F. T. HIGHAMS.

CUTTER.

APPLICATION FILED MAY 10, 1915. RENEWED FEB. 8, 1917.

1,239,486. Patented Sept. 11, 1917.

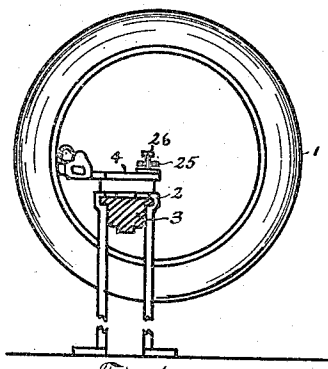


Fig. 1

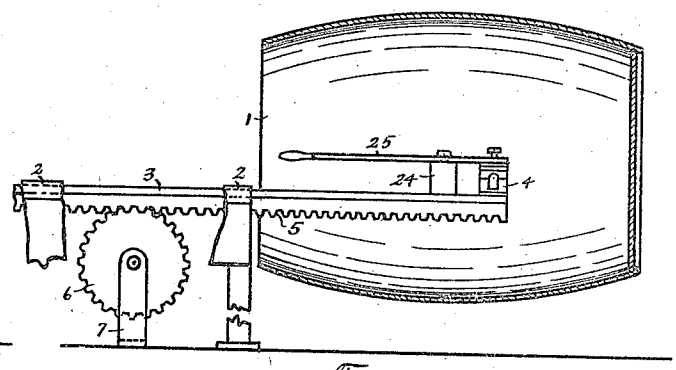


Fig. 2.

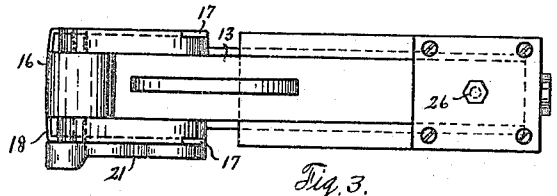


Fig. 3.

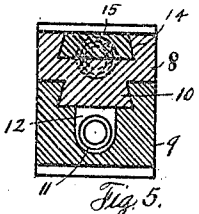


Fig. 5.

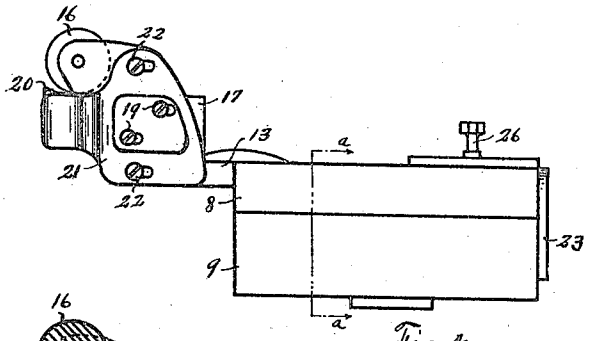


Fig. 4.

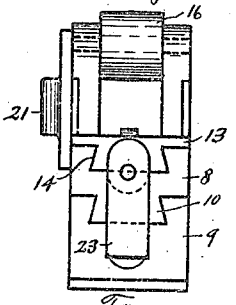


Fig. 6.

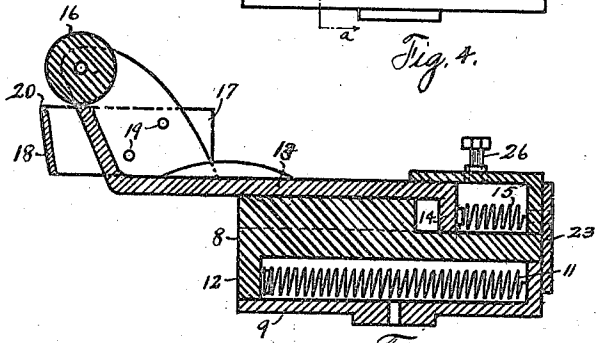


Fig. 7.

WITNESSES:

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CUTTER.

1,239,486. Specification of Letters Patent. Patented Sept. 11, 1917.

Application filed May 10, 1915, Serial No. 27,061. Renewed February 8, 1917. Serial No. 147,494.

To all whom it may concern:

Be it known that I, FRANK T. HIGHAMS, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in Cutters, of which the following is a specification.

This invention relates to new and useful improvements in cutters.

The object of the invention is to provide a cutter of the character described specially adapted for smoothing the inside of barrels, kegs and the like, which are formed from wooden staves.

With the above and other objects in view, the invention has particular relation to certain novel features of construction, operation and arrangement of parts, an example of which is given in this specification and illustrated in the accompanying drawings, wherein:

Figure 1, shows an end view of a barrel, with the cutter in position therein.

Fig. 2, shows a sectional side elevation thereof.

Fig. 3, shows a plan view of the cutter.

Fig. 4, shows a side elevation thereof.

Fig. 5, shows a transverse sectional view, taken on the line *a—a*, of Fig. 4.

Fig. 6, shows an end view thereof, and,

Fig. 7, shows a longitudinal sectional view thereof.

Referring now more particularly to the drawings, wherein like numerals of reference designate similar parts in each of the figures, the numeral 1, refers to a barrel, which, when being operated upon, is mounted so as to be rotatable, but it has not been thought necessary to show the means for rotating the barrel, as any suitable means may be adopted, and the rotating means constitutes no part of the invention. The barrel is shown with one end open and slidably mounted in the stationary bearings 2, 2, is the cutter bar 3, which projects into the barrel and carries on its inner end the cutter 4. The underside of the bar has a rack-face 5, which meshes with the spur gear wheel 6, rotatably mounted upon bearings, as 7, and arranged to be turned manually, as by means of a crank or some similar device of well-known construction, forming no part of the invention and which it is not thought necessary to illustrate in the drawings. The cutter, through the mechanism, described, can be moved back and forth, from end to end of the barrel.

The cutter will now be described in detail: The cutter support consists of the blocks 8 and 9, the former of which is mounted upon the latter having upon its under side the dove-tailed rib 10, which slides in a corresponding dove-tailed groove in the upper side of the block 9. Within said block 9, is a coil push-spring 11, which is interposed between the end of the block and the depending lug 12, carried by the opposite end of the block 8. A cutter-bar 13, is slidably mounted in a dove-tailed groove 14, in the upper face of the block 8, and interposed between the lug 14, depending from this bar and the opposite end of the block 8, is the push-spring 15, for a purpose to be hereinafter set forth. The free end of the bar 13, is curved upwardly and bifurcated and between the fingers thereof, the roller 16, is rotatably mounted, and a U shaped cutter having the arms 17, 17, and the transverse portion 18, embraces said fingers, the cutter arms resting in suitable grooves in the outer side of the respective fingers and being secured to the fingers by means of set-screws, as 19, which pass through oblong slots in said cutter arms and are screwed into tapped holes in the corresponding fingers. These screws may be loosened and the cutter adjusted thereon and the screws again tightened, thus regulating the depth of the cut taken by the cutter, the operative edge of whose transverse portion is sharpened, as at 20. An adjustable guard 21, is carried by the outer side of one of the fingers of the cutter bar. This guard is secured to said fingers by means of set-screws 22, 22, which pass through oblong slots in the guard and are screwed into tapped holes in said fingers, and by loosening said screws, the guard is adjustable by reason of said oblong slots. The free end of this guard extends out along side the transverse portion of the cutter and rests against the surface being smoothed and when set in position prevents the cutter from cutting too deep into the wood.

As hereinbefore stated, the device is mounted upon the inner end of the bar 3, and transversely with reference thereto, so that the roller 16 and guard 21, will rest against the inner side of the keg or barrel, and the U shaped cutter is adjusted so as to

operate upon the surface to be smoothed. The barrel is then rotated and the inner surface, which is rough, will be gradually planed down to a smooth surface. From the construction hereinbefore described, it is obvious that the cutter bar 13, is yieldably mounted, being seated directly against the coil spring 15, and indirectly against the coil spring 11. When, for example, the cutter encounters an unusual elevation, the bar 13, will be forced back sliding in its groove and compressing the spring 15. This in turn, will force the block 8 back relative to the block 9, compressing the spring 11. The cutter bar is thus, in effect, seated against a double resilient cushion.

A stock 23 is pivoted to the rear end of the block 8 and engages against the corresponding end of the block 9, thus limiting the range of movement of the former relative to the latter. As the barrel turns, the cutter is moved from end to end thereof by turning the spur gear wheel 6, as hereinbefore explained, until the inner side of the barrel is smoothed to the desired degree.

Mounted upon the bar 3, near its inner end, is a bearing 24, pivoted upon which is a hand lever 25, whose inner end is bifurcated, the fingers thereof, embracing the pin 26, upstanding from the block 8. By means of this lever, the cutter may be held firmly against the surface to be cut away. This will only be resorted to in case of an unusually hard surface where the pressure of the springs 11 and 15, is not sufficient to cause the cutter to penetrate the surface being operated upon.

While I have shown only one form of this device, it is obvious that the mechanical structure thereof may be varied without departing from the principle of the invention, and I hereby reserve the right to make such structural changes, as may be found necessary so long as I do not depart from the principle as set forth in the appended claim.

What I claim is:

A device of the character described including a supporting bar, bearings in which the same is slidably mounted, a means for moving said bar back and forth in its bearings, a cutting device carried by said bar, said device including a support formed of two parts dovetailed together, a resilient seat interposed between said parts, a cutter bar dovetailed to said support, a resilient seat interposed between said cutter bar and support, means for limiting the operation of said resilient seats, a roller carried by the free end of the bar, a cutter blade also fixed to the free end of said bar and a guard adjustably mounted upon the free end of said cutter bar.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK T. HIGHAMS.

Witnesses:
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G. A. RALLS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."