

W. RAWLINSON.

GRINDING REST FOR USE IN GRINDING MOWING MACHINE KNIVES AND THE LIKE.

APPLICATION FILED MAR. 11, 1909.

956,416.

Patented Apr. 26, 1910.

3 SHEETS—SHEET 1.

Fig. 1.

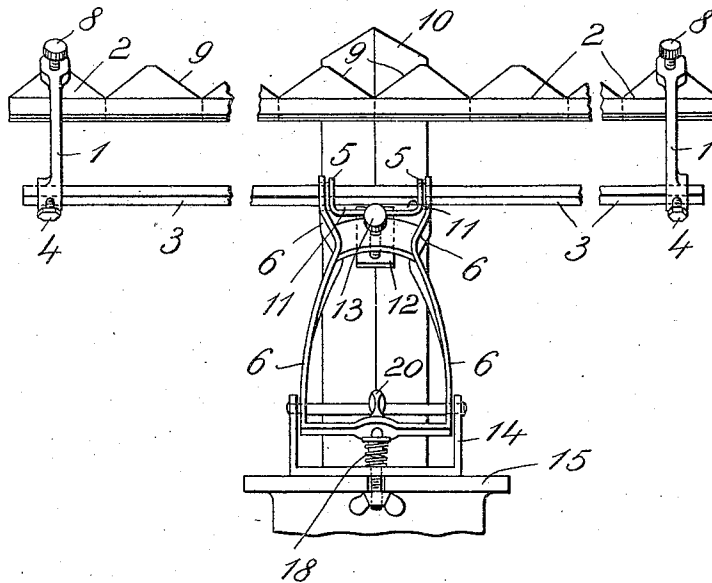
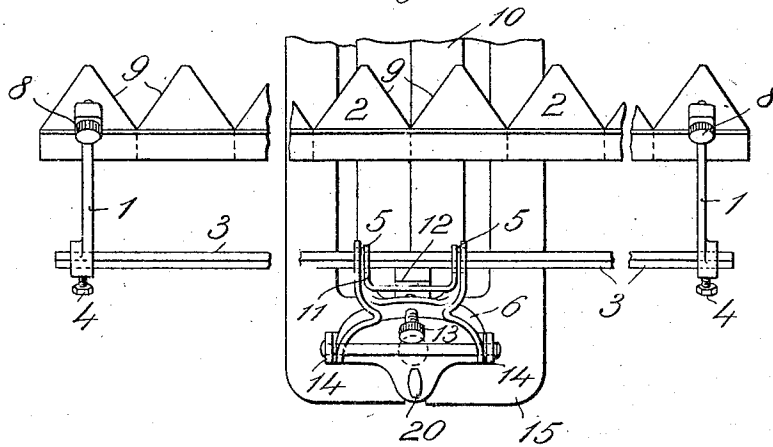


Fig. 3.



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3 SHEETS—SHEET 2.

Fig. 2.

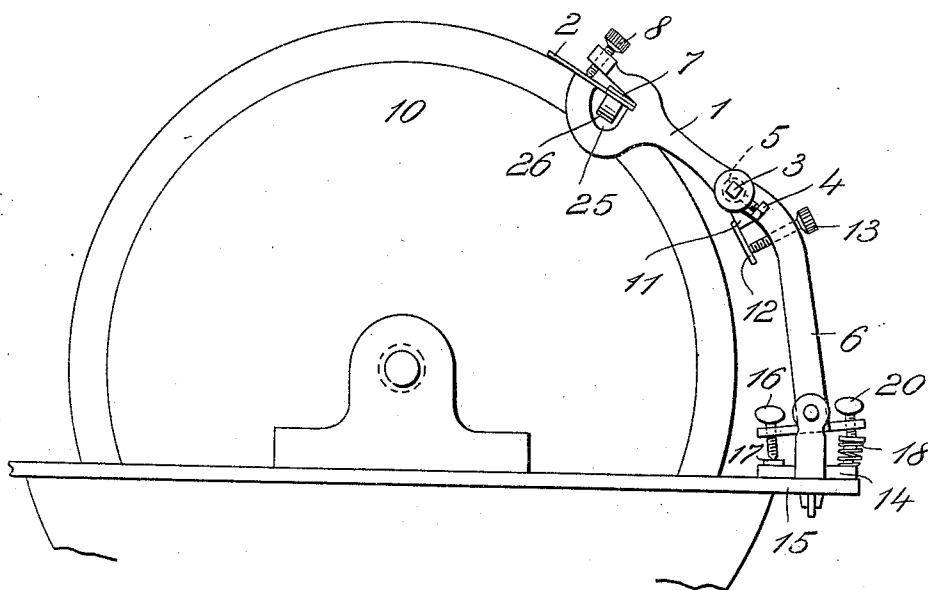
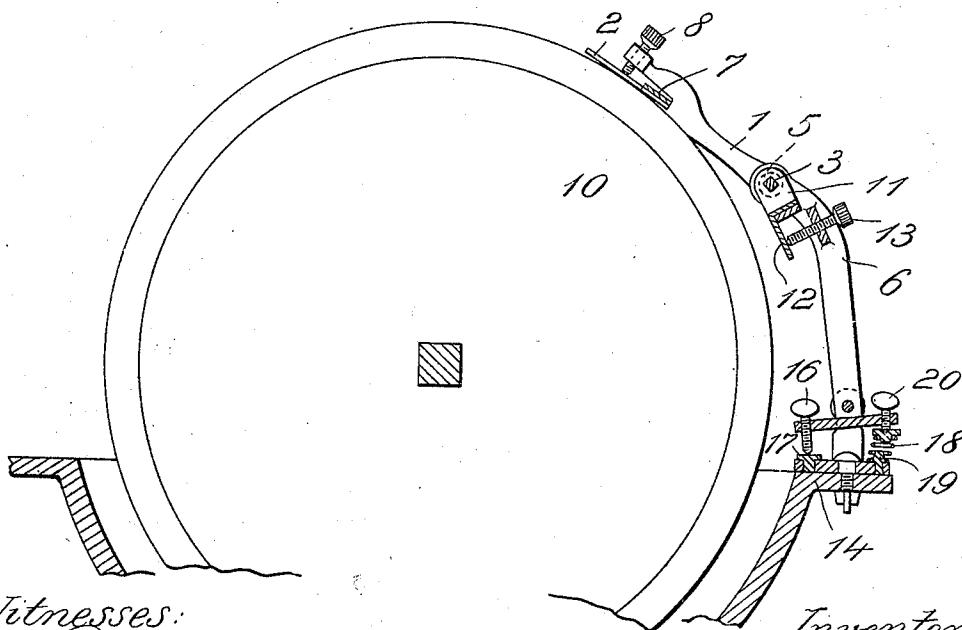


Fig. 4.



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3 SHEETS—SHEET 3.

Fig. 5.

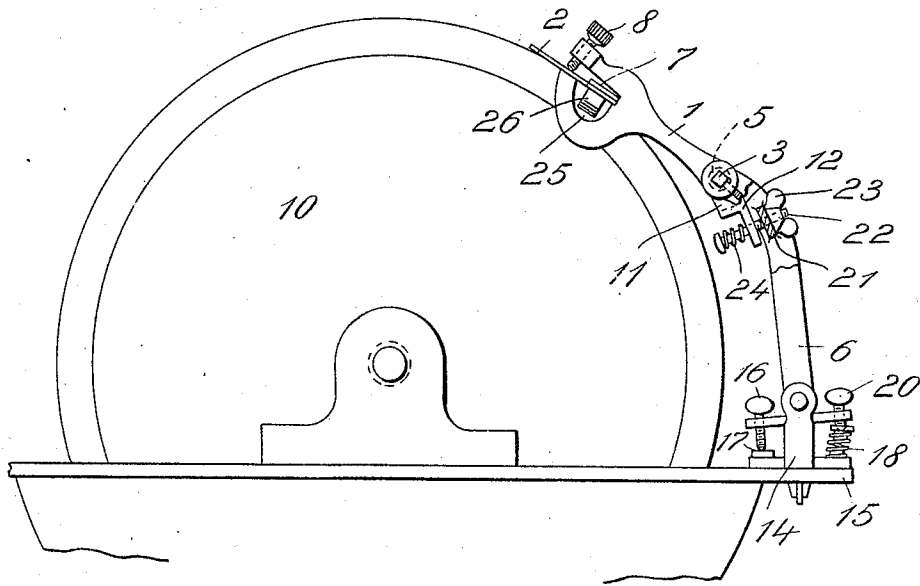


Fig. 6.

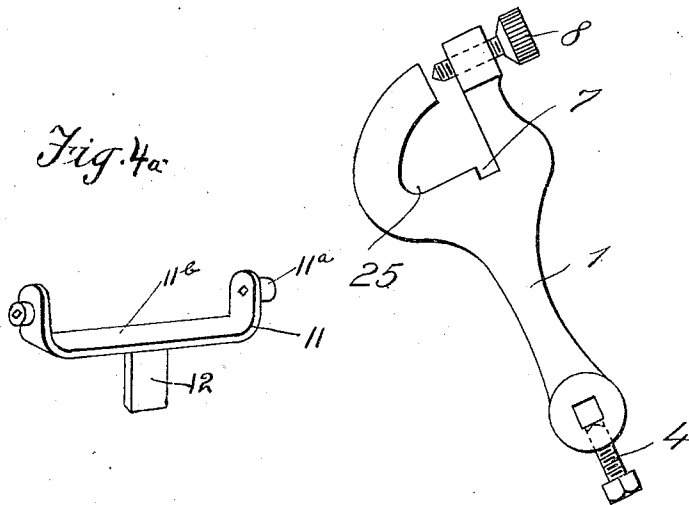
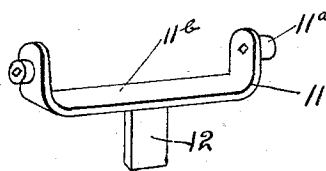


Fig. 4a.



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UNITED STATES PATENT OFFICE.

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GRINDING-REST FOR USE IN GRINDING MOWING-MACHINE KNIVES AND THE LIKE.

956,416.

Specification of Letters Patent.

Patented Apr. 26, 1910.

Application filed March 11, 1909. Serial No. 482,801.

To all whom it may concern:

Be it known that I, WILLIAM RAWLINSON, subject of the King of the United Kingdom of Great Britain and Ireland, residing at 87 Rutland road, East Ham, in the county of Essex, England, have invented certain new and useful Improvements in Grinding-Rests for Use in Grinding Mowing-Machine Knives and the Like, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a new or improved grinding rest which, while especially suitable for use in supporting mowing machine knives during grinding, may be found serviceable in the grinding of other blades the length of which is considerable in proportion to the breadth of the grindstone; and the invention has for its main object to facilitate the traverse of the blades over the grindstone for the purpose of grinding the successive edges or edge portions.

Now in a grinding rest according to this invention there are provided for the support of the knife arms that are mounted on a shaft or bar that can slide in a frame adapted to be attached to the support in which the grindstone is mounted. The knife is supported and clamped in slots arranged in these arms; its edges or edge portions can then be brought successively into contact with the grindstone by sliding the shaft along in its bearings, the need for sliding the knife in the rest or for unclamping it being thus avoided.

The accompanying drawings show an example of grinding rest according to this invention in its application to the grinding of a mowing machine knife; wherein—

Figures 1 and 2 are respectively front and side elevations, Fig. 3 is a plan, Fig. 4 is a central transverse section, Fig. 4^a is a perspective view illustrating the supporting bracket, Fig. 5 is a side view of the bar-supporting frame illustrating certain detail modifications; and Fig. 6 is an enlarged side view of one of the knife-supporting arms.

The arms 1, which support the knife 2 are adjustably mounted on a shaft or bar 3 to which they can be clamped, as by thumb-screws 4. The length of the bar 3 may be varied in accordance with the length of the knife and the said bar 3 is mounted in projections 11^a which extend outwardly from arms 11 of a bracket 11^b. The bracket 11^b is arranged between the extensions 5 of a

frame 6, the said extensions 5 being provided with openings in which are arranged the projections 11^a. These latter are capable of shifting within the extensions 5. The openings through the projections 11^a are squared, the shaft 3 also being squared and by such an arrangement the shaft 3 can slide in the longitudinal direction in the projections 11^a but when the arms 11 are shifted, the shaft 3 is carried therewith. The knife 2 is supported in slots 7 formed in the arms 1 and clamped in position by the screws 8. The edges of the knife sections 9 can thus be brought successively into contact with the grindstone 10 by sliding the bar 3 in the projections 11^a. These latter constitute bearings for the bar.

In the arrangement shown in Figs. 1 to 4 the bracket 11 is provided with a lateral extension 12 forming a stiff spring blade, against which there bears a set-screw 13 screwed into the frame 6, this set-screw serving to adjust the position of the arms 1 and the knife in relation to the surface of the grindstone, so that the knife is held near or pressing lightly against the stone, grinding pressure being applied to it by hand. The frame 6 is hinged to a base 14 that can be bolted or clamped to the grindstone support 15.

On the frame 6 there is provided a set-screw 16 that bears against a stop 17 on the base 14 and that can be adjusted so as to limit the depth to which the knife-sections can be ground.

There is provided between the frame 6 and the base 14 a spring 18 that is supported on a stud 19 on the base, and the compression of which can be adjusted by a screw 20, this spring serving automatically to apply the desired grinding pressure.

In the modified construction shown in Fig. 5 the portion 12 of the bracket 11 is rigid, and there is passed through this portion and through the bridge 21 of the frame 6 a screw-bolt 22 furnished with a butterfly-nut 23 for adjusting the compression of a spring 24 that automatically applies grinding pressure to the knife.

The slots 7 are preferably formed with extensions 25 that provide room for the passage of the heads 26 of the knife 2, these extensions allowing the knife blades or sections to be ground to the end of the knife, or close up to the heads 26.

In the example of apparatus shown two

arms 1 are provided for the support of the knife; obviously, however, for short knives a single arm may suffice while for exceptionally long knives, more than two arms may
5 be provided; while for the sliding shaft or bar a sliding knife support of another form may in some cases be substituted.

What I claim is—

10 1. A grinding rest comprising a frame, a longitudinally movable bar, a shiftable supporting means for said bar extending in said frame, adjustable knife carrying arms connected to said bar and support, means for pivoting the frame to the support, an ad-
15 justable stop for limiting the movement of the frame, and a cushioning means interposed between the frame and its support.

2. A grinding rest, a longitudinally movable bar, a spring-controlled shiftable supporting means for the bar, and knife carrying arms adjustably connected to said bar
20 and formed with slots for the reception of the knife, said slots having extensions for the passage of the heads of the knife.

25 3. A grinding rest comprising a spring-

controlled pivoted frame, a longitudinally movable bar, a spring-controlled supporting means for said bar, said supporting means mounted in said frame and capable of turning therein, whereby the bar will be turned, 30 and knife-carrying arms connected to the bar.

4. A grinding rest comprising a spring-controlled pivoted frame, a longitudinally movable bar, a spring-controlled supporting 35 means for said bar, said supporting means mounted in said frame and capable of turning therein, whereby the bar will be turned, and knife-carrying arms connected to the bar, said arms provided with slots for the 40 reception of the knife, said slots having extensions to provide clearances for the passage of the heads of the knife.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM RAWLINSON.

Witnesses:

ALFRED CHARLES WILLIAMS,
S. F. PAUL.