Nov. 15, 1927. 1,649,469

L. J. GRUBMAN ET AL

GRADE MARKING APPARATUS

Original Filed March 26, 1923 5 Sheets-Sheet 1

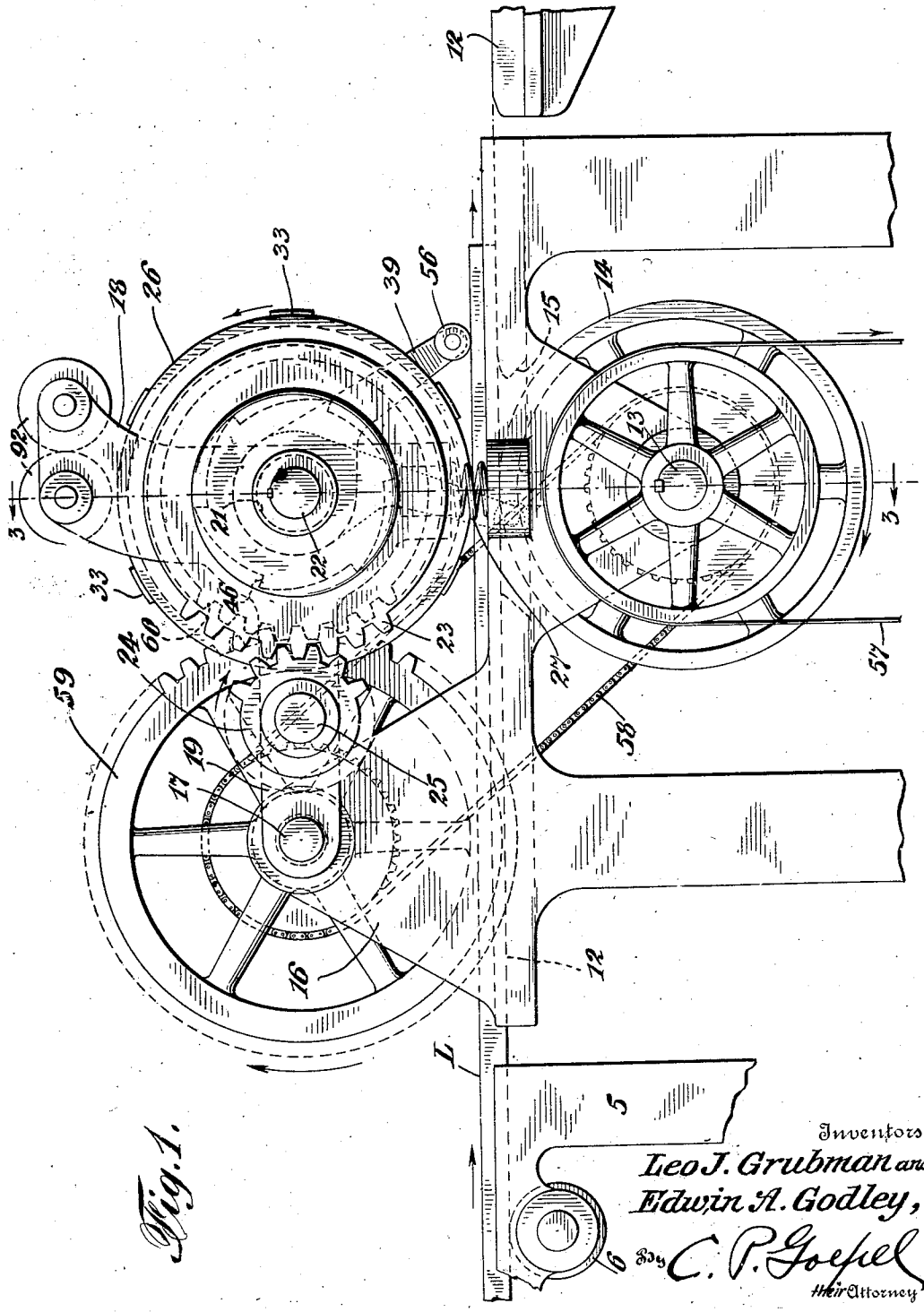


Fig. 1.

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Original Filed March 26, 1923 5 Sheets-Sheet 2

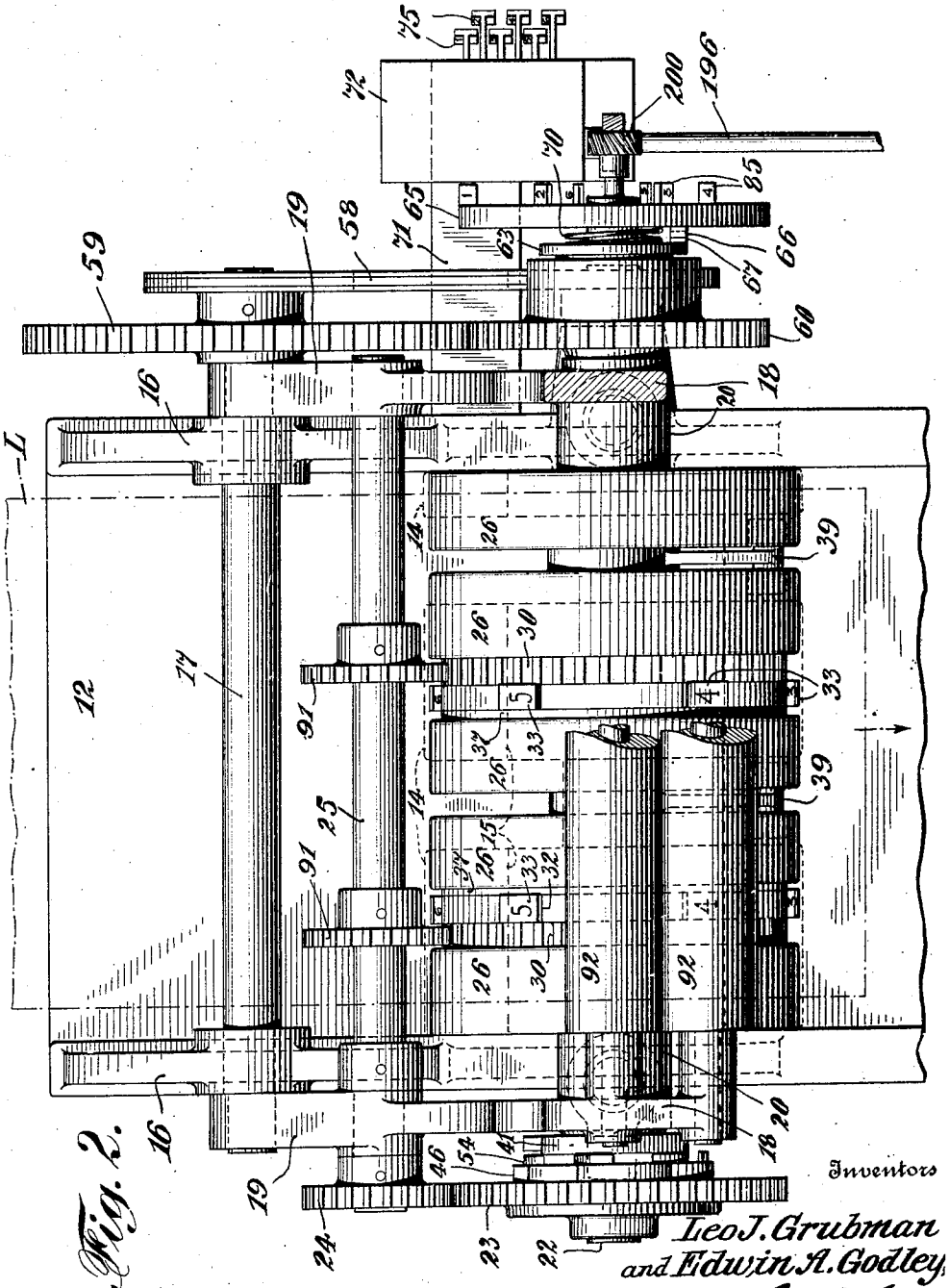


Fig. 2.

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GRADE MARKING APPARATUS

Original Filed March 26, 1923 5 Sheets-Sheet 3

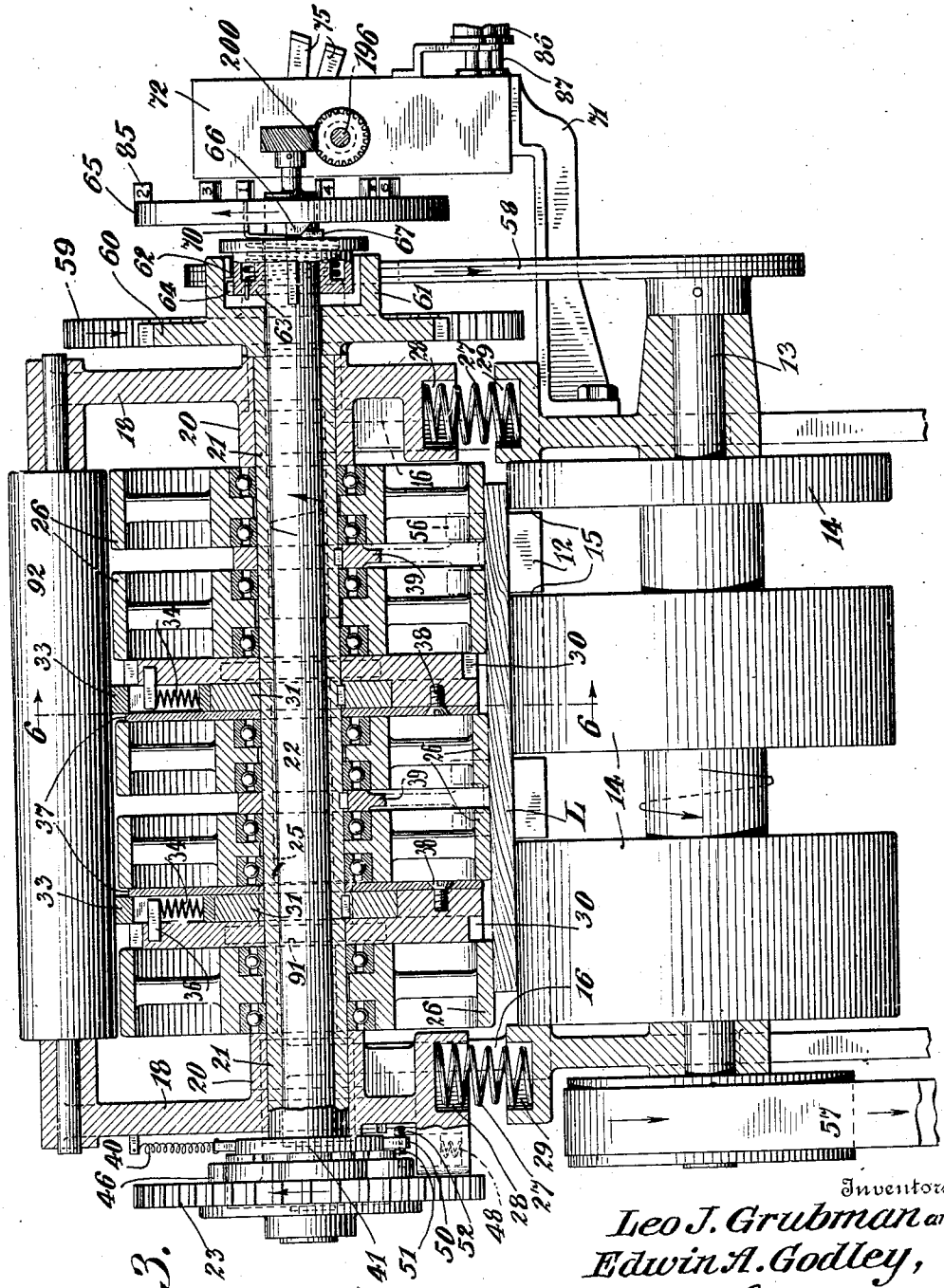


Fig. 3.

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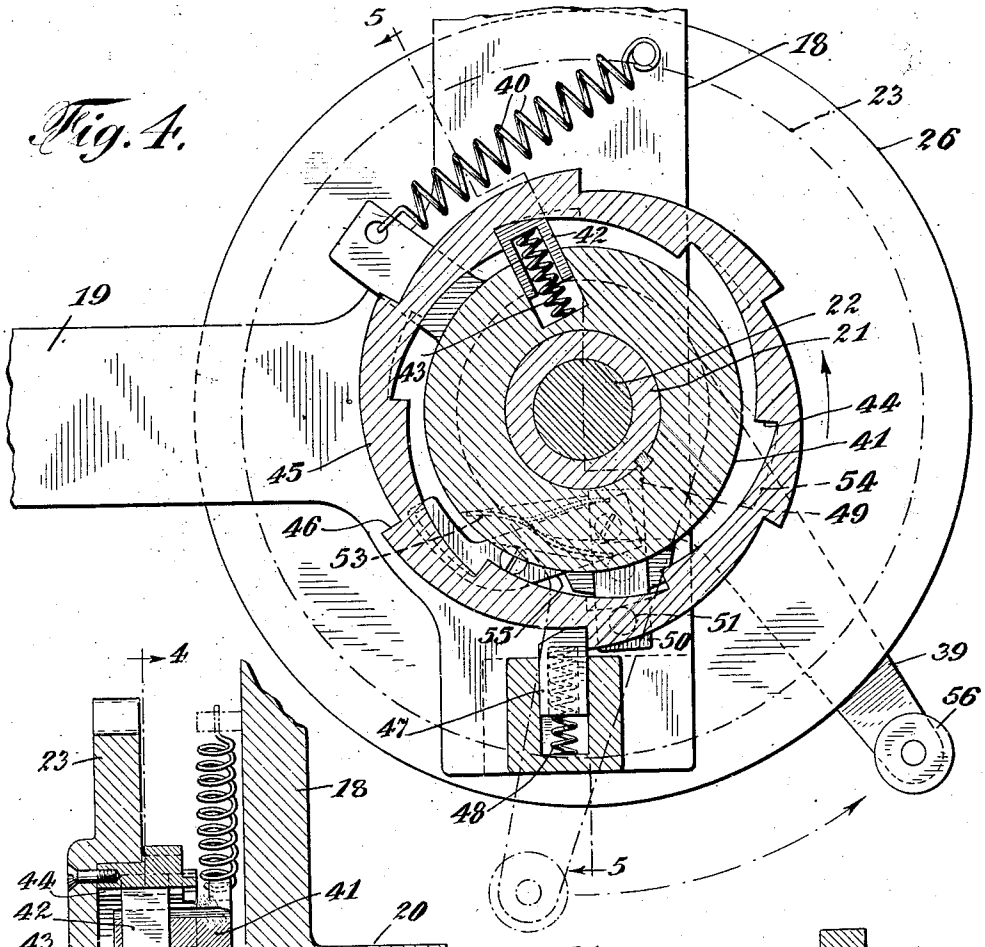
Nov. 15, 1927. 1,649,469

L. J. GRUBMAN ET AL

GRADE MARKING APPARATUS

Original Filed March 26, 1923 5 Sheets-Sheet 4

Fig. 4.



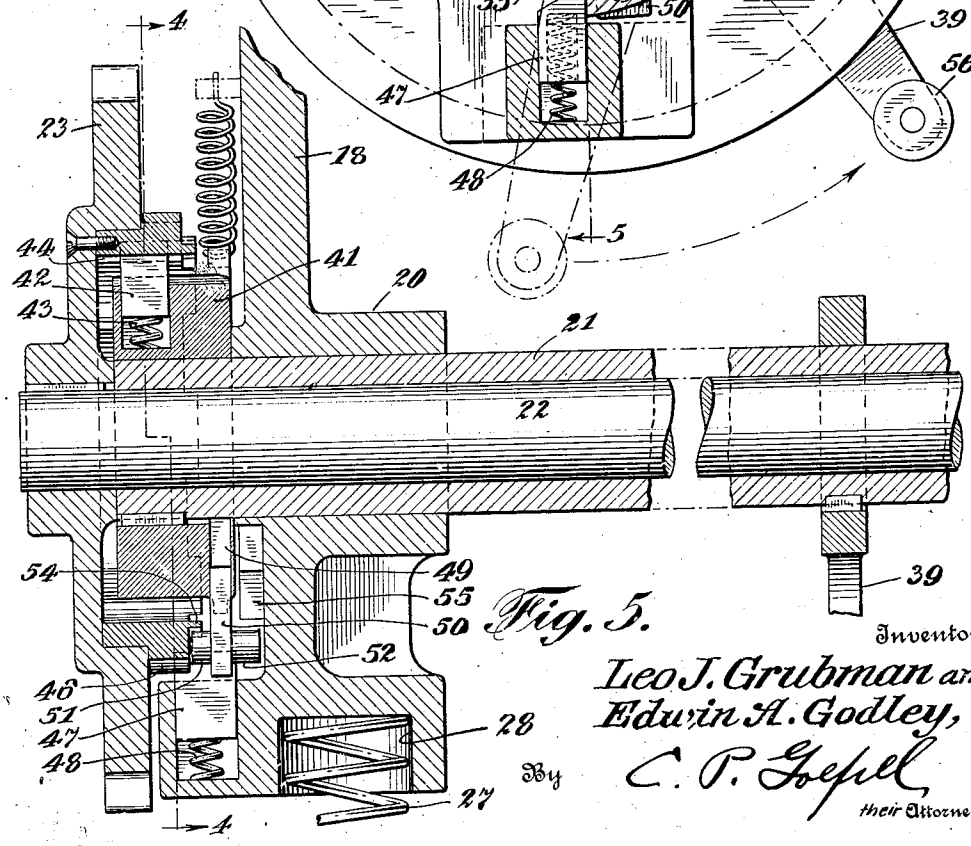


Fig. 5.

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GRADE MARKING APPARATUS

Original Filed March 26, 1923 5 Sheets-Sheet 5

Fig. 6.

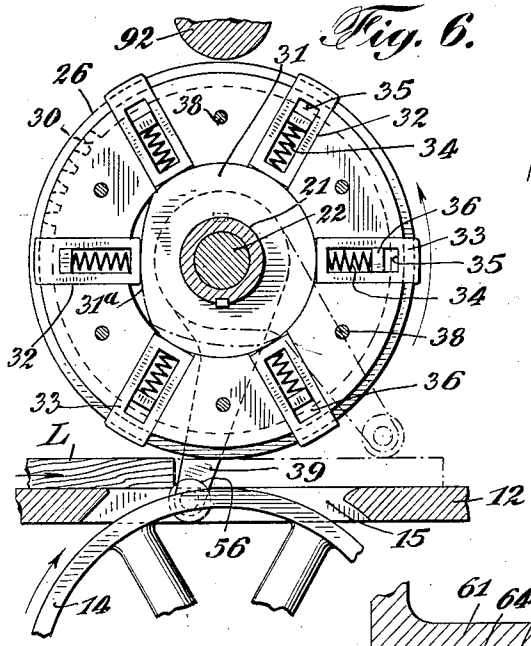


Fig. 8.

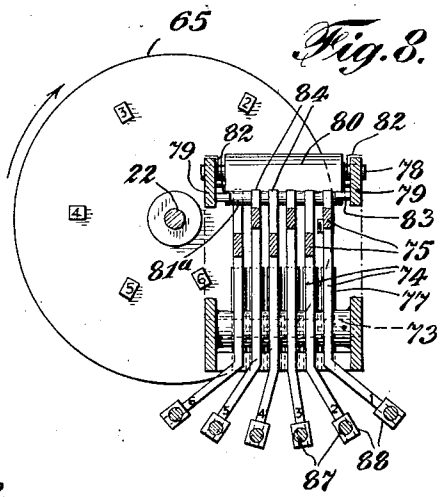


Fig. 7.

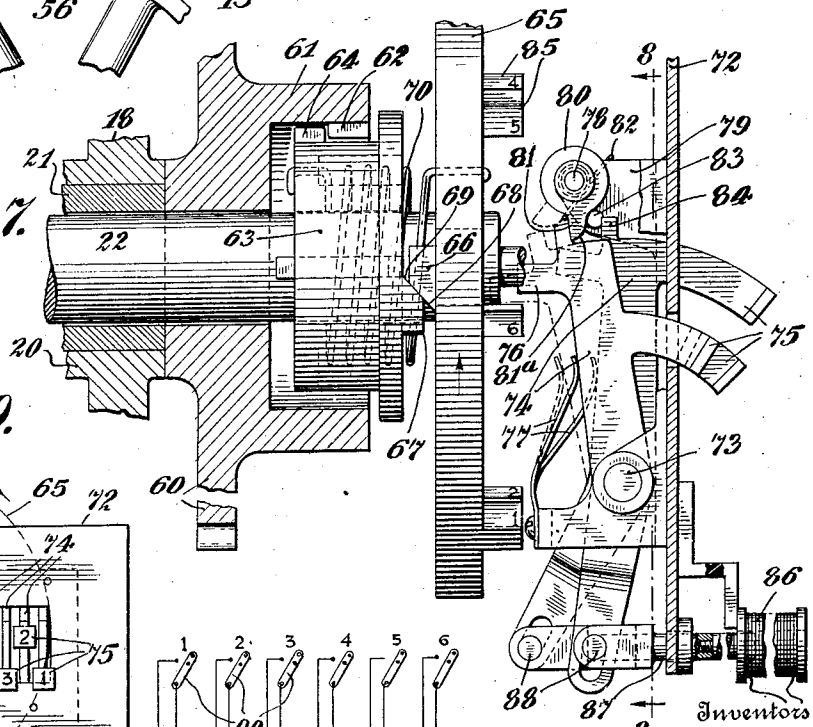
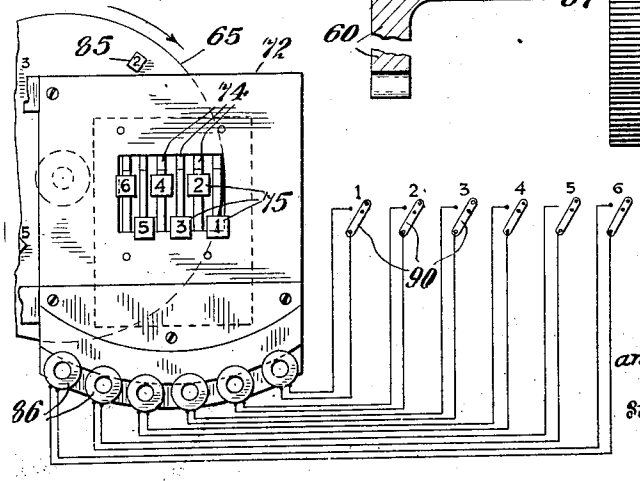


Fig. 9.



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Patented Nov. 15, 1927. 1,649,469

UNITED STATES PATENT OFFICE.

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GRADE-MARKING APPARATUS.

Original application filed March 26, 1923, Serial No. 627,595. Divided and this application filed May 9, 1924. Serial No. 711,973.

This invention relates to an improved grade marking apparatus and has for its primary object to provide a relatively simple and positively operating mechanism whereby the stamping or marking of an indicative grade symbol upon materials may be greatly expedited and much of the labor incident to such marking of the materials eliminated.

The subject matter of the present application constitutes a division of our pending application for patent filed March 26, 1923, Serial No. 627,595 and is more particularly designed for the purpose of automatically stamping or marking an indicative grade symbol upon lumber or boards.

It is one of the important objects of the invention to provide a marking mechanism of this character which is under the control of a lumber grading expert and which is provided with means whereby the proper predetermined symbol may be selectively positioned to engage and leave its imprint or mark upon the board without interruption of the continued movement of the board as it is fed to a planer or other machine.

More specifically, our present improvement contemplates the provision of simple and positively acting means engaged and actuated by a moving board to operate a rotatably mounted type or marker or marker carrier and thereby positively insure the making of a legible impression of the grade symbol upon the board.

With the above and other objects in view, the invention consists in the improved automatic grade marking apparatus and in the form, construction and relative arrangement of its several parts as will be hereinafter more fully described, illustrated in the accompanying drawings and subsequently incorporated in the subjoined claims.

In the drawings wherein we have disclosed one practical embodiment of our invention and in which similar reference characters designate corresponding parts throughout the several views:

Figure 1 is a side elevation with certain parts broken away of the grade marking mechanism;

Figure 2 is a top plan view thereof;

Figure 3 is a vertical section taken on the line 3—3 of Figure 1;

Figure 4 is an enlarged sectional view taken on the line 4—4 of Figure 5;

Figure 5 is a longitudinal section taken on the line 5—5 of Figure 4;

Figure 6 is a vertical section taken on the line 6—6 of Figure 3;

Figure 7 is a detail view illustrating the control means for the main shaft clutch of the marking mechanism;

Figure 8 is a sectional view taken on the line 8—8 of Figure 7; and,

Figure 9 is a fragmentary elevation of the control means.

The grade marking mechanism is mounted upon a suitable supporting structure having a board receiving plate or table 12. Below this table the transverse power shaft 13 is suitably mounted and carries one or more feeding wheels 14 which at their upper portions are engaged in suitable openings 15 in the table 12 and are adapted to engage with the underside of the board as it is fed longitudinally over said table by the rollers 6, in order to positively continue the longitudinal movement of the board without interruption over the surface of the table 12.

In suitable bearings 16 at one end of the table 12, the ends of a shaft 17 are journaled. Upon this shaft at its opposite ends the horizontally disposed arms 19 of a frame 18 are loosely mounted for rocking movement. At the other ends of said arms, the frame parts have upwardly and downwardly extending portions and intermediate of their ends are formed with suitable bearings 20 to receive the opposite ends of a sleeve 21 through which the main shaft 22 is loosely engaged. To one end of this shaft the gear 23 is fixed, said gear meshing with a relatively smaller gear 24 on one end of a countershaft 25 which is rotatably supported in the frame arms 19.

Upon the sleeve 21, a number of wheels 26 are loosely mounted for free rotation and are adapted to engage the upper surface of the board and thus hold the same in close contact with the peripheral surfaces of the feed rollers 14. Normally, when the board is not engaged between the rollers 14 and 26, said rollers are in close relation to each other. The frame 18 is yieldingly sustained by means of the coil springs 27 which are

engaged in sockets or recesses 28 and 29 formed in the frame parts and in the opposite edges of the table 12 respectively.

Upon the sleeve 21 spaced gears 30 are loosely mounted. One face of each of these gears is recessed to receive the cam member 31 which is keyed to the sleeve 21 for rotation therewith. This face of each gear 30 is also provided with radially extending recesses or channels 32 communicating with the recess in which the cam 31 is positioned. A type bar 33 is longitudinally movable in each of these channels and is normally pressed inwardly by means of a coil spring 34 which yieldingly holds the inner end of the type bar in engagement with the periphery of the cam member 31. The springs 34 may be conveniently located in the channels 32 within slots 35 formed in the type bars, said springs bearing at one of their ends against the inner end walls of the slots and at their outer ends against the lugs 36 which are formed upon the gear member 30. The movable type bars 33 are retained within the radial channels of the gear member by means of the cover plate 37 which is fixed to the face of the gear by suitable screws 38. In the illustrated embodiment of the invention we have shown six of the radially movable type bars 33. These bars are provided on their outer end faces with numerals, letters or other distinguishing characters denoting the different grades of lumber. In the present instance we may consider these bars as provided with the type numerals 1, 2, 3, 4, 5 and 6, respectively.

A pair of spaced arms 39 are also keyed or otherwise fixed to the sleeve 21 in the same radial relation to the shaft 22. Rotation of the sleeve 21 relative to the shaft 22 and consequently the movement of said arms in one direction is resisted by a contractile spring 40 which is suitably connected to a collar 41 which is keyed upon one end of the sleeve. This collar carries a pawl 42 which is yieldingly urged outwardly beyond the periphery of the collar by the spring 43 and into engagement with the internal teeth 44 of a double ratchet 45 which is suitably fixed upon the inner side of the gear 23 secured upon the end of the shaft 22. The external teeth 46 of this ratchet which extend in the same direction as the internal teeth 44, are engaged by a second pawl or dog 47 suitably mounted upon the frame part 18 beneath said ratchet and pressed upwardly into engagement with the ratchet teeth by the spring 48.

Below the sleeve 21 the collar 41 is formed with a slot 49 in which a bar 50 is movably engaged. The lower end of this bar is provided with studs 51 and 52 respectively, projecting in opposite directions therefrom. The bar is yieldingly urged inwardly in the slot 49 by means of the leaf spring 53 whereby the stud 51 is held in position for engagement by circumferentially spaced cam lugs 54 formed upon the ratchet 45 at one side of the external teeth 46 thereof. It is also to be noted that the pawl or dog 47 is of such width that it not only engages the teeth 46 of the ratchet but is also disposed in the path of movement of the outer end of the bar 50 and thus acts to limit the turning or rotative movement of the sleeve 21, levers 39 and cams 31 under the contractile action of the spring 40. The other stud 52 on the bar 50 is adapted for engagement with a cam 55 which is fixed to the frame part 18, the coaction of the stud with said cam projecting the bar 50 outwardly from the slot 49 in collar 41 so as to position the other stud 51 for engagement by one of the cam lugs 54, as will hereinafter be more fully explained. Each of the arms or levers 39 carries a roller 56 at its outer end with which the board is adapted to engage as it is fed through the machine, as will be readily understood from reference to Figure 1 of the drawings.

The shaft 13 is driven from a motor or other convenient power source by the drive belt 57 or other equivalent driving connection with one end of said shaft. The other end of the shaft 13 is connected by a sprocket and chain drive 58 to one end of the shaft 17. Upon this end of said shaft a gear 59 is fixed and meshes with a gear 60 loosely mounted upon the main shaft 22. This gear is formed with a recessed hub 61, the wall of which is provided at its outer end with an internal lug or tooth 62 adapted for engagement by a tooth 64 formed upon the periphery of a clutch member 63 which is keyed upon the end of the shaft 22 for sliding movement.

Upon the end of shaft 22 a disc 65 is loosely mounted. One face of this disc is provided with a cam lug 66, the opposed face of the clutch member 63 having a similar cam lug 67. These lugs are disposed at the same radial distance from the axis of shaft 22 and having obliquely inclined cam faces 68 and 69 respectively. A coil spring 70 has one of its ends fixed to the clutch member 63 and the other end thereof fixed to the disc 65. This spring by its contractile action tends to normally hold the clutch member in position on the shaft 22 with its tooth 64 disposed in the path of movement of the tooth 62 of the gear 60 and to also dispose the cam lug 67 of the clutch member in the same circumferential path as the cam lug 66 on the disc 65. Upon a suitable supporting bracket 71 a casing or housing 72 is mounted. Upon the pivot rod 73 within this housing a plurality of levers 74 are loosely engaged, said levers corresponding in number to the number of type bars 33 carried by each of the gears 30. Each lever

74 has an operating finger 75 extending outwardly through an opening in one wall of the housing 72. The inner side of the housing which is opposed to the disc 65 may remain open, or if closed, the inner wall thereof is likewise provided with suitable openings through which stop lugs 76 formed upon the upper ends of the levers may project. Said levers are urged to normal position by means of the leaf springs 77.

Above the series of levers 74 a fixed shaft 78 is mounted in spaced brackets 79 and upon this shaft a sleeve 80 is loosely engaged, the lower side of said sleeve being formed with a longitudinally extending locking rib 81. One or more springs 82 act to yieldingly resist rotation of the sleeve 80 and to normally hold the locking rib 81 in contact with stop pins 83 on the brackets 79. Each lever 74 is additionally provided with an upwardly projecting lug 84 to coact with the locking rib 81 in a manner to be subsequently explained. The levers 74 are adapted to be manually actuated, and when pressed inwardly by the application of the finger to the part 75, a selected lever may be disposed with its stop lug 76 located in the circumferential line of movement of one of the lugs 85 which projects from the outer face of the disc 65. These lugs which likewise correspond in number with the number of levers 74 and the type bars 33, are disposed at relatively different distances from the axial center of said disc. It is of course, understood that the lugs 76 of the levers are located at relatively different points with respect to the axis of the disc so that they will properly coincide with the path of movement of the respective lugs 85.

If desired, the selective operation of the levers 74 may also be electrically controlled in the manner indicated in Figures 7 and 9 of the drawings. For this purpose, we provide an electromagnet 86 for each lever having its core rod 87 operatively connected to the lower end of the lever 74, as at 88. Adjacent to the position of the expert observer at one side of the table 5, a switch box is suitably arranged containing switches 90 of any suitable type, corresponding in number to the number of the levers 74. Thus by closing the proper switch, the magnet 86 will be energized to operate the selected lever.

Upon reference to Figure 6 of the drawings, it will be seen that only one of the type bars 33 carried by each of the gears 30 is engaged with the cam face 31ª of the member 31, the reminder of the type bars being in projected position with their type bearing faces projecting slightly beyond the peripheral faces of the loosely mounted rollers 26. Rotation is positively transmitted to the gears 30 through the medium of spaced pinions 91 fixed upon the countershaft 25. The type faces of the bars 33 are supplied with ink from the inking rollers 92 which are rotatably mounted between the upper ends of the frame members 18 and extend longitudinally above the rollers 26.

In the operation of the grade marking or stamping mechanism above described, assuming that the arms 39 are in their normal positions, as shown in dotted lines in Figure 4 of the drawings, and stud 51 on the bar 50 is engaged beneath one of the cam lugs 54 of the ratchet 45 while the other lug 52 on said bar is disposed beneath the cam 55. After the observer has noted the grade of the board as it is fed to the machine, he operates the proper lever 74 or closes the proper switch 90 so that the stop lug 76 of the lever is positioned in the path of movement of the corresponding lug 85 on the disc 65. Upon rotating the power shaft 13 and thereby transmitting rotation through gears 59 and 60 and the clutch member 63 to the main shaft 22, the gear 23 is rotated in the direction indicated by the arrow in Figure 3 of the drawings, thereby transmitting rotation to the countershaft 25 and through the pinions 91 rotating the gears 30 relative to the sleeve 21. This sleeve and the collar 41 fitted thereon remain stationary while the ratchet 45 fixed to the gear 23 rotates with respect thereto. However, since the stud 52 is engaged with the outer end of the cam 55, the bar 50 will be retained in its projected position after the cam lug 54 on the ratchet moves out of engagement with the pin 51. In this rotation of the main shaft 22 and the clutch member 64 thereon, rotation is also imparted to disc 65 through the medium of the connecting spring 70 between said disc and the clutch member.

When the lever 74 was actuated, the lug 84 thereon engaged the rib 81 of the sleeve 80 and rocked said sleeve against the action of the springs 82 with the locking rib engaged behind the lug 84, thus holding said lever against the action of spring 77 with its stop finger 76 disposed in the path of movement of one of the lugs 85. Thus, when this lug strikes said stop finger, the disc 65 is held against further rotation and the cam face 69 of the lug 67 on the shiftable clutch member 63 engaging the complementary cam 68 of the lug 66 on said disc operates to move the clutch member 63 axially of the shaft against the contractile action of spring 70 and disengage the tooth 64 of said clutch member from the tooth 62 on the gear 60, thus disconnecting the main shaft from the operating gearing so that the rotation of the gears 30 carrying the marking type is brought to a stop when the type bar 33 bearing the character corresponding to the lever 74 which was actuated and denoting the grade of the board, is positioned immediately above the board at the rear side of

the arm or lever 39, as shown in Figure 6 of the drawings. During the slight further rotation of shaft 22, while the cam lugs 66 and 67 are acting to disengage the clutch 63 from gear 60, the spring 70 will be placed under torsional stress so that it will have a tendency to turn the disc 65 on the end of shaft 22 and hold the lug 85 thereof in bearing contact with the finger 76 of the lever.

As the board is fed beneath the rollers 26, the end of the board strikes the rollers 56 on the lower ends of the arms 39 and moves said arms from the dotted line position shown in Figure 4 to the full line position. These arms being fixed to the sleeve 21 and said sleeve being connected to the ratchet 45 through the medium of the pawl 42, it will be understood that in this movement of said arms the collar 41, ratchet 45, gear 23 and the gears 30 all move as a unit therewith. In this movement of the arms sufficient rotation is imparted to the gears 30 to cause the previously positioned type bars 33 bearing the proper grade mark to imprint or stamp said mark at spaced points on the surface of the board at its end. As the bar 50 moves with the collar 41 and is held in projected position by one of the cam lugs 54 on ratchet 45, the outer end of this bar passing behind the upwardly pressed dog 47, as in Figure 4 of the drawings, holds the arms 39 and the parts actuated thereby against return movement after the board has passed outwardly beyond the rollers 26 and the type carrying gears.

The type carrying gears can, however, be operated independently of the arms 39 to reset the same and dispose another type bar in proper position for printing while the board still remains beneath the rollers 26. Referring again to Figure 6 of the drawings, it will be noted that when the marking means is actuated by the board, as above described, the cam faces 31ª of the cam members 31 are moved from the full line positions to the dotted line positions seen in said figure, or in other words, to a position below the shaft 22. Therefore, it will be apparent that in any further rotation of the gear 30 in the direction indicated by the arrow, the type bars 33 will be successively pressed inwardly against the cam faces 31ª as the outer ends of said type bars approach the board so that the type faces will not engage with and imprint their marks on the surface of the board which has already been marked with the proper grade character. Therefore, the observer may note the grade of a second board being fed over the table 5 while the previous board is still passing beneath the marking mechanism. If this board is of a different grade, another of the switches 90 is closed or another lever 74 manually actuated. As the lug 84 of said lever engages the convex side face 81ª of the rib 81 on sleeve 80, it moves said rib upwardly above the lug 84 of the lever 74 which was previously actuated, thereby releasing said lever so that it is returned to its normal position by spring 77. The lug 84 on the second lever 74 then passes to the opposite side of the rib 81 permitting of the return of sleeve 80 to its normal position whereby this latter lever is locked against return movement with its finger 76 positioned in the path of movement of another of the lugs 85 on disc 65. As the disc 65 is thus released from the holding action of the finger 76 on the lever which was first actuated, the spring 70 by its tortional action moves the disc 65 relative to shaft 22 and by its contractile action shifts the clutch member 63 on said shaft to again engage its tooth 64 with the tooth 62 of the gear 60. It will be understood that the cam lugs 66 and 67 remain in sliding contact with each other. Therefore, positive rotation is again transmitted to the shaft 22 and through said shaft to the marker carrying gears 30, as above explained, to properly position another of the type bars carried by said gears so that the next board fed through the marking mechanism will be marked with the proper characters when it engages and actuates the arms 39, which it will be understood, return to their normal positions as soon as the first board has passed beyond the marking mechanism.

Such return movement of the arms is permitted owing to the fact that in the resetting of the marking mechanism, the cam lug 54 which was engaged with the stud 51 is disengaged therefrom so that bar 50 is moved inwardly by the spring 53. Thus, after the board is disengaged from the rollers 56, the spring 40 may contract to return the arms to their normal position, it being understood that in such movement, the sleeve and collar rotate relative to the shaft 22 while the pawl 42 is engaged with another of the internal teeth in the ratchet 45. Thus it will be seen that the markers may be selectively positioned so as to imprint the proper grade mark or character upon the board when a further automatic movement is imparted to the marking mechanism by the feeding of the board therethrough.

When the marking mechanism is reset as above explained, rotation is transmitted to a shaft 196 through the medium of the gears 200, said shaft operating to connect a proper one of a series of odometers with an automatic measuring mechanism in accordance with the particular grade symbol for which the marking mechanism is reset. Since this feature, however, constitutes no part of the present invention and is fully illustrated and described in our original application above identified, it need not be herein further referred to in detail.

From the foregoing description considered in connection with the accompanying drawings it is believed that the construction, manner of operation and several advantages of our improved marking apparatus will be fully understood. It will be seen that the expert observer or grader may, by simply closing the proper selecting switch or operating the proper lever 74, position any predetermined grade symbol so that when the operating means for the rotatable symbol carriage is subsequently engaged and actuated by the moving board, the selected symbol will be caused to make a clear and legible impression on the surface of the board and while said board is still passing through the marking machine, the mechanism may be reset and another symbol properly positioned in accordance with the different grade of a following board to be subsequently applied to the latter board. It will thus be seen that the marker may be operated with great rapidity. We have referred to our invention as mounted and arranged for the application of the symbol to one of the said faces of the board, but it will be appreciated that with certain simple modifications it will be obvious to one skilled in the art that the device might be arranged for applying the grade indicating symbol to one edge of the board. Also, it is not essential that the symbol shall be duplicated, and if desired, only a single rotatable disc or carrier for the series of type or symbol bars may be provided. It is also to be understood that while we have herein specifically described one practical embodiment of the invention, that the mechanism might be exemplified in numerous other constructions, and we, therefore reserve the privilege of adopting all such legitimate changes in the form, proportion and relative arrangement of the several parts as may be fairly embodied within the spirit and scope of the invention as claimed.

We claim:

1. In combination with lumber feeding mechanism, a manually controlled mechanism located in the line of feed of the boards and automatically actuated by the board without interruption of the feeding movement to apply a grade indicating symbol to the board.

2. In combination with lumber feeding mechanism, a mechanism located in the line of feed of the boards and including manually controlled means actuated by the board without interruption of its feeding movement for applying any one of a plurality of grade indicating symbols to the board, and means for selectively controlling the operation of said symbol applying means to apply the proper grade indicating symbol to the board when said means is actuated thereby.

3. In combination with lumber feeding mechanism, a mechanism located in the line of feed and including a plurality of grade symbol carrying members, means engaged and actuated by the board without interrupting its feeding movement whereby a grade indicating symbol is applied to the surface of the board by each of said members, and manually controllable means for selectively positioning the symbol carrying members whereby the proper symbol denoting the predetermined grade of the board is applied thereto.

4. In an apparatus of the class described, a plurality of symbol applying elements, manually controllable mechanism for selectively positioning said elements with relation to the path of movement of an article to which a symbol is to be applied, and means engaged and actuated by the article when the latter is moved to effect an operative movement of the selected element and the application of the symbol to the article.

5. In an apparatus of the class described, a plurality of symbol applying elements, means for imparting an operative movement to said elements including a part engaged and actuated by a moving article whereby a desired symbol is applied to the article, and manually controllable means to impart a further movement to said elements while said part is engaged by the article to selectively position the symbol applying elements with respect to the path of movement of said article.

6. In a grade marking apparatus for lumber, a plurality of symbol applying elements, manually controllable means for selectively positioning said elements in relation to the path of movement of a board to which a desired grade indicating symbol is to be applied, and additional means actuated by the board in its movement to independently operate parts of said mechanism and impart an operative movement to the selected symbol applying element to apply the desired grade indicating symbol to the board.

7. In combination, a rotatably supported member, a plurality of symbol applying elements carried by said member, means for selectively positioning said elements with respect to an article to which the symbol is to be applied, and means engaged and actuated by the article upon movement thereof to impart a partial rotation to said member and thereby cause the selected element to apply a single impression of the desired symbol to the article.

8. In a grade marking apparatus for lumber, a member rotatably mounted above the path of movement of the lumber, radially positioned symbol applying elements carried by said member, manually controllable means to rotate said member and selectively position said elements relative to the path of move-

ment of the lumber, and means engaged and actuated by the board for imparting a partial rotation to said member independently of the selecting means to thereby cause the selected element to apply a single impression of the desired symbol to the board.

9. In a grade marking apparatus for lumber, a member rotatably mounted above the path of movement of the lumber, radially positioned symbol applying elements carried by said member, manually controllable means to rotate said member and selectively position said elements relative to the path of movement of the lumber, means engaged and actuated by the board for imparting a partial rotation to said member independently of the selecting means to thereby cause the selected element to apply the desired symbol to the board, and additional means automatically rendered effective in the last named movement of said member to permit of the operation of the selecting means and the resetting of the symbol applying elements without operatively engaging the latter with the board.

10. In a grade marking apparatus for lumber, spaced marking devices operatively mounted above the path of movement of the boards, and manually controlled means engaged and actuated by a moving board for simultaneously operating said devices to apply a grade indicating symbol at spaced points upon the surface of the board.

11. In a grade marking apparatus for lumber, a rotatably supported marker carrying member mounted above the path of movement of the boards, spaced radially positioned markers carried by said member, means normally urging said markers inwardly towards the axis of said member, manually controllable means for rotating said member to selectively position the markers with respect to the path of movement of the board, additional means engaged and actuated by the moving board to rotate said member independently of the selecting means and thereby engage the selected marker upon the surface of the board to apply a grade indicating marker thereto, and a cam associated with the markers and automatically positioned in the operation of said last named means to permit of the subsequent resetting of the markers by the operation of the selecting mechanism without engaging said markers with the surface of the board.

12. In a grade marking apparatus for lumber, a rotatable member mounted above the path of movement of the board and carrying a plurality of grade marking elements, an operating shaft upon which said member is loosely mounted, means transmitting rotation from said shaft to said member, manually controllable means for limiting the rotation of said shaft to selectively position the markers with respect to the path of movement of the board, and additional means mounted on the shaft and automatically actuated by the moving board to rotate said shaft independently of said manually controllable means and thereby impart rotation to said member to cause one of the markers thereon to apply the selected grade symbol to the surface of the board.

13. In a grade marking apparatus for lumber, a marking device having a plurality of spaced marking elements, an operating shaft therefor, a driving gear loosely mounted on the shaft, a clutch member keyed to the shaft, means acting to normally hold the clutch member yieldingly in coupled relation with said gear, and manually controllable means automatically acting to disconnect the clutch from said gear and thereby limit the rotation of the shaft to selectively position the markers with respect to the path of movement of the board.

14. In a grade marking apparatus for lumber, a marking device having a plurality of spaced marking elements, an operating shaft therefor, a driving gear loosely mounted on the shaft, a clutch member keyed to the shaft, means acting to normally hold the clutch member yieldingly in coupled relation with said gear, a disc loosely mounted on said shaft, coacting cam lugs on said disc and clutch member, said disc being provided with a plurality of stop lugs spaced for relatively different radial distances from its axis, and a plurality of selectively operable levers adapted to be positioned in the path of movement of the respective stop lugs to hold the disc against rotation and thereby effect the disconnection of the clutch member from said gear by the coaction of said cam lugs to selectively position the markers with respect to the path of movement of the board.

15. In a grade marking apparatus for lumber, a marking device having a plurality of spaced marking elements, an operating shaft therefor, a driving gear loosely mounted on the shaft, a clutch member keyed to the shaft, means acting to normally hold the clutch member yieldingly in coupled relation with said gear, a disc loosely mounted on said shaft, coacting cam lugs on said disc and clutch member, said disc being provided with a plurality of stop lugs spaced for relatively different radial distances from its axis, a plurality of selectively operable levers adapted to be positioned in the path of movement of the respective stop lugs to hold the disc against rotation and thereby effect the disconnection of the clutch member from said gear by the coaction of said cam lugs to selectively position the markers with respect to the path of movement of the board, and means automatically operative to preclude the move-

ment of more than one of said levers to effective position in relation to the lugs on said disc.

16. In a grade marking apparatus for lumber, a marking device having a plurality of spaced marking elements, an operating shaft therefor, a driving gear loosely mounted on the shaft, a clutch member keyed to the shaft, means acting to normally hold the clutch member yieldingly in coupled relation with said gear, a disc loosely mounted on said shaft, coacting cam lugs on said disc and clutch member, said disc being provided with a plurality of stop lugs spaced for relatively different radial distances from its axis, a plurality of selectively operable levers adapted to be positioned in the path of movement of the respective stop lugs to hold the disc against rotation and thereby effect the disconnection of the clutch member from said gear by the coaction of said cam lugs to selectively position the markers with respect to the path of movement of the board, and locking means automatically actuated in the movement of each lever to effective position, said locking means when actuated simultaneously releasing a formerly operated lever to permit the latter to return to its normal position.

17. In combination with a lumber feeding mechanism, a mechanism located in the line of feed of the board and actuated by the board and manually controlled means whereby the indicating symbol may be fed by the board to be applied to the succeeding board.

18. In combination with a lumber feeding mechanism, a mechanism located in the line of feed of the board and automatically actuated by the board to feed the grade indicating symbol to be applied to the board, manually controlled means for applying the symbol to the board, and manually controlled means whereby the indicating symbol can be fed by the board to be applied to the succeeding board.

19. In combination with a lumber feeding mechanism, a mechanism located in the line of feed and including a plurality of grade symbol carrying members, means engaged and actuated by the board without interrupting its feeding movement, whereby the grade indicating symbol is applied to the surface of the board by each of said members, manually controlled means for selectively positioning the symbol carrying members, whereby the proper symbol denoting the predetermined grade of the board is applied thereto, and manually controlled means whereby a symbol can be fed by the board to be applied to the succeeding board.

In testimony that we claim the foregoing as our invention, we have signed our names hereto.

LEO J. GRUBMAN.
EDWIN A. GODLEY.