(No Model.)

D. H. JUDD.

BARREL OPENER.

No. 373,528. Patented Nov. 22, 1887.

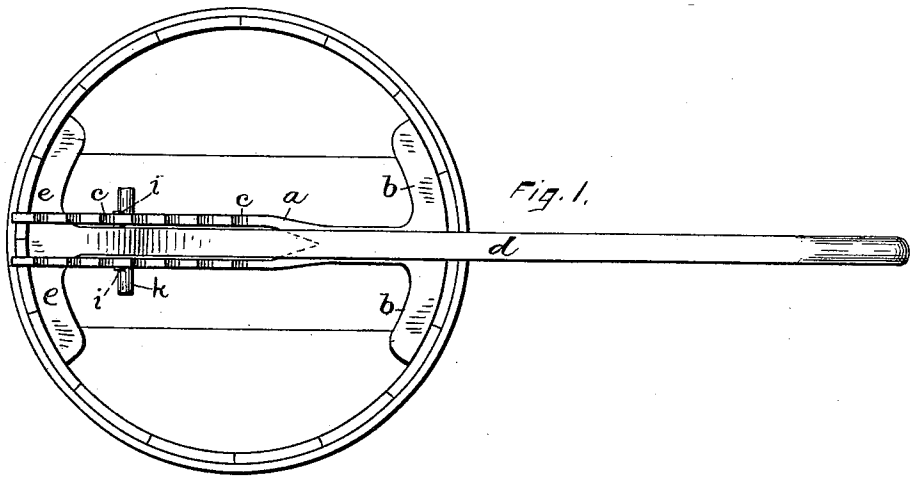


Fig. 1.

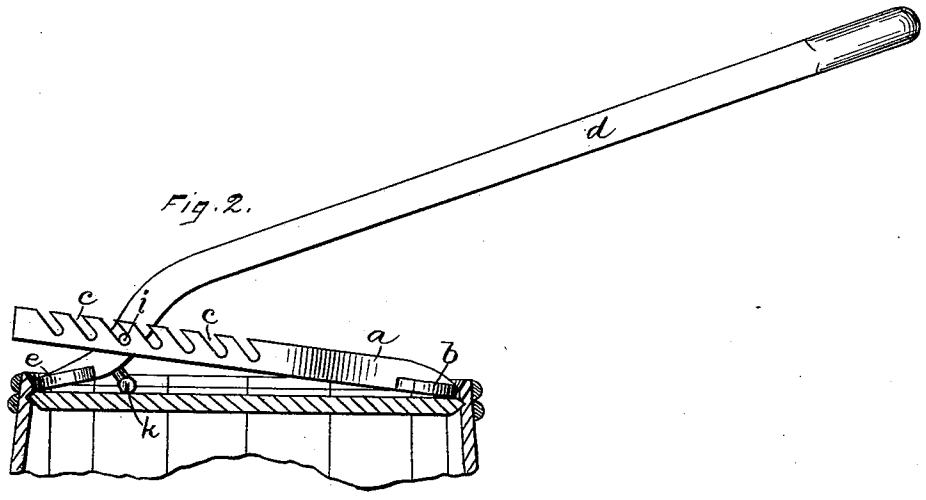


Fig. 2.

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UNITED STATES PATENT OFFICE.

DAVID H. JUDD, OF BRISTOL, CONNECTICUT.

BARREL-OPENER.

SPECIFICATION forming part of Letters Patent No. 373,528, dated November 22, 1887.

Application filed July 21, 1887. Serial No. 244,873. (No model.)

To all whom it may concern:

Be it known that I, DAVID H. JUDD, a citizen of the United States, residing at Bristol, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Barrel-Openers, of which the following is a specification.

Barrels have been commonly opened heretofore by either removing or "starting up" the end hoops, thus relieving the compressing strain of said hoops and allowing the head-section to be easily removed. This has been the practice when it was desired to save the heads; but in many cases the hoops are too securely nailed, and rather than spend the time necessary to remove each nail the head is often driven inward or broken out piece by piece, and thus destroyed. The barrel is thus rendered practically useless and unsalable, whereas if the heads are saved the complete barrel always has a marketable value and may be readily turned into a certain amount of cash.

My invention relates to barrel-openers; and the object of my improvement is to produce a simple device by means of which one or both heads may be quickly removed from barrels without removing the hoops and without injuring the heads.

In the accompanying drawings, Figure 1 is a top view of a barrel having my opener in position ready for use, and Fig. 2 is a side elevation of said opener, showing, also, a section of the barrel.

My device may be briefly described as a lever and spreader, which, acting together, spread the ends of certain of the staves, while a projection on said lever forces the middle section of the head downward out of engagement with the chine.

The letter *a* indicates one section of what I term my "spreader." This section has at its outer end laterally-projecting flanges *b*, which are arc-shaped on the outer edge and conform approximately to the circle described by the barrel-head. The body portion of section *a* is preferably slotted or forked, as shown plainly in Fig. 1, the two arms being provided with a series of coincident notches, *c*, to furnish a certain limit of adjustment, so that barrels of different diameters may be opened by the same instrument.

d indicates the operating-handle of my device, being of considerable length to provide suitable leverage, and having formed on its outer end arc-shaped flanges *e*, substantially like the flanges *b*, above described. The fulcrum of lever *d* is formed by trunnions *i*, projecting from each side of said lever and adapted to engage the notches *c*.

Assuming that we have an instrument of the form described and are about to unhead a barrel, the flange of section *a* is first placed on said head against the projecting ends of the staves and immediately over the central section of the head, as shown in Fig. 1; or, in case the head is composed of only two sections, the spreader is placed over the middle seam. Flange *e* of the handle-section is then placed in similar position opposite flange *b*, and the handle *d* is dropped until fulcrum *i* enters and rests in notches *c*, the handle being brought well down toward a horizontal position, so that when power is applied to the lever-handle the spreader will act substantially as a toggle-joint and the flanges *b e* will force the ends of the staves outward a distance sufficient to release the middle section of the head from its retaining groove.

The spreader by its great power practically elongates the end of the barrel—that is, causes it to approach an oval form for the time being—thereby loosening the middle of the head and allowing it to be easily removed by pressing it inward, which latter movement is accomplished by adding to the lower side of lever *d*, near the flange *e*, a projecting arm, *k*, which engages and forces downward the head-section. The arm *k* should not act until the opener has a good hold on the chine. The sections of the head may then be readily removed and preserved for future use. Aside from the matter of economy in preserving the barrel intact for future use, my device is also valuable in that it does its work quickly, the entire operation of removing the head occupying scarcely a minute of time.

My spreading device would be, in a measure, satisfactory if used without the arm *k*, as the head could be pressed downward by hand; but I prefer the complete form substantially as shown. I pivotally connect the two parts of the spreader by means of notches and trun-

nions for convenience of more readily changing the spreader for different sizes of barrels; but it is evident that a removable bolt or pin and a series of holes instead of notches would admit of the same adjustment of the pivotal connection in a less expeditious manner.

The head-depressing arm *k* is preferably extended laterally a considerable distance, as shown in Fig. 1, so that the middle section of the head may be depressed bodily with no inclination to cramp or split.

I claim as my invention—

1. The within-described barrel spreader, consisting of a notched bar having one end formed to engage the chine on one side of a barrel, in combination with a lever-arm having both an end formed to engage the opposite chine and trunnions to engage the said notches, the said parts being so proportioned that when assembled as herein described the action of the connecting-joint will act to spread the barrel end, as and for the purpose specified.

2. A barrel-opener consisting of two lever-arms pivotally connected, having laterally-projecting flanges, arc-shaped on their outer edges, and adapted to be entered between the chines on opposite sides, whereby the action of the connecting-joint will act to spread the barrel end, substantially as described, and for the purpose specified.

3. A barrel-opener consisting, essentially, of two lever-arms pivotally connected and adapted to be entered between the chines on opposite sides, as herein described, for the purpose of spreading said chines, one of said arms being provided with a head-depressing arm, *k*, projecting laterally, as and for the purpose specified.

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