May 9, 1933. LE ROY C. SCHENCK 1,908,629

CLEAR TOP EXTRACTOR

Filed March 20, 1930 2 Sheets-Sheet 1

Fig. 1.

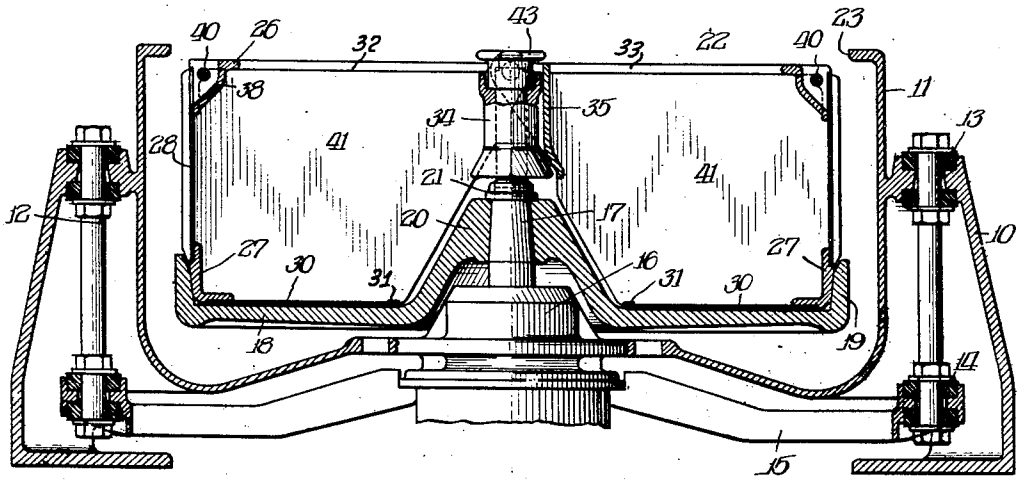
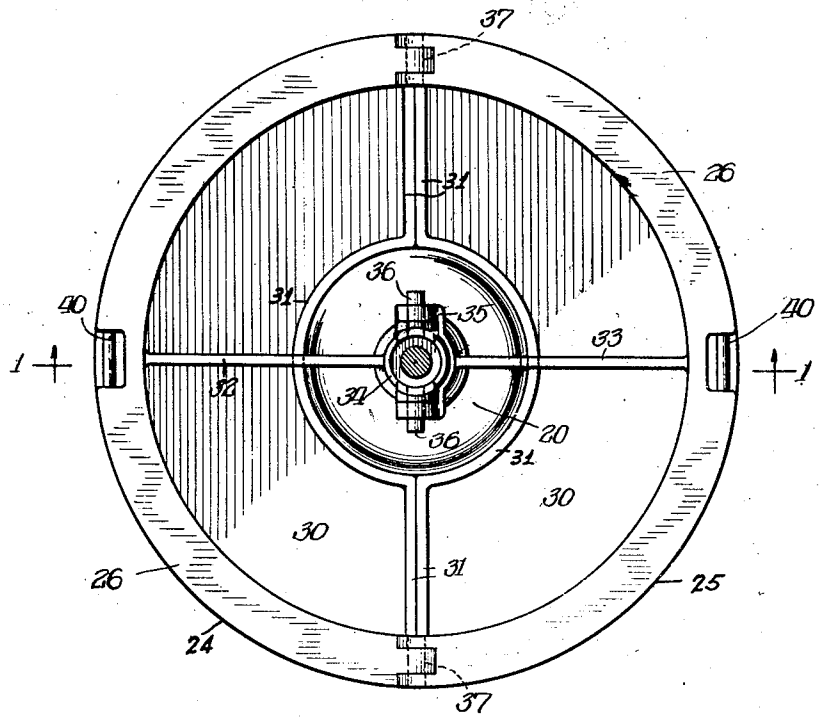


Fig. 2.



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Filed March 20, 1930 2 Sheets-Sheet 2

Fig. 3.

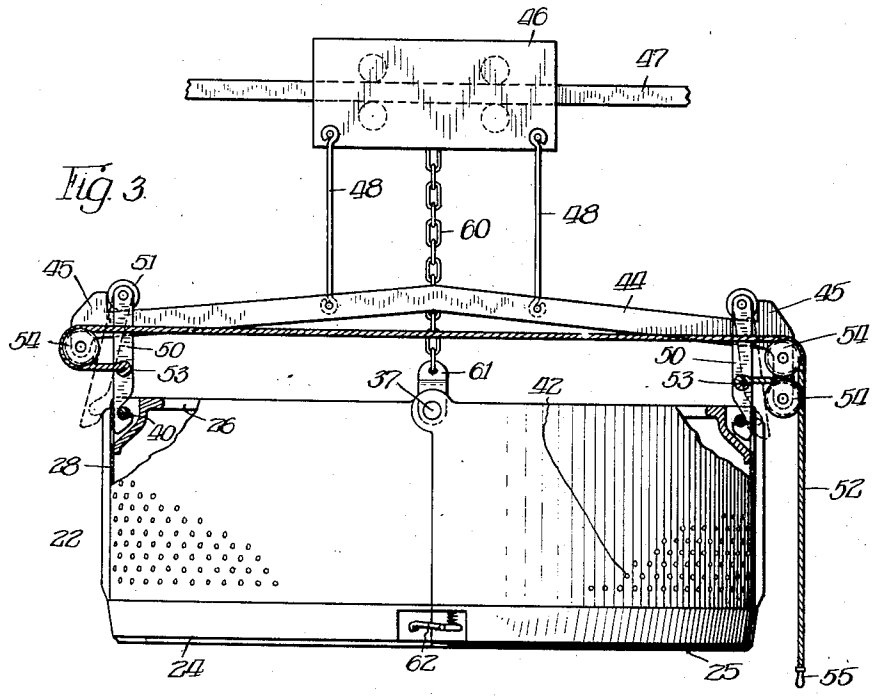
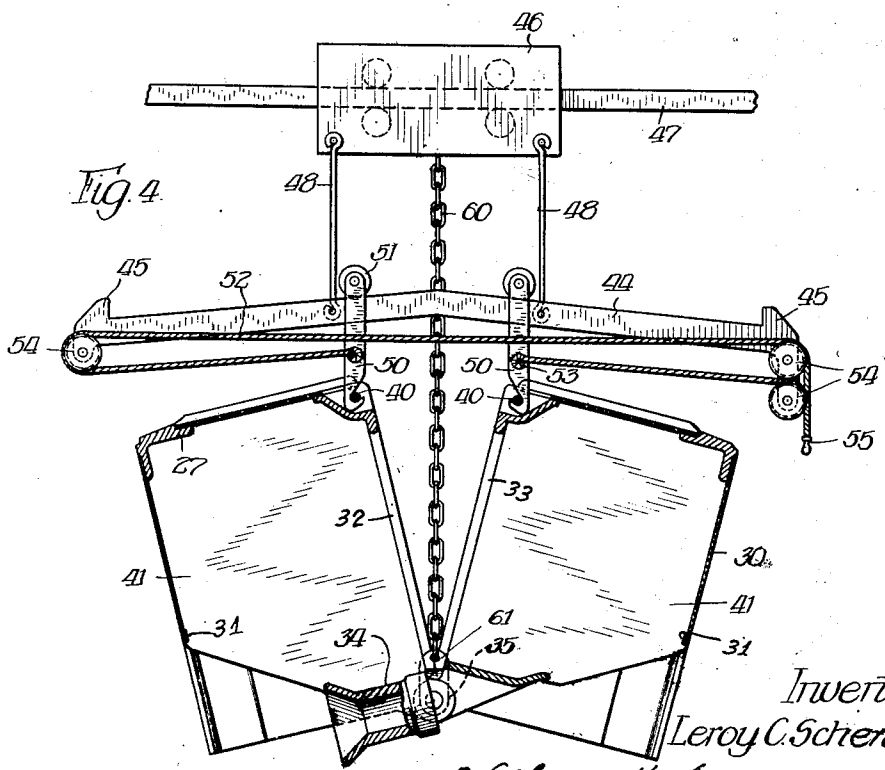


Fig. 4.



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Patented May 9, 1933 1,908,629

UNITED STATES PATENT OFFICE

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CLEAR TOP EXTRACTOR

Application filed March 20, 1930. Serial No. 437,333.

The invention relates to centrifugal extractors such as are used for extracting surplus liquids or moisture from goods or articles to be laundered or cleaned, or from any other substance.

The object of the invention is to provide an improved extractor embodying a rotating extractor basket which carries the goods or materials, the basket being so arranged as to enable a full or partial load to be taken care of and also constructed in a manner to enable the load to be easily introduced into and removed from the basket.

Another object of the present invention is to provide an extracting basket of cylindrical form comprising two semi-circular sections pivoted together on a horizontal axis, which will result in greater efficiency in removing clothes or material from the basket as the same can be easily parted along its pivot axis, locating the semi-circular sections in unloading position.

Another object of the present invention is to provide an improved extracting basket of cylindrical form comprising semi-circular sections pivoted together on a horizontal axis and wherein the means for pivoting the sections includes a sleeve and a yoke pivoted thereto, the sleeve also providing means for positioning the basket upon its extracting spindle.

Another object of the present invention is to provide a novel form of hoisting mechanism adapted to cooperate with the horizontally pivoted extracting basket whereby the same can be easily removed from the extractor and arranged in unloading position.

Another object of the present invention is to provide a novel type of releasing means for releasing the engagement of the hoisting means with the basket, whereby the same can be quickly lowered into operative position.

With these and various other objects in view, the invention may consist of certain novel features of construction and operation, as will be more fully described and particularly pointed out in the specifiction, drawings and claims appended hereto.

In the drawings, which illustrate an embodiment of the device and wherein like reference characters are used to designate like parts—

Figure 1 is a sectional view showing the basket in operative position within the stationary casing;

Figure 2 is a plan view of the extractor basket;

Figure 3 is an elevational view showing the hoisting arrangement for the extractor basket; and

Figure 4 is an elevational view showing the hoisting mechanism and the extractor basket in unloading position.

The extractor of the present invention is supported from a stationary frame 10 which in turn is adapted to support a stationary outer casing 11, the frame being supported from the floor or any other suitable base. The casing 11 is adapted to collect the water as it is removed from the clothes or other materials and for this purpose substantially incloses the extracting mechanism. For supporting the casing 11 suspension rods 12 are employed which are secured to the frame at 13 and in turn secured as at 14 to a supporting spider 15.

A journaling member or bearing unit 16 serves to provide the journaling means for the extractor spindle 17. The bearing unit 16 is rigidly attached to a supporting spider 15 which is suspended from the stationary casing 11 and the legs 10 by means of suspension rods 12. In order to compensate for unbalanced basket loads, the entire unit comprising a basket, to be presently described, bearing unit 16 and spider 15 is flexibly suspended from the casing by means of the suspension rods 12 so that this unit may oscillate independently of the stationary casing. This flexibility is attained by the use of resilient rod mountings as represented by 13 and 14. Any suitable form of power, such as an electric motor, is adapted to be connected either directly or indirectly to the spindle 17 at its lower end and to supply rotary movement to the spindle. Fixedly secured to the spindle 17 is a base plate 18 having a periphery flange 19 and a central cone portion 20, a securing nut 21 serving to maintain the base in place upon the spindle. The clothes or material

to be extracted is loaded into a basket designated in its entirety at 22, Figure 1, which basket, by means of the rotary movement imparted to spindle 17 is adapted to be rotated at high speeds so as to expel the moisture or liquid in the material which is collected by the casing 11. It is seen that the casing thus forms a housing for protecting the rotating parts as well as for collecting the liquids extracted and is provided with a relatively large top opening 23 through which the basket 22 may be elevated or lowered as desired.

One of the features of the present invention is the construction of the extractor basket which results in allowing more efficient removal of the clothes from the basket after the extracting operation is completed. The basket 22 is of cylindrical formation and comprises two semi-circular sections 24 and 25 respectively, Figure 2, each section being provided with an upper flange 26 and a lower flange 27, the flanges being connected by vertical side walls 28. Each section is provided with an annular bottom portion 30 adapted to fit down around the base of the cone portion 20 of the base 18 when the basket is in operative position. The inner edge of each bottom portion, inclusive of the semicircular cut-away portion, is reinforced by means of a flange or bead 31. The sections 24 and 25 are pivotally secured together to form the completed basket and for this purpose each section is provided with radial webs 32 and 33 respectively, the web 32 being formed at its inner end into a depending sleeve 34, while the web 33 is formed into a yoke 35. Pins 36 pivotally secure together the yoke and the sleeve. In like manner the upper flange 26 of each section is pivotally secured by means of pins 37. The upper flange is generally of right angle formation except at two diametrical opposite points where the same is dished as at 38 to form locating means for handles 40. The basket is also provided with partitions 41 which are joined at their upper edge to the radial webs 32 and 33 of the sections and at their lower edge to the bottom portion 30. For allowing the moisture and liquids to be expelled from the basket the vertical side walls 28 of each section is provided with closely spaced perforations or openings 42.

By means of the sleeve 34 the basket is positioned on the spindle 17, the basket being held in place by means of a screw threaded cap 43, which is threaded to the projecting end of the spindle and forms an abutment preventing the basket, during its rotations, from working upwards and leaving the spindle 17. Also it will be noted that the lower flange 27 is provided with an outer contour such as to have fitting engagement with the upstanding flange 19 provided on the rotating base 18. With the basket thus firmly held upon the base 18, the same can be gradually rotated with increasing speed which by means of the centrifugal force exerted upon the materials placed within the basket, will serve to expel the liquids through the perforations provided, thus efficiently and quickly drying the materials.

To remove the basket from its operative position within the casing 11, the present invention contemplates improved hoisting and supporting means which comprises a horizontal beam 44 of truss, that is, having its highest point at its mid-portions and provided at each end with abutments 45. The horizontal beam 44 is movably supported from any form of overhead crane 46 which is adapted to travel on the track 47, the beam being supported by rods 48. Located on the beam 44 are a plurality of depending hooks 50 provided with rollers 51 so that the hooks may travel upon the beam. Releasing mechanism for the hooks is employed which comprises a cord 52 secured to the hooks 50 at 53 and traveling over pulleys 54 located on the abutments 45. My downward movement being given to the handle 55 it is seen that the cord serves to draw outwardly the hooks 50 into releasing position, thereby disengaging them from the handles 40.

After the completion of the extracting process, the basket is adapted to be removed from the casing 11 by means of the hoisting chain 60 provided on the crane 46. The chain 60 is provided with engaging means 61 which is adapted to engage the projecting pins 36 provided on the yoke portion 35, and as these pins are centrally located with the remaining part of the basket, the same can be removed and hoisted into elevated position, as shown in Figure 3. By reason of the handles 40 provided on each section of the basket, the basket is held in this elevated position by the hooks 50, which in their outward position on beam 44 are so spaced as to engage with the handles. The basket is thus maintained in elevated position and transferred to any desired location according to the travel imparted to crane 46.

For allowing the sections 24 and 25 of the basket to assume unloading position, it is only necessary to release the lock 62 and lower the hoisting chain 60, which, as it will be seen, lowers the horizontal pivot axis of the basket, the ends of the basket being held in elevated position as the handles 40 are maintained in engagement with the hooks 50. This unloading position of the basket is clearly shown in Figure 4. As each section assumes substantially a vertical position the clothes or materials within the basket will be removed of their own accord by gravity, the materials dropping from the sections to a receptacle located in position to receive them. With this construction the removal of the materials from the basket is accomplished in an efficient manner without the need of an attendant to

manually remove the materials from the same.

With the materials removed from the basket, the crane 46 can then travel to its initial position so as to locate the basket over its particular extracting mechanism, whereupon it is only necessary to raise the hoisting chain 60 to thereby raise the horizontal pivot axis of the basket until the lock 62 engages and holds the sections in locked position. In the operation, of lowering the pivot axis of the basket, it will be seen that the hooks 50 maintain engagement with the handles 40 and travel inwardly towards the center of the beam 44. As the hoisting chain 60 is raised, the hooks 50 will be pulled outwardly into their initial position. Before the basket can be lowered, however, it is necessary to cause the hooks to disengage with the handles 40. This is accomplished by the cord 52 which can be drawn downward by an operator, causing the lower ends of the hooks to be drawn in an outward direction and freeing the basket. This operation allows the basket to be lowered onto the spindle 17 where the operation of extracting is again repeated.

It is to be understood that I do not wish to be limited by the exact embodiment of the device shown, which is merely by way of illustration and not limitation, as various and other forms of the device will of course be apparent to those skilled in the art without departing from the spirit of the invention or the scope of the claims.

I claim:

1. An extractor comprising a frame, a rotating basket therein, said basket comprising semi-circular portions forming work holding receptacles, said portions being pivoted on a diameter of said basket.

2. An extractor comprising a frame including a stationary casing, a rotating basket therein, said basket being parted along a diameter, and each half pivoted to the other along an upper horizontal axis, whereby each half may be moved to unloading position.

3. An extractor comprising a frame, a work receiving basket therein, a driving spindle for said basket, said basket being formed of two sections pivoted on a horizontal axis, and means for pivotally securing said sections, the securing means forming means for locating the basket on said spindle.

4. An extractor comprising a frame, a work receiving basket therein, a driving spindle for said basket, said basket formed of two semi-circular sections, and means for pivotally securing said sections on a horizontal axis comprising a sleeve secured to one section and a yoke secured to the other section, said sleeve forming means for locating the basket on the driving spindle.

5. An extractor comprising a frame, a work receiving basket therein, a driving spindle for said basket, the basket formed of two semi-circular sections pivotally united along an upper horizontal axis, means for pivotally uniting said sections comprising a radial rib secured to each section, one rib at its inner end being formed into a sleeve, the other rib into a yoke, and pins pivoting said yoke to the sleeve, said sleeve forming means for locating the basket upon the driving spindle.

6. An extractor comprising a frame and a rotating basket mounted therein, said basket comprising sections pivoted along a diameter of the basket, the basket being removable as a unit from the frame, and each section adapted to be movable outwardly relative to the axis of rotation to unloading position.

7. An extractor comprising a frame and a rotating basket mounted therein, said basket comprising sections pivoted along an upper diameter of the basket, the basket being removable as a unit from the frame, and means for maintaining the outer ends of each section in a substantially horizontal plane while lowering the center to cause the basket to assume an unloading position.

8. An extractor comprising a frame and a rotating basket therein, said basket being movable from the frame as a unit and comprising sections pivoted together, and means for engaging the basket when removed at the sides and pivot axis, the engaging means at said pivot axis being adapted to be lowered while the outer points remain in a horizontal plane, whereby the sections are pivoted about the pivot axis.

9. In a device of the class described, the combination with an extractor adapted to rotatably support a work receiving basket comprising sections pivoted together along a horizontal axis, said basket being removable from the extractor as a unit, means for removing said basket comprising a traveling hoist, a beam supported from said hoist, and hooks located on said beam and adapted to engage the outer ends of the basket to support the same in an elevated position, and means on said hoist to engage the middle of the basket, said last-named means being adapted to be lowered, whereby said basket assumes an unloading position.

10. In a device of the character described, the combination with an extractor basket, said basket comprising an upper and lower flange disposed in parallel relation to each other, side walls joining said flanges, said flanges and side walls being divided along a diametrical line, and means pivotally connecting said upper flange along a horizontal axis.

11. An extractor comprising a frame including a stationary casing, a rotating basket therein, said basket having a bottom and side walls, said basket being parted along a plane perpendicular to the base, and each part of said basket pivoted to the other along an

upper horizontal axis, whereby each section may be moved to unloading position.

12. An extractor comprising a frame, a work receiving basket therein, a driving spindle for said basket, said basket being formed in sections pivoted in a horizontal plane, and means for pivotally securing said sections, the securing means forming the means for locating the basket on said spindle.

13. An extractor comprising a frame, a work receiving basket therein, a driving spindle for said basket, said basket being formed of two sections, and means for pivotally securing said sections on a horizontal axis comprising a sleeve secured to one section and a yoke secured to the other section, said sleeve forming means for locating the basket on the driving spindle.

14. An extractor comprising a frame and a rotating basket mounted therein, said basket comprising sections pivoted along a horizontal axis of the basket, the basket being removable as a unit from the frame, and means for maintaining the outer ends of each section in a horizontal plane while lowering the pivot axis below said plane to cause the basket to assume an unloading position.

15. An extractor comprising a frame, a basket removably and rotatably mounted in said frame, said basket comprising sections hinged together, each section having a base and a vertical wall, said sections being adapted to form a basket when swung to a closed position, means for removing said basket from said frame, said means being adapted to maintain the outer edges of said basket in a horizontal plane, and being adapted to allow said hinged portions of said basket to be lowered, whereby said basket assumes an unloading position.

16. An extractor comprising a frame, a basket removably and rotatably mounted in said frame, said basket comprising sections hinged together, each section having a base and a vertical wall said sections being adapted to form a basket when swung to a closed position, means for removing said basket from said frame, said means being adapted to maintain the outer edges of said basket in a horizontal plane, and being adapted to allow said hinged portions of said basket to be lowered, a spindle mounted in said frame, and means on said hinged portions adapted to be mounted on said spindle, whereby said basket is mounted for rotation with said spindle.

Signed at East Moline, Illinois, this 11th day of March 1930.

LE ROY C. SCHENCK.