

**Nov. 26, 1935.**

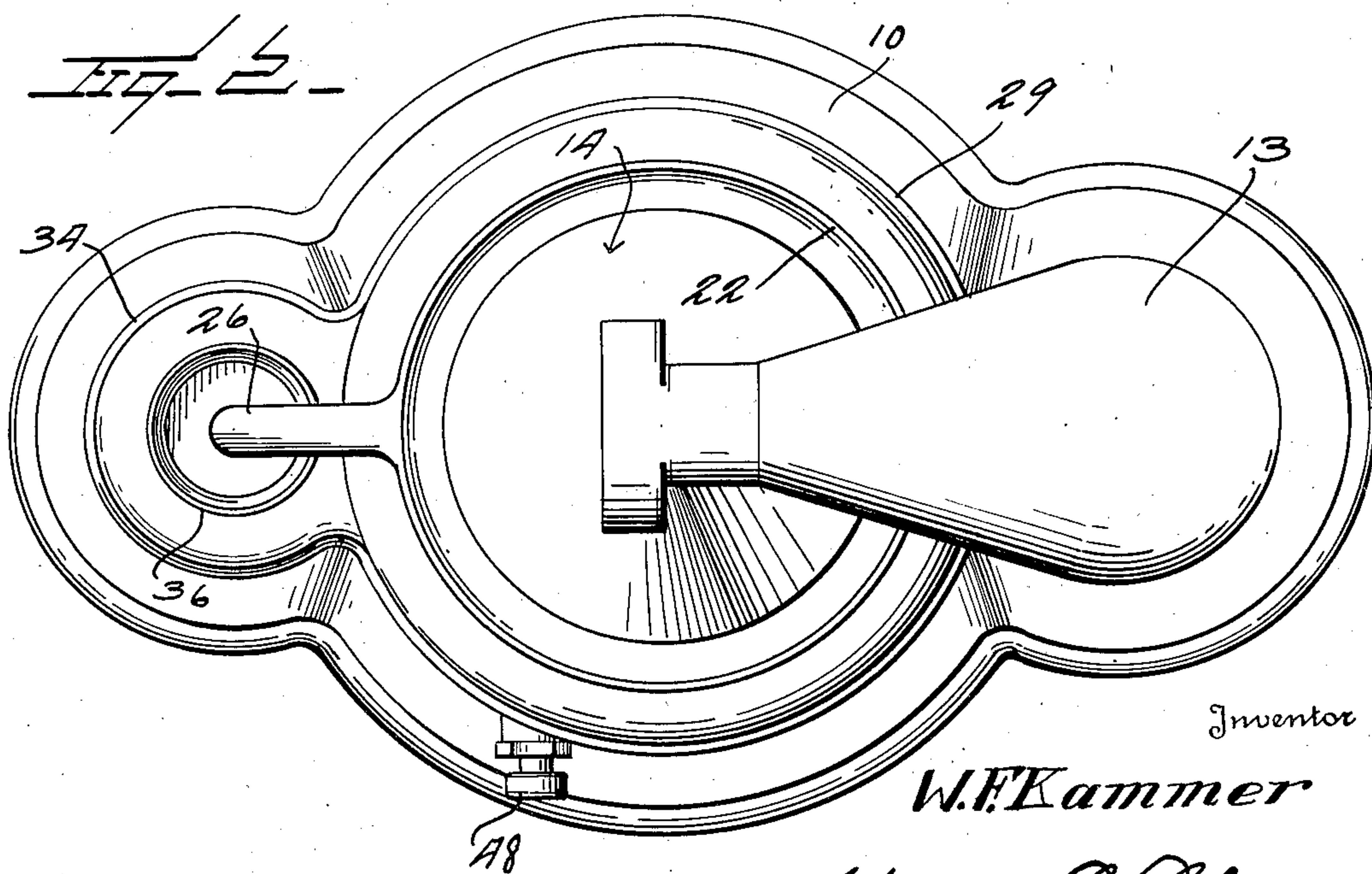
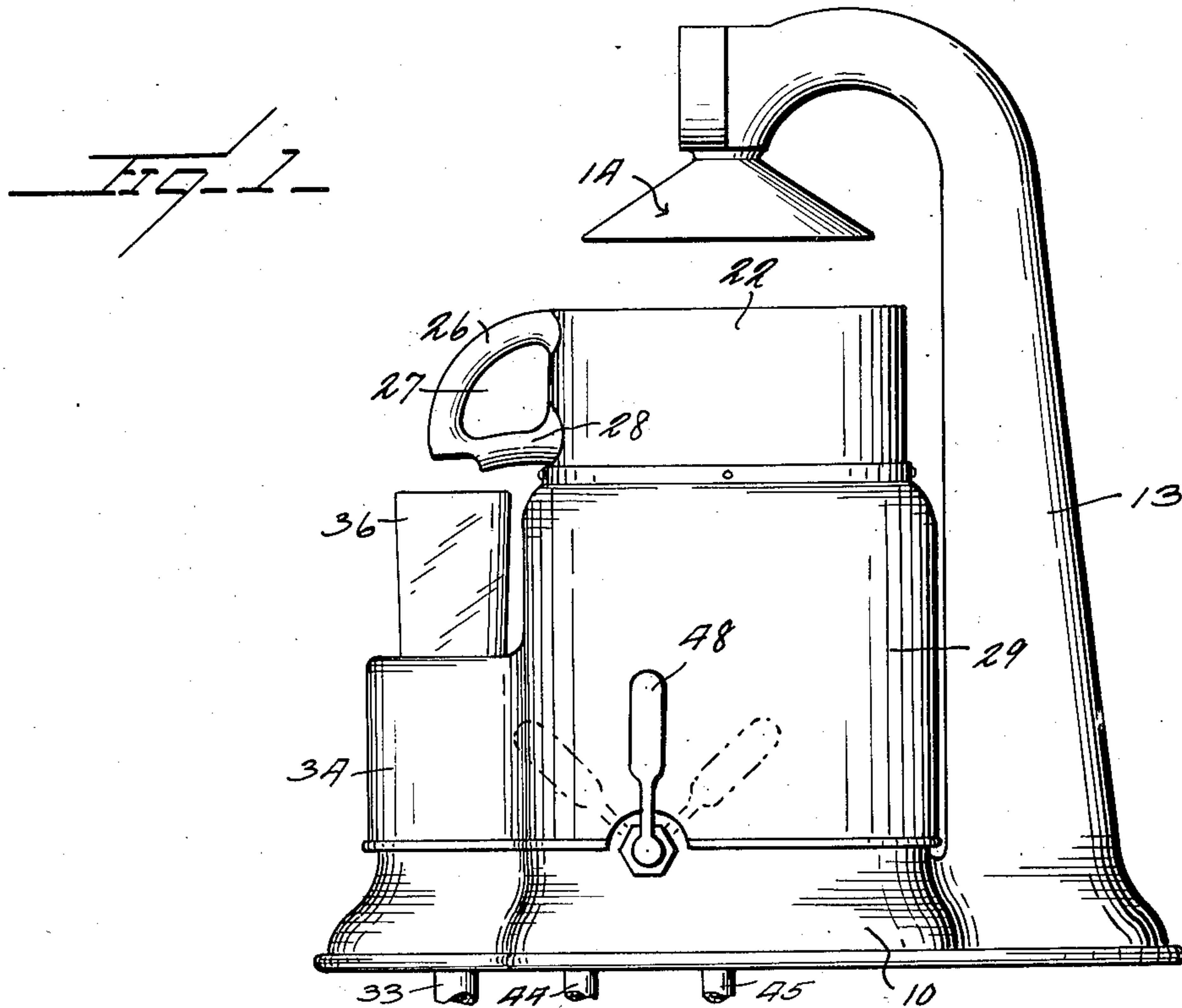
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**2,022,206**

HOUSEHOLD PRESS FOR FRUITS AND VEGETABLES

Filed Feb. 6, 1935

2 Sheets-Sheet 1



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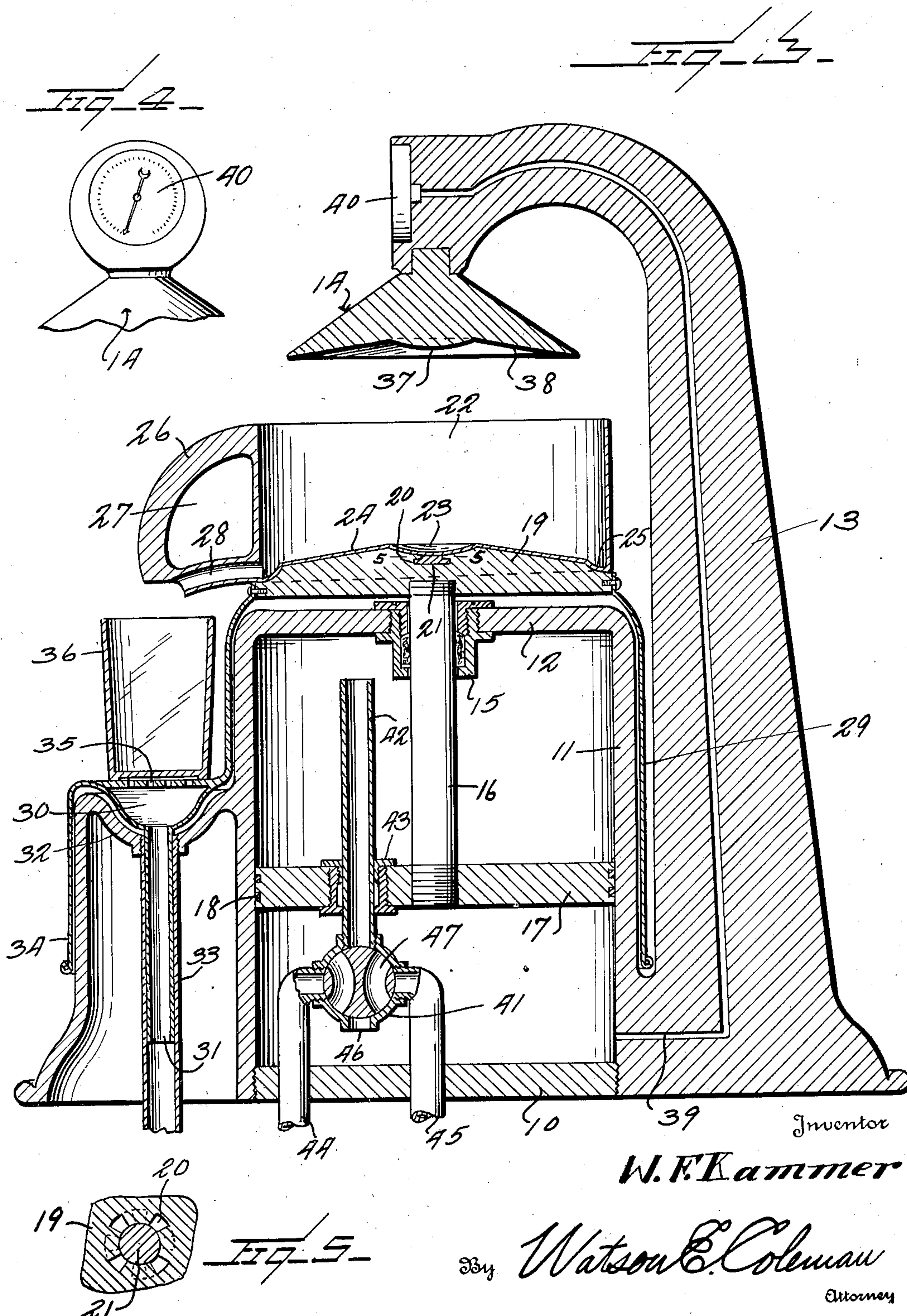
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## UNITED STATES PATENT OFFICE

2,022,206

HOUSEHOLD PRESS FOR FRUITS AND  
VEGETABLES

William Frank Kammer, Wenatchee, Wash.

Application February 6, 1935, Serial No. 5,289

11 Claims. (Cl. 100—50)

This invention relates to presses for expressing the juices of fruits, vegetables and the like and the structure to be described is an improvement upon the structure shown in my Patent No. 1,939,556, granted on December 12th, 1933.

The object of the present invention is to provide a structure operated on the same general principles as the structure disclosed in my patent but having certain improved functions thereover.

A further object is to provide a structure of this character wherein the press head is fixed and the cup moves upward against the press head to extract the juices from the vegetable or fruit, the press head being so constructed and so related in diameter to the cup that the discharge of the juices from the fruit or vegetable and from the cup will not be impeded by either the press head or the crushed fruit.

A further object is to provide a structure of this character wherein the cup is provided with a hollow handle, one portion of which constitutes a discharge duct, the bottom of the cup being so formed as to provide a runway for the juices, this runway being inclined downward toward the discharge duct.

A further object is to provide in a structure of this character, a fixed press head supported upon a column, a cup movable upward against the press head to crush the fruit and press the juices therefrom and a receptacle support moving upward with the cup so as to maintain a constant relation to the discharged duct of the cup.

Another object is to provide improved means whereby hydraulic pressure may be used for forcing the cup upward against the press head or retracting the cup or whereby the hydraulic pressure used may be gauged.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a side elevation of a fruit and vegetable press constructed in accordance with my invention.

Fig. 2 is a top plan view thereof.

Fig. 3 is a vertical section through the fruit press.

Fig. 4 is a fragmentary end elevation of the column showing the gauge.

Fig. 5 is a fragmentary section on the line 5—5 of Fig. 3.

Referring to these drawings, 10 designates a base forming the bottom wall of a vertically extending cylinder 11, the top wall of which is

designated 12. Extending upward from the base is a column 13 which, at its upper end, is extended laterally and over the chamber 11 and carries a press head, designated generally 14.

The upper wall 12 of the chamber 11 is formed with a packing gland 15 of any suitable construction and extending upward through this packing gland is a piston rod 16, which at its lower end, carries the piston head 17. The circumference of this head is grooved to receive piston rings 18, these piston rings being of the character of those used on automobile pistons.

Detachably engaged with the upper end of the piston 16 is a head 19 which may be hollow or solid, as desired. This head can have screw threaded engagement with the upper end of the piston rod 16. The central portion of this head is provided with a recess 20, adapted to interlock with a downwardly projecting flanged stud 21, carried upon a cup 22. This cup 22 is made of sheet metal. The bottom of the cup is formed with a central slightly depressed or concave portion 23, adapted to form a seat for the fruit or other articles to be pressed. From this central seat 23, the bottom of the cup extends downward and radially outward at 24 and the marginal portion of the bottom adjacent the peripheral wall of the cup is formed with an annular depression 25, which extends entirely around the cup. At one point of its side wall, the cup is provided with the handle 26. This handle being open at its center, as at 27, and the lower wall of this handle is formed to provide a duct 28, which extends downward and outward from the channel 25. This duct 28 is disposed at the lowest point of the channel 25 so that any juices left in this channel will naturally run down to the duct 28 and be discharged thereby.

The head 19 has its upper surface conformed to the contour of the bottom of the cup 22 so as to provide a full support for this cup throughout the entire area of the bottom. The stud 21 may be disengaged from the recess 20 by a predetermined rotation of the cup relative to the head 19, or, in other words, there is in effect a bayonet joint engagement between the cup and the head.

Attached to the head by any suitable means is a downwardly extending skirt 29. It extends down around the body of the chamber 11. Immediately beneath the handle 26 of the cup, however, this skirt extends outward instead of downward and is formed with the depressed portion 30 having a discharge pipe 31 extending downward from this depressed portion.



The wall of the chamber 11 is also formed with an outwardly extending portion 32 which is depressed to conform to the depression 30 and receive this depressed portion of the skirt and through this depressed or convex wall 32 of the chamber, the discharge pipe 31 passes. This discharge pipe 31 telescopes into a discharge pipe 33, which extends below the pipe 31. Exteriorly of the depression 30, the skirt 29 is downwardly extended, as at 34.

Extending across the depression 30 is perforated supporting plate 35 upon which the receptacle 36 is adapted to rest. The perforations in the plate 35 are to permit any juices which might escape from the receptacle to drain downward through the pipes 31 and 33.

With this construction, when the piston 17 is moved upward and the head 19 moved upward together with the cup 22, the receptacle support 33 will also be moved upward and the pipe 31 will shift through the outer pipe 33. As the piston 17 and head 19 are moved downward, of course the receptacle support formed with the parts 30 and 35 will also move downward.

The press head 14 is solid and has its lower surface made to conform to the conformation of the bottom of the cup 22. Thus, the central portion of the press head 14 has a convex face 37 and from this central portion, the lower face of the press head 14 extends downward and outward, as at 38. It will be noted that the press head has a diameter substantially less than the interior diameter of the cup 22 so that when the cup is brought upward against the press head, the fruit will not be so compressed as to be forced outward over the channel 25 and thus obstruct this channel but the fruit will be pressed downward against the bottom of the cup and all of the juices expressed therefrom.

Preferably the column 13 is provided with a duct 39 which extends from the lower end of the column and opens at its lower end into the chamber 11, the duct extending upward through the column 13 and to a gauge 40, preferably disposed in a recess in the angularly extended end of the column just above the press head 14. This is a pressure gauge and may be of any suitable character.

For the purpose of discharging liquid under pressure into the space above the piston 17, to force the piston 17 downward or into the space below the piston, to force the piston upward, I provide the four-way valve casing designated 41, and having a pipe extending therefrom designated 42, which extends up through a pushing 43, carried by the piston 17. This four-way valve 41 has an inlet pipe 44 and an outlet pipe 45, these pipes extending through the base 10 and the valve casing 41 is also provided with an outlet 46 into the space below the piston 17. Thus when the valve is turned in one position, water entering through the pipe 44 will be discharged into the space below the piston and cause the lifting of the piston, while water which may be above the piston will be forced out through the pipe 42 and the outlet pipe 45. This will raise the piston 17 to carry the cup upward to bring the fruit into engagement with the press head 14. After the fruit has been squeezed between the press head and the bottom of the cup, the piston 17 is to be moved downward and to this end the valve 47 within the valve body is turned so that water from the pipe 44 will pass upward through the pipe 42 and water within the space below the piston will be discharged through the open-

ing 46 and into the outlet pipe 45. The pipe 44 may be connected to the ordinary house water supply system or to any other source of liquid supply, while the pipe 45 may be connected to any suitable drain.

The valve 47 has a central stem, of course, which extends out through the wall of the chamber 11 and is provided with a handle 48.

Preferably the cup 22 and the press head 14 will be made of stainless steel. Any suitable material may be used for the base, the chamber 11, and the column 13. A convenient material for this purpose is cast iron.

While I have illustrated certain details of construction and certain arrangements of parts, I do not wish to be limited to these details as the invention might be embodied in a number of different forms without departing from the spirit of the invention, as defined in the appended claims.

One of the chief advantages, due to the fact that the cup moves upward against the press head, is that time can be saved in taking out the pulp and in putting in fresh fruit. Furthermore, this eliminates overhead structure and makes a better balanced press and there is no tendency to top heaviness in my present design.

While I have described my press as being particularly designed for a press for vegetables and fruit, that is a household press, I do not wish to be limited to this use as it is obvious that the same principle can be used in connection with a machine shop press by merely changing the contour or character of the confronting faces of the head 19 and the head 14 so that these heads will coact with each other to press the article between them.

What is claimed, is:

1. A fruit and vegetable press including a cylinder, a piston operating therethrough, a cup carried by the piston and having a spout, a fixed press head disposed above the cup and engaging the fruit to press it when the cup is raised, and means for supporting a juice receptacle beneath the spout of the cup and causing the upward travel of the receptacle with the piston and cup.

2. A fruit and vegetable press including a cylinder, a piston operating therein, a cup carried by the piston, and a fixed press head disposed above the cup and engaging the material therein to press it when the cup is raised, the cup having a handle, the lower portion of the handle being formed to provide an outwardly extending discharge spout.

3. A fruit and vegetable press including a cylinder, a piston operating therein, a cup carried by the piston, and a fixed press head disposed above the cup and engaging the material therein to press it when the cup is raised, the cup having a handle, the lower portion of the handle being formed to provide an outwardly extending discharge spout, the bottom of the cup having a centrally depressed portion adapted to form a seat for the fruit or vegetable to be pressed, the bottom of the cup then extending downward and outward from said centrally depressed portion, and a channel formed exteriorly of the downwardly and outwardly inclined portion, the channel discharging into said spout.

4. A fruit and vegetable press including a cylinder, a piston operating therein and having a piston rod extending through the upper end of the cylinder, a head carried by the piston rod, a cup supported upon the head, a column extending



upward from the cylinder, a press head carried by the upper end of the column and disposed immediately above the cup, the head carried by the piston rod having a central depression and then extending downward and outward in all directions, the cup having a bottom formed with a central depression constituting a seat for the material to be pressed and then extending downward and outward in all directions, the periphery of the cup having a channel and the cup having a spout into which the channel discharges, the under face of the press head having a central protuberance and the end face of the press head extending downward and outward from said protuberance to approximately fit the cup, the press head being substantially smaller than the interior diameter of the cup.

5. A fruit and vegetable press including a cylinder, a piston operating therein and having a piston rod, a head carried by the rod, a cup carried by the head, a fixed press head disposed above the cup and engaging the material within the cup when the cup is raised, the cup having a discharge spout, the head of the piston rod having a skirt extending down around the cylinder, the skirt at one point being formed to provide a support for a juice receptacle, the support being disposed immediately beneath the spout of the cup, and means for admitting fluid pressure beneath the piston to lift it, said means permitting the escape of fluid from above the piston.

6. A fruit and vegetable press including a cylinder, a piston operating therein and having a piston rod, a head carried by the rod, a cup carried by the head, a fixed press head disposed above the cup and engaging the material within the cup when the cup is raised, the cup having a discharge spout, the head of the piston rod having a skirt extending down around the cylinder, the skirt at one point being formed to provide a support for a juice receptacle, the support being disposed immediately beneath the spout of the cup, and means for admitting fluid pressure beneath the piston to lift it, said means permitting the escape of fluid from above the piston, the seat for the juice receptacle being perforated and a pipe for carrying off juice which may collect around said seat.

7. A fruit and vegetable press including a cylinder, a piston operating therein, a rod extending through the upper end of the cylinder and carrying a head, a press head disposed above the first named head, a cup carried by the first named head and having a discharge spout, means for

admitting fluid pressure beneath the piston to cause the upward movement of the piston, or admitting fluid pressure beneath the piston to cause its downward movement, a skirt attached to the first named head and extending downward around the cylinder, the wall of the cylinder at a point below the spout of the cup being laterally extended and formed with a depressed portion having a discharge tube therein, the skirt at a point below the spout of the cup being laterally extended to form a seat for a juice receptacle, the seat being perforated, said skirt below the seat being disposed to fit within the depressed portion of the lateral projection from the cylinder wall, and this depressed portion having a pipe telescoping within the first named pipe.

8. A fruit and vegetable press including a supporting head, and a cup detachably mounted thereon and having a spout, a fixed press head disposed above the cup, means for raising or lowering the first named head to cause the press head to press the material within the cup, the cup having a spout, and means for supporting a juice receptacle beneath the spout and lifting the juice receptacle with the cup when it is lifted.

9. A press of the character described including a plunger, a cup carried by the plunger and having a spout, a fixed press head disposed above the cup and engaging the material within the cup to press it when the cup is raised, means for supporting a juice receptacle beneath the spout of the cup and causing the upward travel of the receptacle with the plunger and the cup, and means for reciprocating the plunger.

10. A press of the character described, including a plunger, a cup carried by the plunger, a fixed press head disposed above the cup and engaging the material therein to press it when the cup is raised, the cup having a handle, the lower portion of the handle being formed to provide a discharge spout, and means for reciprocating the plunger.

11. A press of the character described, including a plunger having a head, a cup carried by the head, a fixed press head disposed above the cup and engaging the material in the cup when the plunger is raised, the cup having a discharge spout, the plunger head having a skirt extending down around the plunger and formed to provide a support for a juice receptacle, said support being disposed immediately beneath the spout of the cup, and means for reciprocating the plunger.

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