March 1, 1932. C. G. SCHMID 1,847,728

BLADE SLOPE INDICATOR

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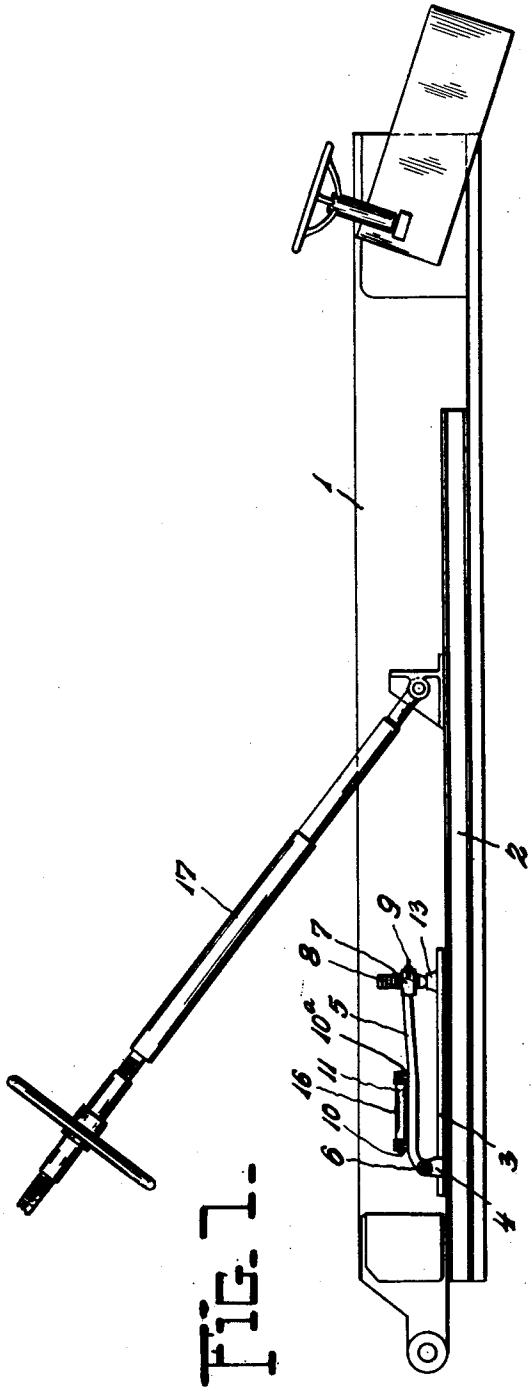


FIG. 1.

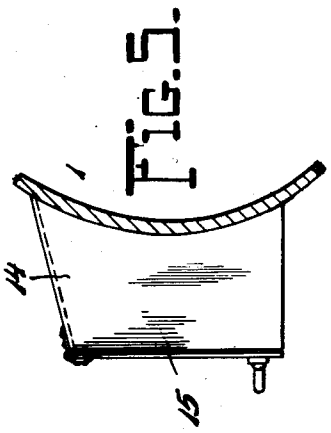


FIG. 5.

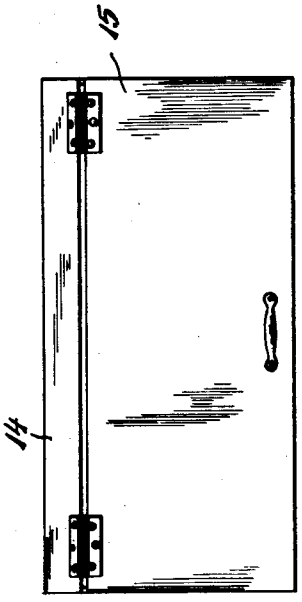


FIG. 4.

Inventor
CARL G. SCHMID.

By Robbe Robb

Attorneys

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BLADE SLOPE INDICATOR

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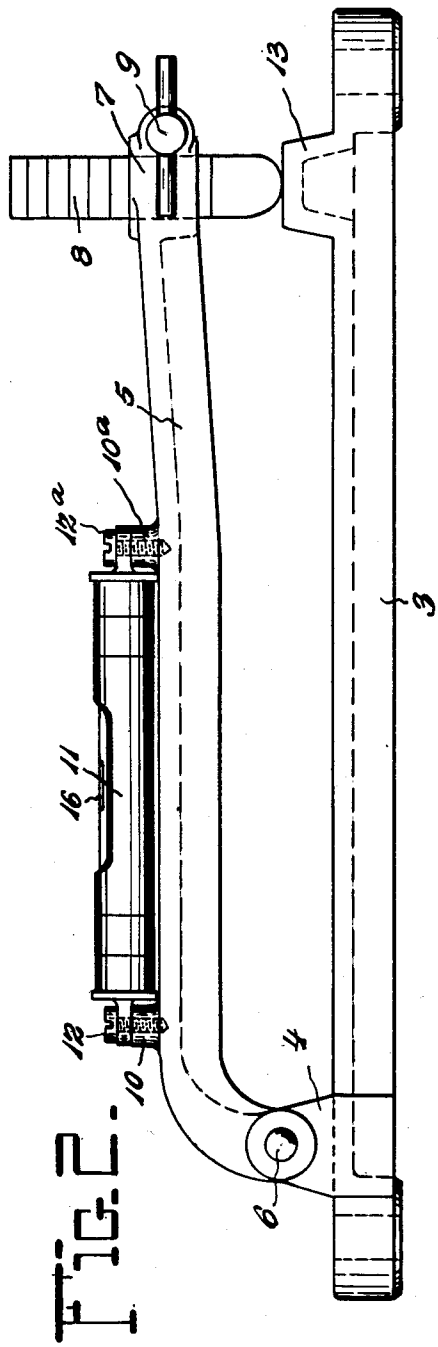


Fig. 2.

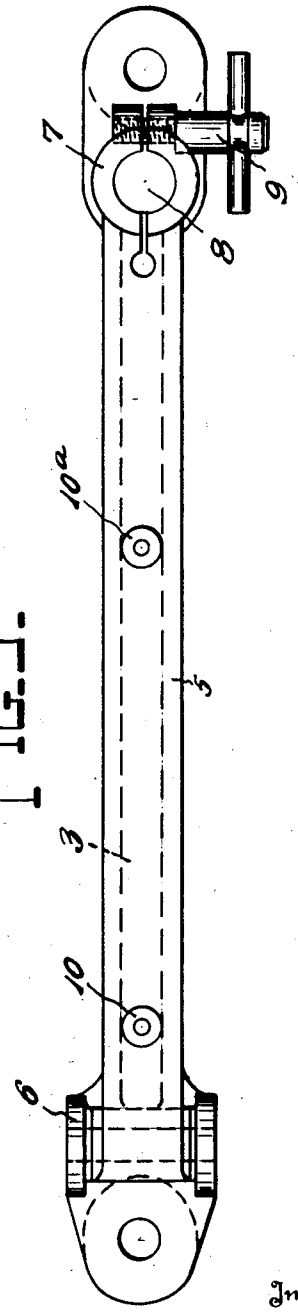


Fig. 1.

Inventor

CARL G. SCHMID.

By Robert Robb

Attorneys

Patented Mar. 1, 1932 1,847,728

UNITED STATES PATENT OFFICE

CARL G. SCHMID, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO INSLEY MANUFACTURING COMPANY, OF INDIANAPOLIS, INDIANA, A CORPORATION

BLADE SLOPE INDICATOR

Application filed August 12, 1931. Serial No. 556,708.

In the finishing of highway shoulders, it is customary to employ machines for this purpose which have an adjustable blade for finishing the height and slope of a shoulder. It is customary to adjust these blades at the proper angle so that the slope of the shoulder will conform to the regulations of the state in which the highway is being laid. In operating the machine there are times when it is necessary to raise the blade to clear culverts and other obstructions which makes it necessary to restore the shoulder blade to its predetermined adjustment, the restoration of which is the frequent cause of loss of time and effort.

The present invention embraces the application to a shoulder finishing blade of a simple device by means of which the predetermined adjustment of the blade may be very easily restored whenever desired and with a minimum of effort.

In general the invention comprises the application to a blade of a levelling device, which is made adjustable and which will accordingly indicate when the blade has lost its predetermined adjustment, and also when that adjustment has been restored; the indicator being positive and simple in its operation.

The invention will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 represents a rear elevation of a shoulder finishing blade having the novel indicator of this invention applied thereto.

Figure 2 is an enlarged detail view of the indicator of this invention, showing the details of the mounting thereof.

Figure 3 is a top view of the mounting of the indicator, the indicator itself being omitted.

Figure 4 is an elevation showing a cover for a housing in which the indicating device is adapted to be positioned, and

Figure 5 is a sectional view through the blade showing the housing carried thereon.

Referring more particularly to the drawings, numeral 1 represents a shoulder finishing blade, which has the usual rearwardly extending rib 2. Mounted upon this rib, or carried in any other suitable manner by the blade 1 is an indicator device which comprises the base 3, which is shown as being secured to the rib 2, which base member has an upstanding portion 4 which has in turn the generally horizontally extending arm 5 hinged thereto at 6. The arm 5 terminates in a collar 7 through which projects the graduated scale member 8 which is adjustably secured to the collar 7 through the set screw 9. The arm 5 has two upstanding lugs 10 and 10*a* between which is carried a spirit level or similar device 11. This spirit level is removably secured to the lugs 10 and 10*a* by means of the screws 12 and 12*a*. Conveniently the graduated scale member 8 rests upon the upstanding lug 13 of the base 3.

To protect the indicating device, it may be placed in the housing 14 provided with a hinged cover 15 which is positioned readily accessible to the operator of the finishing machine so that he may at all times be able to conveniently see the indicating means.

In operation, the bar 8 is adjusted vertically in the collar 7 to that graduation which will give required slope to the blade. The said screw 9 is then tightened and then by adjusting the strut 17, the blade is brought into a position which will result in the bubble of the level 11 reaching a center position. The main blade 1 is then in proper adjustment for the predetermined slope.

When, during the operation of the machine the blade 1 loses its predetermined adjustment, the variation will be indicated by the difference in position of the bubble 16, which will show the operator of the machine at a glance that the machine is not performing its proper finishing work. Similarly, the indicator will tell at a glance when the adjustment has been restored, this being accomplished through the proper operation of the adjusting device or strut 17.

While this invention has been described as being applied to a shoulder finishing machine, obviously it may be employed in a similar manner in many other installations, and that the specific adaptation of the device as herein given and illustrated is to be

taken as an example only of one adaptation of the device. It will also be apparent that the details of the device may be varied from those herein specifically illustrated and described without departing from the inventive concept, and it will be apparent that such changes will readily suggest themselves to those skilled in the art. It will be accordingly understood that it is intended and desired to embrace within the scope of this invention such modifications and changes as may be necessary to adapt it to varying conditions and uses.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is—

1. A shoulder finishing machine comprising the combination with an angularly adjustable shoulder finishing blade, of an adjustably mounted level indicating device carried by the blade, the said device having a base, a movable arm carried by the base, a level indicating device carried on the arm, a graduation scale adjacent the arm, and means for securing the said arm to the scale in level position at a predetermined angular adjustment, to thereby indicate variations of the blade from the said predetermined adjustment.

2. A shoulder finishing machine comprising the combination with an angularly adjustable shoulder finishing blade, of an adjustably mounted level indicating device carried by the blade, the said device having a base, having an upstanding projection, a movable arm hingedly mounted upon the projection and terminating in a collar, a level indicating device carried on the arm, a graduated scale passing the collar, and set means for securing the said arm to the scale in level position at a predetermined angular adjustment to thereby indicate variations of the blade from the said predetermined adjustment.

In testimony whereof I affix my signature.

CARL G. SCHMID.