

May 23, 1933.

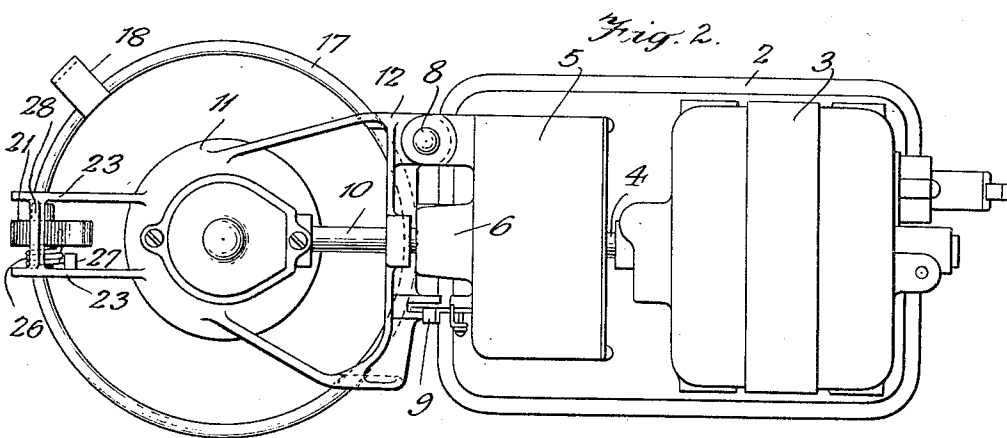
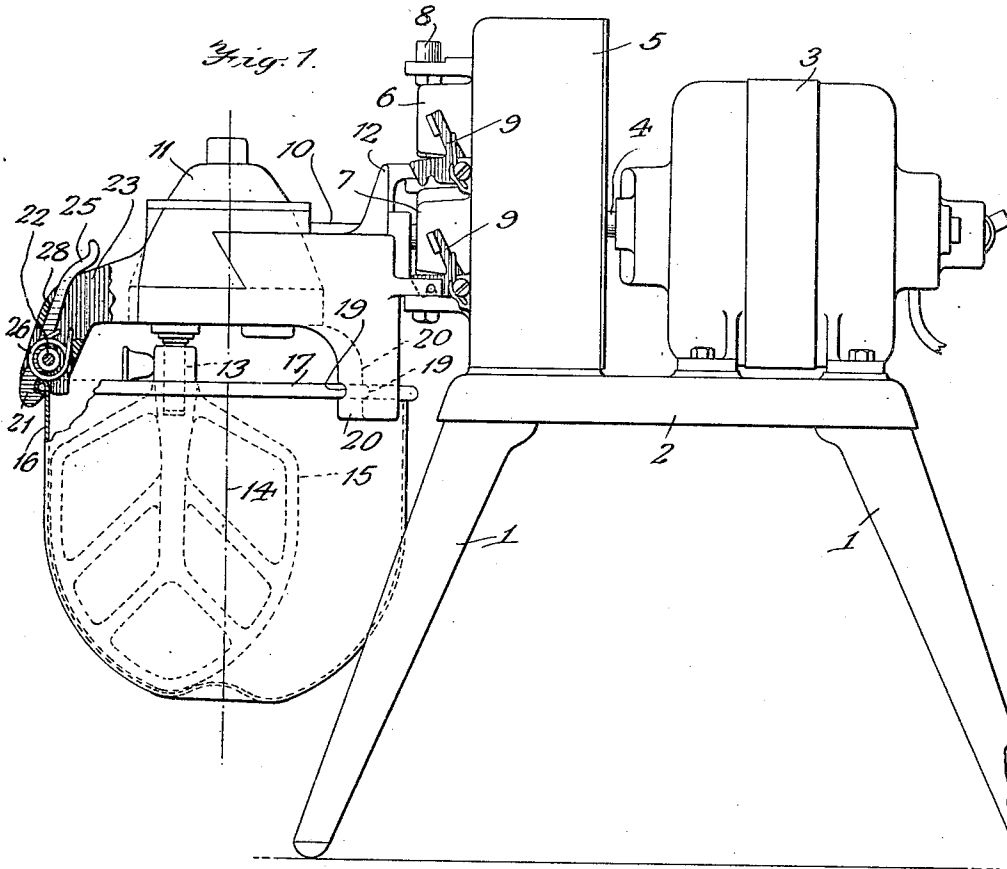
R. HOE

1,910,162

HOUSEHOLD POWER UNIT

Filed Oct. 31, 1930

3 Sheets-Sheet 1



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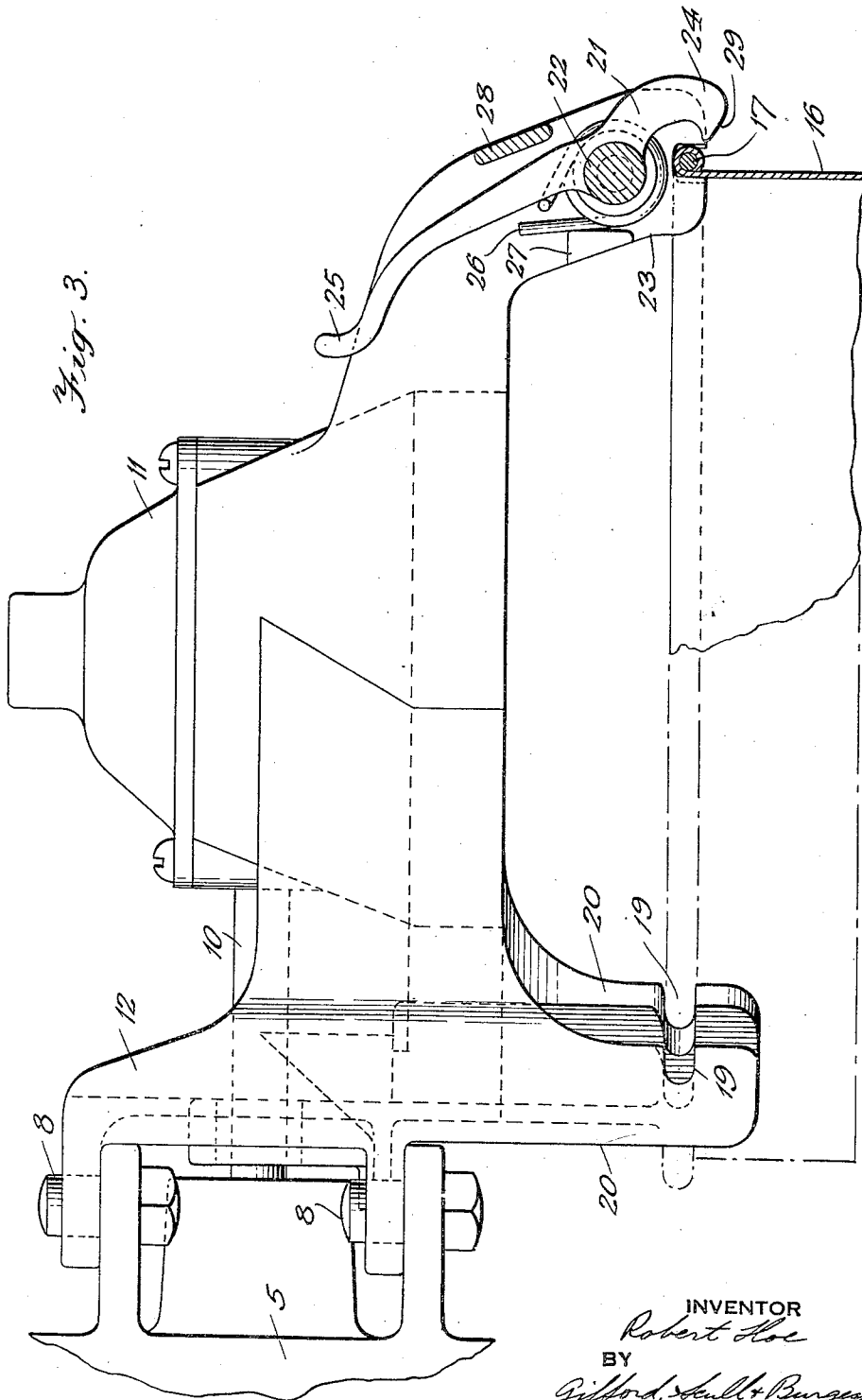
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HOUSEHOLD POWER UNIT

Filed Oct. 31, 1930

3 Sheets-Sheet 2



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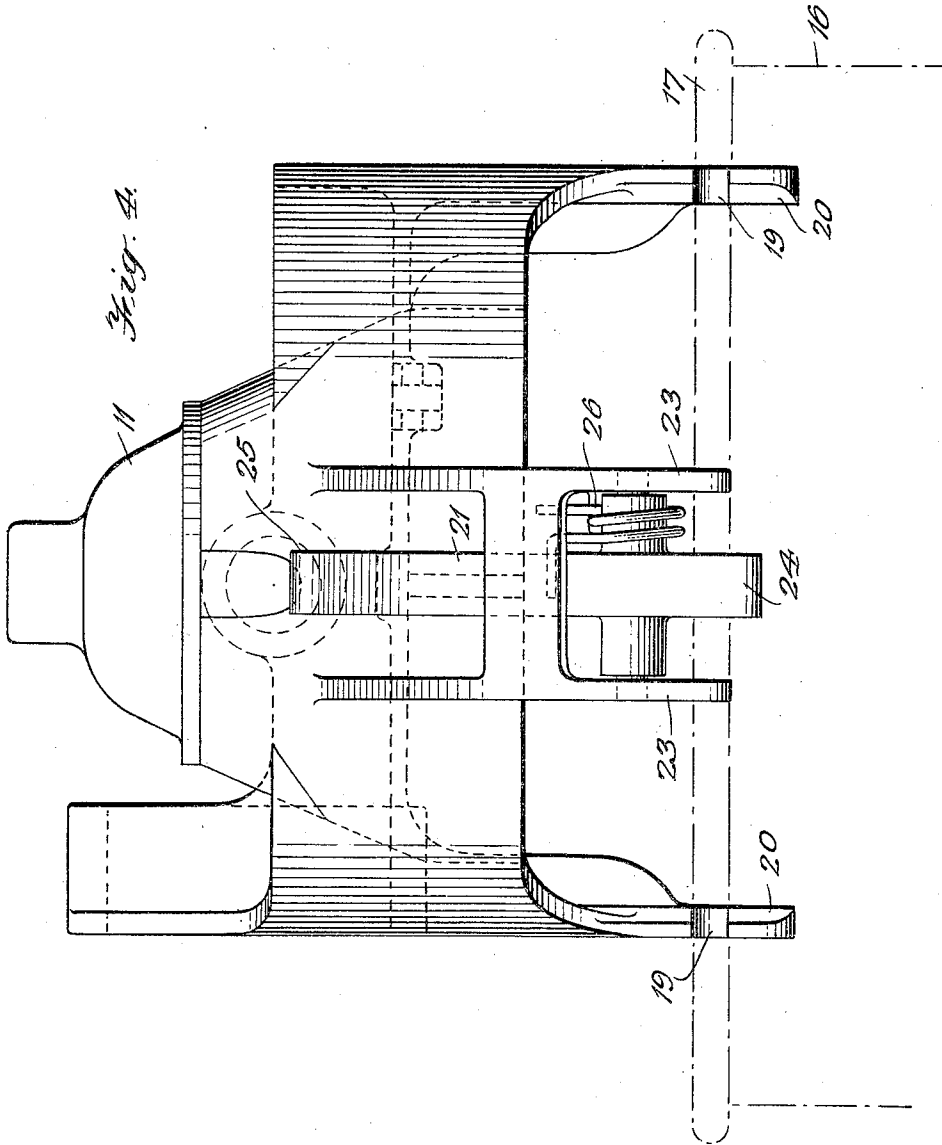
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HOUSEHOLD POWER UNIT

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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

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HOUSEHOLD POWER UNIT

Application filed October 31, 1930. Serial No. 492,401.

This invention relates to a novel and improved household power unit, and more particularly to an arrangement whereby a container may be effectively supported on an operating head.

In the prior art, it has been customary to support the container separately from the head which carries the beater or other utensil used to operate on food in the container. For the purposes of simplicity, I shall hereinafter refer to this utensil as a beater, although by the use of that term I do not intend to limit myself.

By my invention, I avoid many of the difficulties and inefficiencies attendant on the above arrangement, and the manner in which I do this will be best understood from the following description and the annexed drawings, in which:

Fig. 1 is a vertical view, partly in elevation and partly in section, showing the invention as applied to a household power unit;

Fig. 2 is a plan view of the arrangement appearing in Fig. 1;

Fig. 3 is a view on an enlarged scale showing the opposite side of the head from that appearing in Fig. 1, parts being broken away and parts shown in section for the greatest simplicity;

Fig. 4 is a view taken from the right of Fig. 3.

Referring first to Figs. 1 and 2, I have shown my invention as employed with a type of household power unit, such as is more fully illustrated and claimed in my copending application, Serial No. 418,109. The invention finds particular use with this type of unit, although it may be used with others.

The unit shown comprises a plurality of legs 1 carrying a base plate 2 upon which is supported a motor 3 which, through its shaft 4, operates a train of gearing in a gear case 5. The gearing in the case 5 transmits power to two outlets 6 and 7, the details of these outlets not being shown, as they are not necessary to an understanding of the invention herein. It is sufficient to say that these outlets may be in the form of clutches which are adapted to operate shafts on devices such as that illustrated in the drawings. Such de-

vices may be supported on hinge pins 8, and may be held in operative position by means of latches 9. Each device is provided with a driven shaft 10, and this shaft when the device is in operative position, is clutched to one of the power outlets 6 or 7.

In the illustrated embodiment, the device is shown as one intended to operate a beater, and this device is generally known as a beater head. For the sake of simplicity, it will hereinafter be referred to as a head 11, although by that term I intend to embrace any device which may be operated from the gear case. The head is shown as supported on a bracket 12 which, in turn, is supported on two of the three hinge pins 8 in the manner more fully described in my aforesaid copending application. The head has disposed therein a planetary gearing of any suitable type, the details of which it is not considered necessary to illustrate, it being sufficient to say that the gearing results in a bodily movement of a vertical shaft 13 about the vertical axis represented by the line 14, and at the same time causes a rotation of the shaft 13 on its own axis. The gear arrangements providing such planetary movements are well known in the art.

The shaft 13 has secured thereon a beater 15 whereby, when the shaft is given its planetary movement, the food in the container 16 will be beaten or otherwise agitated, depending upon the type of the beater.

The container is provided with the usual beaded rim 17, and may or may not have a handle 18. The rim is received in horizontally opening grooves 19 which form hooks arranged in downwardly extending ears 20 on the head. These ears are shown as disposed on the side of the head next the gear case, and are disposed generally on one side of the container. On the opposite side of the container, and substantially diametrically across the container from a point half way between the ears 20, is arranged a latch 21, this latch being mounted on a pivot 22 extending between a pair of parallel ears 23. These ears 23 depend from the head, but differ from the ears 20 in that they have their lower edges forked as indicated, the forks being so ar-

ranged as to form downwardly opening recesses to receive the rim 17 of the container.

The latch is provided with a hook end 24 adapted to engage under the rim 17 and hold it in the recesses in the ears 23. The other end of the latch is formed as a finger piece 25, whereby the latch may be operated, and the latch is normally held in the position shown in Fig. 1 by means of a coil spring 26 having one end held against an abutment 27 on one of the ears 23, and the other engaging the latch to rotate it on its pivot. Movement of the latch by the spring is limited by engagement of the latch with a stop 28, which may be in the form of a bar extending between the ears 23.

The hook 24 is provided with a cam surface 29 whereby, when the rim 17 is raised, it will engage the surface 29 and force the latch outwardly to some such position as shown in Fig. 3 so as to permit the rim to enter the recesses in the forked ends of the ears 23.

By the above arrangement, when it is desired to support a container in position to cooperate with a beater, all that is necessary is to insert the rim in the grooves 19 which will automatically correctly place the container, so far as this part of the rim is concerned, and will serve to help in centering it with respect to the beater. The part of the rim substantially opposite the ears 20 is then raised until it engages in the recesses or grooves in the ears 23, when it will be locked in position by the latch. It will be noted that the suspension is substantially a three-point one, which will positively and accurately center the entire container so that the beater will be properly placed in the container at all times.

When the container is thus secured to the head, the operation may be described as one in which the container rim is engaged by a portion of the head and then rocked into position where it engages another portion and is there locked. When the container is removed from the head, the operation described above is, of course, reversed. The container may be quickly put in place and removed, and this may be done by placing it on the head while the head is in position on the hinge, or by first securing the container to the head and then placing the head and container together on the hinge. Similarly, the container may be removed from the head without disturbing the head, or may be removed from the power unit with the head.

The action of the latch, when it engages the rim is to not only hold the rim upwardly, but also to force it horizontally into engagement with the sides of the recesses and thus serve to bind the rim.

While I have shown the invention as embodied in a specific form, it is to be understood that various changes in details may be made without departing from the scope of the invention, and I therefore do not intend to

limit myself except by the appended claims.

This application forms a continuation in part of matter different from my copending application, Serial No. 310,840.

I claim:

1. In combination, a gear casing having a power outlet, a head detachably supported on said casing adjacent said outlet, means on said head to engage a portion of a container rim, a pair of spaced ears disposed substantially diametrically opposite said first-named means and engaging the rim of the container, and a latch disposed between said ears and adapted to hold the rim of the container in engagement therewith.

2. In combination, a gear casing having a power outlet, a head detachably supported on said casing adjacent said outlet, means on said head to engage a portion of a container rim, a pair of spaced ears disposed substantially opposite said means and engaging the rim of the container, a latch pivoted between said ears and adapted to engage the rim of the container, and means to releasably lock said latch in contact with said rim.

3. In combination, a gear casing having a power outlet, a head detachably supported on said casing adjacent said outlet, means on said head to engage a portion of a container rim, a pair of spaced ears disposed substantially opposite said means and engaging the rim of the container, said ears being forked to receive said rim, and a latch disposed between said ears and adapted to hold the rim between the arms of the forks.

4. In combination, a gear casing having a power outlet, a head detachably supported on said casing adjacent said outlet, means on said head to engage a portion of a container rim, a fork having downwardly extending arms depending from said head substantially diametrically opposite said means and adapted to receive the rim between said arms, and a latch adjacent said fork and adapted to hold said rim between said arms.

5. In a household power unit, a head, means carried by said head and extending downwardly therefrom to operate upon food in a container disposed beneath said head and having a rim at its upper edge, means on said head to support said container, said means comprising oppositely disposed ears depending from the head above the container, means on at least one of said ears to engage said rim and prevent upward vertical movement of the container, means on another of said ears to prevent horizontal movement of the container, and a latch on said last-named ear adapted to engage said rim to releasably hold the container against vertical movement.

6. In combination, a head having a shaft carried thereby and extending downwardly therefrom, means to give said shaft a plane-

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tary movement, a beater on said shaft, two ears depending from said head and having hooks extending inwardly toward the center of said planetary movement, said hooks being
5 equally spaced from said center and spaced apart less than 180° about said center, and a latch on the head substantially opposite a point midway between said hooks and equally distant from said center, where-
10 by a container having a beaded rim may be supported on said head by inserting the rim on said hooks and then engaging it with said latch, said latch being so placed as to hold the rim in substantially horizontal position.

15 7. In combination, a head having a shaft carried thereby and extending downwardly therefrom, means to give said shaft a planetary movement, a beater on said shaft, two ears depending from said head and having
20 hooks extending inwardly toward the center of said planetary movement, said hooks being equally spaced apart from said center and spaced apart less than 180° about said center, a latch on the head substantially
25 opposite a point midway between said hooks and equally distant from said center, whereby a container having a beaded rim may be supported on said head by inserting the rim on said hooks and then engaging it with said
30 latch, said latch being so placed as to hold the rim in substantially horizontal position, and a third depending ear on said head disposed adjacent said latch in position to engage said rim to center it.

35 8. In combination, a head having a shaft carried thereby and extending downwardly therefrom, means to give said shaft a planetary movement, a beater on said shaft, two ears depending from said head and having
40 hooks extending inwardly toward the center of said planetary movement, said hooks being equally spaced from said center and spaced apart less than 180° about said center, a latch on the head substantially oppo-
45 site a point midway between said hooks and equally distant from said center, whereby a container having a beaded rim may be supported on said head by inserting the rim on said hooks and then engaging it with said
50 latch, said latch being so placed as to hold the rim in substantially horizontal position, and two depending ears on said head disposed on opposite sides of said latch in position to engage said rim to center it.

55 **ROBERT HOE.**