J. G. McDONOUGH.

LUMBER AND TIMBER TRADE MARKING DEVICE.

APPLICATION FILED SEPT. 15, 1917. RENEWED MAY 23, 1921.

1,400,223.

Patented Dec. 13, 1921.

2 SHEETS—SHEET 1.

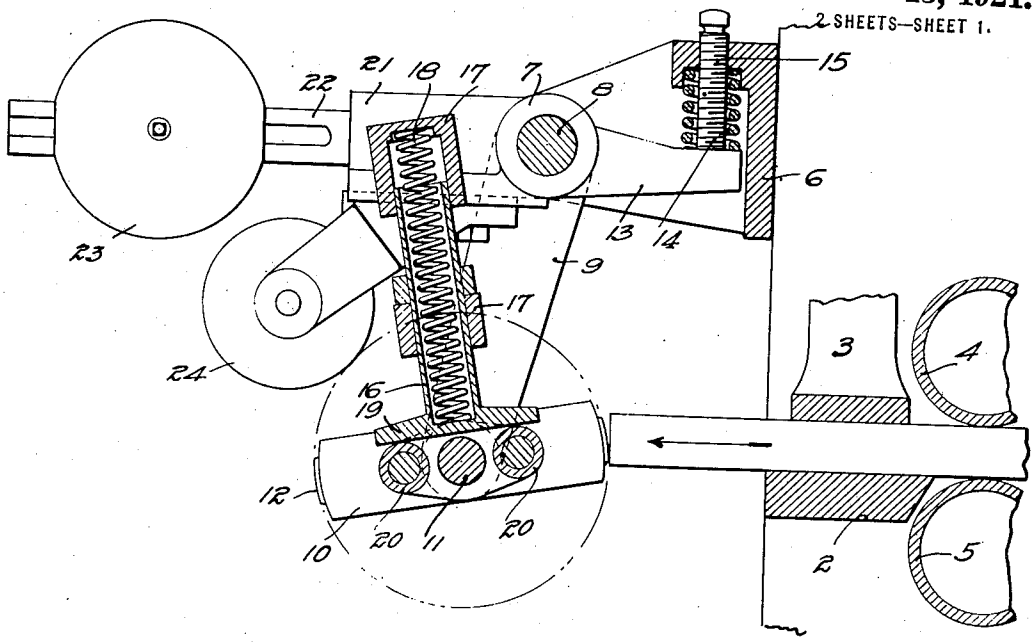


FIG. 1

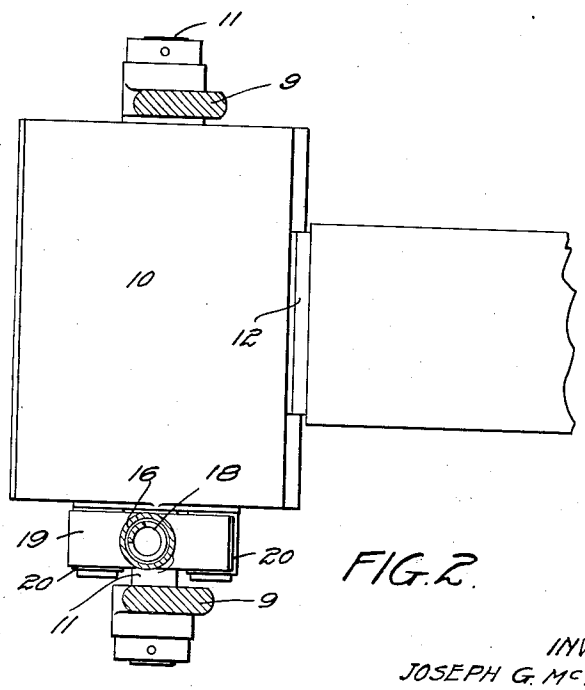


FIG. 2.

WITNESSES
M. R. McInnis
M. R. Delegliise

INVENTOR
JOSEPH G. McDONOUGH
BY Pearl & Pearl
ATTORNEYS

J. G. McDONOUGH.

LUMBER AND TIMBER TRADE MARKING DEVICE.

APPLICATION FILED SEPT. 15, 1917. RENEWED MAY 23, 1921.

1,400,223.

Patented Dec. 13, 1921.

2 SHEETS—SHEET 2.

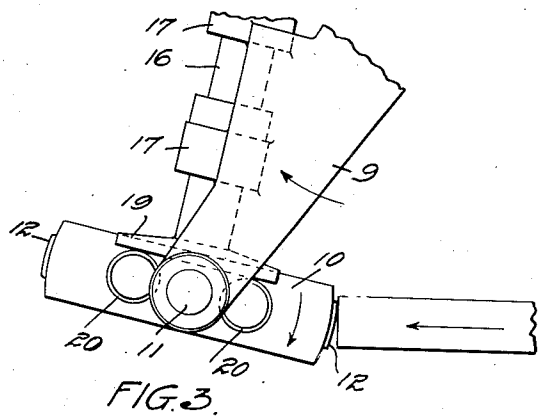


FIG. 3.

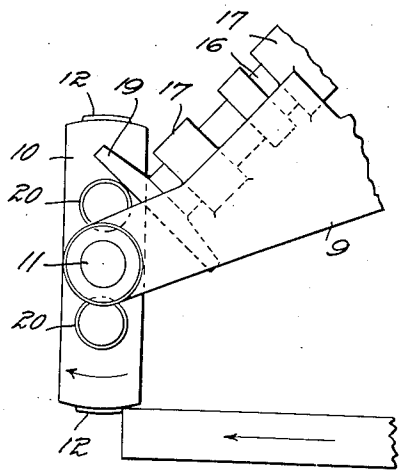


FIG. 4

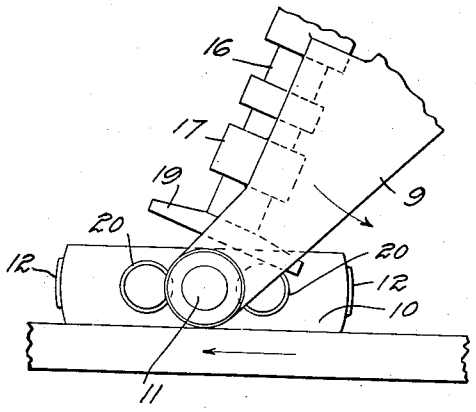


FIG. 5.

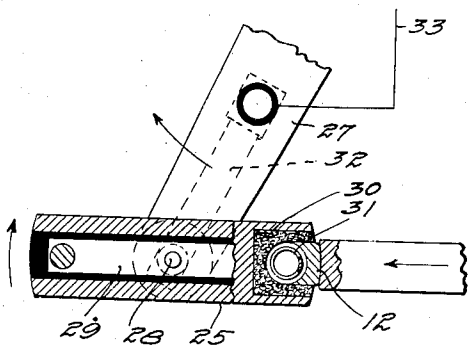


FIG. 7.

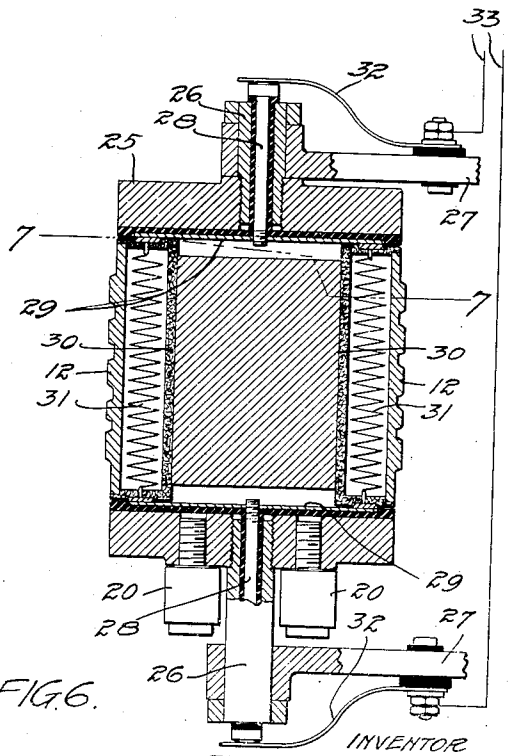


FIG. 6.

WITNESSES:

M. P. McInnis

M. R. Delegline

INVENTOR

JOSEPH G. McDONOUGH

BY Paul & Paul

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOSEPH G. McDONOUGH, OF EAU CLAIRE, WISCONSIN.

LUMBER AND TIMBER TRADE-MARKING DEVICE.

1,400,223. Specification of Letters Patent. Patented Dec. 13, 1921.

Application filed September 15, 1917, Serial No. 191,540. Renewed May 23, 1921. Serial No. 471,544.

To all whom it may concern:

Be it known that I, JOSEPH G. McDONOUGH, a citizen of the United States, resident of Eau Claire, county of Eau Claire, State of Wisconsin, have invented certain new and useful Improvements in Lumber and Timber Trade-Marking Devices, of which the following is a specification.

The object of my invention is to provide a simple, inexpensive trade-marking device for applying a trade-mark or other identifying means to the vertical end surfaces of the pieces of lumber or timber.

A further object is to provide a trade-marking device adapted for use generally with machines or apparatus for handling lumber or timber, but particularly designed for planers and like machines where the lumber is fed longitudinally between upper and lower rolls.

Other objects of the invention will appear from the following detailed description.

The invention consists generally in various constructions and combinations, all as hereinafter described and particularly pointed out in the claims.

In the accompanying drawings forming part of this specification.

Figure 1 is a vertical sectional view through a trade-marking device embodying my invention, illustrating its application to a machine in which the lumber is fed between upper and lower rolls,

Fig. 2 is a horizontal sectional view of the same,

Figs. 3, 4 and 5 illustrate the successive positions assumed by the die in the marking operation,

Fig. 6 is a detail sectional view, showing a die with a heating means applied thereto,

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

In the drawing, 2 and 3 represent guides between which the lumber or timber is fed and 4 and 5 upper and lower feed rolls mounted to advance the lumber between the guides. 6 is a bracket mounted above and adjacent the feed rolls and 7 represents a hub journaled on a shaft 8 which has bearings in the bracket 6 and provided with depending arms 9. A die carrier 10 is centrally pivoted at 11 in the lower ends of the arms 9 and marking or branding dies 12 are mounted in the ends of the carrier 10. The oscillation of the arms 9 toward the machine is limited by means of a stop arm 13 projecting from the hub 7 and seated against a compression spring 14 that is carried by a screw 15 mounted in the bracket 6 and having its end in position to contact with the arm 13 and limit upward movement of the same. The spring 14 is positioned to yieldingly resist such upward movement. A plunger 16 is mounted to slide in a guide 17 in said bracket against the tension of a compression spring 16 and a head 19 on said plunger is positioned to bear on anti-friction rollers 20 carried by the die carrier. The effect of this engagement of the head 19 with the rollers is to position or center the die carrier properly so that a die will be in the path of the lumber or timber fed between the rolls 4 and 5. An arm 21 is mounted on the shaft 8 and provided with a rod 22 on which a weight 23 is adjustable, said weight resisting the outward movement of the arms 9 and the die carrier and normally tending to hold the arm 13 in position to compress the spring 14 and serve as a counter-balance to maintain the die carrier and die in proper position to trade-mark the lumber. An inking roll 24 is mounted to contact with the dies during the revolution of the carrier, and apply a supply of ink with each revolution of the carrier.

In Figs. 3, 4, and 5 I have illustrated the successive steps in the marking operation.

In Fig. 3 a piece of lumber is shown in contact with one end of the carrier and the die therein. The pressure of the lumber will push the arms 9 outwardly and raise the weight 23, while the carrier will begin to revolve on its axis out of the path of the lumber and against the pressure of the plunger 16.

In Fig. 4 the carrier is shown in a vertical position, being partially revolved with one of the anti-friction rollers 20 bearing on the under surface of the head 19 and the pres-

sure of the lumber revolving the carrier while the roller slowly moves across the face of the head. The final position of the carrier is shown in Fig. 5, where it has almost completed its revolution, is bearing on the upper surface of the lumber, ready to drop back to its normal marking position, as shown in Fig. 1, as soon as the lumber has passed out from under it. As soon as the carrier has become clear of the lumber, the pressure of the head 19 on the rollers 20 will again position the carrier to receive the impact of the next advancing piece of lumber and apply the trade-mark or other identifying means thereto.

In the operation of a planing mill, the lumber or timber is fed rapidly, the abutting ends of the pieces contacting with such pressure that frequently adjacent pieces will be stuck together and considerable force or pressure is necessary to separate them as they pass out of the planing mill. Such separation is obviously necessary to allow the marking device to assume its normal marking position after applying the identifying mark to one piece of lumber or timber before the succeeding piece reaches the marking position. I have found in the actual operation of the device that the spring 18 and weight 23, in addition to the function already described, cause a pressure to be transmitted to a piece of lumber or timber transversely to the feeding movement thereof sufficient to disengage the piece from the succeeding one and insure its dropping out of alinement with the feeding movement and permitting the marking device to return to its normal marking position, ready to engage the succeeding piece. As the lumber moves rapidly, it is evidently necessary to provide sufficient space between the feeding means and the marking device to allow one piece of lumber to be moved out of the path of the feed and give the marking device time to return to its marking position while the succeeding piece of lumber is approaching the marking position. This is all accomplished by the apparatus as herein shown and described. The marking die, engaging the surface of the forward piece of lumber, rides over upon it and exerts through the power of the spring and weight a downward pressure on the piece of lumber which will instantly separate it from the succeeding piece as soon as the marked piece is clear of the feeding and guiding means.

In Figs. 6 and 7 I have shown a modified form of carrier with a heating means applied thereto. In this construction the carrier 25 has hollow gudgeons or pivot pins 26 in supporting arms 27. Pins 28 are mounted in said hollow pivots and connected with plates 29 mounted in the ends of the carrier. Recesses 30 are provided in the rear of the dies insulated from the walls of the carrier and resistance coils 31 are provided in these recesses and in circuit with the pins 28 and the plates 29. Contact springs 32 are mounted to bear on the ends of the pins 28 and are insulated from the arms 27 and connected with conductors 33 of a suitable electric circuit which, when admitted through the resistance coils, will heat the dies and brand or burn a mark in the surface of the lumber or timber. In other respects the construction and operation of the marking die is substantially the same as described with reference to the previous figures.

The die carrier, as will be understood from the foregoing description and drawings, is mounted to revolve on a horizontal axis transversely of the moving lumber or timber and will apply a trade-mark or brand to an end surface of each piece of lumber fed between the rolls. This die carrier may be mounted in various ways to provide for its revolution upon contact with each piece of lumber or timber that is marked and in various ways the details of construction herein shown and described may be modified and still be within the scope of my invention.

I may also modify the means for heating the die, using a different heating agent from that shown herein, if preferred.

I claim as my invention:

1. The combination, with a means for feeding lumber or timber, of a die mounted to revolve on a horizontal axis and arranged transversely of the lumber and in the path thereof for applying an identifying mark to an end surface of the lumber, said die having a surface for contact with the lumber after the marking operation is completed.

2. The combination, with means for feeding lumber or timber, of a trade-marking device mounted to revolve on a horizontal axis transversely of the moving lumber and in the path of the same, said die having a surface arranged to contact with and slide upon a surface of the lumber when the marking operation has been completed.

3. The combination, with means for feeding lumber or timber, of a trade-marking device mounted on a horizontal axis transverse to the moving lumber and in the path of the same for applying a mark to a surface of the lumber, and also having an oscillating movement out of the path of the lumber.

4. The combination, with means for feeding lumber or timber, of a trade-marking device mounted to revolve on a horizontal axis in the path of the lumber and also mounted to move bodily to a point above and out of the path of the lumber under pressure of the lumber against said trade-marking device.

5. The combination, with means for feeding lumber or timber, of a trade-marking die mounted to revolve on a horizontal axis in the path of the lumber, pivoted arms whereon said die is supported mounted to move with said die to a point above and out of the path of the lumber through the pressure of the lumber against said die, and means for returning said die and arms to their normal position when relieved of the pressure of the lumber.

6. The combination, with means for feeding lumber or timber, of a trade-marking device mounted to revolve on a horizontal axis in the path of the lumber and also mounted to move bodily to a point out of the path of the lumber under pressure of the lumber thereon.

7. The combination, with means for feeding lumber, of a revolving die, arms wherein said die is mounted, a counter-balance connected with said arms for normally resisting the pressure of the lumber on said die, and means for tilting said arms and die against the load of said counter-balance for positioning the die with respect to the surface to be marked.

8. The combination, with means for feeding lumber or timber, of a die having an axis transverse to the lumber, anti-friction rollers mounted thereon, a spring-pressed plunger engaging said rollers for centering said die with respect to the lumber.

9. The combination, with means for feeding lumber or timber, of a die carrier mounted on a horizontal axis and having dies in the ends thereof for alternate engagement with the lumber, means for holding said die in the path of the lumber with a yielding pressure, and means for inking the face of the dies.

10. The combination, with means for feeding lumber or timber, of a die carrier mounted on an axis transverse to the lumber and moved to a point above the lumber following the marking operation, dies mounted in the face of said carrier, means for positioning said carrier with respect to the surface of the lumber to be marked, and means for preparing said dies to mark the lumber.

11. The combination, with means for feeding lumber or timber, of a die carrier mounted on an axis transverse to the lumber and moved to a point above the lumber following the marking operation, dies mounted in said carrier, means for positioning said carrier and dies in the path of the lumber, and means for preparing said dies to mark the lumber.

12. The combination, with means for feeding lumber or timber, of a die, anti-friction rollers mounted thereon, spring-pressed means engaging said rollers for centering said die with respect to the lumber, said die being mounted for movement bodily out of the path of the lumber through its pressure thereon.

13. The combination, with means for feeding lumber or timber, of a die, spring pressed means for centering said die with respect to the lumber to be marked, said die being mounted for movement bodily out of the path of the lumber through its pressure thereon.

14. The combination, with a lumber planing mill rolls, of an identifying device mounted for movement on a horizontal axis transversely of the lumber to be marked, said identifying device riding on the lumber and being mounted to exert a pressure thereon transversely to the feed of the lumber for separating each marked piece from the succeeding one.

15. The combination, with means for feeding abutting pieces of lumber or timber, of a die carrier and die mounted for movement on a horizontal axis transversely of the moving lumber in the path of the same, said carrier having a surface for contacting with the lumber when the marking operation has been completed and means for separating a piece of lumber from a succeeding piece and allowing said die and carrier to assume their marking position before such succeeding piece of lumber reaches said marking position.

16. The combination, with means for feeding abutting pieces of lumber lengthwise, of a marking die mounted to turn on a horizontal transverse axis to perform a single marking operation upon each piece of lumber of any length fed with vertical abutting surfaces, the marking movement of the die toward the surface to be marked beginning with the engagement of a vertical surface of the feeding piece of lumber with said device.

17. The combination, with a planing mill lumber or timber feeding rolls, of an identifying device mounted on a horizontal axis for marking the forward surface of the lumber or timber, said identifying device being actuated through the engagement of the forward vertical surface of each piece of lumber therewith fed in abutting contact.

18. The combination, with planning mill lumber feeding rolls, of an identifying device mounted on a horizontal axis for marking a forward surface of the lumber, the marking operation being performed through contact of the positively fed lumber with said identifying device, and means for inking the marking surface of said device.

19. The combination, with means for feeding lumber or timber lengthwise, of an identifying device having a prepared surface mounted to move on a horizontal axis and mark a forward portion of lumber of any length and having means to prevent mark-

ing the other portions of said pieces of lumber or timber and means for preparing said surface.

20. The combination, with rolls for feeding pieces of lumber or timber lengthwise in abutting relation, of a die and carrier therefor mounted for engagement by the forward end of the lumber and turning on an axis transversely to lengthwise movement of the lumber, said carrier having a projection for sliding engagement with the lumber after the marking operation and means for positively separating a piece of lumber from a succeeding piece and allowing said die to assume its marking position before such succeeding piece of lumber reaches said marking position.

21. The combination, with means for feeding pieces of lumber lengthwise in abutting relation, of a device for performing a single marking operation on a surface of the pieces of lumber of any length, said device being moved by engagement of a vertical surface of the pieces of lumber with a part thereof, said device automatically setting itself in position to begin the engaging movement upon a succeeding piece of lumber when said device has cleared the marked piece and means for positively separating the abutting pieces of lumber.

22. The combination, with means for feeding lumber lengthwise, of a device operating vertically for making a mark or impression on a surface of a piece of lumber of any length, said device having a surface to prevent a repeated marking operation on the same piece of lumber.

23. The combination, with means for feeding lumber lengthwise, of a die having a turning movement on a horizontal axis for marking lumber of any length, the movement of the lumber performing the marking operation, the marked piece of lumber arresting a turning movement of said die after the marking operation.

24. The combination, with means for feeding pieces of lumber lengthwise in abutting relation, of a device moving vertically for applying a single identifying mark to a forward surface of each of the abutting pieces of lumber of any length, said device being operated by the abutting pieces of moving lumber and setting itself to repeat the operation when the first piece of lumber has cleared said marking device.

25. The combination, with planing mill rolls for feeding lumber or timber, of a device moving vertically for applying an identifying mark to a surface of the lumber or timber, and guides above and below the lumber for guiding it from said rolls to said marking device and means for positively separating each marked piece of lumber or timber from the succeeding piece.

26. The combination, with means for feeding lumber or timber longitudinally, of a trade-marking device in the path of the lumber and having a vertical oscillating movement for applying an identifying mark to a surface thereof, and means for applying a marking fluid to said trade-marking device.

27. The combination, with means for feeding lumber longitudinally, of a die carrier and die mounted to move vertically over the lumber to apply an identifying mark thereto, and means actuated through the pressure of the lumber for moving said die carrier out of the path of the lumber when the marking operation is completed, and means for positively separating each piece of lumber after the marking operation from the succeeding piece.

28. The combination, with means for feeding pieces of lumber of any length abuttingly with vertical surfaces in contact with each other, of means for making a single mark on each of the pieces approaching said marking means, and spring pressed means for positively separating a marked piece from the contacting succeeding piece.

29. The combination, with means for feeding lumber or timber of any length abuttingly, with their end surfaces in contacting relation, of means for marking each piece separately as it is fed to said marking means, and means for moving each marked piece out of alinement with the abutting succeeding piece.

30. The combination, with means for feeding pieces of lumber or timber of any length in abutting contacting relation, of means for marking each piece of lumber separately and means for separating the pieces of lumber or timber so fed.

31. The combination, with means for feeding pieces of lumber or timber of any length abuttingly, of means for marking each piece separately and but once during the feeding movement, and weighted means for moving each piece out of alinement with the other pieces when the marking operation has been completed.

32. The combination, with a means for feeding pieces of lumber in abutting relation, of a marking device positioned with respect to said feeding means to allow separation of the pieces of lumber before the surface to be marked reaches its marking position, and means for positively separating the abutting pieces of lumber or timber when the marking operation is performed and permitting the marking device and the succeeding piece of lumber or timber to move into position to repeat the marking operation.

33. The combination, with means for feeding pieces of lumber in abutting contacting relation, of means for marking the pieces of lumber or timber and means for applying a pressure transverse to the feed of the lumber

to separate each forward piece from the succeeding one.

34. The combination, with means for feeding lumber or timber of any length abuttingly, with their end surfaces in contacting relation, of means for marking each piece separately as it is fed to said marking means, and means coöperating with gravity for moving each marked piece out of the path of the abutting succeeding piece.

In witness whereof I have hereunto set my hand this 11th day of Sept., 1917.

JOSEPH G. McDONOUGH.

Witnesses:
E. W. HARGETT,
S. L. VOORHIES.