May 2, 1944. H. E. SJÖSTRAND 2,347,800

DEVICE FOR GRINDING STRAIGHT EDGES ON PLANER CUTTER BLADES

Filed Aug. 25, 1941

Fig. 1.

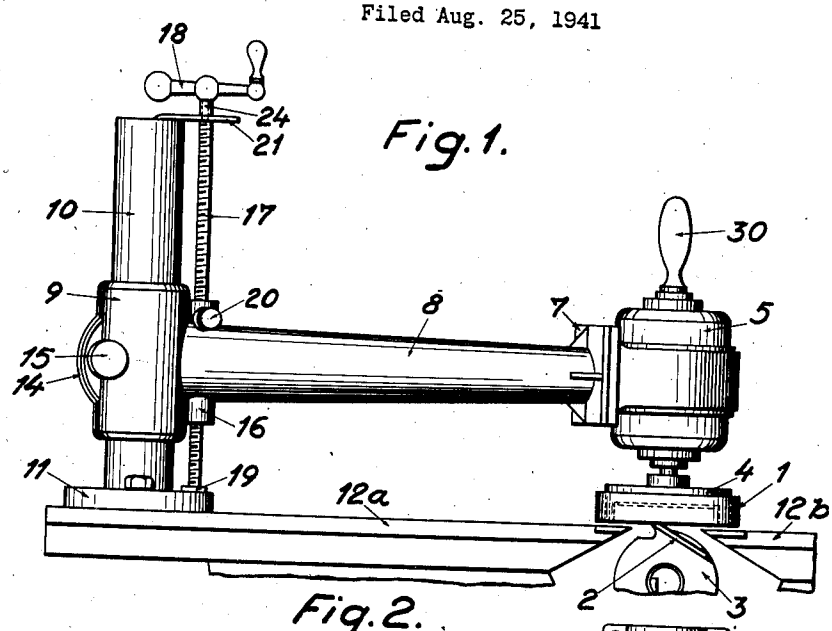


Fig. 2.

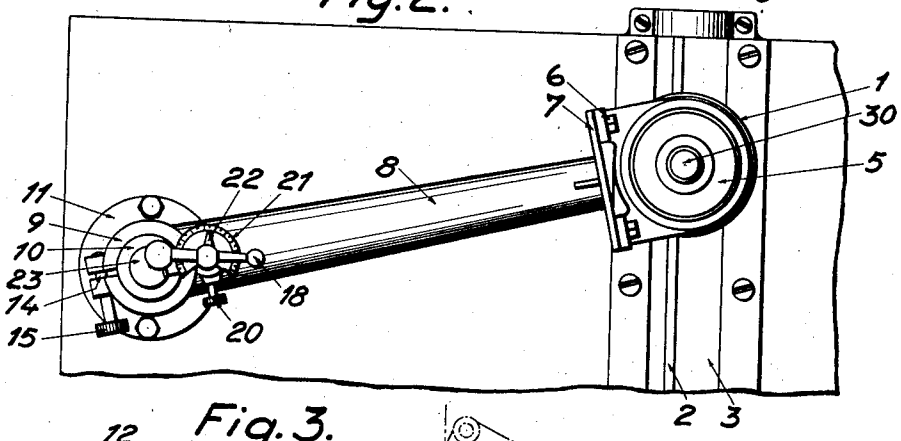
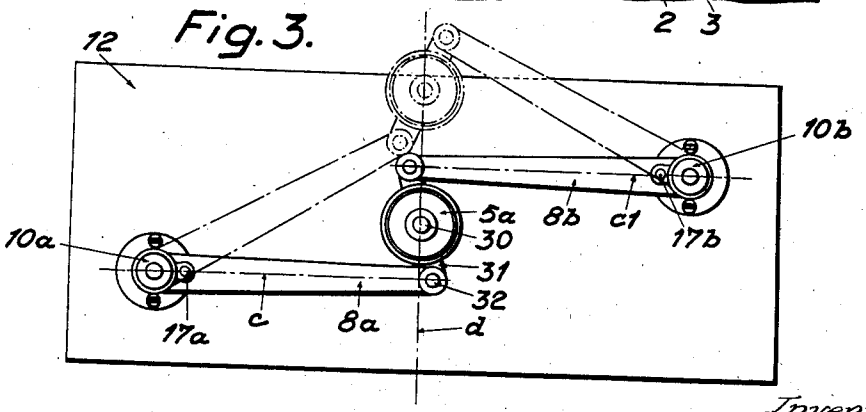


Fig. 3.



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DEVICE FOR GRINDING STRAIGHT EDGES ON PLANER CUTTER BLADES

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2 Claims. (Cl. 51—249)

My invention more particularly relates to a device for grinding straight edges on planer cutter blades while the same are still secured to the cutter head in the planer. The invention is substantially characterized by a support or standard, adapted to be attached to the planer table, and an arm carrying the grinder and a motor pivotably attached to said support. The device may also have an auxiliary standard to which the motor with the grinder is movably connected by means of a second pivotable arm.

My invention will best be understood by reference to the accompanying drawing, in which—

Fig. 1 is a side elevation of an embodiment of the device as applied to a smoothing-planer, the latter being partly broken away;

Fig. 2 is a plan view of the same embodiment; and

Fig. 3 diagrammatically shows another embodiment of the invention, in which an auxiliary standard is used for guiding purpose, in order to obtain a straight line movement of the grinder.

In Figs. 1 and 2 reference character 1 denotes the grinder, which is of cup shape, and 2 the blade that is being ground secured to the cutter 3. The grinder 1 with hub and flange 4 is attached direct to the shaft of the motor 5, the latter being secured by means of screws 6 to a plate 7 on an arm 8. At its other end said arm 8 is provided with a cylindrical crosspiece 9, which is bored so as to slide on the turned standard 10. The faced base 11 of the standard is placed on the planed top of the planer table 12*a*. The cylindrical cross piece 9 has a slot 14 and a hand screw 15 so that the same may be adjusted to fit on the standard 10 without any play.

The arm 8 is provided with lugs 16, which are bored and threaded to receive an adjusting screw 17, the upper end of which carries a crank-handle 18, while its lower end is provided with a glide-shoe 19. A hand screw 20 with an intermediate thimble of fibrous material insures steadiness and friction to the adjusting screw 17. A graduated scale 21 (partially broken away on the drawing) and an index finger 22 secured to the screw 17 facilitate the adjustment while grinding so that two or more cutter blades may be ground to the same height. The graduated scale 21 is provided with a circular guide member 23, fitting into a boring in the standard 10, and is further kept in its position by means of a sleeve 24 on the adjusting screw 17. However, the grinder may also be adjusted in other ways, for example by means of the vertically adjustable table 12*a*.

In operation the tables 12*a* and 12*b* are lowered to such level that the grinder will be clear of the same. The cutter is locked by means of a suitable stop screw. The grinder is lowered towards the blade by means of the adjusting screw 17 and moved forth and back over the blade by means of the handle 30. When the blade 2 is ground, the graduated scale 21 is read off, and the opposite blade is then ground to the same height.

When grinding the edges of such cutters as are mounted in a removable box, the latter is preferably placed with its upper planed face turned downwards on a plane table or plate, the cutter is locked and the grinding takes place as already described. It is suitable to place the box on parallel pieces so that the cutter can be turned without touching the plane table.

Instead of being driven by the motor 5 the grinder, of course, may also be driven by a belt, rope or another suitable transmission.

In the embodiment diagrammatically shown in Fig. 3 reference character 10*b* indicates an auxiliary standard, and 5*a* a motor without base and having two lugs 31, which by means of pins 32 are turnably connected to the outer ends of the arms 8*a* and 8*b* which are pivotable around the standards. The grinder is fixed to the motor shaft as in Fig. 1, and adjusting screws 17*a* and 17*b* carry the same at the desired level. The standards 10*a* and 10*b* are placed on the iron table 12 in such a manner that the central lines *c* and c^1 of the arms are parallel to one another and form right angles with the transverse line *d* when the arms and the motor 5*a* assume the middle position. In order that the sideward motion of the motor shaft shall be practically straight the pins 32 at middle position should have passed the line *d* as much as they are removed from said line in the outer positions. The dotted lines show the device in one of the outer positions. In the shown embodiment the arms 8*a* and 8*b* are symmetrical.

Obviously the embodiments and parts herein may be more or less varied from the exact constructions shown and described without departing from the spirit of the invention, and any means equivalent to said parts respectively may be employed, the essential novelty being in an attachment which may be mounted upon the planer bed or the like and support and operate a grinder after the manner and with the effect obtained in and by the present device.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A device for grinding straight edges com-

prising a support, in combination with an arm connected pivotally movable to said support, a frame pivotally connected to the outer end of said arm and comprising a rotatable shaft provided with a grinder, an auxiliary arm movably connecting the opposite side of said frame to an auxiliary support in order to guide the grinder in a more straight line.

2. Device for grinding straight edges on planer cutter blades while the same are still secured to the cutter head in the planer, having a standard, adapted to be attached to the planer table, a single rigid arm carrying and horizontally guiding the grinder and a motor, said arm being pivoted about an axis coinciding with the axis of the standard, and an auxiliary standard turnably connected to the motor and the grinder by means of a second pivotable arm.

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