

Aug. 11, 1925.

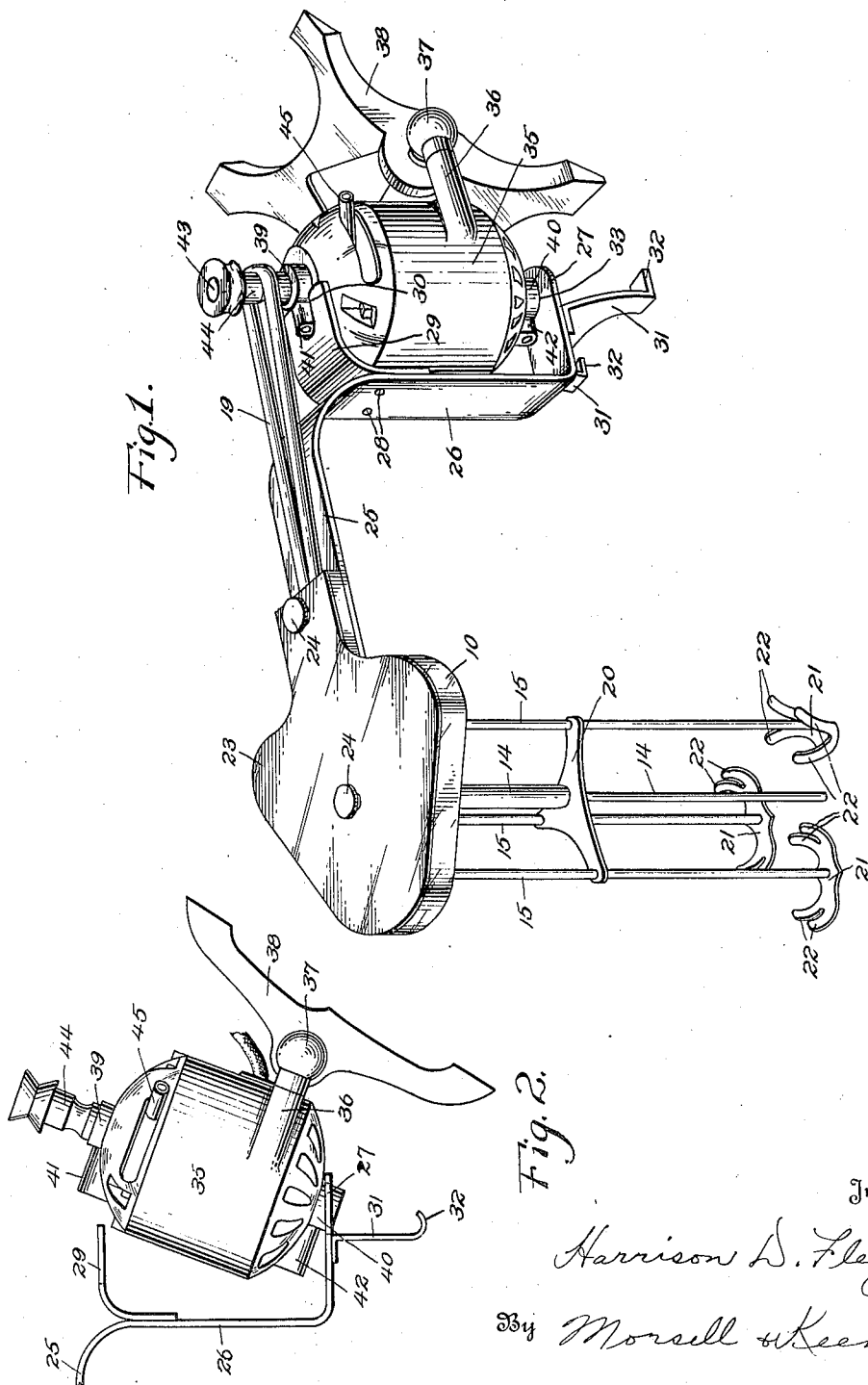
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H. D. FLEGEL

MIXING AND AGITATING DEVICE

Filed May 8, 1922

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Fig. 3.

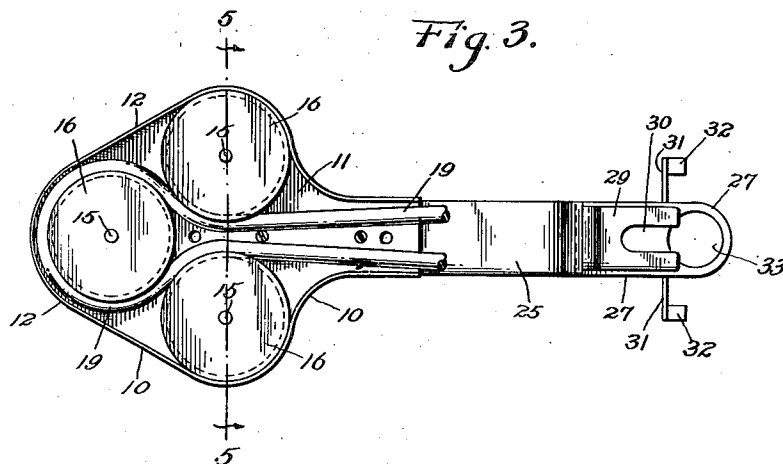


Fig. 4.

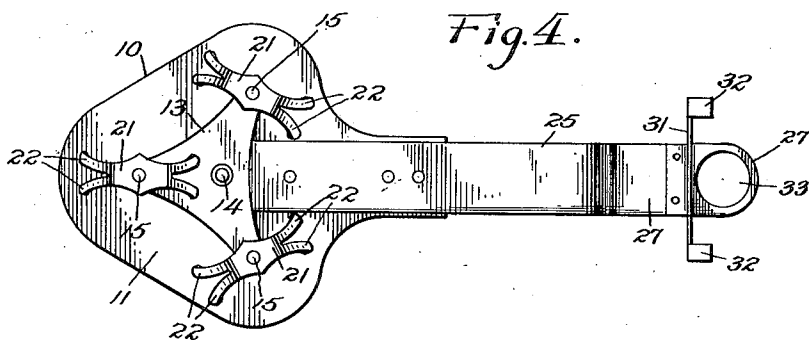
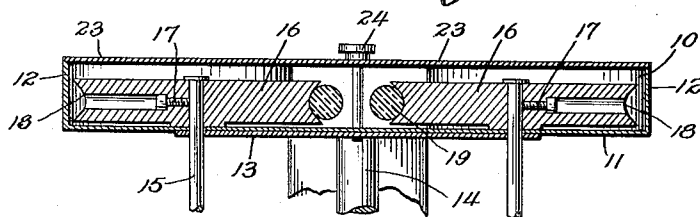


Fig. 5.



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MIXING AND AGITATING DEVICE.

Application filed May 8, 1922. Serial No. 559,250.

To all whom it may concern:

Be it known that I, HARRISON D. FLEGEL, a citizen of the United States, and resident of Racine, in the county of Racine and State of Wisconsin, have invented new and useful Improvements in Mixing and Agitating Devices, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention relates to mixing and agitating devices and has for one of its objects to provide an apparatus of this character which may be driven by means of an electric motor, which motor is readily detachably secured thereto, in order that it may be easily removed for the purpose of using it in connection with other appliances.

A further object of the invention is to provide a mixing and agitating device especially adapted for household use, although of course it may be employed in different sizes for varying purposes.

A still further object of the invention is to provide a device of the character described which will be simple in construction, comparatively inexpensive to manufacture, and more efficient in use than those which have been heretofore proposed.

A still further object of the invention is to provide a mixing and agitating apparatus having relatively few parts and which may be readily and efficiently cleaned and sterilized after using.

With these and other objects in view, the invention consists in the novel details of construction and combinations of parts more fully hereinafter disclosed and particularly pointed out in the claims.

At the present time the use of electrical household appliances has grown to the point where practically all kinds of household work which were formerly accomplished manually are now performed by means of the electrically driven apparatus. There is a present, in wide use, a relatively small and compact motor which is primarily adapted for use upon sewing machines. This said motor may be used upon either alternating or direct current and is pivotally mounted upon a base provided with a resilient means for maintaining the pulley of the motor in en-

gagement with the hand wheel of the sewing machine.

These said motors are adapted to be placed upon the top of the sewing machine with their pulleys in engagement with the said hand wheel when it is desired to operate the machine and after the sewing is completed, the motor may be removed and stored in one of the machine drawers or in a separate space, or it may be readily attached to some other household appliance.

It is the primary object of the present invention to provide an agitating or mixing device which may be employed for the purpose of mixing dough, for beating eggs, and the like, which device is provided with means for receiving and holding one of the motors above described, whereby the stirring or beating elements may be power driven.

In the accompanying drawings in which like numerals designate like parts in all the views;

Figure 1 is a perspective view of a mixing or stirring device made in accordance with the present invention, illustrating one of the said sewing machine motors in place thereon;

Fig. 2 is a fragmentary elevational view of the right hand end of the apparatus shown in Fig. 1, illustrating the motor partly removed therefrom;

Fig. 3 is a top plan view of the apparatus with the cover plate omitted for the sake of clearness and the motor removed;

Fig. 4 is a bottom plan view of the parts illustrated in Fig. 3; and

Fig. 5 is a transverse vertical section view on an enlarged scale through the driving portion of the device, taken approximately on the line 5—5 of Fig. 3, looking in the direction of the arrows.

Referring to the drawings, the numeral 10 indicates a casing or housing of substantially the shape illustrated, preferably formed of stamped sheet metal and having the bottom 11 and the side walls 12. The bottom 11 has secured to it a substantially triangular plate 13, see Figs. 4 and 5, which is rigid with the supporting post or rod 14, extending downwardly to rest upon the bottom of the container in which the dough or other material is being mixed or agi-

tated, thus forming a support for this end of the machine.

The points of the triangular member 13, as well as the bottom 11, are drilled to accommodate the vertical shafts 15, the upper ends of which extend into the interior of the casing or housing 10 and have rigidly secured to them the pulleys 16, as will be clear from Figs. 3 and 5. The said pulleys may be secured to the said shafts 15 by means of set screws 17, and their peripheries are preferably grooved, as at 18, to receive a round belt 19 of rubber, leather, or other suitable flexible material.

The said shafts 15 extends downwardly through a substantially triangular supporting and bearing member 20 rigidly secured to the supporting post 14 and the lower ends of the said shafts 15 have rigidly secured to them the mixing or agitating members 21, see Figs. 1 and 4. These said members 21 may be stamped from sheet metal in substantially the form shown, having the pairs of oppositely disposed curved fingers 22, as will be clear from the drawings.

A cover plate 23 may be secured to the top of the casing or housing 10 by means of the thumb screws 24 in order that the driving pulleys may be completely housed to hide them from view and also to prevent the catching of the fingers or portions of the clothing of the operator therein during the operation of the device.

Also rigidly secured to the bottom 11 of the housing 12 is a laterally extending horizontal arm 25 which is provided with the downwardly curved portion 26 having at the lower end thereof the horizontally disposed portion 27. Rigidly secured to the vertical portion 26, as by the rivets 28, is an angle piece 29 provided with a slot 30 for engagement with a portion of the driving motor, as will presently appear. The horizontal extension 27 has rigidly secured to it a vertical supporting member 31 provided with horizontally disposed feet 32, whereby the right hand end of the machine, as seen in Fig. 1, may be supported upon a table or other surface.

The said horizontally disposed extension 27 is also provided with a substantially circular aperture 33 adjacent its end, which aperture is adapted to receive a portion of the driving motor, as will now be explained.

As above pointed out, it is the primary object of this invention to provide a device adapted for use with one of the sewing machine motors now on the market. Such a motor is here illustrated and comprises a field frame 35 secured by means of suitable lugs or projections 36, to a pivot member 37, carried by a base 38, whereby the said motor may be supported in operative position upon a sewing machine.

The said motor frame is provided with

the bearing extensions 39 and 40, which have the usual oil well lugs or projections 41 and 42 respectively, as will be clear from Figs. 1 and 2. The shaft 43 of the motor extends axially of the frame 35 and is journaled in the said bearing extensions 39 and 40 and the said shaft carries a double pulley 44, which is adapted to be engaged by the belt 19, above described.

As will be readily understood from Figs. 1 and 2, the motor 35 is attached to the mixing device by merely inserting the bearing extension 40 into the aperture 33 with which the horizontal supporting member 27 is provided and then swinging the motor to a position with its shaft vertical, whereupon the oil well lug 41 will enter the slot 30 with which the motor supporting bracket member 29 is provided.

When in this position the belt 19 may be stretched sufficiently to be engaged with the pulley member 44 and the said belt will serve to hold the motor in its operative position with respect to the rest of the device. When the motor is in position for operation, the oil well lug 42 will rest upon the upper surface of the motor supporting extension 27, while the oil well lug 41 will be positioned within the slot 30 of the bracket 29, thereby preventing any rotary movement of the motor frame about the motor axis.

The motor is provided with the usual brush shifting handles 45, whereby the position of the brushes may be shifted to control the speed of the motor within certain limits and to also reverse the direction of the rotation of its armature.

With the parts in the position illustrated in Fig. 1, upon current being supplied to the motor, its armature will revolve in the well known manner, carrying with it the motor shaft 43 and pulley 44, which motion will be transmitted by means of the belt 19 to the pulleys 16, shafts 15, and the mixing or stirring elements 21, as will be readily understood.

When the agitating operation has been completed and it is desired to employ the motor in connection with a sewing machine, carpet sweeper, or other household appliance, the belt 19 may be disengaged from the pulley 44, whereupon the motor may be removed, as indicated in Fig. 2, by merely tilting it until the oil well lug 41 has moved out of the slot 30, whereupon the bearing extension 40 may be lifted from the aperture 33 and the motor carried away.

It will be readily apparent that owing to the small design of the beating or stirring elements, that they may be easily and effectively cleansed, and if necessary, sterilized after they have been used.

It is obvious that those skilled in the art may vary the details of construction, as

well as the arrangement of parts without departing from the spirit of the invention, and therefore it is not wished to be limited to the above disclosure except as may be required by the claims.

What is claimed is:

1. A device of the class described comprising a housing having means for support outside of a mixing receptacle, and a stirring and agitating member carried by the housing, said housing having means for easily detachably securing a motor to said housing and said motor having a belt for driving said agitating member and said motor being freely removable from the housing without the use of tools by an upward and an outward movement, said belt assisting in holding the motor in position.

2. A beating and agitating device, comprising a housing having means for support outside of a mixing receptacle, a rotatable agitating member carried by said housing, a support for said housing within a mixing receptacle, said housing having means for easily detachably securing a motor to said housing and said motor having a belted connection with the agitating member and being removable from the housing by an upward and an outward movement, said belt assisting in holding the motor in position.

3. A device of the class described comprising a housing having a substantially horizontal extension provided with recesses for receiving and holding a readily removable motor and also having a downwardly extending support; a plurality of shafts rotatively carried by said housing; agitating means carried by said shafts; and means also carried by said shafts for rotating the same, and adapted to be driven by said motor.

4. A device of the class described comprising a housing having a substantially horizontal extension provided with recesses

for receiving and holding a readily removable motor and also having a downwardly extending means of support outside of a mixing receptacle; a plurality of shafts rotatively carried by said housing; agitating means carried by said shafts; and pulleys also carried by said shafts within said housing, and a belt connection between the pulleys and said motor to rotate said shafts and agitating means.

5. In a device of the class described the combination of a housing having an extension provided with means for receiving and holding against rotation the frame of a readily removable motor; a support for said housing adapted to extend within a mixing receptacle; a plurality of substantially vertical shafts rotatively carried by said housing; agitating members carried by said shafts; pulleys also carried by said shafts within said housing; a motor readily removably mounted in said receiving and holding means; a support for the extension outside of the mixing receptacle; and driving connections between the shaft of said motor and said pulleys.

6. In a device of the class described, the combination of a housing having an extension provided with means for receiving and holding against rotation the frame of a readily removable motor; a support for said housing adapted to extend within a mixing receptacle; a plurality of substantially vertical shafts rotatively carried by said housing; agitating members carried by said shafts; pulleys also carried by said shafts within said housing; a motor readily removably mounted in said receiving and holding means; a support for the extension outside of the mixing receptacle; and a single driving connection between the shaft of said motor and said pulleys.

In testimony whereof, I affix my signature.

HARRISON D. FLEGEL.