

March 3, 1959

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2,875,967

BASE STRUCTURE FOR CENTRIFUGAL MACHINES

Filed May 20, 1954

2 Sheets-Sheet 1

Fig. 1.

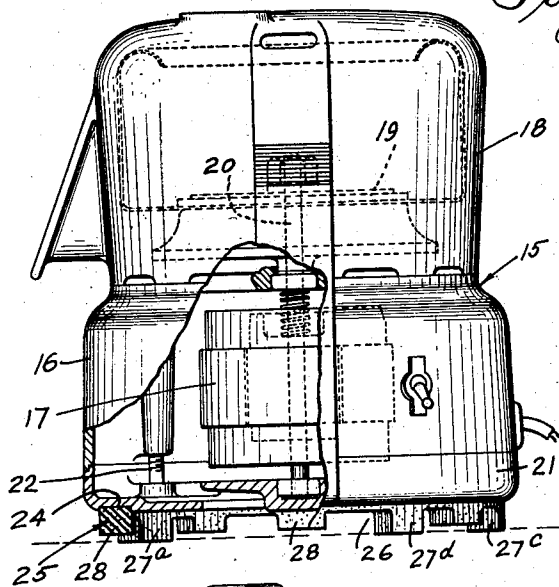


Fig. 3.

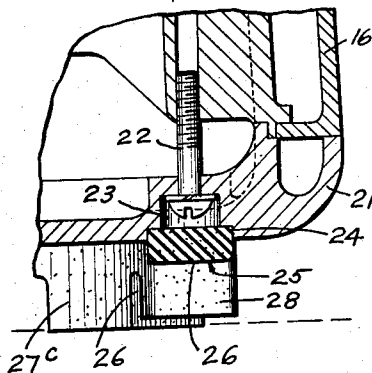


Fig. 2.

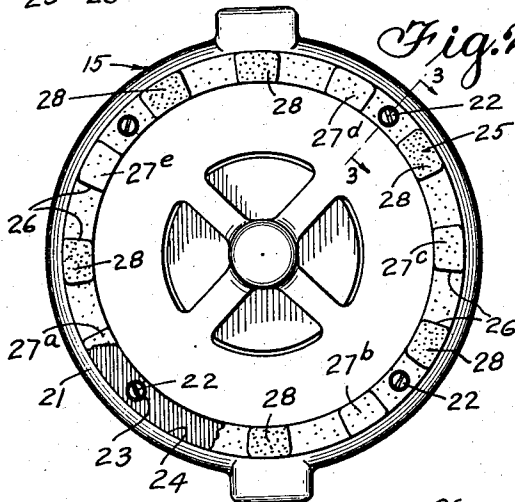


Fig. 4.

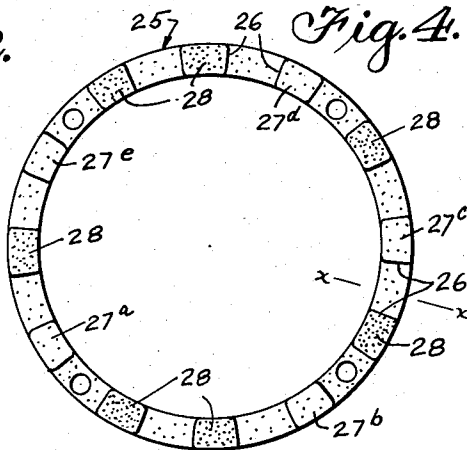


Fig. 5.

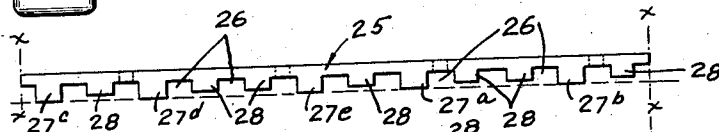


Fig. 6.

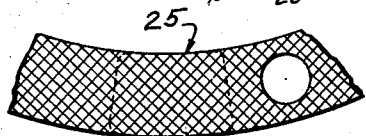
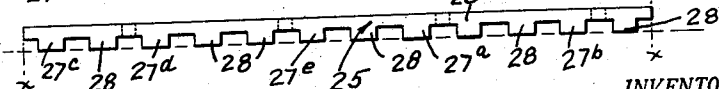


Fig. 7.

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Fig. 8.

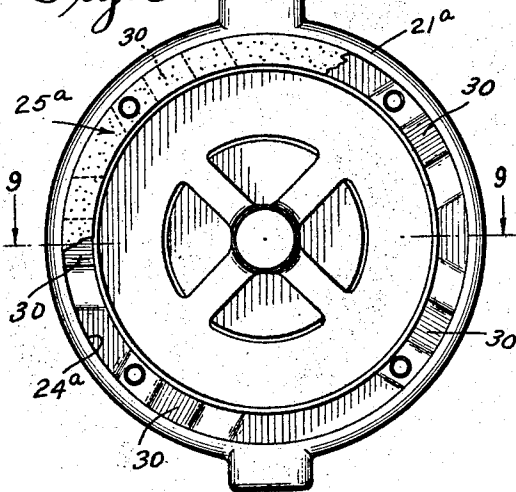


Fig. 10.

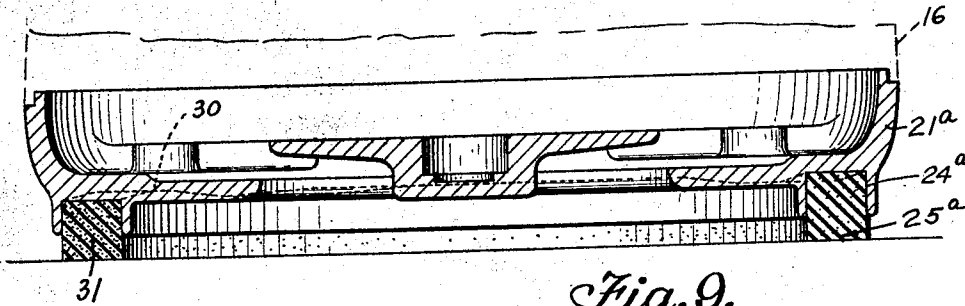
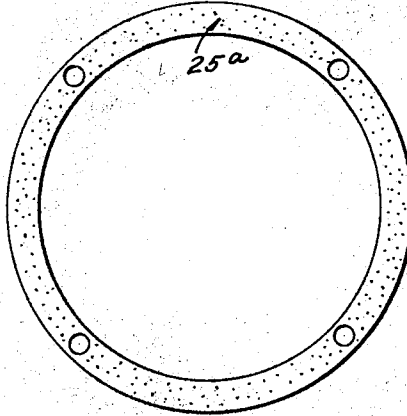


Fig. 9.

Fig. 11.

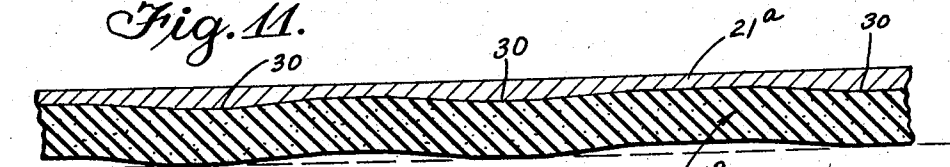
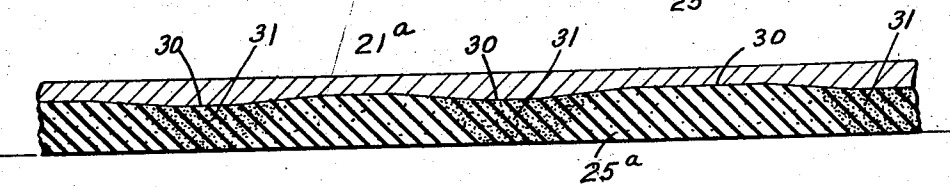


Fig. 12.



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BASE STRUCTURE FOR CENTRIFUGAL MACHINES

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Application May 20, 1954, Serial No. 431,240

3 Claims. (Cl. 248—22)

This invention relates to machines of the rotary type, and more particularly to a supporting base structure for centrifugal type machines.

The present invention is directed to centrifugal type rotary machines in which the principal element is rotated at a relatively high speed and as an incident to such speed of rotation certain reaction effects on the machine due to its vibration, tends to turn the machine itself in the same direction as that of the rotating element. Many types of such machines are not rigidly secured to a foundation but rest on a bench or table, and this reaction effect or "creeping" rotation of the machine is undesirable. This is particularly true of fruit and vegetable juicing machines which are customarily used in the home and are ordinarily operated on a sink drainboard or kitchen table. The present invention is directed to a base structure for such machines in which these objections and undesirable characteristics have been eliminated.

It is, therefore, an object of the invention to provide a simple, practical and inexpensive base structure for rotary machines of the character described.

Another object of the invention is to provide a base unit for centrifuging machines adapted to prevent rotational "creeping" of the machine during operation.

Other objects and advantages will appear and be brought out more fully in the following specification, reference being had to the accompanying drawings wherein:

Figure 1 is a side elevation view, partly broken away, of a vegetable juicing machine embodying one form of the invention.

Figure 2 is a bottom view of the same.

Figure 3 is an enlarged fragmentary sectional view taken along the line 3—3 of Figure 2.

Figure 4 is a separate view of the foot element shown in Figures 1 and 2.

Figure 5 is a linearly projected side elevation view of the foot element of Figure 4 as it appears without the weight of the machine thereon.

Figure 6 is a view similar to Figure 5 seen with the weight of the machine thereon.

Figure 7 is a fragmentary enlarged view of the foot element of Figure 4 as seen from above.

Figure 8 is a view similar to Figure 2 showing a modified form of the invention.

Figure 9 is a sectional view taken along the line 9—9 of Figure 8.

Figure 10 is a view of the foot element shown in Figures 8 and 9.

Figure 11 is a fragmentary linearly projected side elevation view of the foot element of Figures 8 to 10 shown without the weight of the machine thereon.

Figure 12 is a view similar to Figure 11 showing the foot element with the weight of the machine thereon.

Referring more particularly to the drawings, Figure 1 shows a centrifuging machine embodying one form of the invention, and is a vegetable juicing machine having a generally circular frame 15, the lower portion of which 16 houses an electric motor 17, and the upper portion

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18 thereof forms an enclosure for a macerating unit 19 mounted on the upper end of the vertical shaft 20 which is the drive shaft of the motor 17. A casting 21 forms a supporting base for frame 15 and is suitably secured to lower portion 16 by screws 22, the base being formed with a plurality of recesses 23 to receive the heads of the screws. The machine is portable and designed for unsecured support on a table, or the like.

An annular groove 24 is formed in the underside of base 21, in which groove a resilient foot element 25 is positioned and suitably secured by a cementitious bond. Foot element 25 is in the general form of a ring, and preferably of a live or synthetic rubber of suitable consistency, and may have an embedded reinforcing of fabric or the like, if desired. The lower portion of the foot element is formed with a plurality of cut-outs 26, thus forming a plurality of legs 27 and 28, twelve in number, spaced circumferentially 30 degrees, and ranged in two groups. The legs of the first group are designated 27a, 27b, 27c, 27d, and 27e, the legs 28 being disposed either singly or in pairs between two of the legs 27, as may be clearly seen in Figure 5. Legs 27 are seen to be somewhat longer than legs 28, and it will be observed that the circumferentially spacing of the longer legs 27 is non-symmetrical, differential, irregular and non-uniform. The spacing along the arc of the foot element 25 of adjacent pairs of legs 27c and 27d, and also 27e and 27a is 60 degrees. The spacing of adjacent pairs of legs 27d and 27e, and also 27a and 27b is 90 degrees. The line x—x in Figure 4 indicates the break in the development of the diagrammatic showing in Figure 5. Figure 6 illustrates the compression of the foot element 25 when the weight of the machine is on it when placed unsecured on a kitchen table or sink drainboard, and it will be evident that the weight of the machine is distributed throughout the area or arcuate extent of the foot element 25 non-symmetrically, differentially, irregularly and non-uniformly, and that the frictional engagement of the legs 27 and 28 with the table top or drainboard will vary. It has been found that with a foot element and base structure, as shown, that the tendency of the machine to "creep" rotationally when the motor and macerating elements are being rotated at relatively high velocities, will be substantially eliminated even though an unbalance develops in the macerating unit 19, which often occurs in the production of vegetable juice from the centrifugal maceration of vegetables.

In Figures 8 to 12 I show a modified form of the invention. In these figures the base 21a is generally similar to base 21, but is formed with an annular groove 24a somewhat deeper than groove 24, and receives a resilient annular foot element 25a of normally rectangular cross section. The groove 24a is so formed as to provide a plurality of bosses 30, five in number, which are disposed circumferentially substantially the same amount as the legs 27 of foot element 25. Figure 11 shows the normally unstressed condition of foot element 25a, and Figure 12 shows the stressed condition thereof when the weight of the machine is being transmitted therethrough when the machine is resting on the plane support. The numeral 31 indicates generally the areas of greater compression of the foot element due to this differential, irregular or non-uniform distribution of the weight. The operation of the machine with a base and foot element shown in Figures 8 to 12 is substantially similar to that of the machine in Figure 1.

While I have shown and described preferred embodiments of my invention, it will be understood that this is illustrative only of the invention, and that changes and modifications may be made without departing from the spirit and scope of the sub-joined claims.

Having described my invention what I claim is:

1. A supporting base for an unsecured centrifuging machine, said base comprising a ring of resilient material adapted to be mounted to said machine and having a plurality of cut-outs forming a first and second plurality of foot elements, the foot elements of said first plurality thereof being longer than those of said second plurality thereof and being disposed non-uniformly circumferentially of said ring.

2. A supporting base for an unsecured centrifuging machine, said base comprising a ring of resilient material adapted to be mounted to said machine and having a plurality of cut-outs forming a first and second plurality of foot elements, the foot elements of said first plurality thereof being longer than those of said second plurality thereof and being disposed non-symmetrically circumferentially of said ring.

3. A supporting base for an unsecured centrifuging machine, said base comprising a ring of resilient material adapted to be mounted to said machine and having a first and second plurality of cut-outs forming foot elements,

the foot elements of a first plurality thereof extending downwardly from the base a greater distance than the second plurality thereof and being disposed circumferentially of said ring, the foot elements of said first plurality being spaced circumferentially substantially 90, 60, 60, 90 and 60 degrees, respectively.

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