

Feb. 18, 1941.

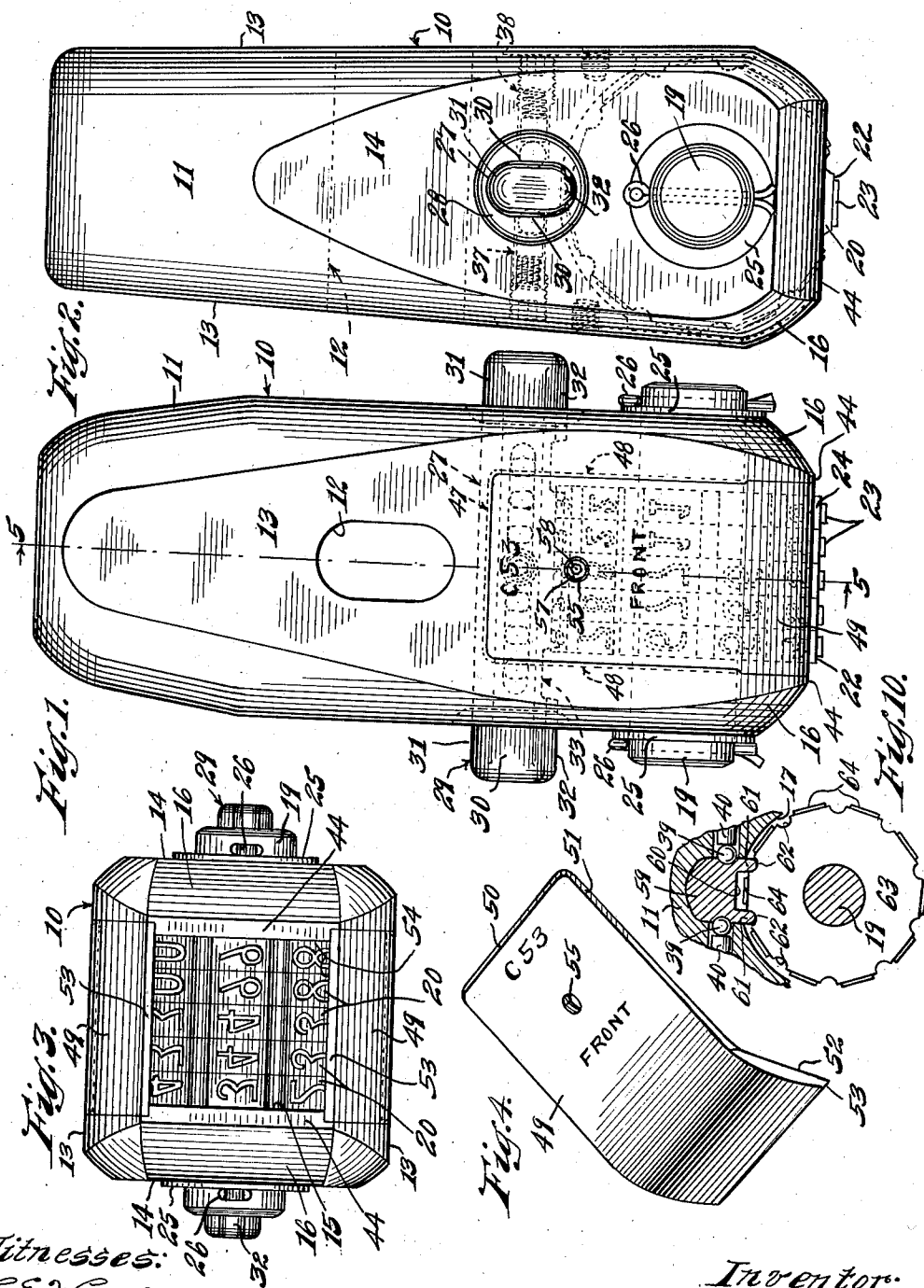
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BILLET MARKER

Filed Jan. 19, 1939

2 Sheets-Sheet 1



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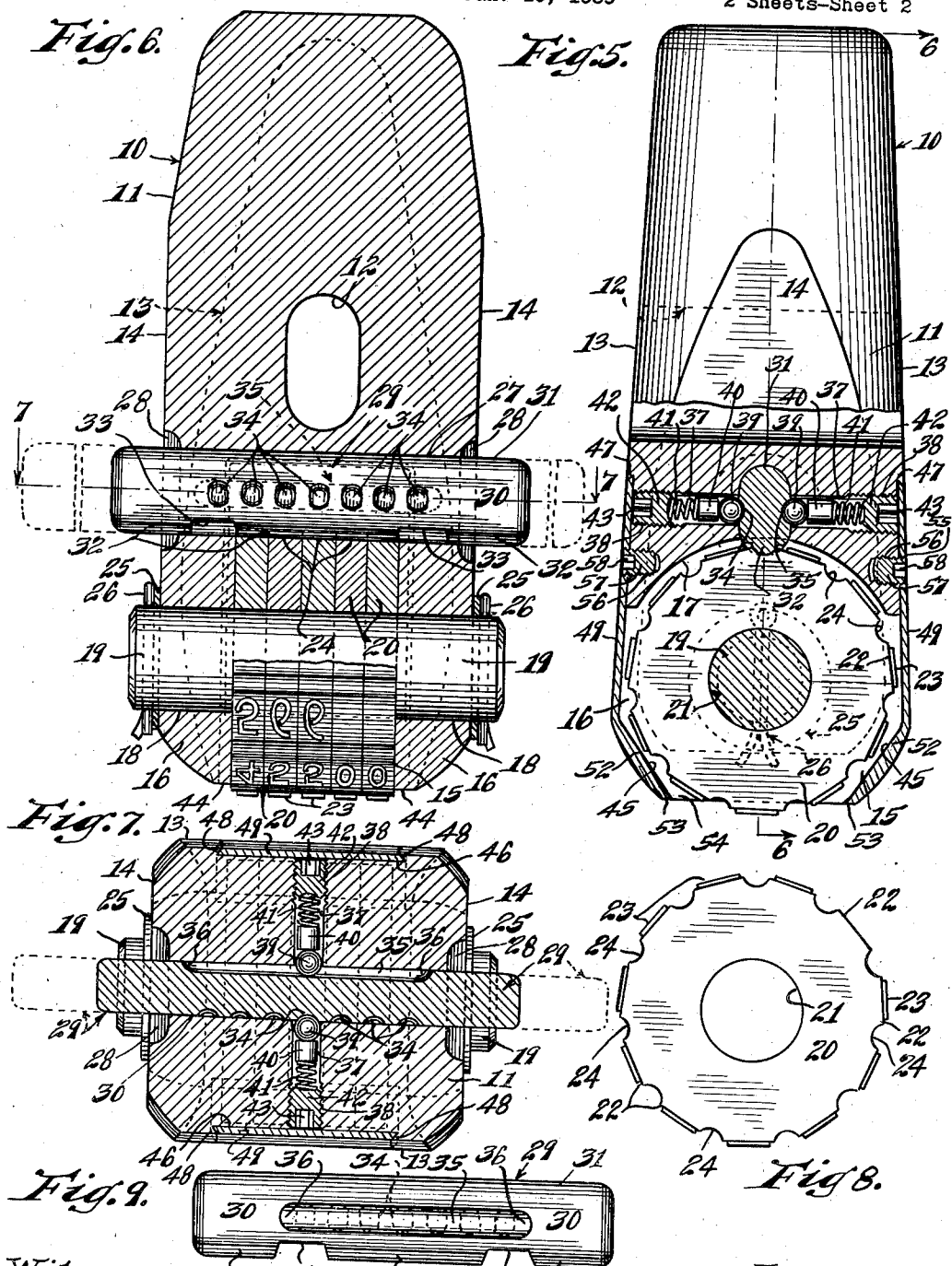
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UNITED STATES PATENT OFFICE

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BILLET MARKER

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7 Claims. (Cl. 101—29)

This invention relates to a billet marker or changeable serial multiple wheel metal marking device, machine, or press marker for use on products of metal, such as alloy steel, forgings, castings or various other materials where quick marking is desirable.

The primary purpose of the invention is to provide a novel billet or press marker of the above character whereby the serial can be instantly, quickly and simply changed and held positively in adjusted or set position, a wide variation of characters and serial numbers being rendered possible with one holder, loss of figure or letter type or dies being avoided as well as loss of time in hunting for lost characters as frequently occurs with markers having removable and individual characters instead of marking wheels or discs bearing the various figures or letters adapted to be set for the various particular serials or combinations desired.

A further important object of the invention is to provide novel metal discs bearing the characters on the peripheral edges thereof and each a blank space for a hiatus in the serial number at a decimal or other suitable point in making up different combinations, together with means releasable from either side for easy adjustment of the discs or marking wheels thereof as desired especially where space or room at one side is crowded or limited and does not permit a projection at that side, and novel means for locking and holding the various discs or marking wheels in adjusted positions to prevent movement or shifting thereof when adjusted so that the serial number will not become accidentally changed, only one disc being turned at a time to step or change a serial quickly, while the others are securely held and remain locked after which the locking bar or key is reset to lock all the discs against rotation for use, all mechanism being foolproof and enclosed to protect the same from damage due to rough handling in use and against the entry of dust or dirt between the wheels to interfere with their operation or adjustment, while capable of being readily uncovered and rendered accessible for any purpose.

Other objects and advantages will appear hereinafter and be brought out more fully in the following specification, wherein:

Fig. 1 is a front elevation of the marking tool;

Fig. 2 is a side elevation thereof;

Fig. 3 is a bottom elevation thereof;

Fig. 4 is a perspective view of the removable cover;

Fig. 5 is a sectional view on the line 5—5 of Fig. 1;

Fig. 6 is a sectional view on the line 6—6 of Fig. 5;

Fig. 7 is a sectional view on the line 7—7 of Fig. 6;

Fig. 8 is an elevation of a disc;

Fig. 9 is an elevation of the locking key; and

Fig. 10 is a detail view showing a modified disc locking means.

Referring more particularly to the drawings, the billet marker or changeable serial multiple wheel metal marking device or press marker is shown as comprising a body in the form of a head or stock 10 preferably made of hardened tool steel and of any suitable shape, preferably hollow and having a handle or shank 11 of any suitable type and cross section; that is, the shank may be made in different styles such as with an eye 12 for a hammer handle or as a hand stamper without the eye or as a press marker with a round, square or rectangular shank or with flat sides and rounded corners and tapered formation as shown, with a transverse slot or eye 12 for connection with an operating member. The front and rear and the side faces are shown flattened as at 13 and 14 respectively and the head or stock is shown as recessed, hollowed out or forked at its lower end as at 15 to provide parallel side jaws or bearings 16 having a transversely concaved arcuate inner end wall or bight portion 17 between said jaws concentric to the centers of the bearing holes 18 in the jaws or bearings 16 in which a spindle, disc supporting member, impact bearing pin or shaft 19 is mounted to span or extend across the recess 15 as seen particularly in Figs. 5 and 6 of the drawings. A plurality of flat metal marking wheels or discs 20 preferably of tool steel are provided with axial holes 21 by which they are mounted to turn on the shaft or mounting pin 19 forming the axis thereof, the discs being shown five in number in the form of the device illustrated and mounted snugly but loosely in contact and within or against the opposed inner faces of the jaws or bearings 16; see Fig. 6.

The peripheral edges of the discs 20 are provided or formed with a plurality of equidistantly spaced flat faces 22 constituting chords of arcs of the circle of the discs and all bearing circumferentially extending characters or type 23 consisting of numbers, letters or otherwise, used in serials, numbers or other identifying indicia, except one face on each disc which is left flat, plain or smooth without a character to provide a hiatus

on each disc whereby a blank space may be left in the marking at any one of the discs as it is thought will be appreciated. The spaces between the flat faces are provided with peripherally or circumferentially arcuate transverse recesses 24 and the shaft 19 is held against endwise axial or longitudinal movement in any suitable way as by collars or washers 25 on the projecting ends of the shaft against the flat faces 14 and held by suitable retaining means such as keys or cotter pins 26 passed through diametrical holes through the shaft.

The body, stock or head 10 is provided with a transverse passage or oval slot 27 parallel to the shaft 19 and in vertical alignment with the axis thereof and plane of the recess 17 through the wall of which it extends or communicates with the cut out and through the jaws 16 and has its ends flared out or provided with circular recesses 28 in the flat faces 14 around the ends of the passage 27. A flat sided key 29, preferably of oval cross section fits the passage or slot 27 to freely slide therein and has flat opposed sides 30, a round top edge 31 fitting and conforming to the corresponding side of the slot and a central longitudinal and preferably transversely convex or rounded rib 32 on the opposite or bottom edge extending into the recess 15 at the end wall 17, to enter the aligned concaved recesses or depressions 24 in the marking discs or wheels 20 to thereby hold the latter against rotation while the shoulders adjacent the rib 32 on each side of the key 29 are spaced or set in from the sides 30 of the key and engage the ends of flat faces 22 but also spaced from the ends of the type 23 to prevent injury to the latter or jamming of the key as seen in Fig. 5. The rib 32 is provided with two longitudinally spaced transverse notches 33 normally positioned outwardly of the discs as seen in Fig. 6, equidistantly spaced from the ends thereof and the key, but each slightly longer than the thickness of a disc, but by movement one at a time adapted each to be aligned with three of the discs 20 at each side including the central disc with which either slot or notch 33 may register by shifting the key lengthwise in opposite directions through the slot or passage 27 of the head or body 10 by merely pushing with a finger against an end thereof. The key 29 is longer than the width or thickness of the tool or marker head 10 to project from the faces 14 at its ends when in a normally central position, so that it may be projected at either side when the other side is crowded or where the space or room at one side is limited. The key is provided on one of its sides or flat faces with a centrally arranged series of equidistantly spaced oval or circular recesses or notches forming seats 34 and on the opposite side with a similarly positioned but slightly longer concaved recess, groove or elongated seat 35, the end walls 36 of which form stops, as will be later described.

Bores or sockets 37 are provided in axial or longitudinal alignment transversely in the walls of the head 10 on opposite sides of the slot or passage 27 in line with the recesses or seats 34 and 35 and are threaded at their outer ends as at 38. A ball 39 is movably located at the inner end of each bore to engage seats 34 and 35 against each of which is a follower cylinder 40 engaged by a spring 41 on which a screw-threaded nut or adjusting plug 42 acts, being threaded in the threaded ends 38 and having each a wrench socket 43 by which it may be turned to adjust the tension of the spring to adjust the key locking

means, detent, pawl holding means or spring catch formed by the spring-pressed ball. One pawl engages the notches 34 to hold or lock the key in any adjusted position and the other engages the groove 35 to limit the movements of the key in opposite directions and prevent accidental total displacement thereof by engagement with the stops formed by the end walls 36. There are seven seats or notches 34 and the pawl or spring pressed ball engaging the same holds the key in adjusted position in alinement with any one of the discs at the notches or slots 33, that is, one slot with three discs at each side so that any and only one marking wheel or disc may be turned at a time to quickly change the serial marking as desired while the others are held against rotation, the change being simply, easily and quickly accomplished and loss of time in looking for type characters avoided.

The jaws 16 preferably have aligned flat or straight ends 44 in the same transverse plane from which the serial characters 23 project and the side edges of the jaws at the corners are rounded or beveled as at 45 in angular formation to form seats, stops or shoulders. The opposite flat faces 13 parallel to each other and at right angles to the faces 14 are provided with shallow recesses 46 over the plugs 42 which are thus set in or depressed from the normal faces 13, the inner ends and sides of the recesses 46 being preferably undercut or dovetailed as at 47 and 48 respectively. The sides 48 are undercut to the inner ends of the angular portions 45 and then right angular and the undercut grooves or guideways thus formed slidably receive cover plates 49 having beveled inner ends 50 and beveled side edges 51 to fit the undercut or dovetailed inner ends 47 and sides 48 of the grooves, respectively, while the ends are obtuse angular as at 52 to fit the right angular grooves or seats at the angular portions 45 to set flush with the outer faces and the ends of the angular portions 52 are beveled or flat as at 53 to lie in alinement or flush with the flat ends 44 of the jaws and form a rectangular opening 54 at the operative end of the marker through which three rows of characters on the discs are visible as seen in Fig. 3. These plates cover and help to render the mechanism fool-proof and enclose the movable parts, keep out dust and dirt and prevent the mechanism and characters from being damaged from rough handling in service. Threaded bores or holes 55 are provided in the cover plates 49 to align with threaded sockets 56 in the tapered walls of the head formed by the arcuate recess or end wall 17 spaced from the sockets or bores 37 to make threaded plugs or nuts 57 having wrench sockets 58 like the wrench sockets 43 in the nuts or plugs 42 for taking a polysided wrench to remove or tighten the plugs. The plates are thus secured in position over the plugs 42 of the spring pressed pawls or catches 39 so that they may not be tampered with after proper adjustment for use.

In the use and operation of the device, all that is necessary is to apply the device to the metal to be marked and to strike the same an effective blow. When it is desired to change the marking, serial or indicia formed by a row of characters at the exposed peripheral portions of the discs, it is only necessary to press the key 29 in from one side of the device to cause it to be held by each successive engagement of the ball 39 thereof in the seats 34 to correspondingly free each disc at one side and in the center and, then by reversing the movement or pushing in the opposite

end of the key 29, but only two adjustments beyond the center are necessary as the center disc has already been set. This, of course, will vary with the number of discs or marker wheels employed. The other spring pressed pawl or ball will ride in the groove 35 and by striking the ends 36, will limit the opposite movements and displacement of the key and degree of projection thereof beyond that required for moving either of the recesses or slots 33 into alignment with the respective discs, so that the latter may be turned to any serial required.

The metal discs or marking wheels bearing numbers, letters or other indicia on the periphery thereof are the same as any numbering or stamping machine or a date stamp, except that the metal discs are formed with the numbers, letters or other characters integral therewith and offset outwardly from the equidistantly spaced flat faces 22 on the periphery with concave arcuate transverse recesses or seats therebetween and each disc may be individually turned on the shaft without turning the others and while the latter are held against rotation and translation. The characters when turned to the exposed position at the center of the opening 54 project from the end of the tool to engage the work to be stamped.

By having the nose or open end of the body or stock 10 beveled or rounded at the sides or bottom corners and the open end straight or flat at the edges 44 and 53, with the characters outstanding or projecting about one-sixteenth of an inch in practice, the exposed row of characters will lie flat and in a straight line, and proper impression thereof in the work will be insured even though the device may be directed or struck at a slight angle or the tool slightly canted. In this respect, the device is self straightening or aligning but ample protection is given to the working parts and wheels by the jaws 16 and plate 49, though accuracy is insured by the edges 44 and 53 being in alignment or in the same plane. Also, it will be noted that a single rib 32 is employed on the disc locking key 29 where there are an uneven number of flat faces 22, an even number of characters 23 and an uneven number of intermediate or alternate grooves 24 on the peripheries of the discs, a groove or recess being provided diametrically opposite each character so that the latter will be in a central or proper position when held for marking.

In Fig. 10 the key 59 works and is the same as the key 29, except that it has a central longitudinal groove 60 to accommodate the characters and a plurality; i. e. a pair of spaced and preferably transversely convex or rounded ribs 61 along its edges designed to engage a corresponding plurality; i. e., a pair of somewhat narrower grooves or depressions 62 in the discs 63 between the characters 64 compared to grooves 24. This form is used where there is an even number of flat faces like faces 22, and uneven number of characters and an even number of grooves on the peripheries of the discs with the characters diametrically opposite each other and the grooves alternating with the characters, but also diametrically opposite each other. In both instances, the discs will be firmly held in accurate marking position and are released in the same manner as with the key 29.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish

to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A multiple wheel metal marking device comprising a stock having a shank and spaced jaws, a shaft supported in the jaws and held against endwise movement, metal discs on the shaft between the jaws and adapted to turn thereon, said discs having spaced peripheral surfaces certain thereof having characters thereon projecting therefrom, a key slidable through the stock having a plurality of notches spaced apart a distance equal at least to the axial extent of the several discs and adapted for alignment with individual discs to permit turning thereof upon sliding the key to opposite sides of the central position, and means on the key to engage the other or all the discs to simultaneously hold the same against turning.

2. In a marker of the class described, a body having spaced bearings, a shaft mounted therein, marking discs on the shaft and all having spaced characters on their peripheries with alternate recesses and a hiatus between at least two recesses, a locking bar slidable in a passage through the body to hold all discs against turning and having notches spaced apart the axial extent of the discs adapted to be placed in alignment with certain discs to permit turning thereof singly, coacting means between the body and bar to hold the bar in position to align a notch with each disc, and means coacting between the body and one side of the bar to prevent displacement of the bar endwise and limit the movements thereof in opposite directions.

3. A billet marker having a body portion, a spindle carried thereby, a plurality of character discs on the spindle and having spaced transverse peripheral seats between the characters, a key slidable through the body portion and held against turning, a longitudinal groove in the key the ends of which terminate short of the ends of the key to form stops, means carried by the body and engaging the groove to limit the projection of the ends of the key from the body by engagement with the stops, said key having a rib engaging the seats of the discs to hold the latter against rotation, the rib having a plurality of recesses to align with the discs and release each of the discs individually in different positions of the key and to lie outside the discs whereby the rib will engage and hold all the discs, said key having a plurality of depressions and means engageable with said depressions to hold the key in each of said positions.

4. A billet marker including a body having a cutout forming spaced parallel jaws, a plurality of flat discs rotatably mounted therein in contact between the jaws and bearing spaced characters with grooves therebetween on their peripheries, and a slidable key mounted through the body and having a rib to enter the grooves of the discs and longitudinally spaced transverse notches spanning the discs and coacting between the body and the grooves of the discs, said rib adapted to hold all of the discs against rotation when the key is in a central position and the notches adapted to align with a disc to individually release the same for rotative adjustment while holding the others when slid to opposite sides of a central position.

5. A billet marker including a body having a cutout forming spaced jaws, a plurality of flat discs rotatably mounted therein supported by the jaws and bearing characters on their peripheries with intervening depressed seats, a slidable key mounted entirely through the body independent of the mounting of the discs and having an intermediate portion coacting between the body and discs to engage and hold all of the discs against rotation when in a central position, said key having notches outwardly of the intermediate portion to align with a disc to individually release the discs upon shifting the key in opposite directions to align a notch with a disc, means coacting between the body and key to limit the displacement of the key and removable cover plates over the latter means at opposite sides of the cutout.
6. In a marker of the class described, a body having spaced bearings, a shaft mounted therein, marking discs on the shaft and all having spaced characters on their peripheries with alternate recesses, a locking bar oppositely slidable in a passage through the body independently of the shaft and having spaced notches spanning the discs and adapted to be placed in alignment with certain discs one at a time to permit turning thereof, coacting means between the body at the passage and one side of the bar to hold the bar in several positions to align a notch with each disc, coact-

ing means between the body at the passage and the other side of the bar to limit the sliding of the bar in opposite directions, cover plates slidably retained on the body and covering the space between the bearings, said plates extending into alignment with the free ends of the bearings and means to detachably secure the plates in position over both of said coacting means.

7. A billet marker including a body having jaws, discs rotatably supported between the jaws, said discs having an even number of spaced peripheral characters and alternate spaced depressions below and between the pairs of characters and a locking bar carried by the body and having a plurality of spaced ribs to engage the depressions on opposite sides of a character to hold the discs against rotation and a longitudinal groove between the ribs to accommodate the rows of characters, said ribs having recesses spaced by a distance equal at least to the axial extent of the several discs.

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