Nov. 19, 1929. F. P. MILLER 1,736,273

INSERTED BLADE CUTTER

Filed May 16, 1925

Fig. 1.

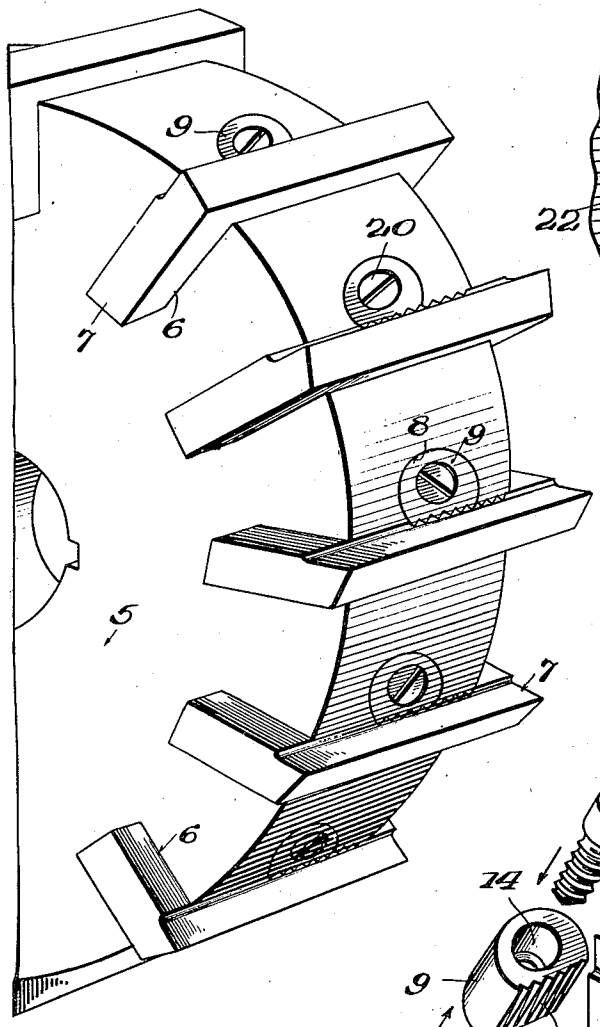


Fig. 2.

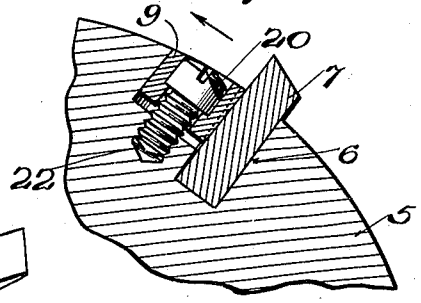
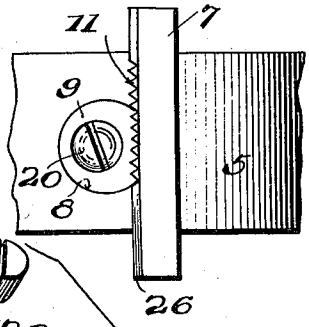


Fig. 3.



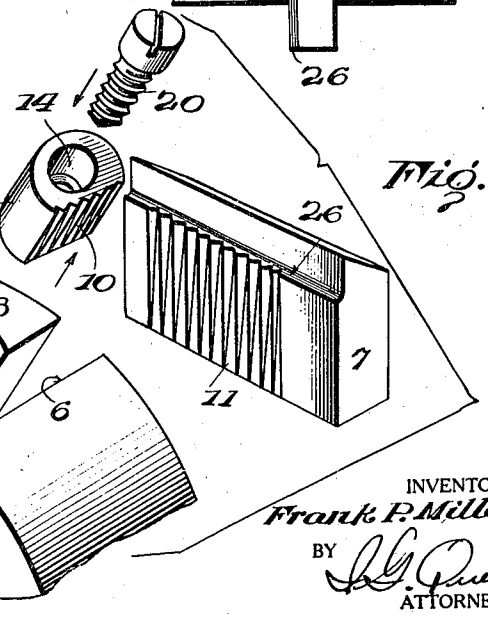


Fig. 4.

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UNITED STATES PATENT OFFICE

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INSERTED-BLADE CUTTER

Application filed May 16, 1925. Serial No. 30,784.

This invention relates to rotary cutters of the inserted blade type and has for an important object the provision of simple means whereby the blades may be firmly locked in the slots which receive the blades whereby shifting of the blades as a result of use is prevented.

More specifically, the invention forming the subject matter of this application aims to provide a rotary cutter in which the blades and wedging members thereof are provided with interfitting serrations which gradually deepen toward their outer ends whereby the outward shifting of the blades with respect to the wedging members is effectively resisted.

A further object is to provide an inserted blade rotary cutter which may be easily adjusted and which by reason of the simplicity in design will meet with commercial favor when placed upon the market.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawing forming a part of this application and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a fragmentary perspective of a milling cutter embodying the invention;

Figure 2 is a detail sectional view through the milling cutter, one of the blades, and the holding means therefor;

Figure 3 is a fragmentary plan view illustrating one of the blades and the holding means therefor;

Figure 4 is a group perspective illustrating one of the blades and the holding means therefor.

In the drawing wherein for the purpose of illustration is shown a preferred embodiment of the invention, the numeral 5 designates a milling cutter or other body having slots 6 opening out through the periphery thereof for the reception of work engaging blades 7.

Figure 4 plainly illustrates that one side wall of each slot 6 is provided with an approximately semi-circular socket 8 for the reception of an approximately semi-circular holder or wedge member 9, one side face of the latter being flat for engagement with the blade.

Figure 4 further illustrates that the flat face of the holder or wedging member 9 is provided with serrations 10 which interfit with serrations 11 on the opposed face of the blade 7. More specifically, the serrations 10 and 11 are gradually and uniformly increased in depth toward the outer ends thereof so that when the serrations are in interfitting relation as shown in Figure 3, outward movement of the blade will be prevented.

The wedging member 9 is provided with an opening 14, the intermediate portion of which is provided with a shoulder for engagement by the head of a cap screw 20. It will be seen that when the cap screw 20 is extended through the opening 14 and into a socket 22 and tightened therein the wedging member will have firm locking engagement with the blade.

Figure 4 plainly shows that the outer portion of the blade is sharply reduced in thickness as indicated at 26 to simplify the cutting of the serrations 11.

Figure 2 illustrates that each socket 8 has ample depth to permit of the movement of the semi-circular wedging member inwardly to its fullest extent. That is to say, the tightening of the cap screw 20 will not result in the engagement of the wedging member 9 with the bottom wall of the socket 8.

The head of the tightening member 20 is shown as being provided with a groove for the reception of the forward end of a screw driver, but it is obvious, of course, that the head may be provided with any suitable tool engaging means.

Having thus described the invention, what is claimed is:

1. A rotary cutter comprising a body hav-

ing a slot and a socket in one side wall of said slot, a blade in said slot, a wedging member in said socket, said blade and said wedging member being provided with interfitting approximately radial serrations deepened toward the ends thereof.

2. A cutter comprising a carrier having a slot and a socket in one wall of said slot, a blade in said slot, a wedging member in said socket, said blade and said wedging member being provided with interfitting serrations gradually increasing in depth toward the outer ends thereof to resist outward shifting of the blade.

3. A rotary cutter comprising a carrier having a slot and a socket in one wall of said slot, a blade in said slot, a wedging member in said socket, said blade and said wedging member being provided with interfitting serrations gradually increasing in depth toward the outer ends thereof to resist outward shifting of the blade, and a screw extending through said wedging member and having threaded engagement with said carrier.

4. The construction set forth in claim 3, the outer portion of said blade being sharply reduced at the point where the serrations on the blade terminate.

5. A rotary cutter comprising a carrier having a slot and an approximately radial socket in one side wall of said slot, a blade received in said slot, a substantially semi-circular wedging member in said socket and having a flat face, said flat face and the opposed face of said blade being provided with interfitting serrations gradually deepening toward the outer ends thereof, said wedging member being provided with an opening extending entirely therethrough and provided intermediate the ends thereof with a shoulder, and a cap screw threaded into said carrier and having a head engaged with said shoulder to draw said wedging member inwardly into firm binding engagement with said blade.

6. A rotary cutter comprising a body, a wedging member and a blade carried by the body and having the opposed surfaces thereof provided with interfitting, gradually deepening serrations to resist displacement of the blade.

7. A cutter comprising a holder, and a blade associated with the holder, said blade and said holder being provided with interfitting serrations extending in the same direction and deepened toward the ends thereof to hold the blade against shifting.

8. A cutter comprising a holder, a blade associated with the holder and having an outer edge, the holder and the blade being provided with interfitting serrations increased in cross sectional area toward the outer ends thereof to resist shifting of the blade.

9. In a cutter, a pair of cooperating members having interfitting serrations extending in the same direction and deepened in the same direction to resist movement of one of the members with respect to the other member in the direction in which the serrations extend.

In testimony whereof I affix my signature.

FRANK P. MILLER.