to retard the free movement of the cut-off section relatively to the main section.

The foregoing as well as other inherent defects in the prior structures, have been overcome by the following construction. The upper or cut-off section takes its bearing upon the upper edge of the main section, to the full width of the latter, from the casting face to a point in rear of the point block opening 25, Fig. 4, and said section is attached to a carrier 32 of substantial proportions, the latter disposed to one side of the mold blade channel and guided to reciprocate in a way formed between side block 6 and main section 24 of the mold blade. Cut-off section 31 and carrier 32 may be integral; but it is preferred to form the cut-off section with a lateral flange or rib 33 the latter fitted and fastened to the top surface of carrier 32 to permit a carrier of standard dimensions to be used in connection with cut-off sections of different point dimensions.

To afford an extended bearing for the rear end of the mold blade, squaring block 3 is provided with a rear extension or off-set portion 34, the upper face of which is in a plane below but parallel with the top surface of the squaring block, *i. e.*, the lower surface of the mold blade channel. The rear end of carrier 32 is off-set as at 35 to take a bearing upon said extension 34 and is supported laterally between two adjustable guides or plates 36, 36', secured to extension 34. Plate 36 extends beneath and serves as a support for the rear end of main section

24, and it is mainly to permit the passing of this side guide or plate 36 that the surface of off-set 34 is depressed and the carrier provided with the downward extension or foot to which reference has been made. As thus constructed the so-called squaring block affords gaging surfaces in fixed relation by means of which the side blocks are accurately positioned and held and the mold blade supported both within the mold blade channel and in rear thereof beneath the point of attachment of the mold-blade actuating devices, and by forming said gaging and supporting members as integral parts of a squaring block the rigidity of the mold is correspondingly increased and liability of distortion by variations in temperature under conditions of use is diminished.

Carrier 32 is also provided with a gage block 37 projecting through the front stop opening in the main section and in rear of front stop 27, said gage block contacting with the rear wall of the front stop opening 26 to aline the casting faces of the two mold blade sections for casting full body type. The outer end of gage block 37 contacts with a bearing 38 conveniently located on front stop 27, to assist in preventing the lateral displacement and tilting of the rear end of carrier 32.

The rear inner face of side block 6 together with the rear abutment on squaring block 3 are cut away or recessed as at 6^a and 3^a, respectively for the accommodation of carrier 32 said recess in the side block surrounding a section 41 in the plane of the side wall of the mold blade channel against which the point block contacts, the carrier being recessed as at 39 for the passage of section 41. Side block 6 is also provided with a detachable cover plate 42 the inner edge of which abuts against cut-off section 31 above its point of attachment to carrier 32.

The top bearing for the mold blade as a whole is applied to the cut-off section through its carrier 32, as follows: The carrier is recessed on the side next block 6, to provide a longitudinal bearing 43 to receive the top bearing 44 in the form of a flanged shoe supported upon the inner end of a bolt 45 whose outer end is fastened in a recess in side block 6. The inner portion of the recess is larger than bolt 45 and the latter is engaged at an intermediate point in its length by a set screw 46, operating to flex the bolt and cause its inner end to press top bearing 44 into contact with the complementary bearing 43 on carrier 32, thereby holding the cut-off section in contact with the main section and the latter to its seat in the mold blade channel, the pressure being direct and extending the full length of the cut-off section. A spring 47 interposed between top bearing 44 and side block 6 serves

to hold the former to position and at the same time presses carrier 32 toward main section 24. To the rear end of carrier 32 is pivotally attached a lever 48, provided with a spring 49 and a latch 50, the latter in a position to engage a shoulder 51 on the cross head 30, carrying cross pin 29. referably the end of the carrier is slotted for the reception of lever 48 and the latter provided with a guiding extension 52 working in said slot to prevent displacement of the lever. The arrangement is such that when the mold blade sections are adjusted to aline their casting faces, as when the main section 24 contacts with carrier block 37 and the latter engages the front stop 27, latch 50 will be in position to pass shoulder 51, and will be automatically actuated by its spring to so pass the engaging shoulder, thus locking the carrier and cut-off section to cross-head 30.

To insure the engagement of latch 50 with its shoulder 51 when the mold sections are in their extreme forward or ejecting position the opening 28 in the lower or main section 24 is made slightly greater than the thickness of the cross-pin 29 so that when the latter engages the front wall of said opening, to clamp the carrier gage block 37 against front stop 27, shoulder 51 will slightly pass the point of latch 50 and the latter will automatically enter behind said shoulder. If now cross head 30 is retracted to dimension the mold, its movement will be communicated through latch 50 to carrier 32 for the cut-off section and through gage blocks 37 to the main section, until arrested by the engagement of the main section with the limiting or dimensioning member 53. When, however, a low quad or space is desired it is only necessary to withdraw latch 50 and advance the cut-off section into the mold cavity, leaving the lower or main section 24 under the direct control of cross pin 29. These operations can be performed either separately or concurrently, that is to say, separate means can be supplied for releasing the latch and for advancing the cut-off section; but the preferred plan is one in which a single actuating member 54 is arranged to engage lever 48 in a direction to first withdraw the latch and then, by a continuation of the motion, advance the cut-off section, to which end a stop 55 is arranged in the path of extension 52 to arrest lever 48. Actuating member 54 lies normally outside the path traversed by lever 48 when the sections are locked for simultaneous adjustment, as when full body type are called for, and any suitable control mechanism, of which examples may be found in Patent No. 828,450, of August 14, 1906, and application Serial No. 506,550, filed July 8, 1909, may be employed to produce or govern said actuating member and to maintain the cut-off section projected during the cast-

ing of the low quad or space. In the examples referred to actuating member 54 is advanced, to withdraw the latch and project the cut-off section into the mold cavity just before the cross-pin retracts to dimension the mold by seating the main section upon dimensioning member 53.

To prevent the entrance of foreign substance and to supplement the action of the top bearing, cover plate sections 56, 57, are secured to the rear abutment, the one engaging the upper edge of the main section and the other the carrier 32 above their bearings upon off-set 34.

Having thus described our invention what we claim as new and desire to secure by Letters Patent is;

1. A type mold such as described provided with a base plate; a front abutment; spaced side blocks; and a reciprocating cross-block interposed between said abutment and side blocks and provided with lateral extensions or ribs on opposite sides, the one extending beneath and engaging the side blocks and the other engaging a top bearing on the abutment.

2. A type mold such as described, comprising a base plate; a front abutment secured to the base plate and provided with side and top bearing surfaces; a squaring block secured to the base plate; spaced side blocks secured to the squaring block and overhanging the inner edge of the latter; and a reciprocating cross block interposed between said front abutment and the side blocks and provided with a relatively wide base or gate section engaging beneath the side blocks on one side and the overhanging or top bearing of the front abutment on the other.

3. A type mold such as described containing a base plate, side blocks, a mold blade and a movable cross block provided with a jet opening and a jet ejector blade forming one wall of said jet opening, and a cam mounted upon the base plate and engaging the ejector blade, said cam being so formed and adjusted relative to the traverse of the cross block that the ejector blade will be advanced to discharge the jet when the jet opening arrives near the edge of the base plate in position to discharge the jet over said edge.

4. A type mold such as described provided with a base plate, side blocks, a mold blade, a cross-block containing a jet opening, a jet ejector carried by the cross block, and a cam for said jet ejector adjusted to advance the latter as the jet opening approaches the edge of the base plate, and in combination therewith a squaring block interposed between the side blocks and base plate and having the corner adjacent the edge of the base plate cut away or removed to facilitate the discharge of the jet over the edge of said base plate.

5. A type mold such as described provided with a base plate one edge whereof is cut away to facilitate the discharge of the jet, a squaring plate having the corner in proximity to the recessed or beveled edge of the base plate cut away, side blocks and a mold blade mounted upon said squaring plate, a cross-block provided with a jet opening and a movable ejector blade, and a cam mounted upon the base plate and engaging the ejector blade to advance the latter and discharge the jet opposite the cut away corner of the squaring plate.

6. A type mold such as described, provided with a base plate; a squaring block; side blocks secured to the squaring block and overhanging the latter; a cross block whose base is extended laterally on both sides beyond its opposite bearing faces; and a front abutment formed in longitudinal sections whereof the upper overhangs the lower, to form a top bearing for the cross-block, and is provided with an adjustable shoe engaging the cross block and holding the latter in contact with the side blocks.

7. A low quad mold for type machines provided with side blocks spaced to form the mold blade channel one of said side blocks being recessed in rear of the casting portion thereof, and a sectional or divided mold blade whereof the superposed upper or cut-off section is attached to a carrier working beside the main section in the recess in the side block.

8. A low quad mold for type machines including in combination the following elements, to wit; side blocks spaced to form a mold blade channel, one of said side blocks being recessed in rear of the mold cavity; a cross block movable across corresponding ends or faces of the side blocks; and a divided or sectional mold blade movable in the channel between the side blocks and comprising a main or lower section, a superposed upper or cut-off section provided with a lateral extension or rib; and a carrier in parallel with the main section and extending into the recessed side block to support the cut-off section in close proximity to its casting face.

9. A low quad mold for type machines including in combination the following elements, to wit; side blocks with interposed spacing gage or point block; a divided or sectional mold blade located in the channel formed between the proximate faces of said side blocks and comprising a lower or main section provided with parallel edges and a transverse opening for the point block; and a straight upper or cut-off section superposed upon the main section and provided with a lateral flange or rib opposite the point block; and a carrier for said cut-off section extending alongside the main section to a point opposite the point block, one

side block being recessed to admit said carrier.

10. In a low quad mold for type machines provided with side blocks held apart by an interposed gage or point block to form opposing walls of the mold cavity and a mold blade channel, one of said side blocks being recessed next the mold blade channel from the rear end thereof to a point above or opposite the point block, and in combination therewith, a carrier lying within the recessed side block and forming part of one wall of the mold blade channel, and a divided or sectional mold blade occupying said channel, the same comprising a lower or main section, and a superposed cut-off section, the latter provided with a lateral extension or rib overlying and secured to said carrier.

11. A low quad mold for type machines provided with a mold blade channel one wall whereof is formed in part by the side block and in part by a carrier movable in a recess in said side block, and a divided or sectional mold blade, working in said channel, whereof the lower or main section is of the full width but less height than the channel and the superposed cut-off section is of the full width of said channel, takes a longitudinal bearing on the upper edge of the main section, and is connected by a lateral extension or web to the carrier within the mold and above the point block.

12. A low quad mold for type machines provided with spaced side blocks forming opposed walls of the mold cavity and mold blade channel, one of said blocks being recessed in rear of the mold cavity; a sectional or divided mold blade operating in said channel and consisting of a main section and a superposed cut-off section, the latter engaging the flat upper edge of the main section for the full width thereof; and a carrier for said cut-off section located at one side of the main section and extending into a recess in one of the side blocks.

13. A low quad mold for type machines provided with spaced side blocks forming opposite walls of the mold cavity and mold blade channel; a carrier lying in the recessed face of one of the side blocks; and a longitudinally divided or sectional mold blade working in said channel and consisting of a main section and a superposed straight cut-off section, the latter secured to the carrier at one side of the mold blade channel through a lateral extension or rib extending longitudinally of said cut-off section from the rear edge of the side block to a point slightly in rear of the casting face or end of said cut-off section.

14. A low quad mold for type machines provided with spaced side blocks; a cross block; and a divided or sectional mold blade the superposed or cut-off section whereof is

attached to the inner end of a carrier mounted in a recess in one of the side blocks and extending beside the main or lower mold blade section to a point near the mold cavity.

15. A low quad mold for type machines provided with side blocks spaced to form opposite walls of the mold cavity and the mold blade channel; a gage or point block interposed between the side blocks in said channel; a sectional or divided mold blade working in said channel whereof the main section is perforated to accommodate the point block and the superposed or cut-off section is attached on one side to a carrier disposed at the side of the main section and extending within a recess in one side block to a point opposite the point block.

16. A low quad mold for type machines provided with side blocks; an interposed point block; a sectional or divided mold blade located in the channel between said side blocks; a carrier for the superposed or cut-off section of the mold blade located in a recess in one of the side blocks beside the mold blade channel; and a top bearing engaging the carrier within said recess.

17. A low quad mold for type machines including side blocks; an interposed point block; and a sectional mold blade whereof the lower or main section surrounds the point block and is seated in the channel between the side blocks while the upper or cut-off section engaging and riding upon the upper edge of the main section is attached at one side opposite the point block to a carrier movable in a recess in the side block, said carrier furnished opposite the point block with a bearing for an adjustable top bearing.

18. A low quad mold for type machines provided with a sectional or divided mold blade and a point block or gage in the mold blade channel, the cut-off section of the mold blade riding upon the main section and attached at one side to a carrier, the latter reciprocating in a way within the mold between the main section and the adjacent side block, and an adjustable top bearing or shoe located in a recess in the side block adjacent the point block or gage and engaging a ledge or bearing on the carrier.

19. A low quad mold for type machines including the following elements, to wit; side blocks mounted upon a squaring block and separated by a point block or gage to form the mold blade channel; a divided or sectional mold blade working in said channel the upper or cut-off section whereof rides upon the main section and is attached within the mold to a carrier, the latter located to one side of the mold blade channel; an adjustable top bearing or shoe engaging the carrier within the mold; and means on the exterior of the mold for guiding the rear end of the carrier.

20. A low quad mold for type machines including the following elements, to wit: side blocks spaced to form a mold blade channel; a sectional or divided mold blade riding in said channel with its superposed cut-off section attached within the mold to a carrier located in a recess in the side block adjacent said channel; an adjustable top bearing or shoe engaging said carrier within the mold and opposite the point of attachment of said cut-off section to the carrier; and means for holding the carrier under yielding pressure in contact with the main section of the mold blade.
21. A low quad mold for type machines provided with a divided or sectional mold blade whereof the upper or cut-off section overlies the main section; a carrier for said cut-off section occupying a recess in the side block adjacent the mold blade channel; a top bearing or shoe engaging the carrier; a bolt carried by the recessed side block and engaging said top bearing; and means for effecting lateral displacement of said bolt.
22. A low quad mold for type machines provided with a divided or sectional mold blade movable in a channel between side blocks, and in combination therewith, a carrier for the superposed cut-off section of the mold blade and an adjustable top bearing located within a recess in one of the side blocks and engaging said carrier.
23. A low quad mold for type machines embodying the following elements, in combination, to wit; side blocks spaced to form a mold blade channel, one of said blocks being recessed next the mold blade channel; a divided or sectional mold blade movable longitudinally within said channel; a carrier located in said recessed side block and united to the cut-off section at a point within said channel; and a top bearing or shoe also located in the recessed side block and engaging the carrier beneath and opposite the point of attachment between the carrier and cut-off section of the mold blade.
24. In a low quad mold for type machines provided with a longitudinally divided or sectional mold blade and in combination therewith a latch mounted upon the cut-off section of the mold blade and adapted to engage an actuator coupled with the main mold blade.
25. A low quad mold for type machines wherein the divided or sectional mold blade occupying a channel between side blocks has its superposed cut-off section attached to a carrier between the side blocks, said carrier being received in a recess in one of the side blocks adjacent the main section of the mold blade.
26. A low quad mold for type machines provided with a divided or sectional mold blade movable longitudinally in a channel between side blocks; a carrier lying in a recess in one of the side blocks and attached to the cut-off section of the mold blade; a top bearing for the carrier also located in a recess in the side block; and side bearings for the carrier in rear of the side block.
27. A low quad mold for type machines provided with a divided or sectional mold blade the superposed cut-off section whereof is attached to a carrier disposed alongside the main section of the mold blade between the side blocks; an adjustable top bearing for the carrier also located between the side blocks below the point of attachment of the cut-off section; and adjustable side bearings engaging the carrier in rear of the side blocks.
28. A low quad mold for type machines such as described provided with a sectional mold blade; a carrier for the cut-off section of the mold blade; a cross-head; a cross-pin engaging the lower or main mold blade section; and detachable means for coupling the carrier directly to the cross-head.
29. A low quad mold for type machines, including a sectional or divided mold blade whereof the superposed or cut-off section is attached to a carrier independent of the under or main section; an actuator; and two independent coupling devices, the one intermediate said actuator and the main mold blade section, and the other between the actuator and the carrier for the cut-off section.
30. A low quad mold for type machines including the following elements, to wit; a divided or sectional mold blade whereof the superposed cut-off section is attached to a carrier; an actuator provided with a cross-pin engaging the main section of the mold blade; and a latch mounted upon the carrier in position to engage said actuator.
31. A low quad mold for type machines including the following elements, to wit; a divided or sectional mold blade whereof the main section is of uniform thickness within the mold blade channel and the superposed cut-off section is attached at one edge to a carrier extending within the mold at the side of the mold blade channel; a top bearing engaging the carrier within the mold; a cross-head carrying a cross-pin the latter engaging the main section of the mold blade; and a latch mounted upon the carrier in position to engage a shoulder on the cross-head when the casting faces of the two sections are in alinement.
32. A low quad mold for type machines including the following elements, to wit; a divided or sectional mold blade whereof the superposed cut-off section is attached to a carrier; a cross-head carrying a cross pin, the latter engaging the main mold blade section and movable between bearings thereon;

a front stop; a gage block on the carrier intermediate the front stop and a bearing on the main mold blade section; and a latch on the carrier in position to engage a shoulder on the cross-head.

33. A low quad mold for type machines including the following elements, to wit; side blocks mounted upon a squaring block and spaced to form the mold blade channel; a divided or sectional mold blade movable within said channel whereof the superposed cut-off section is attached to a carrier, the latter provided with an off-set portion or foot in rear of the side blocks engaging a bearing and side bearings engaging said off-set portion or foot.

34. A low quad mold for type machines including the following elements, to wit; a mold blade channel; a divided or sectional mold blade located in said channel the superposed cut-off section whereof is attached to a carrier provided with a vertical off-set at its rear end extending below the main mold blade section; a bearing for said off-set; and adjustable side bearings engaging said off-set, one of said side bearings extending beneath and forming a lower bearing for the main mold blade section.

35. A low quad mold for type machines including the following elements, to wit; a sectional or divided mold blade whereof the superposed cut-off section is mounted upon a carrier extending alongside the main section; a gage block on the carrier passing through an opening in the main mold blade section; and a front stop located in advance of said gage block and provided with a

lateral extension or shoulder engaging the end of said gage block.

36. A low quad mold for type machines including the following elements in combination, to wit; a sectional or divided mold blade whereof the superposed cut-off section is attached to a carrier; a front stop passing through openings in the carrier and main mold blade section; a gage block on the carrier located in rear of the front stop between the latter and a shoulder on the main section; a cross head provided with a cross pin, the latter extending between opposing bearings on the main mold blade sections, said bearings being spaced slightly in excess of the thickness of the cross-pin to permit independent motion of the cross-head; a latch mounted upon the carrier in position to engage a shoulder on said cross-head; and an actuating member in position to engage said latch.

37. A type mold such as described the same comprising a base plate, front abutment, movable cross-block, stationary side blocks, a movable mold blade, and an integral squaring block the latter provided with angular seats for the side block, a recess intermediate said seats for the passage of the mold blade, and a rear extension beneath the point of attachment of the actuating devices for the mold blade.

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