

Aug. 18, 1931.

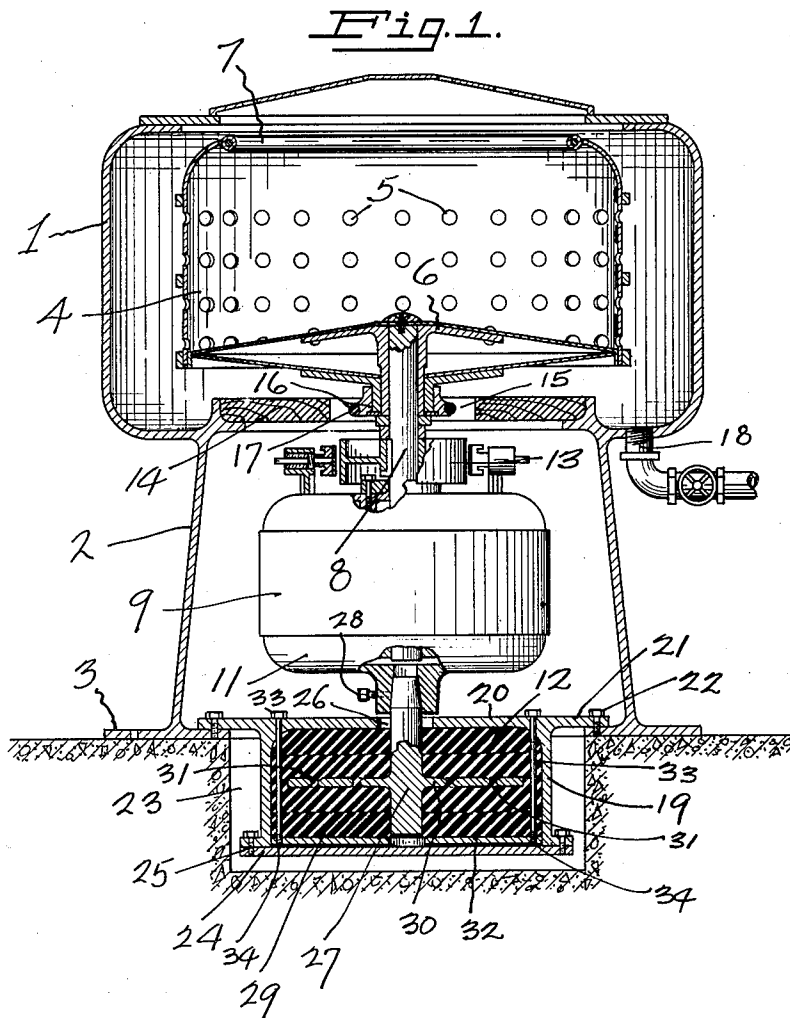
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1,819,322

EXTRACTOR

Filed Dec. 13, 1927

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 2.

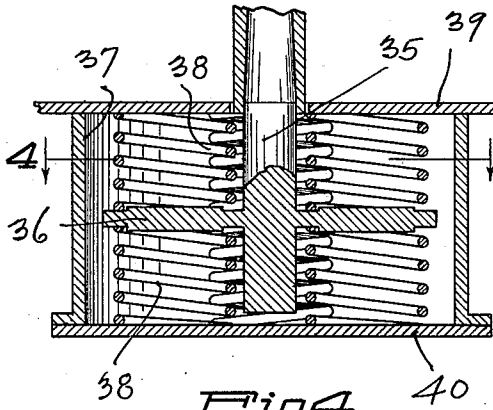


Fig. 3.

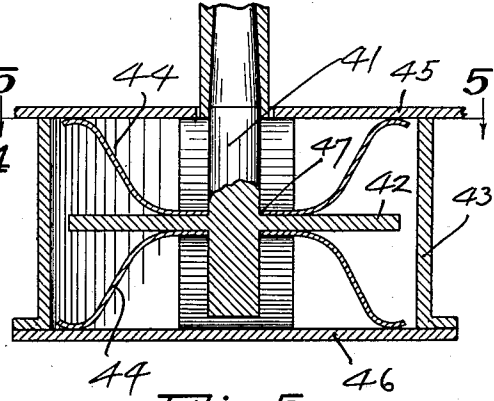


Fig. 4.

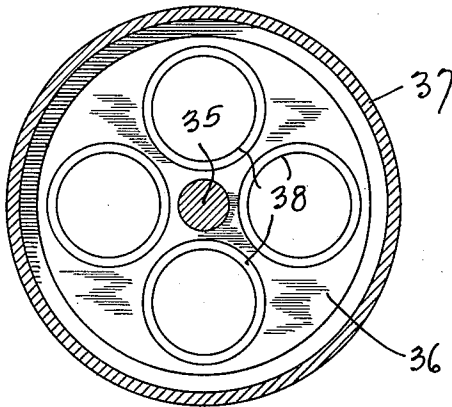


Fig. 5.

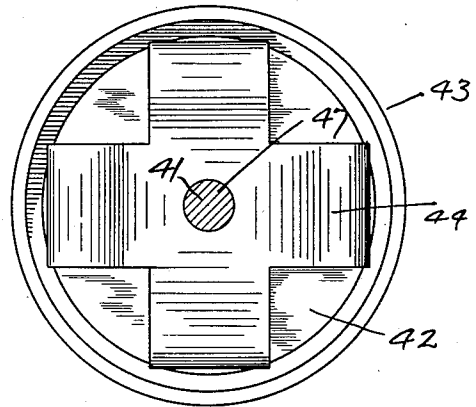
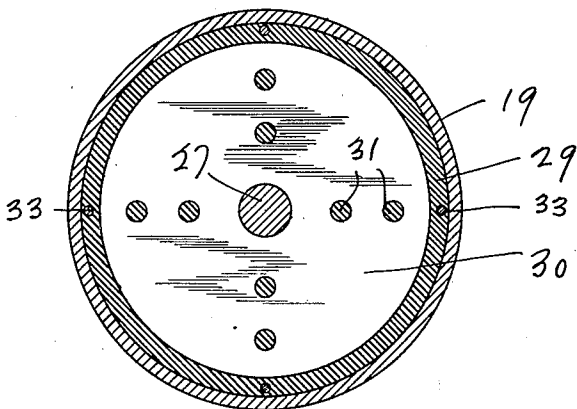


Fig. 6.



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## UNITED STATES PATENT OFFICE

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## EXTRACTOR

Application filed December 13, 1927. Serial No. 239,637.

The present invention relates to improvements in machines for extracting liquids by centrifugal force and more particularly to such machines as are used in laundries, and other washing and cleaning establishments for removing water or other liquids from laundry, etc.

Machines of the character described usually consist of a cylindrical extractor basket adapted to contain the laundry from which the liquid is to be extracted. The basket is usually provided with perforated walls and mounted upon the upper end of a vertical shaft which is rotated by any suitable means. In the more preferred types of machines the rotating means is in the form of a motor mounted directly on the shaft. Due to the uneven distribution of the weight of the laundry contained in the basket, the shaft and basket must be permitted gyratory movement until the mass centers itself and this is usually provided for by a flexible support or bearing for the shaft. The flexible supporting means for the shaft consists of a resilient means capable of yielding laterally and axially.

The main purpose of the present invention is to provide a resilient supporting means for the shaft and basket which will provide the desired flexibility for the gyratory movement of the extracting basket.

The mounting and supporting means of this invention is arranged so as to provide a free, floating effect for the shaft with the use of a simple and inexpensive arrangement, which after one installation will provide the desired flexibility over a long period of time without requiring adjustment or attention.

With the above mentioned and other objects in view, the invention consists in the novel construction and combination of parts hereinafter described, and set forth in the claims hereto appended, it being understood that various changes in the form, proportion, size and minor details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Referring to the drawings:

Fig. 1 represents a vertical sectional view of an extractor constructed in accordance with

this invention, showing the motor for the most part in side elevation.

Fig. 2 represents a fragmentary, vertical sectional view of a modified form of the resilient mounting of this invention.

Fig. 3 represents a fragmentary, vertical sectional view of a modified form of the resilient mounting means.

Fig. 4 represents a cross sectional view taken on the plane of line 4—4 of Fig. 2.

Fig. 5 represents a cross sectional view taken on the plane of line 5—5 of Fig. 3.

Fig. 6 represents a cross sectional view taken through the mounting and supporting means shown in Fig. 1.

The embodiment of the invention shown in detail in the accompanying drawings includes, a cylindrical casing 1, mounted on a hollow pedestal 2, adapted to be secured in any suitable manner on a foundation indicated at 3. Mounted within the casing 1 and arranged for rotary and gyratory movement therein, is a cylindrical extractor basket 4 having a perforated cylindrical wall 5, closed bottom wall 6, and being open as at 7, on its upper side so that wet laundry may be packed therein. This basket is secured upon the upper end of the vertical shaft 8 of a motor 9, the motor being disposed within the hollow pedestal 2. The motor is provided on its lower side with a depending sleeve or socket 11, which provides for the mounting of the motor upon the resilient supporting and mounting means 12, to be hereinafter described. The resilient mounting and supporting means 12 serves as a flexible support for the motor 9, shaft 8, and basket 4, permitting these elements to have a gyratory movement during the operation thereof. A suitable electrically or mechanically operated brake mechanism 13 is mounted on the motor casing and cooperates with the shaft 8 to stop the basket 4 from rotating.

An annular buffer plate 14 is mounted on the lower part of the casing 1, and the shaft 8 extends through the center of the opening 15 in said plate. Surrounding the shaft 8 is a sleeve 16 having an annular rubber bumper strip 17 mounted thereon so that in case of extreme lateral or gyratory movement of the

shaft, said bumper strip will engage against the sides of the opening 15 and thereby limit the said movement of the shaft. The casing 1 is provided with a suitable fluid outlet 18.

5 The resilient supporting means 12 is made up of a cylindrical casing 19 having an integral upper wall 20 from the outer perimeter of which an annular flange 21 extends laterally, said flange being bolted as at 22

10 onto the lower part of the pedestal 2. The casing 19 is extended into a depression or well 23 formed in the foundation 3. The bottom of the casing 19 is closed by a plate 24 secured in place by fastenings 25. Extending from a

15 point within the casing 19 and upwardly through an opening 26 in the upper wall 20, is a supporting stud 27 which is received in the depending socket 11 on the motor, there being a set screw 28 for securing this sup-

20 porting stud 27 in place. The stud 27 is given a free, floating support in the casing by the use of a resilient means as shown in Fig. 1, comprising a solid rubber block 29 of cylindrical form, which fits snugly within the casing.

25 The stud 27 is embedded in the rubber block 29. An annular flange 30 is formed integrally with the stud intermediate the ends thereof, and is molded within the rubber block centrally of the upper and lower sides

30 thereof, the outer perimeter of the flange 30 being disposed close to but spaced inwardly from the outer perimeter of the block. A plurality of openings 31 are provided in the flange so that when the rubber block is vulcan-

35 ized upon the stud and flange, a rubber bond will be formed through these openings. To provide for regulating the tension of the rubber block, a false bottom 32 is mounted in the casing 19 against the under side of the rubber

40 block, and is adapted to be raised or lowered by means of adjusting screws 33 extending downwardly through the upper wall 20 and rubber block into screw threaded openings

45 34 formed in the false bottom 32. Adjustment may be made when it is necessary to compensate for wear on the parts of the mounting, it being possible to increase the tension to compress the rubber block as de-

50 sired, by tightening of the screws 33. By moving the false bottom it is possible to vary the tension of the compression of the rubber block to thus regulate the position of the motor and basket to properly center the same

55 in operating position. The stud 27 constitutes the sole means of supporting the motor 9, shaft 8, and basket 4, and as said stud is given a free, floating support in the rubber block, a durable, substantial yet flexible,

60 supporting of the rotary shaft, motor and basket are provided for. This will permit of the necessary gyratory movement of the basket, shaft and motor until the entire mass centers itself. The location of the motor on

65 the lower part of the shaft provides for

quicker centering of the shaft and aids in the balancing of the machine as a whole.

If desired the rubber block may, as shown, be made up of a center core of soft rubber, the adjacent cores being of less soft rubber, and the several cores being vulcanized together. The rubber block, though vulcanized so as to be comparatively soft, has sufficient body to properly support the weight of the motor and basket, and also has the flexibility necessary to permit of free gyratory movement.

As shown in Figs. 2 and 4, the modified form of resilient supporting means, comprises a supporting stud 35, having a lateral annular flange 36 corresponding to the flange 30, said stud being mounted in a cylindrical casing 37 corresponding to the casing 19. The resilient means for providing the full, floating support for the stud 35, in this form of the invention comprises a plurality of helical coil springs 38 mounted on opposite sides of the flange 36 between the top wall 39 and bottom wall 40.

As shown in Figs. 3 and 5, the modified form of the invention comprises a stud 41 having a flange 42, being mounted in a casing 43 corresponding to the casing 37. Leaf springs substantially cross shaped and designated 44, are mounted in the casing and engage between the top of the flange 42 and top wall 45, also between the bottom of the flange and bottom wall 46. These cross shaped leaf springs are provided at their centers with openings 47 through which the stud extends. The springs are bent so that the free ends engage the top and bottom walls of the casing whereas the body portions thereof engage on opposite sides of the flange. This form of the invention provides the full, floating action as does the mounting in the other forms.

I claim:

1. An extractor embodying in its construction, a rotatable shaft; an extractor basket fixed to and rotatable with said shaft; a housing for rotatably supporting said shaft; a supporting stud secured to said housing; and a block of flexible, resilient material vulcanized on said stud for supporting the same in axial alignment with said shaft, said block comprising three layers of said material vulcanized into a unit, the intermediate layer being softer than the outer layers.
2. An extractor embodying in its construction, a rotatable shaft; an extractor basket fixed to and rotatable with said shaft; a housing for rotatably supporting said shaft; a supporting stud secured to said housing and extending below said housing; a perforated flange on and integral with the lower portion of the stud; and a compressible block on said flange and on said lower portion of the stud forming a unit with said flange and stud for gyratably supporting the same, said block comprising a plurality of layers vulcanized

in a unit, the flange being vulcanized in an intermediate layer, said intermediate layer of material being softer than the outer layers.

5 3. An extractor embodying in its construction, a rotatable shaft; an extractor basket fixed to and rotatable with said shaft; a housing for rotatably supporting said shaft; a supporting stud secured to the housing and  
10 extending below said housing; a perforated flange on and integral with the lower portion of the stud; a compressible block on said flange and on said lower portion of the stud forming a unit with said flange and stud for  
15 gyratably supporting the same; a base member enclosing said compressible block; and means on said base member to fixedly secure the block into the base against rotation, being adapted to adjust the tension of said  
20 block, said stud extending thru said base member so as to be freely gyratable relatively to the base member, said block comprising a plurality of layers vulcanized in a unit, the flange being vulcanized in an intermediate  
25 layer, said intermediate layer of material being softer than the outer layers.

4. A support for a motor driven extractor basket comprising a base, a block of compressible material disposed within said base  
30 so as to be prevented from rotation relatively to the base and being formed of three integral layers; a stationary supporting element extended from the housing of said motor through all three layers of said block, a perforated flange on the said element disposed  
35 in the intermediate layer of the block and being spaced from the outer periphery of the block, the said block, and element, and flange being vulcanized into an integral unit, the  
40 intermediate layer of the block being softer than the outer layers thereof.

MAURICE DUCASSE.

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