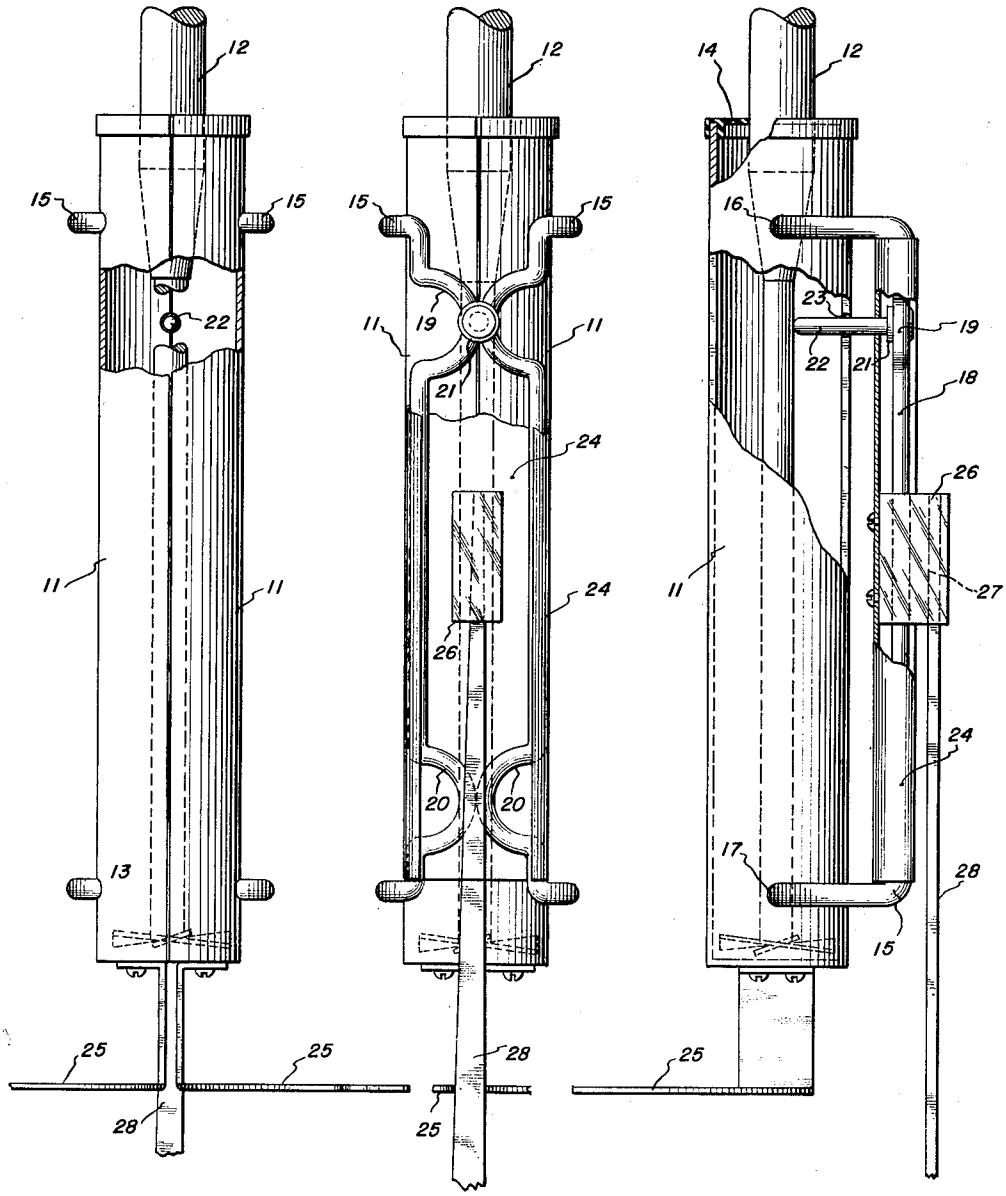
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PROTECTOR FOR DRINK MIXERS

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FIG. 1. FIG. 2. FIG. 3.



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FIG. 6.

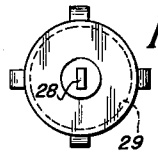


FIG. 8.

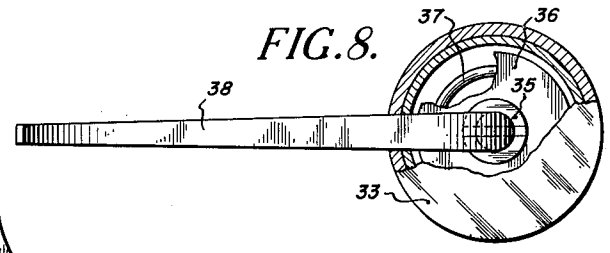


FIG. 5.

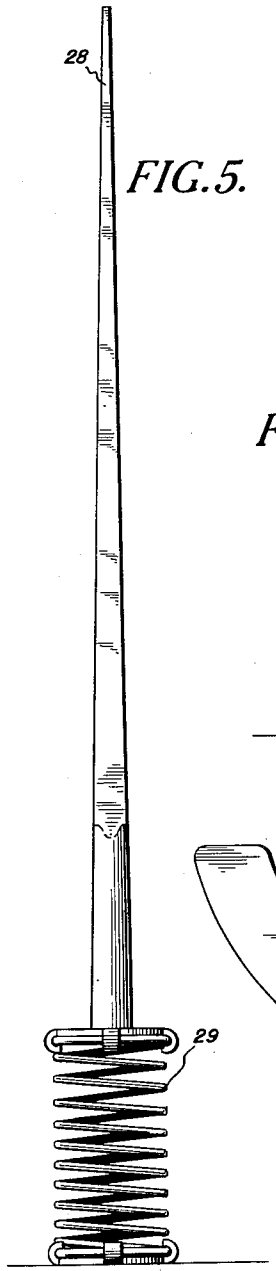


FIG. 9.

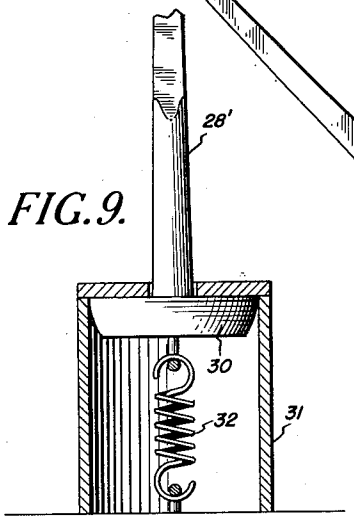
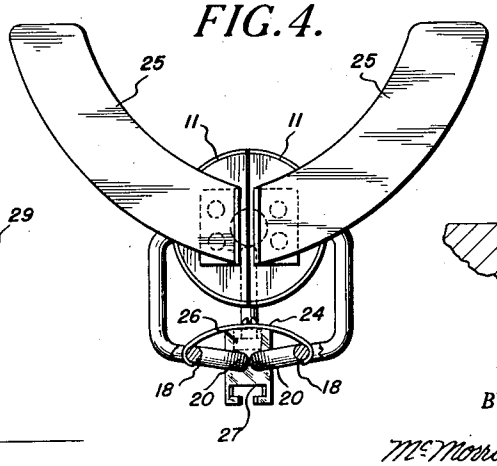


FIG. 7.

FIG. 4.



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PROTECTOR FOR DRINK MIXERS

Samuel W. Cox, Miami, Fla.

Application December 20, 1949, Serial No. 134,101

5 Claims. (Cl. 259—1)

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This invention relates to protectors for mixing machines, and more particularly to means for protecting and covering the agitator and agitating shaft of a mixing machine when the machine is in an idle and inoperative position.

A main object of the invention is to provide a novel and improved protector for the paddle and shank of a mixing machine, said protector being very simple in construction, being easy to manipulate, and providing complete coverage of the mixing agitator and the shaft on which it is mounted, whereby said agitator and shaft will be maintained in clean and sanitary condition.

A further object of the invention is to provide an improved protector for the agitator and shaft of a beverage mixing machine, said protector being inexpensive to manufacture, being sturdy in construction, being readily taken off and placed around the agitator and the portion of the shank on which it is carried, and being neat in appearance.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is a front elevational view, partly in cross section, of an improved mixing machine protector constructed in accordance with the present invention.

Figure 2 is a rear elevational view, with parts broken away, of the protector device of Figure 1.

Figure 3 is a side elevational view, with parts broken away, of the mixing machine protector as shown in Figures 1 and 2.

Figure 4 is a bottom plan view, partly in cross section of the mixing machine protector, illustrated in Figures 1 to 3.

Figure 5 is a front elevational detail view of one form of flexible support for the mixing machine protector of the present invention.

Figure 6 is a bottom plan view of the base portion of the support of Figure 5.

Figure 7 is a vertical cross sectional view of another form of support for the mixing machine protector of the present invention.

Figure 8 is a top plan view, partly in cross section of the support illustrated in Figure 7.

Figure 9 is a fragmentary cross sectional detail view of the base portion of another form of flexible support arrangement for the mixing machine protector of the present invention.

Referring to the drawings, and more particularly to Figures 1 to 4 the protector comprises a pair of elongated semi-cylindrical mating segments 11, 11 adapted to be fitted around the shank 12 of a conventional mixing machine agitator, the agitator being enclosed in the segments, as shown at 13. The ends of the segments are preferably provided with semi-circular covers, the top covers shown at 14, being of rubber or other suitable

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sealing material, the top covers being recessed to accommodate the shank 12. Designated at 15, 15 are respective elongated U-shaped bracket elements secured at their top and bottom arms to the respective segments 11, as shown at 16, 17. The vertical portions of the bracket elements 15 extend parallel to the segments 11 laterally adjacent thereto, as shown at 18. Said vertical portions are formed at their upper and lower portions with semi-circular bends, shown at 19, 19 and 20, 20. The lower bends 20, 20 are in abutment with each other. The upper bends 19, 19 are recessed at their opposing portions and engage around an annularly grooved head element 21 carried on an inwardly extending horizontal pin 22 which extends into the cavity defined by the segments 11, 11, the edges of said segments being recessed, as shown at 23, to provide clearance for the pin. Designated at 24 is an arcuate elongated channel-shaped spring whose ends retain the intermediate portions of the vertical elements 18, as shown in Figure 4, and which exerts inward spring pressure on said vertical elements, urging the bends 19, 19 toward engagement with the groove in the head element 21 and urging the bends 20, 20 into abutment with each other. The force of spring 24 normally clamps the segments 11, 11 together in mating relationship.

Secured to the bottom covers of the respective segments 11, 11 are respective outwardly extending arcuate arms 25, 25, employed as handles for separating the segments 11, 11. When the arms 25, 25 are manually spread apart, the bracket elements 15, 15 are rotated with respect to each other around the axes defined by the vertical members 18, 18, moving the fulcrum bends 20, 20 and the fulcrum head 21 upwardly, as viewed in Figure 4, past a dead center position, whereby toggle action occurs, and the segments 11, 11 are held in separated positions by spring 24. By urging the arms 25, 25 toward each other, reverse rotation of the bracket elements 15, 15 may be obtained, restoring the parts to the positions shown in Figure 4.

Secured to the intermediate portion of spring 24 is an outwardly projecting block 26 formed with a vertical T-shaped groove 27. Groove 27 is adapted to receive the upper portion of an upwardly tapering support bar 28 which is movably secured to the table or counter adjacent the mixing machine. In Figures 5 and 6, the lower end of the bar is secured to the top of a coiled spring 29, the bottom of the coiled spring being anchored to the table or counter. The bar 28 is preferably laterally offset at its upper portion, and the bar is preferably rotatable on the top of spring 29. The protector device of Figures 1 to 4 is supported on tapered bar 28 by the interlocking engagement of said bar in the T-shaped

groove 27. When the protector device is not in use it may be rotated to an out-of-the-way position removed from the mixing machine. When the device is to be engaged on the shank of the mixing machine it is first opened, by spreading apart the arms 25, 25, as above described. Arm 28 is then moved to a position wherein the shank 12 is located between the segments 11, 11. The arms 25, 25 are then urged toward each other to close the segments 11, 11, the pin 22 being engaged against the shank 12, as shown in Figure 3, so as to provide a pilot bearing for properly centering the shank 12 in the cavity defined by the segments 11, 11 and also providing a stational support for the fulcrum head 21, enabling the segments 11, 11 to be rotated toward closing positions against the force of spring 24 until the abutting bends 20, 20 and the head 21 move outwardly past the dead center plane of the spring.

In the embodiment of Figure 9, the lower end of the support bar, indicated at 28' carries an enlarged plunger 30 which is slidably and rotatably received in a cylindrical housing 31 secured to the table or counter near the mixing machine. The plunger 30 is connected to the table surface by a coiled spring 32, biasing the bar 28' downwardly. The top end of bar 28' is tightly wedged in the T-slot 27 and makes a substantially rigid connection therewith. The protector device may be engaged and disengaged from the mixer shank in the same manner as described previously, and may be moved to an out-of-the-way position when its use is not required.

In the embodiment of Figures 7 and 8, the support bar, indicated at 38, extends axially through a cylinder 33 secured to the table or counter near the mixing machine, the lower end of the bar 38 being movably received in a bore 34 formed in the table. Secured to bar 38 is a collar 35. Encircling the bar beneath the collar is a washer 36. A coiled spring 37 encircles the bar 38 below the washer 36, biasing the washer upwardly with respect to the table. The bar 38 is rotatable in cylinder 33 and bore 34, as well as axially movable downwardly against the force of spring 37. The protector device is secured to the top end of bar 38 and is engageable and disengageable from the mixer shank in the same manner as previously described.

While certain specific embodiments of a protector for a mixing machine have been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What is claimed is:

1. A protector for the agitator of a mixing machine comprising a pair of opposing vertical elongated mating semi-cylindrical hollow members, respective U-shaped bracket bars secured to the hollow members, said bracket bars having spaced vertical intermediate portions and each bracket bar being formed with a pair of arcuate loops, the lower loops of the respective bracket bars being in pivotal abutment, an annularly grooved inwardly projecting radial abutment member engaged between the upper loops of the bracket bars and providing a fulcrum bearing therebetween, a vertical arcuate channel-shaped spring connecting said vertical intermediate portions and normally urging the semi-cylindrical members toward mating relationship, respective outwardly extending arms secured to the lower portions of the semi-cylindrical members, a vertically grooved block secured to said spring, and a movable support arm lockingly engageable to the groove of said block.

2. A protector for the agitator of a mixing machine comprising a pair of opposing vertical elongated mating hollow members, a vertical U-shaped bracket bar secured at its ends to each hollow member, respective top and bottom abutments on each bracket bar, the top abutments projecting toward each other and the bottom abutments likewise projecting toward each other, the abutments of one of the bracket bars being pivotally engageable with the abutments of the other bracket bar, and a channel-shaped spring connecting the bracket bars and urging the hollow members together.

3. A protector for the agitator of a mixing machine comprising a pair of opposing vertical elongated mating hollow members, a vertical U-shaped bracket bar secured at its ends to each hollow member, respective top and bottom abutments on each bracket bar, the top abutments projecting toward each other and the bottom abutments likewise projecting toward each other, the abutments of one of the bracket bars being pivotally engageable with the abutments of the other bracket bar, a movable support arm, a channel-shaped spring connecting the bracket bars and urging the hollow members together, and a socket element carried by said spring and lockingly receiving said movable support arm.

4. A protector for the agitator of a mixing machine comprising a pair of opposing vertical elongated mating hollow members, a vertical U-shaped bracket bar secured at its ends to each hollow member, respective top and bottom abutments on each bracket bar, the top abutments projecting toward each other and the bottom abutments likewise projecting toward each other, the abutments of one of the bracket bars being pivotally engageable with the abutments of the other bracket bar, a channel-shaped spring connecting the bracket bars and urging the hollow members together, and respectively outwardly extending arms carried by the hollow members.

5. A protector for the agitator of a mixing machine comprising a pair of opposing vertical elongated mating hollow members, a vertical U-shaped bracket bar secured at its ends to each hollow member, respective top and bottom abutments on each bracket bar, the top abutments projecting toward each other and the bottom abutments likewise projecting toward each other, the abutments of one of the bracket bars being pivotally engageable with the abutments of the other bracket bar, a channel-shaped spring connecting the bracket bars and urging the hollow members together, a fulcrum member received between at least one pair of opposing abutments, and a radially inwardly projecting pin element carried by said fulcrum member.

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