May 28, 1929. J. G. McDONOUGH 1,715,207

LUMBER MARKER

Filed Nov. 14, 1927 5 Sheets-Sheet 1

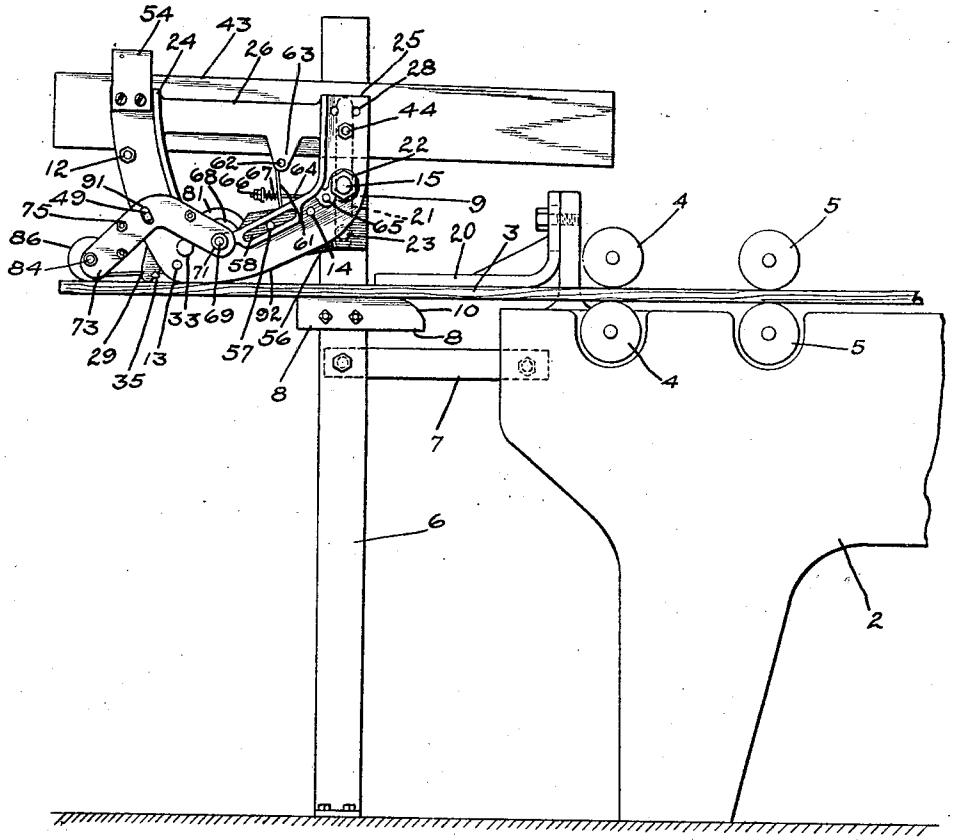


FIG. 1

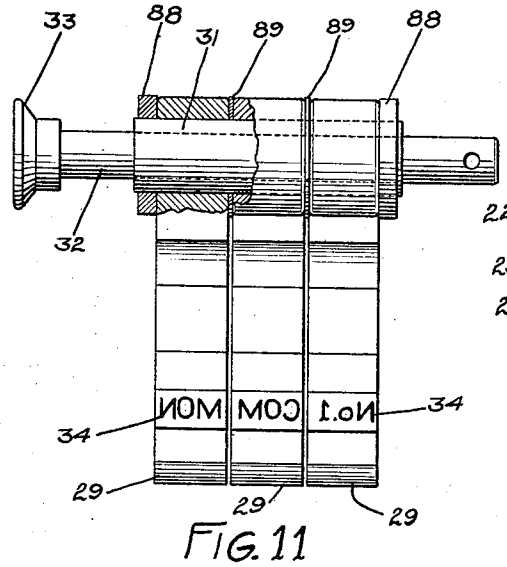


FIG. 11

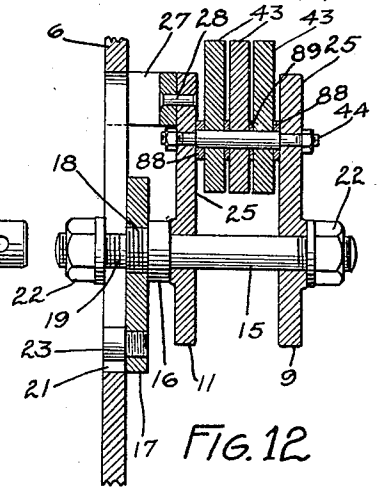


FIG. 12

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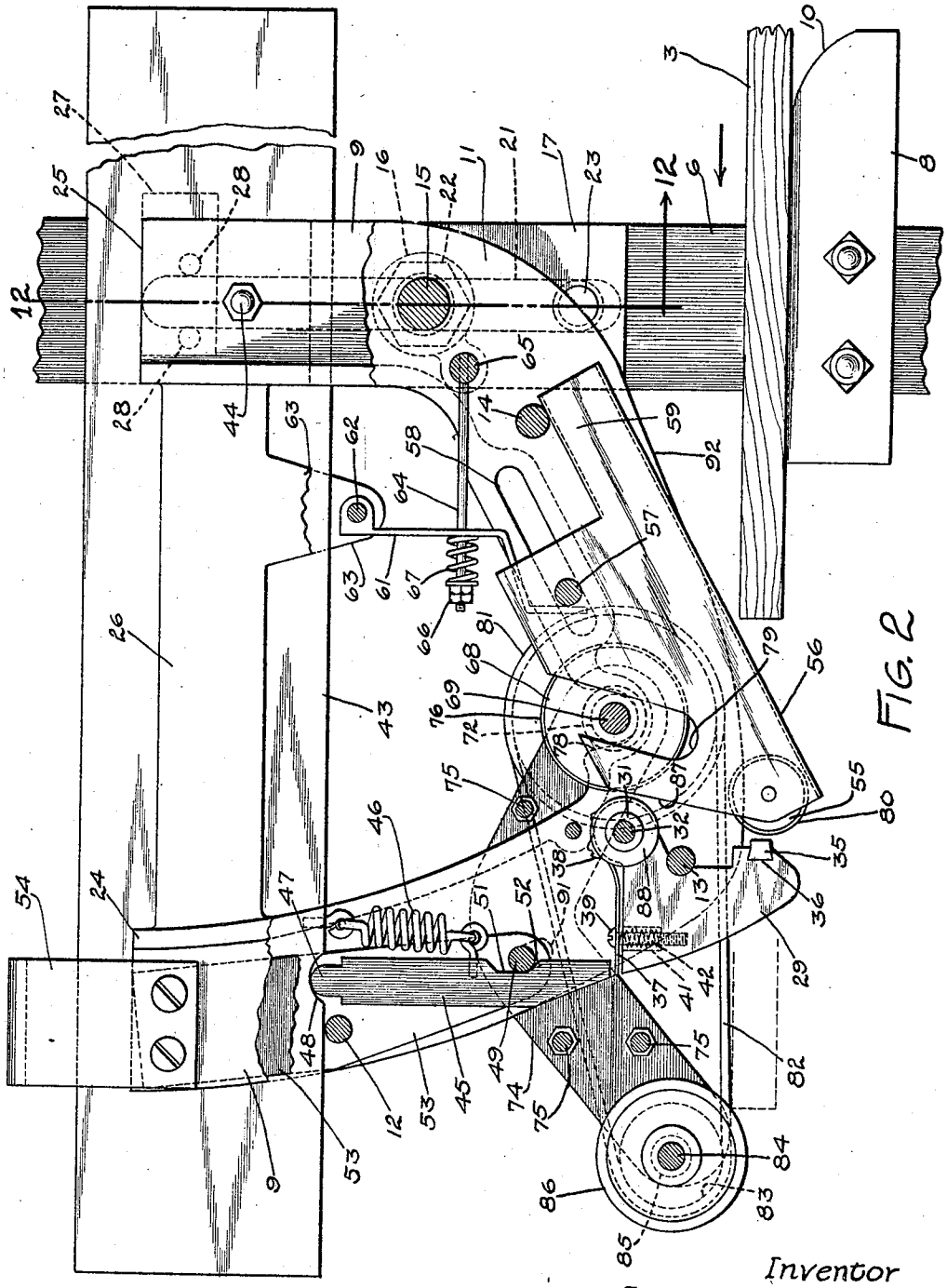


FIG. 2

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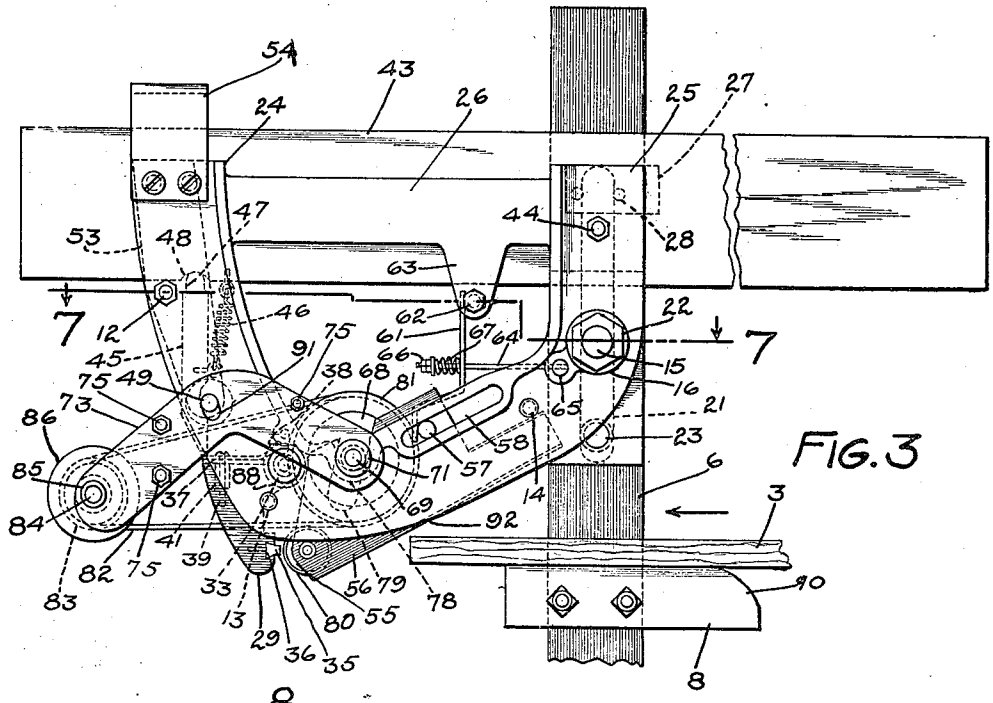


FIG. 3

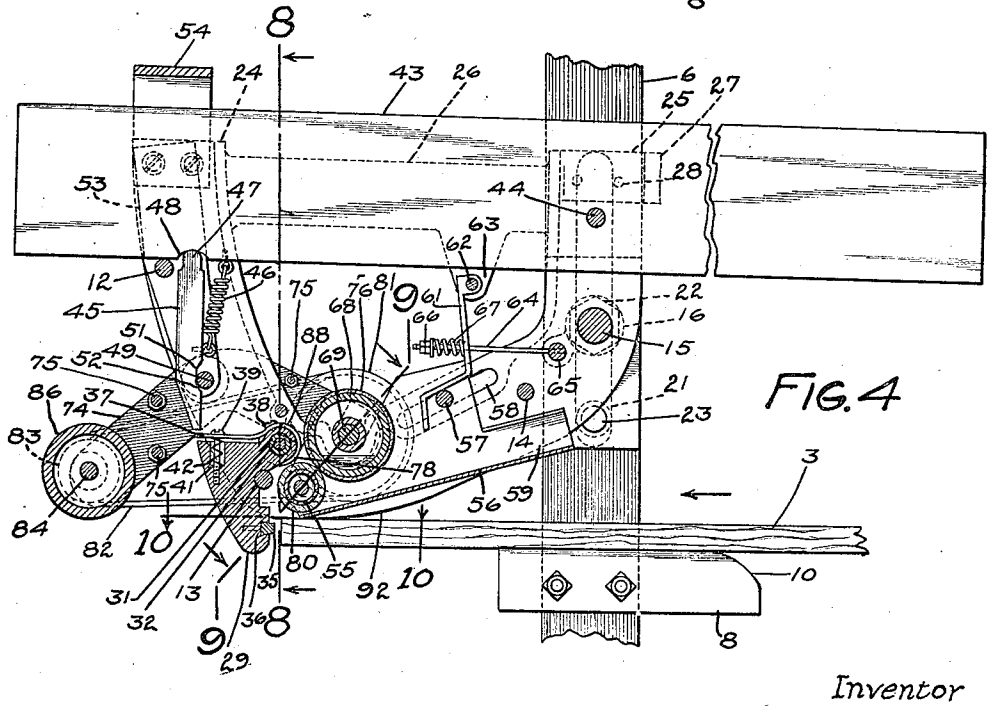


FIG. 4

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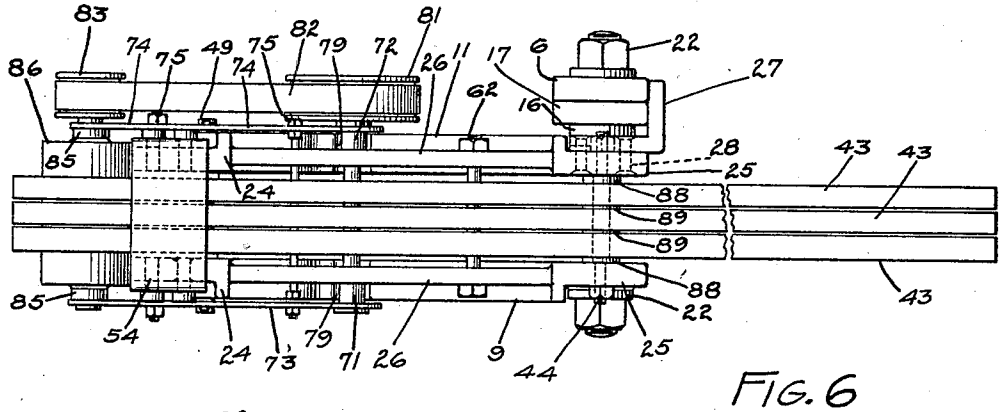


FIG. 6

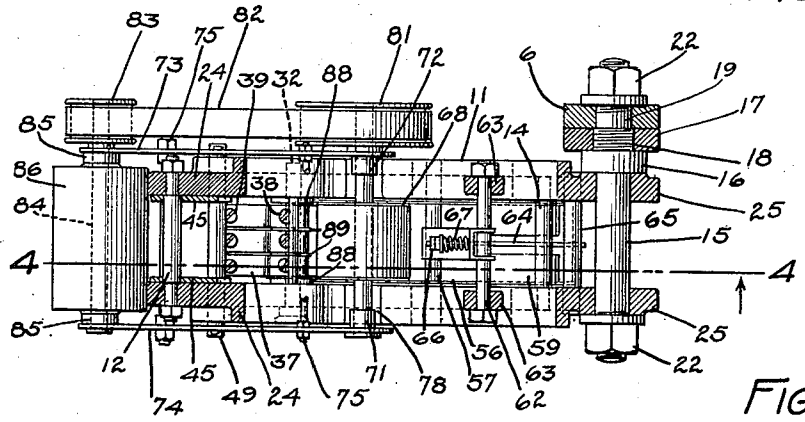


FIG. 7

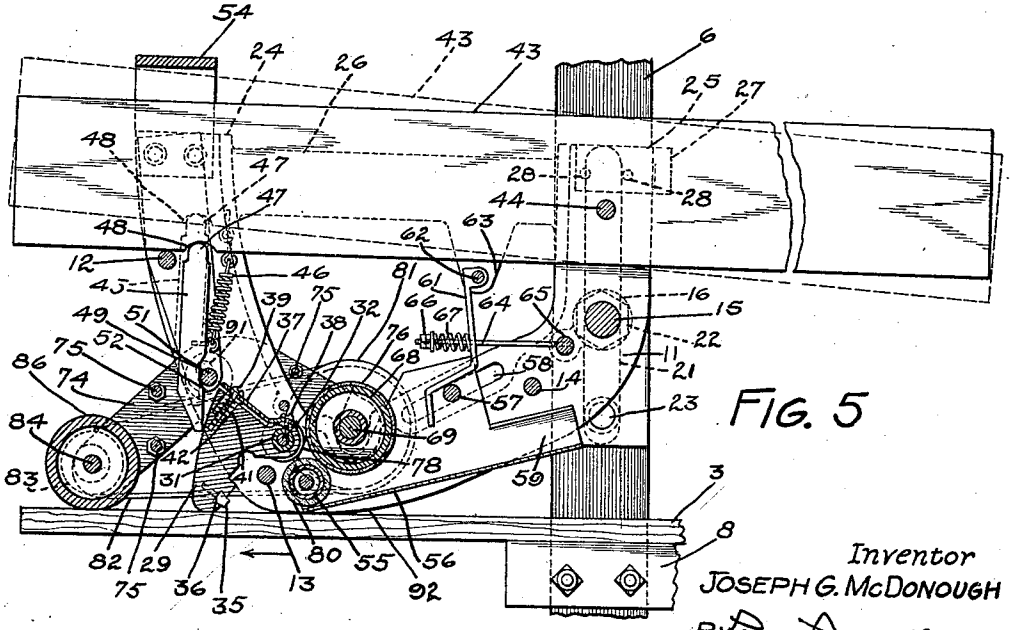


FIG. 5

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LUMBER MARKER

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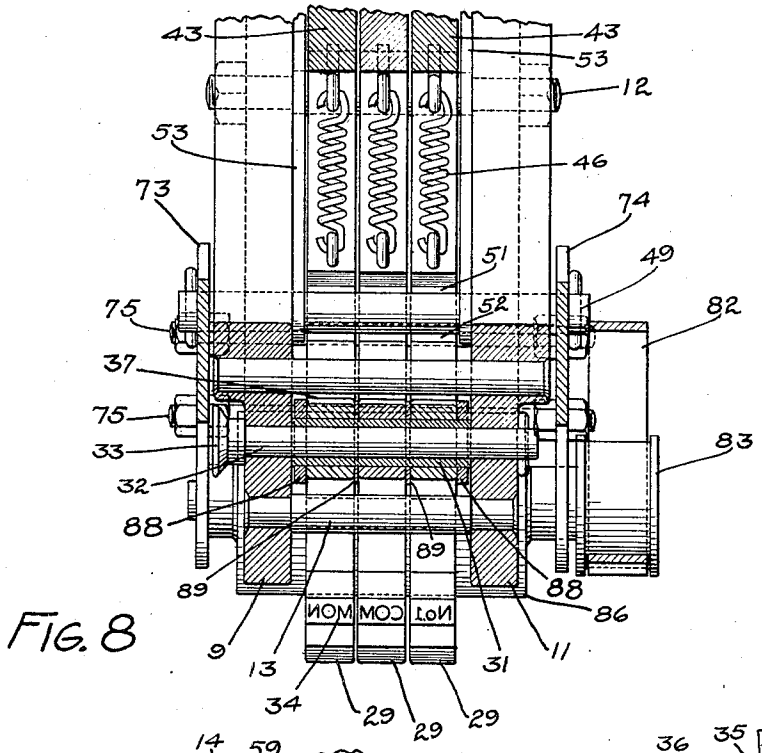


FIG. 8

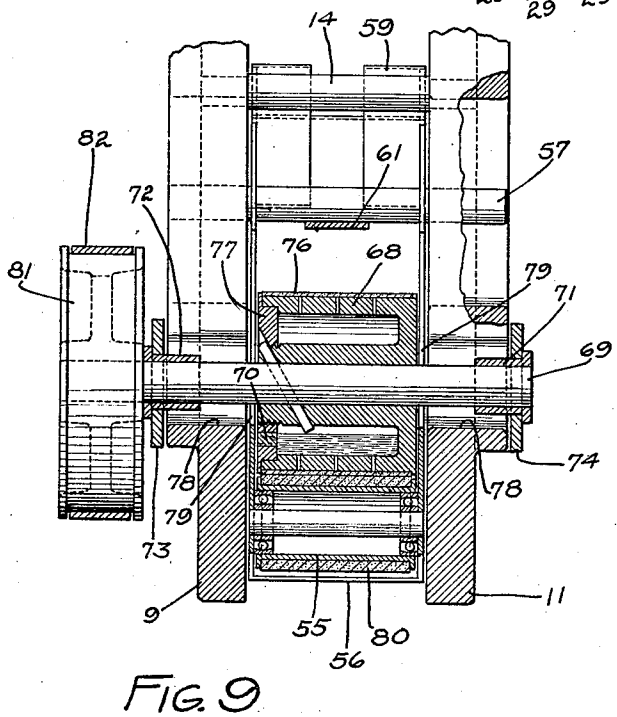


FIG. 9

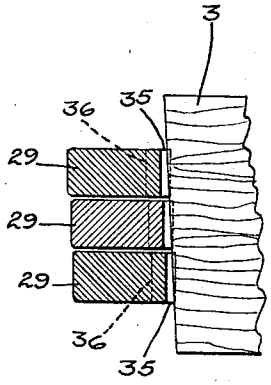


FIG. 10

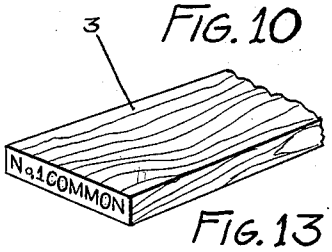


FIG. 13

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UNITED STATES PATENT OFFICE.

JOSEPH G. McDONOUGH, OF NEW ORLEANS, LOUISIANA.

LUMBER MARKER.

Application filed November 14, 1927. Serial No. 233,183.

This invention relates to improvements in lumber markers of the type particularly adapted for use in marking lumber that is moving longitudinally, as from a planer or other machine or device.

The present invention is in many features an improvement upon the lumber markers disclosed in my former Patents No. 1,383,552, issued July 5, 1921 and No. 1,400,223, issued December 13, 1921.

An object of the invention is to provide a lumber marker with a plurality of independently operable dies and die carriers, arranged in the path of the moving lumber, each die being provided with independent means resisting initial movement of the die when subjected to the impact of the moving lumber.

Other objects of the invention will appear from the following description and accompanying drawings and will be pointed out in the annexed claims.

In the accompanying drawings, there has been disclosed a structure designed to carry out the various objects of the invention, but it is to be understood that the invention is not confined to the exact features shown as various changes may be made within the scope of the claims which follow.

In the accompanying drawings forming part of this specification;

Figure 1 is a view in side elevation showing my improved lumber marker positioned to mark lumber discharged from a planer or other apparatus;

Figure 2 is an enlarged detailed sectional view, showing the parts in normal position;

Figure 3 is a similar view, on a smaller scale, showing the end of a board about to engage the means for supporting the inking roll;

Figure 4 is a vertical sectional view on the line 4—4 of Figure 7, showing the end of a board about to engage the die blocks, the inking roll having been moved upwardly out of the way of the board;

Figure 5 is a similar view showing the position of the end of the board, after having engaged the die blocks;

Figure 6 is a plan view of the apparatus showing the weighted bars for resisting initial movement of the die carriers;

Figure 7 is a sectional plan view on line 7—7 of Figure 3;

Figure 8 is a cross sectional view on line 8—8 of Figure 4;

Figure 9 is a detailed sectional view on line 9—9 of Figure 4, showing the construction of the inking cylinder and also the inking roll;

Figure 10 is a detailed sectional view showing the die blocks engaged with a board having its end cut on a slight angle;

Figure 11 is a detailed view showing the die carriers removed from the machine;

Figure 12 is a detailed sectional view showing the means provided for mounting the device upon a standard; and

Figure 13 is a perspective view showing a piece of lumber with a mark imprinted on one end thereof.

The novel lumber marker featured in this invention is here shown mounted at the discharge end of an ordinary planer 2 with its dies in the path of the moving lumber 3 as it is discharged from the planer, by means of the usual feed rolls 4—4 and 5—5. The marker is here shown supported upon a standard 6, having its lower end suitably secured to the floor and having its intermediate portion suitably braced to the planer by means of a member 7. A guide block 8, having a beveled face 10, is secured to the standard 6 and cooperates with an adjustable guide member 20 to guide the lumber to the marking dies, as shown in Figure 1.

The marker preferably comprises spaced frame members 9 and 11, connected by shouldered studs 12, 13 and 14. (See Figures 2, 7, and 8.) These frame members are pivotally mounted upon the standard 6 by means of a stud 15, having an annular flange 16 engaged with a plate 17. The stud 15 also preferably has a portion 18 in threaded engagement with the plate 17. This threaded portion 18 has a terminally threaded extension 19 passing through an elongated opening or slot 21 provided in the standard 6. A nut 22 in threaded engagement with the extension 19 adjustably secures the stud 15 to the standard. The plate 17 is locked against rotation by means of a stud 23 secured to the lower portion thereof and also traversing the slot 21, as particularly shown in Figure 12. By thus supporting the apparatus upon the standard 6, it may readily be vertically adjusted to properly position it to mark lumber discharged from a planer or other apparatus or device.

The side frame members 9 and 11 are preferably substantially U-shaped in form, as

shown in the drawings, and the spaced legs 24 and 25 of each member are tied together by means of a connection 26, as shown in Figures 2 and 3. Each side frame member is apertured to receive the stud 15 upon which the frame pivots. An angle bracket 27 is secured to the leg 25 of the frame member 11, adapted to overhang the plate 17 and standard 6 to retain the frame members and the operating mechanism in the position shown in Figures 2 and 3. This bracket 27 therefore prevents the outer end of the frame members from dropping downwardly when the latter are in normal position, as when no boards are being fed through the marking device. The bracket 27 may be secured to the leg 25 of the frame member 11 by such means as rivets 28.

An important feature of this invention resides in the means adapted to be engaged by the lumber or board as it is fed through the machine to imprint a mark on the end thereof. In lumber marking machines, difficulty is experienced in obtaining a clean cut and sharp impression of the die or dies upon the lumber, because of the fact that the end of the lumber is not always square with the longitudinal center line of the board and, further, because the letters or characters to be imprinted upon the end of the lumber have been carried or mounted upon a single supporting means. To overcome this difficulty, I support the dies upon several independently operable die holders. By this means this objection is eliminated.

My marking means therefore in its preferred form comprises a plurality of die carriers 29 which are pivotally mounted preferably upon a sleeve 31 supported upon a pin 32 adapted to be received in suitable openings provided in the lower portion of the side frames 9 and 11. (See Figures 2, 3, 4, and 5.) The pin 32, preferably has a head 33 to facilitate removing it from the frame members to permit changing the die carriers. The letters or characters 34 are preferably formed upon blocks 35 which are removably seated in tapered slots or grooves 36 provided in the lower portions of the die carriers 29. The die carriers 29, when in normal position, are seated against the spacing stud 13 which also functions as a means to align the dies and to properly position them with respect to the end of the board.

Each die carrier preferably has a flat spring member 37 secured to the upper portion of the hub thereof by means of screws 38. The outer end of each spring member is connected to its complementary die carrier by means of a screw 39 secured in the bottom of a socket 41, wherein a comparatively light compression spring 42 is mounted, one end of which bears against the bottom of the socket 41 and its other end against the under surface of its complementary spring member 37. As a result, the lower surface of each spring member 37 is spaced from the adjacent surface of its complementary die carrier 29.

Another feature of this invention resides in the means provided for initially resisting movement of the die carriers when engaged by the lumber. By temporarily resisting the initial movement of the die carriers, when engaged by the end of a board, a clean cut and sharp impression will be imprinted on the board before the die carriers are permitted to swing out of the way of the board to their inoperative positions. The means provided for thus resisting the initial movement of the die carriers is best shown in Figure 2, and comprises a plurality of comparatively heavy balance or weight bars 43, one for each die carrier. These bars are pivotally mounted upon a pivot pin or bolt 44 supported in the legs 25 of the U-shaped frame members 9 and 11. The location of the pivot pin 44 with respect to the opposite ends of the bars 43 is such that the end portions of the bars, positioned at the left hand side of the standard 6, when viewed as shown in Figure 2, are slightly heavier than the opposite ends of the bars, thus causing the heavier ends of the bars to normally rest upon the spacing stud 12, as shown. In other words, the pivot pin 44, upon which the bars are supported, is off-set from the center of the bars a distance sufficient to cause the heavier ends of the bars to assume the position shown in Figure 2, caused by the heavier ends slightly overbalancing the opposite lighter ends.

The connections provided between the bars 43 and their complementary die carriers 29 consist of a plurality of struts or thrust members 45, yieldably and movably connected with their complementary bars 43 by means of tension springs 46, the latter each having one end connected with a strut 45 and its opposite end to a bar 43. The upper end of each strut 45 preferably has a convexed face 47 seated in a concaved seat 48 provided in the lower edge of the co-operating bar 43. The struts 45 are retained in the seats 48 by the action of the springs 46. A pin 49 has its ends seated in the side frame members 9 and 11, at a point directly above the swinging ends of the die carriers 29, and against this pin the struts 45 are normally positioned. By observing Figure 2, it will be noted that each strut is provided with a recessed portion 51, which normally engages the pin 49. The lower portion of each recess 51 terminates in a cam face 52 which is adapted to engage the pin 49, when the strut is moved upwardly, thereby causing the lower end of the strut to be moved outwardly in a direction away from the axis of the die carriers, a distance sufficient to permit the spring members 37 of the die carriers to pass the lower ends of the struts, after which the die carriers may swing to their inoperative positions, as shown in

Figures 1 and 5. The struts 45 are mounted between side plates 53 secured to the side frame members 9 and 11 by means of the spacing stud 12 and the pin 49. The upper ends of these plates also provide guides between which the ends of the bars 43 move. It is to be understood that the struts 45, the bars 43 and also the die carriers 29, are all of substantially the same thickness. A U-shaped member 54 is secured to the legs 24 of the frame members 9 and 11 to provide means for limiting the upward movement of the bars 43, when the latter bound upwardly as a result of the lumber impacting with the dies, the force of the impact being transmitted from the die carriers through the struts 45 to the balance bars. In actual practice, it has been found desirable to construct the die carriers, their supporting sleeve 31 and pin 32, and also the struts 45, of spring steel which has a certain amount of resiliency which causes the balance bars to bound upwardly when the lumber impacts with the dies, caused by the force tending to compress and deflect the parts. The reaction of such compression and deflection of the parts causes the balance bars to respond quicker to the action of the die carriers after the latter has been engaged by the lumber.

Another feature of this invention resides in the means for inking the dies. As here shown this means comprises an inking roll 55, rotatably mounted in one end of a box-like supporting member 56, supported between the two side frame members 9 and 11 by means of a cross pin 57, having its end portions slidably mounted in inclined slots 58 provided in the frame members 9 and 11. (See Figures 2, 3, 4, and 5.) The pin 57 is secured to the side walls of the supporting member 56 and has its terminals extending through the slots 58. The pin 57 cooperates with the slots 58 to provide a variable pivotal support for the member 56. The supporting member 56 is provided with a reduced end portion 59 adapted to pass under the tie rod or stud 14 to prevent the opposite end of the member 56 from tilting downwardly too far. A stop member 61 is provided for limiting the forward movement of the supporting member 56. This stop member, as shown in Figure 2, is pivotally supported upon a rod 62 carried by depending lugs 63 provided upon the connections 26 of the two side frame members 9 and 11. A stem 64 has one end secured to a rod 65 mounted in the side members 9 and 11, and has its opposite end traversing an aperture provided in the stop member 61. Adjusting nuts 66 are terminally mounted upon the stem 64, and between these nuts and the stop member 61 is mounted a coiled spring 67 which cooperates with the member 61 to provide a yieldable stop for the box-like supporting member 56. The member 56 is normally positioned as shown in Figures 2 and 3 so that the inclined bottom wall of the member will be positioned in the path of the lumber, as it is fed into the device in the direction indicated by the arrows in Figures 2 and 3.

By reference to Figure 2, it will be seen that when the die carriers are in normal positions, they will engage the stud 13, which limits their downward movement. When thus positioned, the springs 37 will be spaced from the lower ends of the struts 45, and from the upper portions or faces of the die carriers 29 by the action of the springs 42. The springs 42 hold the flat springs 37 in engagement with the heads of the screws 39. By thus mounting the die carriers with relation to the struts 45, they are permitted independent freedom of movement within certain limits, when engaged by the inking roll 55. Thus, should some of the dies be worn, or a portion of the periphery of the ink roll be worn, the die carriers will automatically adjust themselves to allow all of the dies to be engaged by the periphery of the roll 55, when the latter is moved forwardly by the action of the lumber. Such automatic adjustment of the die carriers will occur before the ink roll 55 starts to roll upwardly over the surfaces of the dies. Should the unevenness or irregularity in the alinement of the dies, or in the periphery of the inking roll, be sufficient to cause the clearance or space between the springs 37 and the terminals of the struts 45, to be taken up before all of the dies have been engaged by the inking roll, then the springs 37 will flex by their engagement with the struts 45, until the dies are engaged by the roll, after which the inking roll will move upwardly over the surfaces of the dies and into engagement with the inking cylinder 68. The end of the lumber will then engage the dies and move the die carriers upwardly into non-operative positions against the resistance required to start the balance bars 43 in motion, after which the momentum of the bars, caused by the impact of the lumber with the dies, the force of which is transmitted through the struts, and which movement is accentuated by the resiliency of the material from which the struts and die carriers are constructed, will cause the bars to bound ahead, thereby pulling the struts out of engagement with the springs 37, secured to the die carriers.

Means are provided for supplying fresh ink to the periphery of the inking roll 55 each time a piece of lumber is passed through the device. Such means as here shown, comprises a cylinder 68 secured to a shaft 69 rotatably mounted in bushings 71 and 72, secured to a pair of angled arms 73 and 74, respectively, as shown in Figure 9. The arms 73 and 74 are rigidly connected together by means of the tie rods 75, shown in Figure 2. The circumferential wall of the cylinder 68 is per-

forated as shown in Figure 9 so that ink may feed from the interior thereof by centrifugal action when the cylinder is rotated. The ink thus fed through the perforated wall of the cylinder is absorbed by a suitable covering 76, such as felt or linen, which completely covers the periphery of the cylinder. The end wall 77 of the cylinder is preferably demountable and a filler plug 70 is provided therein to permit the introduction of ink into the cylinder. (See Figure 9.) The periphery of the inking roll 55 is also covered with a suitable covering 80, preferably of a comparatively hard felt. The shaft 69 extends beyond the side frame members 9 and 11 and normally is positioned in recesses 78, provided in the upper edges of the lower portions of the members 9 and 11. The box-like supporting member 56 is positioned between the side members 9 and 11 with its outer walls in close proximity to the inner faces of the members 9 and 11, as shown in Figure 9. Open-ended inclined slots 79 are provided in the upper portions of the side walls of the inking roll supporting member 56 adapted to receive the shaft 69, when the parts are positioned as shown in Figure 2. These are merely clearance slots.

The means provided for rotating the inking cylinder 68 consists of a pulley 81 secured to one end of the shaft 69 and having a belt 82 connecting it with a relatively smaller pulley 83, terminally mounted upon one end of a shaft 84, rotatably mounted in bearings 85 terminally provided in the outer ends of the arms 73 and 74, as shown in Figures 2, 6, and 7. A drive roll 86 is secured to the shaft 84, and this roll is normally positioned with the lower portion of its periphery below the horizontal plane of the upper surface of the lumber, as indicated by the dotted lines in Figure 2. Thus, when a piece of lumber is fed through the device, the forward end thereof, after having engaged the die, will engage the feed roll 86 and slightly elevate it, after which the latter will roll upon the surface of the lumber, thereby rotating the inking cylinder 68 through the medium of the belt 82.

The ends of the side walls of the box-like supporting member 56, adjacent to the die carriers are cut away to provide inclined cam edges 87, adapted to engage discs or rollers 88, mounted upon the spacing sleeve 31 upon which the die carriers 29 are mounted. These disc-like rollers 88 are positioned adjacent to the side frame members 9 and 11, as shown in Figure 8. The rollers 88, in addition to providing means for the inclined edges 87 to roll upon, also provide means for spacing the outer die carriers from the side members 9 and 11. Relatively thinner spacing washers 89 are preferably interposed between the die carriers as shown in Figure 11, so that the die carriers may oscillate freely and independently of each other, when engaged by the lumber. When the parts are in normal positions, as shown in Figures 2 and 3, the box-like supporting member 56 is positioned in such manner that the periphery of the inking roll 55 will be spaced from the surface of the dies, and also with the axis of the inking roll positioned slightly below the center of the dies. The inclined edges 87 of the member 56 will also be spaced from the discs 88 as shown in Figure 2. The amount of clearance provided between the inclined edges or cam faces 87 of the member 56, and the peripheries of the rollers 88, determines the degree of pressure of the inking roll 55 against the surfaces of the dies 35, when the supporting member 56 is engaged by the lumber. This pressure can be adjusted by varying the diameters of the rollers 88, or by changing the angle of the cam faces or edges 87. It will also be noted that the side arms 73 and 74, which support the shafts 69 and 84, will be supported upon the cross pin 49 with which the struts 45 are engaged, when in normal position. The opposite ends of the pin 49 pass through inclined slots 91 provided in the arms 73 and 74. The entire weight of the arms 73 and 74, and the parts carried thereby, will be supported upon the ends of the pin 49 and the lower portion of the side frame members 9 and 11, the bushings 71 and 72 resting in the bottoms of the recesses 78, as indicated in dotted lines in Figure 2.

Operation.

The operation of this novel lumber marking apparatus is as follows: The marker is positioned, preferably at the discharge end of a planer or other device that moves the lumber longitudinally as shown in Figure 1, so that each piece of lumber from the planer or feeding means is marked on the end as it passes the marker. In usual practice, the lumber is fed abuttingly to the marker. The forward end of each piece of lumber as it leaves the planer, preferably passes between the guides 20 and 8 after which it engages the inclined bottom surface of the inking roll supporting member 56 and moves it forwardly until the inking roll 55 engages the dies. At substantially the same time, the inclined cam edges 87 of the side walls of the member 56 will engage the rollers or discs 88 to prevent the inking roll from being thrust too forcibly against the dies. Such engagement of the edges 87 with the discs 88 also causes the member 56 to move upwardly to the position shown in Figure 4, the member 56 oscillating about the axis of the pin 57. At the same time, the pin 57 will be moved in the slots 58 as the member 56 is oscillated. When the member 56 is in the position shown in Figure 4, the inking roll 55 will be peripherally engaged with the inking cylinder 68, to receive a thin film of ink. The end of the

lumber then engages the dies 35, supported in the die carriers 29, and the impact of the end of the moving lumber with the stationary dies causes an imprint from each die to be made in the end face of the lumber. Oscillation of the die carriers upon the pin 32 is resisted by the weight of the bars 43 as a result of the struts 45 being engaged by the flat springs 37 of the die holders and the upper ends of the struts being connected with the lower edges of the weight bars 43. As each weight bar 43 bounds upwardly, as a result of the end of the lumber impacting with the dies, the complementary struts 45 are pulled upwardly, as a result of the latter being in constant engagement with the weight bars by the action of the springs 46. In the upward movement of the struts 45 their lower ends are moved outwardly in the direction of the lumber travel, by the cam faces 52 of the struts engaging the pin 49. After the struts have thus been moved out of engagement with the die carriers, the latter may swing upwardly to the positions shown in Figure 5, their lower ends riding upon the upper surface of the lumber. As the end of the lumber passes out of engagement with the die carriers, it next engages the drive roll 86, carried by the arms 73 and 74. This roll is then moved upwardly until it rides upon the upper surface of the lumber as shown in Figure 5. The frictional engagement of the roll 86 with the surface of the board is sufficient to cause the belt 82 to rotate the inking cylinder 68, and, if this cylinder is frictionally engaged with the inking roll, the latter will also be rotated until its entire peripheral surface is coated with a thin film of ink, the ink being spread evenly over the peripheral surface of the inking roll. During this part of the operation, the drive roll 86 will ride upon the upper surface of the lumber, the slots 91 in the arms 73 and 74 permitting the roll 86 to be moved upwardly without restriction, thus causing the entire inking device to virtually float upon the lumber. As soon as the rear end of the lumber passes the guide block 8, the marked piece of lumber will be separated from the following piece of lumber by the weight of the inking mechanism floating thereon and cooperating with gravity. The parts of the marker will then assume their normal position, as shown in Figures 2 and 3, in ample time to receive the next piece of lumber.

The ink used in the inking cylinder 68 is preferably of a consistency that will not flow through the perforated periphery of the cylinder, when the latter is at rest. When the cylinder is rotated, however, the ink will be fed through the perforations in the wall thereof by centrifugal force, thus causing it to saturate the felted covering 80 of the cylinder sufficiently to cause the ink to be transferred onto the periphery of the inking roll, when the latter is peripherally engaged with the cylinder 68.

The construction of the inking device is such that the peripheral speed of the inking roll 55 will be substantially equal to the peripheral speed of the inking cylinder 68. By thus causing the inking roll to rotate at the same peripheral speed as the inking cylinder, wear on the inking roll will be minimized. Also, as a result of the inking roll rotating at such a speed, when the roll engages the die, it will be rotating at the same speed that it would have to assume when rolling over the dies, caused by the lumber engaging the member 56 and forcing the roll against the dies. It is also important in the construction of this novel device, that the inking roll 55 be out of contact with the die when in normal position to permit the latter to spin or to continue to rotate as a result of engagement with the inking cylinder 68. The spacing of the periphery of the inking roll from the die is controlled by adjustment of the nuts 66 upon the stem 64.

In actual practice, it has been found that by using a plurality of independently operable die carriers, or holders, as set forth herein marks comprising several letters may be imprinted upon the end of the lumber, even though such end is not square with the longitudinal center line of the lumber, or even though it is very rough, such as being ridged by the saw teeth or cut with its end convexed, concaved, or on a bias. This will be clearly understood by reference to Figure 10, wherein it will be seen that the dies are shown as successively engaged by the end of the lumber, that is, the upper die engaged first, then the intermediate die, and finally the bottom die, caused by the end of the board being cut on a bias. The die carriers are also mounted in the device in such a manner that they may be readily removed therefrom, as when it is desired to change the mark. This is readily accomplished by simply lifting the arms 73 and 74 upwardly sufficiently to permit the withdrawal of the pin 32, after which the die carriers, mounted upon the sleeve 31, may be removed from the side members 9 and 11, as shown in Figure 11. The inking roll 55 is also preferably mounted upon suitable ball bearings to minimize friction as much as possible because of the necessity of the roll having to start quickly when engaged with the dies.

In the drawings, I have shown the device as comprising three die carriers. The number of die carriers used is determined by the number of letters required to make the desired mark. In some cases, one or two carriers may be sufficient, while in other cases, it may be necessary to have four or five or even more. To vary the number of die carriers, all members extending laterally through the device such, for example, as the studs

12, 13, and 14, the various parts connecting the side members 9 and 11, also the arms 73 and 74, the sleeve 31 and also the pin 32, must be varied in length depending upon the number of die carriers to be used. In actual practice, I have found that three die carriers meet the requirements for average marking. The flanged bolt or stud 15 may be vertically adjusted in the standard 6 to adjust the device for lumber of various thicknesses. The lower inclined or curved edges 92 of the side members 9 and 11 also function to guide the lumber in its travel towards the dies. As for instance, should the lumber be warped or curved upwardly, it will engage the inclined edges 92, which will cause the end of the lumber to be forced downwardly into alinement with the dies so as to properly contact therewith.

From the foregoing, therefore, it will readily be seen that by mounting the die carriers as set forth in this application, namely, so that they are adapted for independent movement when engaged by the lumber, that a sharp clear imprint of the entire mark will be imprinted upon the end of the lumber, regardless of whether the end is cut on a bias, is concaved, or is convexed. This results from the fact that the die carriers are mounted in such a manner that the dies may be simultaneously or successively engaged or any one of the dies may be engaged in advance of the others, depending upon the condition of the end of the lumber. It will also be noted that the entire marking apparatus is pivotally mounted upon the standard 6 and is so arranged that the marker, including the side frame members 9 and 11 and all of the operating parts carried thereby, may ride or float upon the upper surface of the lumber passing the marker. The added weight of the marker and its operating mechanism upon the upper surface of the lumber assists in separating or moving the abuttingly engaged pieces of lumber out of engagement with each other, as the end of the marked piece passes over the guide block 8. This is an important feature because it provides means for substantially positively moving each marked piece out of engagement with the next following piece as soon as the marked piece leaves the guide block 8, thus allowing sufficient time for the operating parts of the marker to assume their normal positions before the end of the next following piece of lumber engages the inking roll supporting member 56.

It will be seen that the dies are arranged in a close association so that the characters impressed in the face of the lumber will preferably constitute a desired composite mark, such for example as that shown in Figure 13 of the drawings. Such mark may indicate the kind or quality of lumber or one or more of the characters may constitute a trade-mark or any desired identifying mark.

I do not confine myself to the details of construction herein shown and described, as the same may be varied in many particulars without departing from my invention.

I claim as my invention:

1. The combination, with means for feeding lumber or timber longitudinally, of a plurality of independently operable dies mounted in the path of the lumber for marking the end surface thereof upon impact of the lumber with said dies, and incompressible means independently resisting initial movement of each die when engaged by the lumber.

2. The combination, with means for feeding lumber or timber longitudinally, of a plurality of independently operable dies mounted in the path of the lumber for marking the end surface thereof upon impact of the lumber with said dies, incompressible means independently resisting initial movement of each die when engaged by the lumber, and means permitting said dies to move out of the path of the lumber after the marking operation.

3. The combination, with means for feeding lumber or timber longitudinally, of a plurality of independently operable dies mounted in the path of the lumber and arranged to imprint closely associated characters on the end surface of the lumber by impact of the lumber with the dies, a weight member associated with each die and adapted to resist initial movement thereof and means permitting said dies to move out of the path of the lumber after the marking operation.

4. The combination, with means for moving lumber or timber longitudinally, of a plurality of independently operable dies, means supporting said dies in position to be brought into contact simultaneously with the surface of the lumber, and an incompressible member associated with each die and adapted to resist initial movement thereof, and permitting each die to yield independently upon contact with the lumber.

5. The combination, with means for moving lumber or timber longitudinally, of a plurality of independently operable dies, means supporting said dies in position to be brought into contact simultaneously with the surface of the lumber, weight means associated with and permitting each die to yield independently upon contact with the lumber whereby each die will make a uniform impression, and means permitting said dies and their supporting means to rest on the moving lumber after the marking operation.

6. Apparatus for marking moving lumber comprising, in combination, a plurality of independently operable dies, means supporting said dies, and a member associated with each die and adapted to resist initial move-

ment of each die independently, when the dies are engaged by the lumber, to cause the dies to make separate imprints thereon.

7. Apparatus for marking moving lumber comprising, in combination, a plurality of independently operable dies, means supporting said dies, and an incompressible member associated with each die and adapted to resist initial movement of its complementary die independently, when the dies are engaged by the lumber, to cause the dies to make uniform imprints thereon, said dies being movable to inoperative positions after the marking operation.

8. An apparatus for marking moving lumber comprising, in combination, a plurality of closely associated independently operable dies, incompressible means supporting said dies, and means resisting initial movement of each die independently, when the dies are engaged by the lumber, to cause the dies to make separate closely associated imprints thereon.

9. Apparatus for marking moving lumber comprising, in combination, a plurality of independently operable die carriers, each supporting a lumber marking die, a weight means for each carrier, and a connecting element positioned between each carrier and its complementary weight means and adapted to be engaged by the carrier, whereby initial movement of said carriers, when the dies are engaged by the lumber, will be independently resisted to cause an imprint to be made upon the lumber by each die.

10. Apparatus for marking lumber comprising, in combination, a plurality of independently operable die carriers, each provided with a lumber marking die, an integral weight member for each carrier mounted for pivotal movement and substantially balanced, means connecting each carrier with its complementary weight member, upon predetermined travel of the carriers whereby initial movement of said carriers, when the dies are engaged by the lumber, will be resisted by each carrier to cause independent imprints to be made by the several dies upon the lumber.

11. Apparatus for marking lumber comprising, in combination, a plurality of die carriers each adapted for independent movement, a member connected with each carrier and arranged to resist initial movement of the carrier when engaged by the lumber, and means disengaging said members from said carriers, upon initial movement thereof, to permit the lumber to pass the apparatus unobstructed, after being marked.

12. An apparatus for marking moving lumber comprising, in combination, a plurality of closely associated independently operable die carriers normally positioned in the path of the lumber, a pivotally mounted weight member for each carrier, a connection between each carrier and its complementary weight member, whereby initial movement of said carrier will be resisted, and said connecting means being adapted to move out of engagement with said die carriers to permit the latter to move to inoperative positions, when the dies are engaged by the lumber.

13. An apparatus for marking moving lumber comprising, in combination, a plurality of independently operable die carriers normally positioned in the path of the lumber, a pivoted weight member for each carrier substantially balanced and horizontally disposed, means on each weight member normally positioned to be engaged by its complementary die carrier whereby initial movement of said carriers will be resisted by the force required to set said weight members in motion, and said connecting means being adapted to be moved out of engagement with said die carriers by oscillation of said weight members, to permit the die carriers to move to inoperative positions, subsequent to the engagement of the lumber therewith.

14. An apparatus for marking moving lumber comprising, in combination, spaced frame members, a plurality of independently operable die carriers mounted between said frame members, a die demountably secured to each carrier and normally positioned in the path of the lumber, and a weight member associated with each of said die carriers for resisting initial movement of said carriers, when the dies are engaged by the lumber.

15. An apparatus for marking moving lumber, comprising in combination spaced frame members, a plurality of die carriers mounted between said frame members and each adapted for independent movement, a weight member for each die carrier, a strut carried by each weight member, each strut having one end normally positioned in the path of its die carrier and adapted to be engaged thereby to resist initial movement of the carrier, when the dies are engaged by the lumber, said struts being adapted to be moved out of engagement with said die carriers, upon predetermined travel thereof, to permit the die carriers to move to inoperative positions, after the dies have been engaged by the lumber.

16. An apparatus for marking moving lumber, comprising in combination, spaced frame members, a plurality of die carriers mounted between said frame members and each adapted for independent movement, a horizontally disposed weight member pivotally mounted over each die carrier and substantially balanced, a strut carried by each weight member and depending therefrom and each having one end positioned to be engaged by a die carrier to oppose initial movement of the carrier when the carriers are engaged by the lumber, said struts being adapted to be moved out of engagement with

said die carriers upon predetermined travel of said weight members, to permit the die carriers to be moved to inoperative positions, out of the path of the lumber after the latter has received a mark.

17. An apparatus for marking moving lumber comprising, in combination, a plurality of comparatively narrow die carriers mounted adjacent to one another, each adapted for independent movement, dies mounted thereon, means associated with each carrier for resisting initial movement thereof to cause the dies to make an imprint upon the lumber, and means for inking said dies.

18. An apparatus for marking moving lumber comprising, in combination, a plurality of die carriers mounted adjacent to one another, each adapted for independent movement and dies mounted thereon, means associated with each carrier for resisting initial movement thereof to cause the dies to make an imprint upon the lumber, means for inking said dies, said means comprising an inked roll adapted to engage and ink the dies, and an inking cylinder operable by movement of the lumber to supply ink to the periphery of said inking roll.

19. An apparatus for marking moving lumber, comprising in combination a frame, a plurality of independently operable die carriers mounted therein and dies carried thereby, means for resisting initial movement of said die carriers when engaged by the lumber, and an inking device adapted automatically to ink said dies each time a piece of lumber is passed through the apparatus.

20. An apparatus for marking moving lumber, comprising in combination a frame having a plurality of die carriers mounted therein, dies mounted on said carriers, means for resisting initial movement of said die carriers when engaged by the lumber, and an inking device adapted to be engaged by the lumber to automatically ink said dies each time a piece of lumber is passed through the apparatus to receive a mark.

In witness whereof, I have hereunto set my hand this 5th day of November, 1927.

JOSEPH G. McDONOUGH.