May 28, 1940. T. C. PARKER, JR 2,202,564

AGITATING MACHINE

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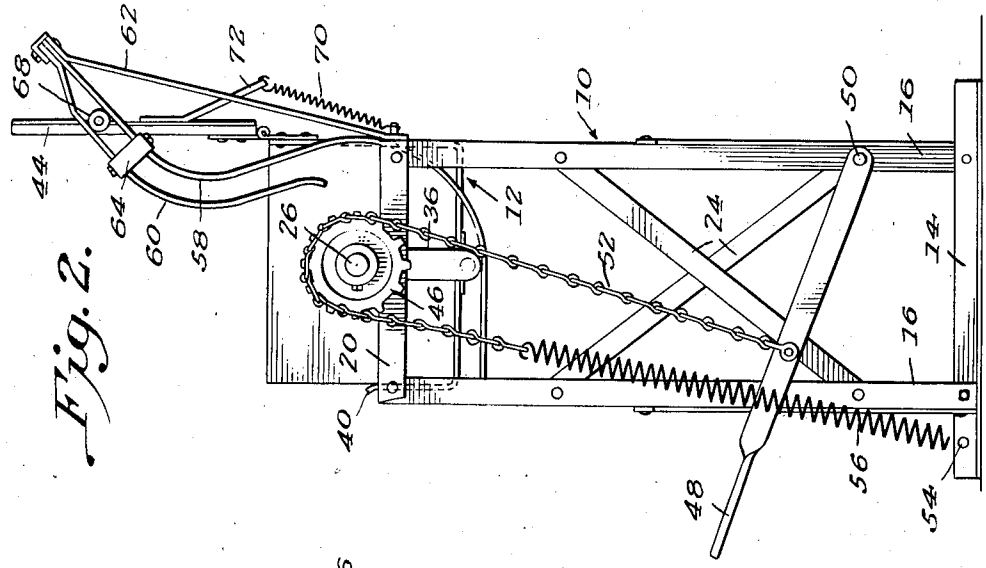


Fig. 2.

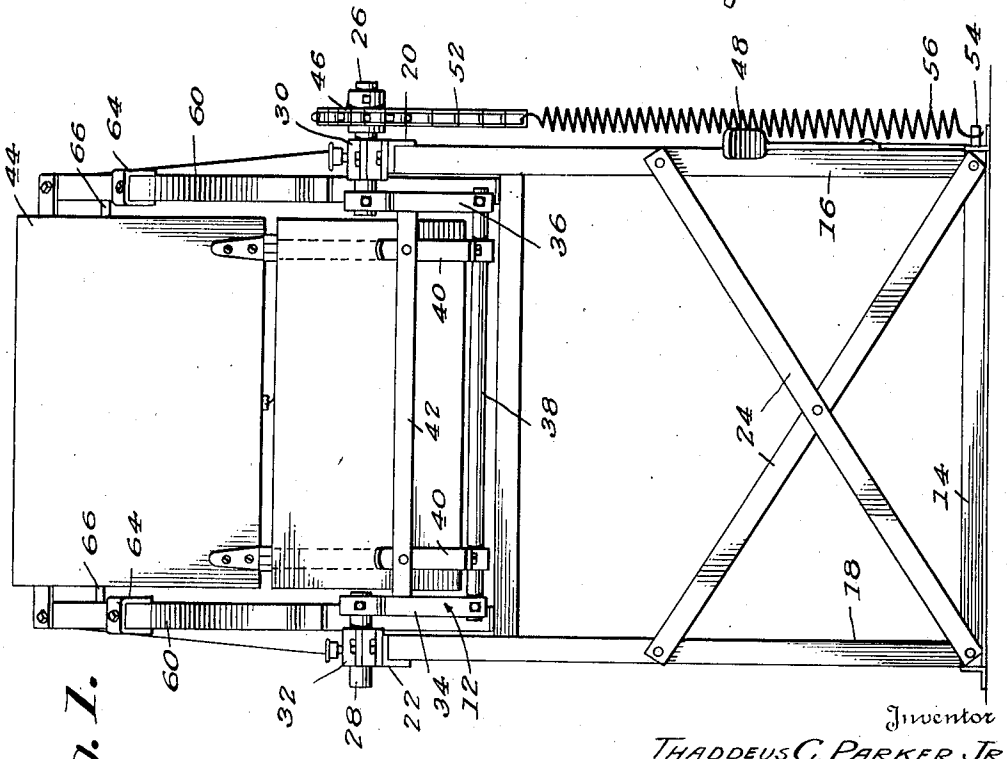


Fig. 1.

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Fig. 3.

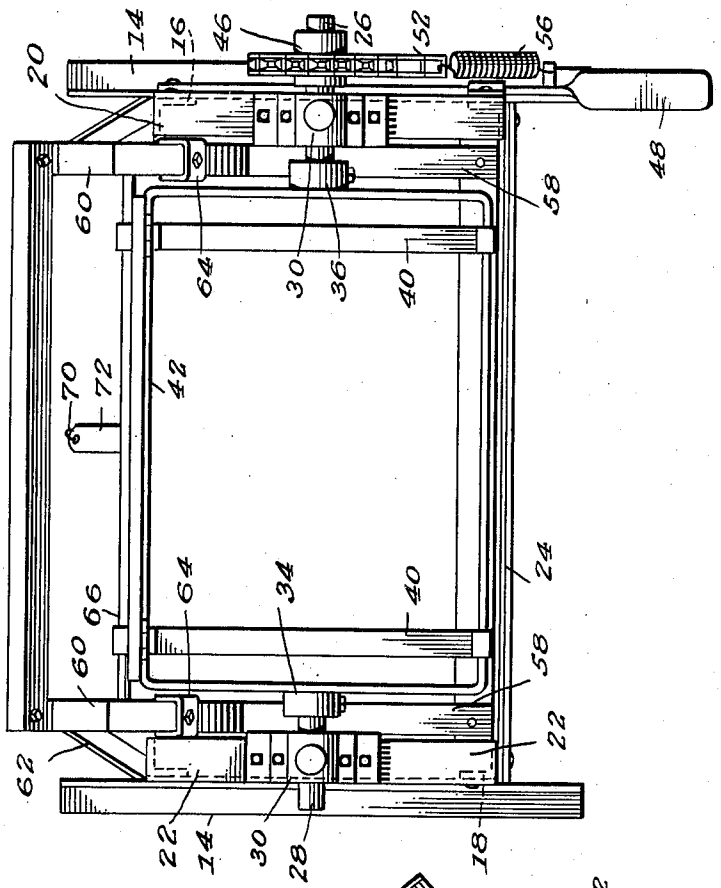


Fig. 4.

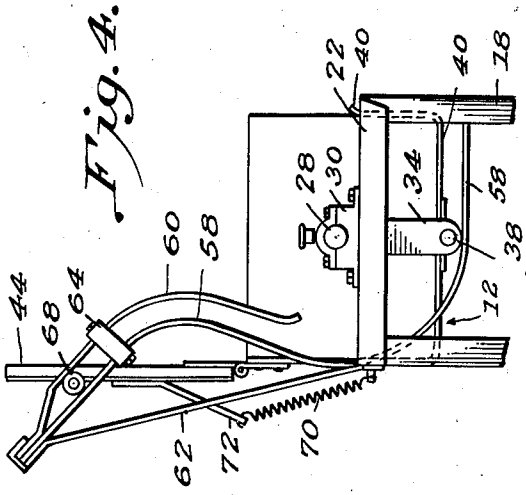
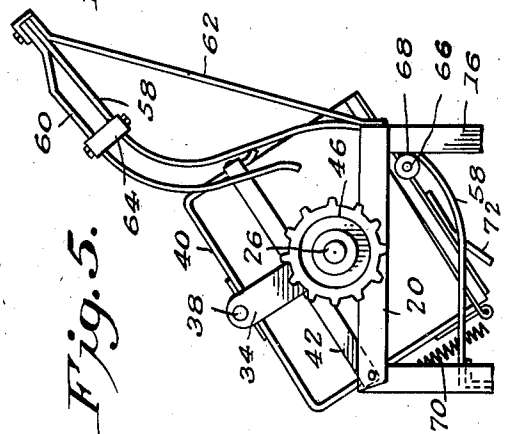


Fig. 5.



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Fig. 7.

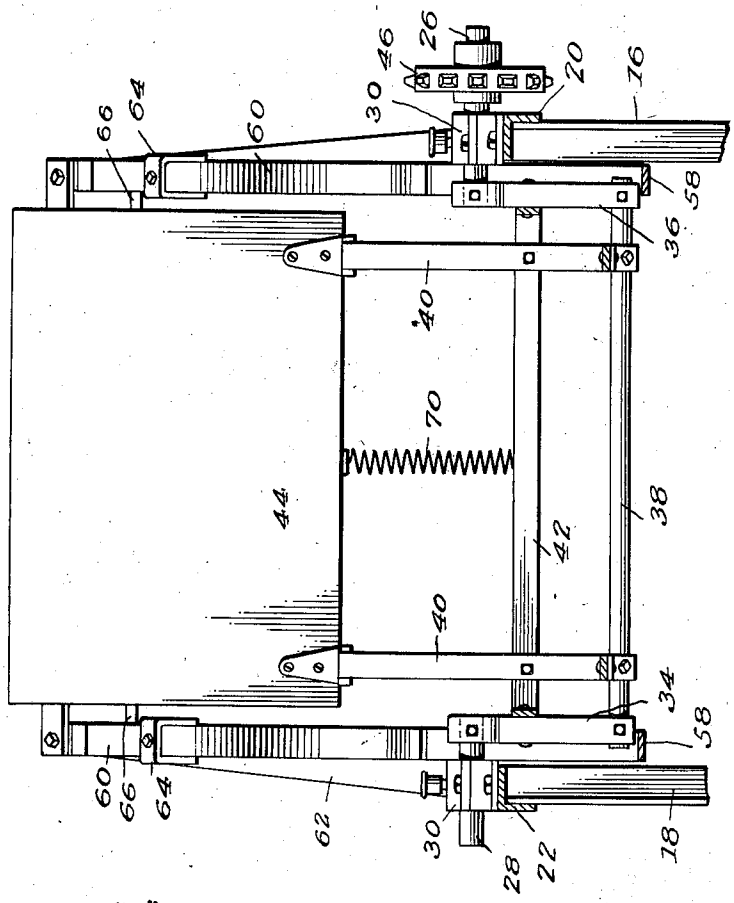
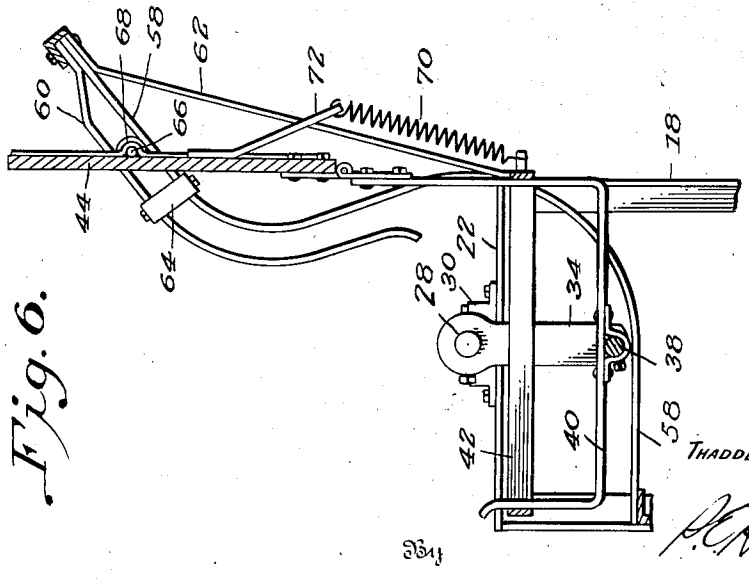


Fig. 6.



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UNITED STATES PATENT OFFICE

2,202,564

AGITATING MACHINE

Thaddeus C. Parker, Jr., Tampa, Fla.

Application August 8, 1938, Serial No. 223,741

3 Claims. (Cl. 251—56)

This invention relates to new and useful improvements in agitating machines.

The invention is particularly adapted for use in those industries in which various ingredients are placed into containers, such as bottles or cans, which after filling, are inverted or otherwise agitated to effect thorough intermixing of the ingredients.

Heretofore it has been proposed to expedite the mixing operation of ingredients in the sealed containers by placing such containers into the cases or boxes in which they are to be handled subsequently, and then subjecting the entire case or box of containers to an agitating operation in machines designed for the purpose.

The operation of these prior machines has been subject to disadvantages, and it is the prime purpose of this invention to eliminate the disadvantages heretofore encountered in this class of machines.

It is an object of this invention to provide an agitating machine capable of receiving a case or box full of bottles or cans and to impart to such case or box and its contents a rocking motion effective to achieve thorough mixing of the contents.

It is a further object of the invention to provide a machine of the type described which is so simple and inexpensive in its construction that it is available for use in small bottling plants, while at the same time its operation is so effected as to make the use of a plurality of such machines desirable in larger establishments.

It is a further object of the invention to provide a machine whose operation involves a minimum of operator effort, and in which means is provided for holding the contents in an open sided box or case securely and automatically during the agitating movement.

Other important and useful advantages of the invention will appear from a reading of the detailed description in connection with the drawings forming a part hereof.

In the drawings, wherein like reference numerals indicate like parts throughout the several views,

Figure 1 is a front elevational view of the machine;

Figure 2 is a side elevational view of the machine showing the operating mechanism;

Figure 3 is a top plan view;

Figure 4 is a fragmentary view showing a case or box in position prior to the agitating motion;

Figure 5 is a view similar to Figure 4 and illustrates the machine at substantially the end of the agitating motion;

Figure 6 is a transverse vertical sectional view of the box or case receiving basket and associated mechanism; and

Figure 7 is a longitudinal vertical sectional view of the box receiving basket and its associated mechanism.

With more detailed reference to the drawings it will be observed that the machine comprises generally, a framework 10 upon which is supported a case or box receiving basket 12. The framework 10 comprises base members 14 to which are secured uprights 16 at one side and a second set of uprights 18 at the opposite side thereof.

The uprights 16 and 18 are joined at their upper ends by means of angle bars 20 and 22, respectively. Cross braces 24 may be employed between the several uprights for the purpose of adding strength to the structure.

The case or box receiving basket 12 is supported for rocking motion on rotatable shafts 26 and 28 which are supported in bearing blocks 30 and 32 which are attached to the angle bars 20 and 22, respectively.

It may be desirable to use a single shaft seated in the bearings 30 and 32, which shaft may be provided with a crank arm on which the basket structure may be secured. On the other hand, the structure illustrated in the drawings may be employed. In this structure a hanger 34 is fixed to the shaft 28 at one side of the frame, and a similar hanger 36 is fixed to the shaft 26 at the opposite side of the frame. The hangers 34 and 36 have their free lower ends connected by means of a supporting member 38.

Attached to the suporting member 38 is a box or case enclosing structure of the basket. This structure comprises a plurality of straps 40 extending in a vertical direction, and one or more joining straps 42 extending in a horizontal direction around the edge of the basket. The horizontal strap is attached to the vertical straps 40 and also to the hangers 34 and 35 at the points of contact therewith.

Each of the vertical straps 40 extends upwardly at the rear of the basket to the heighth of a conventional can or bottle case. The ends of the straps 40 at the front of the basket terminate at a point not substantially above the horizontal strap 42, which is located at a heighth equal to about half the heighth of a standard can or bottle case. To the rear upwardly extending ends of the vertical straps 40 is hinged a cover 44

which is adapted to close the open side of a case placed within the basket, as will be more fully pointed out hereinafter.

The basket may be rocked in any desired manner, either manually or by power. Whatever method of operation is chosen, it is highly desirable that the basket be rocked toward the rear of the machine, that is, away from the operator. To the end that such rocking operation may take place, means has been provided for effecting the movement as shown in the drawings, wherein a sprocket wheel 46 is shown attached to the extending end of the shaft 26. Near the bottom of the frame 10 is a treadle 48 which is pivoted on the rear upright 16 by means of a pivot pin 50. The treadle has attached thereto a sprocket chain 52 which is passed around the sprocket wheel 46 from the rear to the front thereof. The opposite end of the sprocket chain 52 is attached to the base 14 by means of a suitable pin 54 and has interposed in its length a spring 56.

It is obvious from this description that the basket 12 may be rocked in a clockwise direction simply by depressing the treadle 48, and that the same will be returned to its normal upright position by the spring 56 when the treadle 48 is released. This mode of operation provides a very desirable safety factor in that when the case is rocked away from an operator standing in front of the machine, he is protected against injury by flying glass should one or more of the bottles within the case break during the agitating movement. Furthermore, by means of the treadle operation, the operator's hands are free to control the placing and the removal of cases from the basket.

This invention provides a simple and automatically operable means for closing the open face of a case or box placed within the basket 12. The lid or cover 44 has associated therewith means for bringing the same downward into contact with a case or box placed within the basket, and also means operable to open the lid as the basket is being returned to its normal upright position. The means herein disclosed comprise a pair of sinuous lower guideways 58 which are fixed to the frame at each extremity of the case basket, and a pair of correspondingly curved but shorter upper guideways 60 which are attached to the lower guideways at their upper ends by means of brace members 62 which at their lower ends are secured to the frame 10.

The guideways 58 and 60 are maintained in spaced relation by means of spacing members 64, and constitute between them guiding channels into which extends a guide follower 66 which is fixed to the lid 44 and which has at each end a roller 68 in contact with the guide means 58 and 60. As a consequence of this construction, the cover 44 will be brought down upon the open face of a case within the basket 12 as the same is being rocked in a clockwise direction. Since the guide members 58 extend under the basket 10 to a point at least as far as the follower 66 is capable of traveling, the lid 44 will be held against the open face of the case securely and prevent the discharge of any of the contents therefrom. As the basket 12 is returned to its original and normal position in a counterclockwise direction, the guide follower 66 is again effective to raise the lid 44 from contact with the open face of the case. This opening operation may be assisted by a spring 70, which has one of its ends attached to the frame 10 and which has its other end attached to a bracket 72 fixed to the cover 44 and extending away therefrom.

It is believed that the operation of the machine has been made clear in the foregoing description so that a résumé of its operation is here unnecessary. While a single basket has been shown and described herein, it is obvious that changes in the size thereof may be made, adapting the same to cases and boxes which vary from the standard size. This object may be accomplished by using partitions and separators within the basket to change the size thereof as may be necessary to handle boxes and cases of various dimensions. Other modifications may also be made in the specific construction without departing from the spirit of the invention, and it is therefore desired not to limit the practice of the invention other than by the limitations which may be imposed thereon in the subjoined claims.

What I claim is:

1. An agitating device including a frame having spaced upright standards, a shaft rotatably supported by said standards, a basket adapted to receive a box or the like fixed to said shaft, a hinged cover member carried by said basket, means for rocking said basket, a guideway carried by said frame, a guide follower fixed to said cover and extending into contact with said guideway whereby said cover is moved to open and closed position during the rocking of said basket.

2. An agitating device including a frame having spaced upright standards, a shaft rotatably supported by said standards, a basket adapted to receive a box or the like fixed to said shaft, a hinged cover member carried by said basket, operator operated means for rocking said basket away from the operator initially and means for returning the same to its original position, a guideway carried by said frame, a guide follower fixed to said cover and extending into contact with said guideway whereby said cover is moved to open and closed position during the rocking of said basket.

3. An agitating machine including a frame having spaced upright standards, a shaft rotatably supported by said standards, a basket adapted to receive a box or the like fixed to said shaft, a hinged cover carried by said basket, means for rocking said basket, guide means comprising an upper and a lower guideway fixed to said frame at each end of said basket, a guide follower fixed to said cover and extending between said guideways whereby said cover is moved to open and closed position during rocking movement of said basket.

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