H. B. FOLEY & J. F. TRACEY.

PORTABLE GRINDING DEVICE FOR SHARPENING KNIVES OF JOINTING OR PLANING MACHINES.

APPLICATION FILED OCT. 9, 1911.

**1,038,500.** **Patented Sept. 10, 1912.**

2 SHEETS—SHEET 1.

Fig. 1

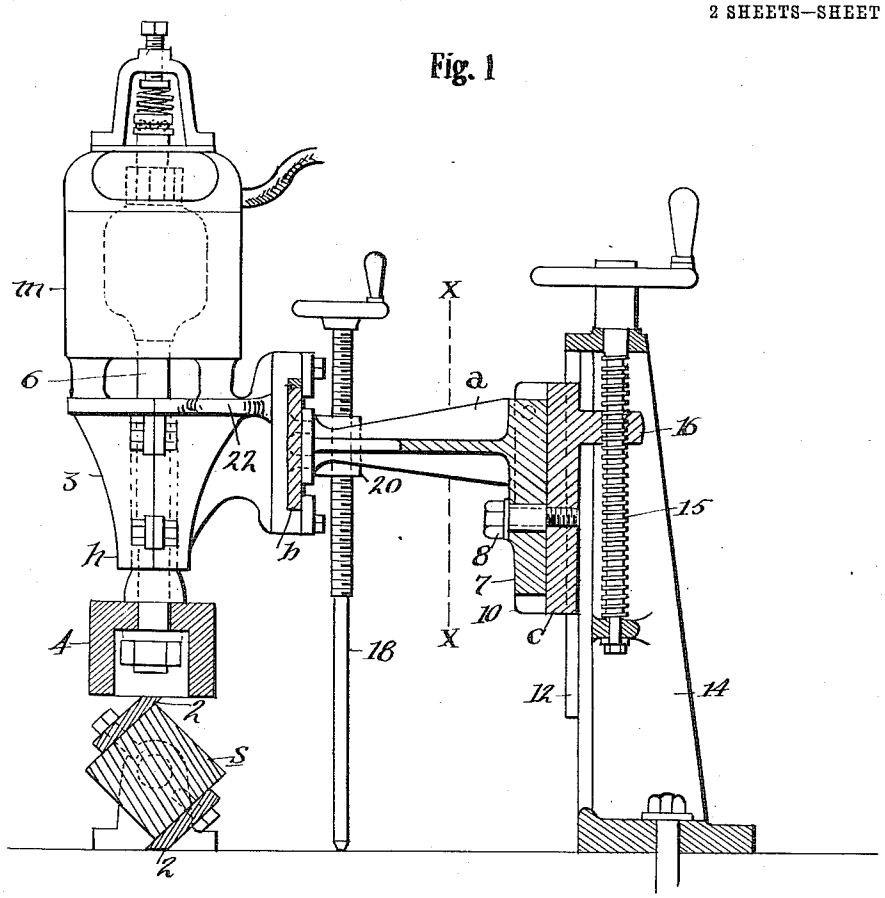
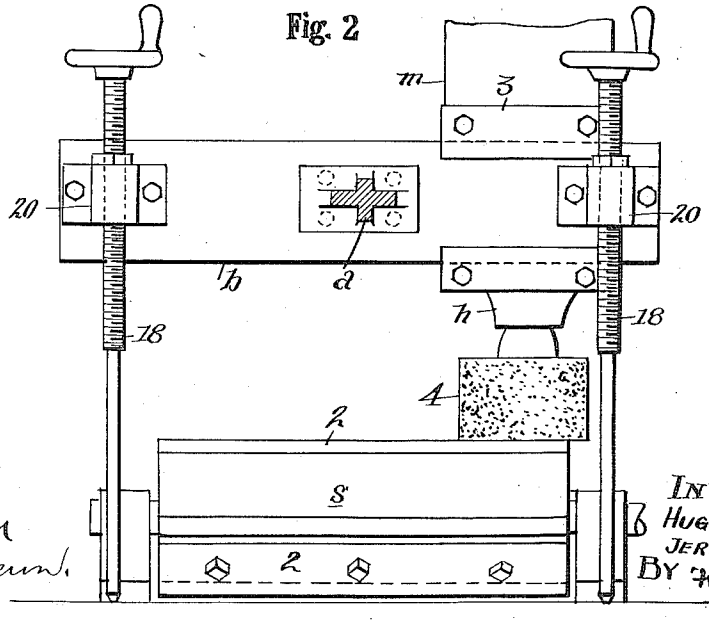



Fig. 2




ATTEST
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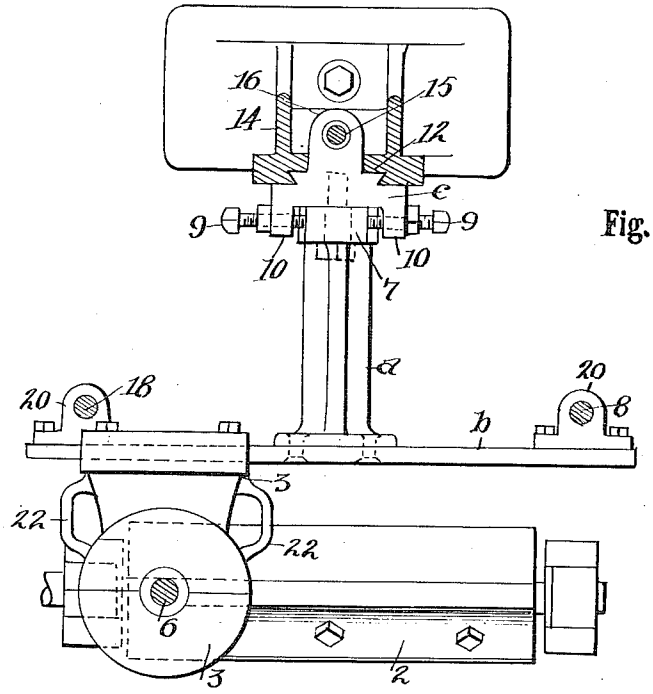


Fig. 3

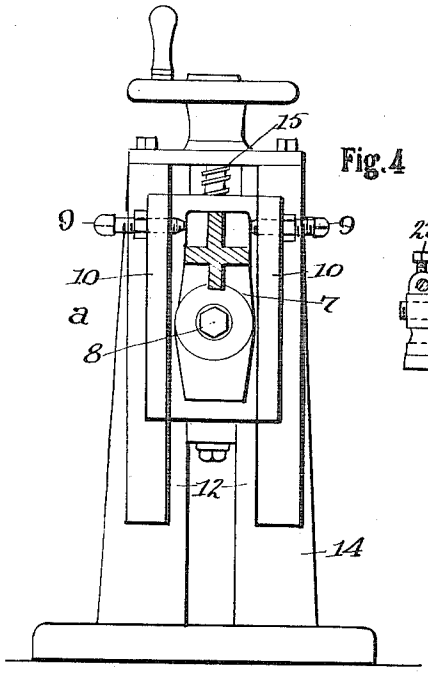


Fig. 4

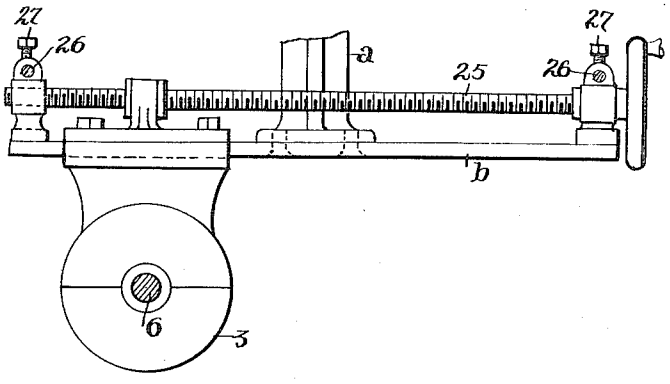


Fig. 5

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# UNITED STATES PATENT OFFICE.

HUGH B. FOLEY AND JEREMIAH F. TRACEY, OF CLEVELAND, OHIO, ASSIGNORS, BY DIRECT AND MESNE ASSIGNMENTS, TO THE FOLEY-WARDWELL MANUFACTURING COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

## PORTABLE GRINDING DEVICE FOR SHARPENING KNIVES OF JOINTING OR PLANING MACHINES.

1,038,500. Specification of Letters Patent. **Patented Sept. 10, 1912.**

Application filed October 9, 1911. Serial No. 653,546.

*To all whom it may concern:*

Be it known that we, HUGH B. FOLEY and JEREMIAH F. TRACEY, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Portable Grinding Devices for Sharpening the Knives of Jointing or Planing Machines, of which the following is a specification.

This invention relates to a portable grinding device for sharpening the knives of jointing or planing machines, and the invention consists in a device which is adapted to be temporarily attached to a planer or jointer base and is provided with a rotatable grinder adapted to run over the beveled edge of the blades and sharpen the same, all substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of the attachment partly in section, and Fig. 2 is a cross section on a line corresponding to *x*—*x*, Fig. 1. Fig. 3 is a plan view with the motor seen in Fig. 1 removed and the means for turning the adjusting rods sectioned away. Fig. 4 is an elevation looking to the right from line *x*—*x*, Fig. 1. Fig. 5 is a plan view of a modification showing a screw feed for the grinder slide.

As thus shown the attachment is constructed to be brought to the planer and supported on the base thereof, say as seen in Fig. 1, wherein the bed plate A affords support and the one or more cutter blades 2 are mounted on a rotatable head or support *s* as usual, the object being to sharpen the blades uniformly from end to end without removing the blades from the rotatable head. Obviously, it is of the first importance that all the blades should be so sharpened as to have perfectly straight cutting edges and that those on the same shaft or support should be ground to exactly the same cutting depth. It is claimed for the present attachment that it will accomplish this result with accuracy and speed, and the invention therefore comprises a support 3 for the grinder 4 of substantially right angled outline in this instance and which is adapted to slide on a horizontally disposed track or bar *b* set edgewise and adjustable as to elevation and for leveling, as hereinafter described. The said support or head 3 also is constructed to provide a table on its top for the electric motor *m* and has a bearing centrally through the same for the shaft 6 of the motor which also carries the grinder 4 supported on its lower end beneath head *h*. Said head *h* therefore is preferably made in two parts bolted together and having the bearing for said shaft between said parts, and the grinder is fixed on the otherwise exposed end of said shaft and is approximately cup shape in this instance and has a flat grinding rim adapted to contact with the blades as it travels over the same from end to end. The said grinder may be made of any suitable material and is comparatively wide in its grinding surface so as to promote even work upon the blades. A bracket 7 has an arm *a* which forms a rigid horizontal support for said bar *b*, and said bracket is mounted on a carrier *c* by means of a pivot bolt or screw 8 engaged in said carrier through approximately the middle portion of said bracket and on which the bracket has a limited lateral swing or pivot adapted to be communicated to the bar *b* to level the same in getting the right position of the grinder on the blades 2. Set srews 9, Fig. 4, are therefore provided through the side flanges 10 on the face of carrier *c* which serve to adjust said bracket either way on its pivot 8 as the said several parts to be leveled may require. The carrier *c* is vertically adjustable in the dovetailed guideways 12 for said bracket in the face of the main supporting standard 14, and said standard is adapted to be temporarily bolted to the planer base as shown and carries a hand adjusting screw 15 vertically at its center which engages through a threaded lug or projection 16 on the back of carrier *c* and serves to fix the elevation of said carrier as the work may require. Two adjusting screw stems or standards 18 are shown as engaged through small threaded brackets 20 on the back and ends of the cross-bar *b* and serve as the immediate supports of said bar and the parts carried thereby and whereby the more delicate adjustments may be effected for fixing the working position of the grinder 4. These standards therefore

have fine threads and have hand wheels to control them as in the case of screw 15.

In operation the head *h* which carries the grinder is moved back and forth on the supporting bar *b* by gripping the same in the handholds 22 as shown herein but other means might be provided to effect these working movements, and the said head may be adapted to slide on said bar or to run on rollers as may be preferred, an easy movement thereof being desirable. This of course carries the motor along with the grinder as both have the same shaft, and the attachment comprises all the several parts shown except the cutter blade and the planer bed, and in which the bar *b*, the standard 14 and the intervening parts practically constitute a frame work adapted to support the grinder and operate the same as above described.

Obviously the parts herein may be more or less varied from the exact constructions shown and described and not depart 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 and support and operate a grinder after the manner and with the effect obtained in and by the present device.

In very wide planers where hand engagement with hand holds 22 might prove difficult, we prefer to operate the sliding support 3, by a feed screw 25, substantially as shown in Fig. 5, and in place of screw-adjusting stems 18 we may use slidable rods 26 fastened by set screws 27.

What we claim is:

1. A device for sharpening planer blades comprising an upright support and an arm adjustable vertically thereon having a track-bar on its outer end, in combination with a substantially right angled head horizontally slidable on said bar and a rotatable shaft vertically through said head having a grinder fixed on its lower end.

2. A device to sharpen planer blades comprising a frame adapted to be fixed on the planer bed plate and comprising a horizontally disposed bar, an arm supporting the same at its middle adjustable to different elevations in respect to said plate, and independent means adjustably supporting the ends of said bar and adapted to level the same in respect to said bed plate, in combination with a grinder for said blades and a supporting head therefor adapted to be moved back and forth horizontally on said bar.

3. A sharpening device for planer blades comprising a horizontally disposed guide and supporting bar, an arm supporting said bar and means adjustably supporting the said arm as to elevation, in combination with a substantially right angled head slidable horizontally on said bar, a shaft vertically through said head and a motor on the upper end thereof and a grinder on the lower end.

4. A planer having a base and blades thereon, in combination with a grinder supporting mechanism comprising a standard fixed on said base and an arm vertically adjustable on said standard and a cross-bar fixed on said arm, independent standards adjustably supporting the ends of said cross-bar and a grinder and a head carrying the same horizontally slidable on said bar.

5. The attachment described comprising a fixed standard and a carrier adjustable vertically thereon, a bracket pivotally and adjustably mounted on said carrier and adjusting standards adapted to support the outer portion of said bracket, a guide-bar fixed on said bracket, a head slidable horizontally on said guide-bar, a power driven shaft having its bearing in said head and a grinder supported next beneath said head.

In testimony whereof we affix our signatures in presence of two witnesses.

HUGH B. FOLEY.
JEREMIAH F. TRACEY.

Witnesses:
R. B. MOSER,
F. C. MUSSUN.