E. A. MITCHELL.

AGITATOR.

APPLICATION FILED FEB. 10, 1909.

955,978. Patented Apr. 26, 1910.

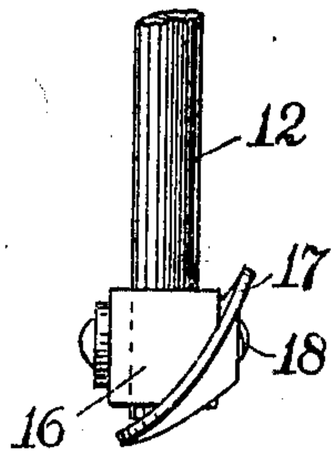


Fig. 5

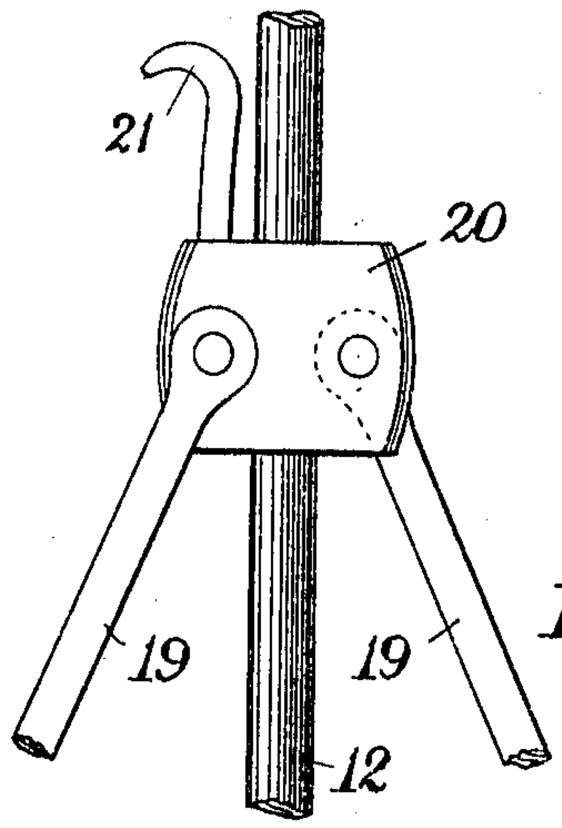
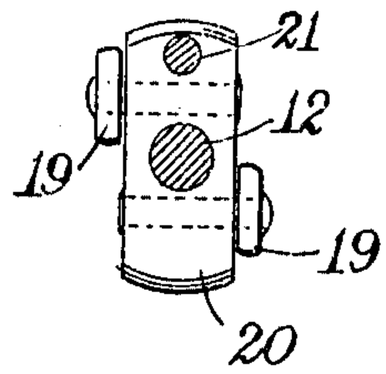


Fig. 3

Fig. 4



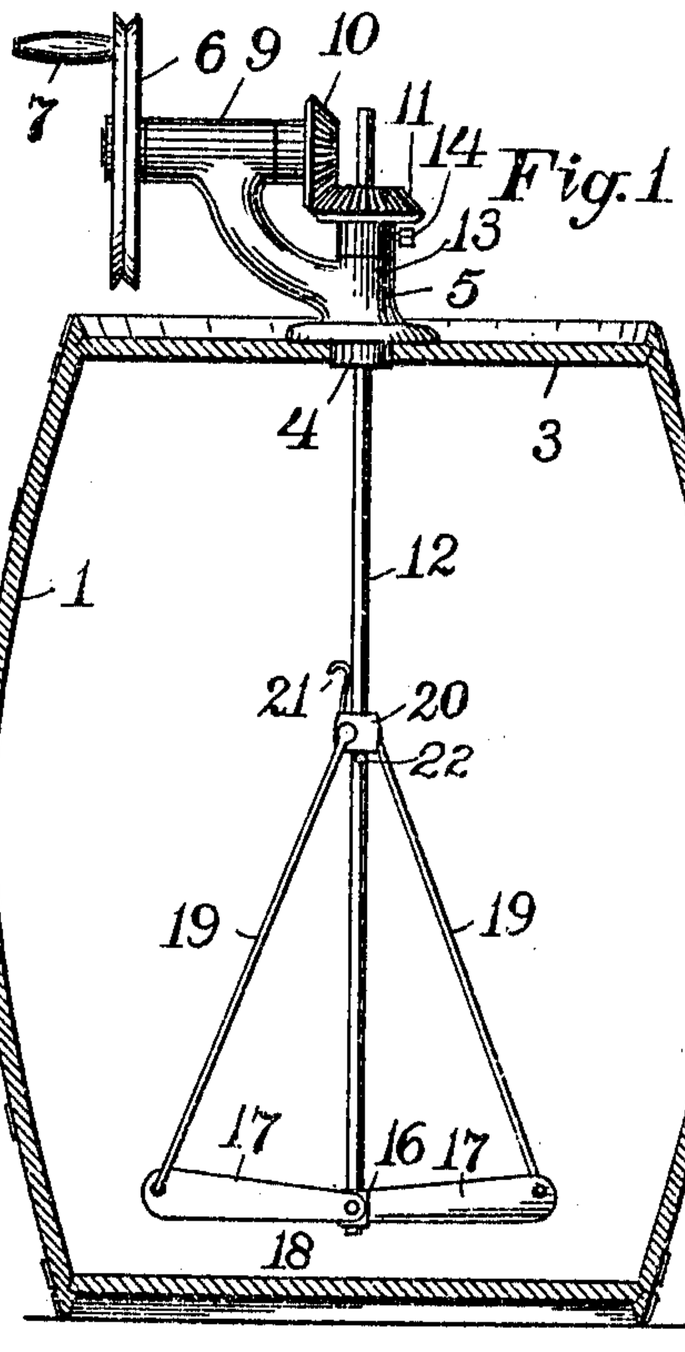


Fig. 1

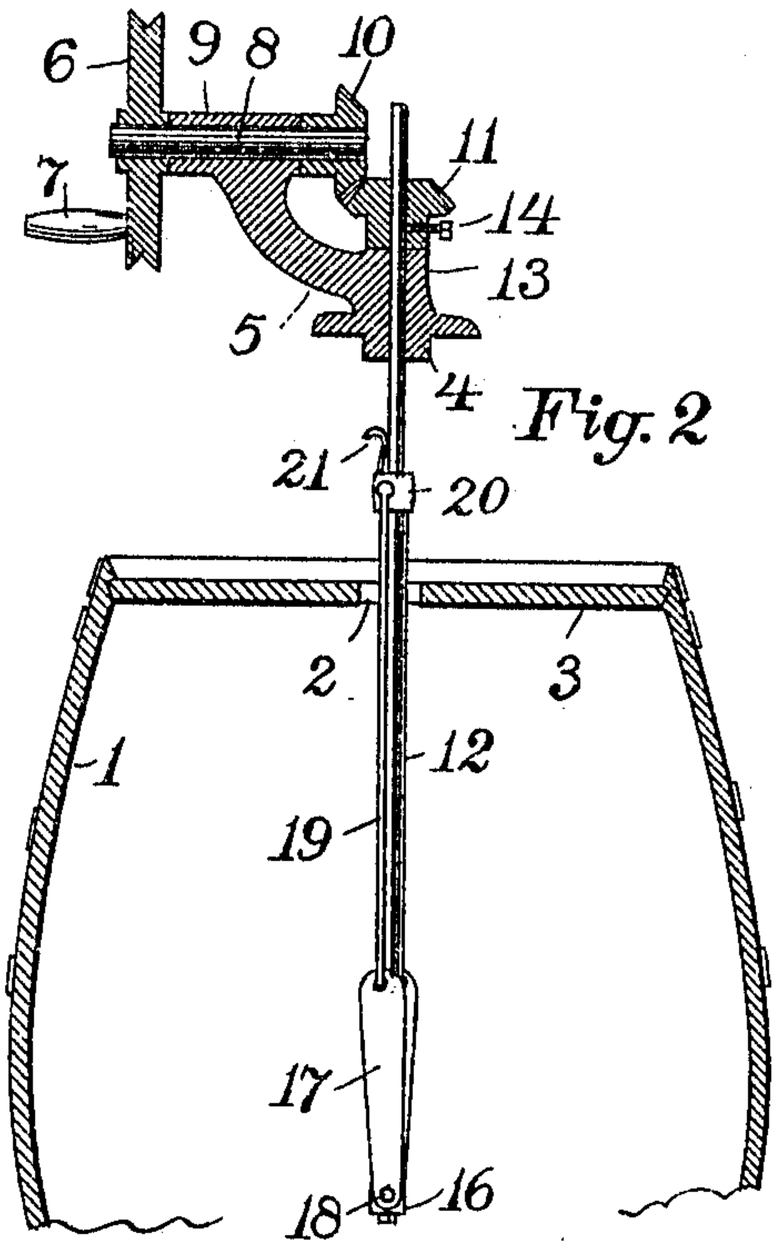


Fig. 2

Witnesses;

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UNITED STATES PATENT OFFICE.

EBEN A. MITCHELL, OF LYNN, MASSACHUSETTS.

AGITATOR.

955,978. Specification of Letters Patent. Patented Apr. 26, 1910.

Application filed February 10, 1909. Serial No. 477,241.

To all whom it may concern:

Be it known that I, EBEN A. MITCHELL, a citizen of the United States, and a resident of the city of Lynn, in the county of Essex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Agitators, of which the following is a specification.

This invention has for its object the construction of an agitator for the stirring or agitating of blacking and other liquid mixtures in receptacles and barrels, which agitator shall be capable of ready introduction through, and withdrawal from, a restricted aperture to the contents of such receptacle.

To this end, my invention consists essentially of a shaft having means for its rotation and carrying at its operative extremity one or more transverse arms or agitating blades which can be easily brought into close parallelism with such shaft for passing the same through a small opening leading to the interior of the barrel or other receptacle.

Referring to the drawings forming part of this specification, Figure 1 is a central vertical section of a barrel having my agitator applied thereto, the latter being illustrated in operative condition. Fig. 2 is a similar section of the agitator showing it being either removed from or introduced to a barrel. Fig. 3 is a detail side elevation of the sliding collar to which the blade-holding links are pivotally anchored. Fig. 4 is a horizontal section of the shaft immediately above said collar. Fig. 5 is an end view of the agitator blades or arms.

This agitator is primarily designed for the intermixing and stirring of liquid blacking contained in barrels, but it is equally well adapted for performing the same work in other receptacles containing other fluids liable to precipitation. It is also especially designed for barrels, for the reason that it is made capable of application to and introduction through the usual size of bunghole bored through the heads of barrels.

Examining Figs. 1 and 2 of the drawings, the barrel 1 is seen as having a centrally located bunghole 2 bored through the barrel-head 3. Fitted snugly to this bunghole is the boss 4 of a standard 5 bearing the external mechanism of this agitator; such mechanism comprising the wheel 6 designed to be rotated either by the crank-handle 7 or by motive power suitably belted thereto from any desired source, as an electric motor; the wheel or pulley being grooved for receiving a round belt; a shaft 8 rotative in bearings 9 and rigid at one end with said pulley and at the other with the bevel gear 10; and a bevel gear 11 meshing with the first-named gear and mounted on the agitator shaft 12. This agitator shaft is both rotatable and slidable within the vertical bearing 13 of said standard, being held at the proper height therein by the set screw 14 in the boss 15 of said gear 11. Power applied to the crank-handle 7 or by other means to the pulley 6, communicates the desired rotation to the agitator shaft 12. Fixed upon the lower end of said agitator shaft is a collar 16 to which is pivoted the inner ends of the agitator blades 17, as by a pin or rivet 18, said blades being made just narrow enough for introduction through the bunghole 2, and each twisted as indicated in Fig. 5 in order to give a lifting as well as rotating effect to the barrel's contents. From the other end of each blade rises a slender link or rod 19 pivoted at its upper end to the sliding collar 20; said links being at opposite sides of said collar, as are the blades 17 at opposite sides of the collar 16, in order that when the collar 20 is elevated to its highest position on the agitator shaft, said links and blades shall be brought into as snug a space as possible.

When it is desired to introduce this agitator into a barrel, the blades 17 are swung up into the position illustrated in Fig. 2 and in such position offer no obstruction to the passage of the agitator shaft and themselves through the bunghole 2. For the removal of the same, a further arrangement is needed. This consists of the hook or finger-piece 21 projecting above the collar 20 for an inch or two. The mechanism and agitator shaft being elevated until this finger-piece is brought into and through the bunghole, said finger-piece is seized and the collar 20 drawn up and through the bunghole to a height sufficient to collapse the blades and links,—the agitator shaft being held stationary until such collapsing is effected,—and then the whole thing withdrawn from the barrel. It is, of course, necessary to provide a stop 22 on the agitator shaft in order to keep the collar 20 from descending too far thereon, and so permitting the agitator blades to fall below the substantially horizontal position illustrated.

In case this agitator is to be used for a

half-barrel, the set screw 14 is loosened and the agitator shaft 12 slid up therein until its lower end is at the proper height from the bottom of the barrel.

The weight of the standard, the fit of the boss 4 within the bunghole, and the upward lift of the agitator blades against the barrel-contents all combine to hold the mechanism firmly in place upon the barrel-head without other fastening means.

What I claim as my invention and for which I desire to secure Letters Patent, is as follows, to wit:—

1. The combination with a cask or the like having a restricted hole through its wall, of an agitator shaft penetrating said hole, and having means at its exterior end for its rotation, a collar slidable on said shaft, elongated agitating members terminally pivoted at the lower end of said shaft, links connecting said collar and the outer ends of said members, and a slender engaging device rising for a limited distance from said collar, whereby said agitator shaft having been raised until said engaging device rises through said hole, such device can be seized and drawn upward and the agitator members thereby brought up against the said shaft and in shape for the withdrawal of the same through said hole.

2. The combination with a container having a restricted hole through its wall, of an agitator shaft located in said hole, a standard rotatably supporting said shaft and having a boss fitting said hole, means for the rotation of said shaft, agitator blades pivoted to the lower end of said shaft, a collar slidable on said shaft, links joining said blades and collar, and a slender hook rising a limited distance from said collar and adapted to reach through said hole when said collar is brought close up thereto.

3. The combination with a container having a restricted hole through its wall, of an agitator shaft depending through said hole, a standard rotatably supporting said shaft and having a boss fitting said hole, means for the rotation of said shaft, agitator blades pivoted to the lower end of said shaft, a collar slightly less in diameter than said boss slidable on said shaft, and links joining said collar and blades, said blades being wider at their outer ends and concaved along the face next to said shaft when they are in their closed condition; such curvature permitting them to thus occupy less space and to be more freely withdrawn through said restricted hole, while their increased width adds to their agitating effect when in use.

In testimony that I claim the foregoing invention, I have hereunto set my hand this 6 day of February, 1909.

EBEN A. MITCHELL.

Witnesses:
GEO. L. MITCHELL,
WALTER H. SOUTHWICK.