

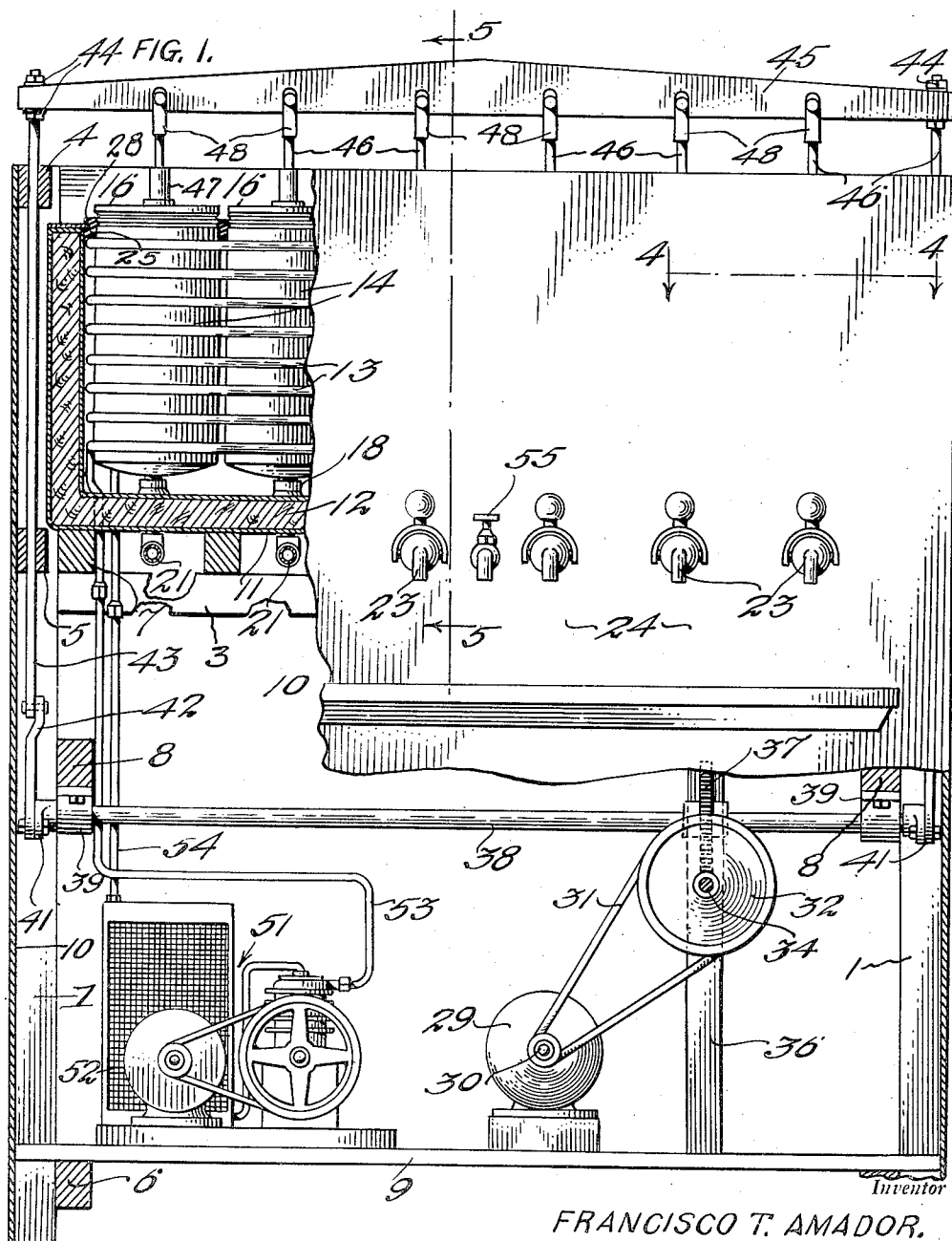
Jan. 3, 1950

F. T. AMADOR
MULTIPLE UNIT COOLING, AGITATING, AND
DISPENSING APPARATUS FOR BEVERAGES

2,492,950

Filed June 7, 1946

3 Sheets-Sheet 1



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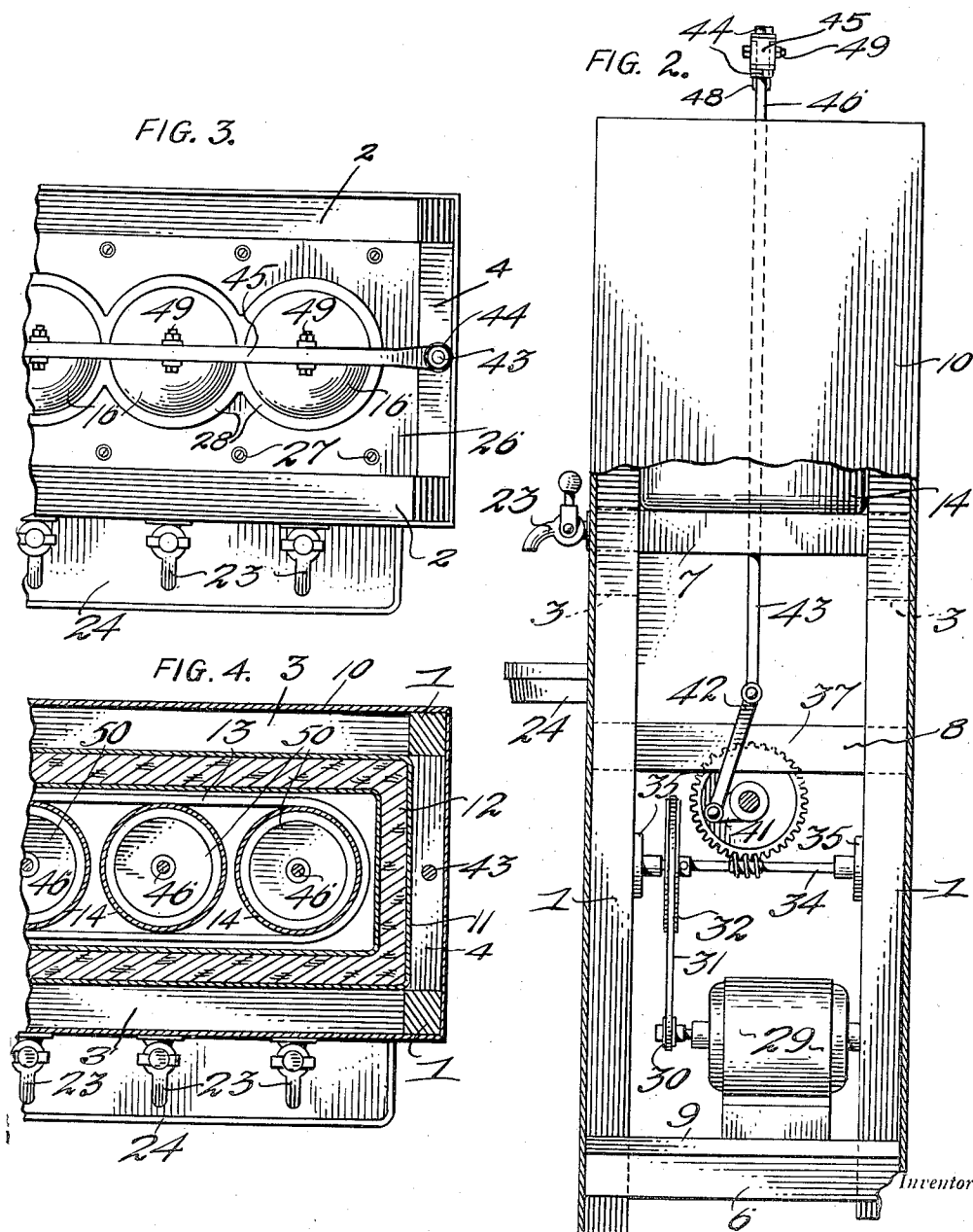
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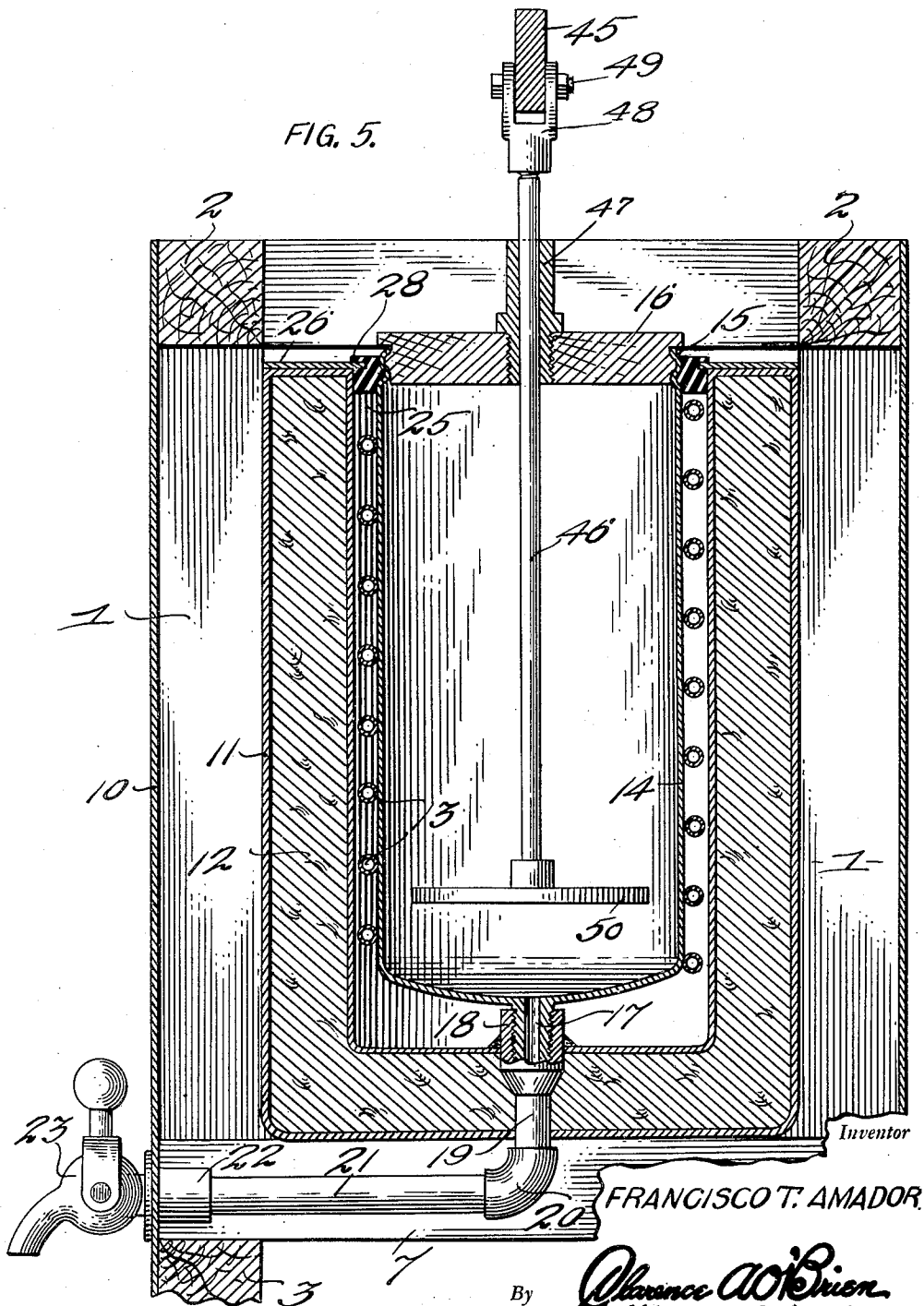
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UNITED STATES PATENT OFFICE

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MULTIPLE UNIT COOLING, AGITATING, AND
DISPENSING APPARATUS FOR BEVER-
AGES

Francisco T. Amador, Santurce, P. R.

Application June 7, 1946, Serial No. 675,250

1 Claim. (Cl. 62-141)

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My invention relates to improvements in cooling, agitating and dispensing apparatus for beverages, especially, although not necessarily.

The primary object of the invention is to provide a multiple unit cooling apparatus for maintaining non-carbonic beverages at an even temperature and uniform density for dispensing and which is inexpensive to operate and service, as well as to install, easy to fill and empty and will not readily get out of order.

Other and subordinate objects, also comprehended by my invention, together with the precise nature of my improvements, and the manifold advantages thereof will be readily understood when the succeeding description and claim are read with reference to the drawings accompanying and forming part of this specification.

In said drawings:

Figure 1 is a view in front elevation, partly broken away and shown in section, of my improved cooling apparatus in a preferred embodiment thereof.

Figure 2 is a view in end elevation, partly broken away and shown in section,

Figure 3 is a fragmentary view in plan,

Figure 4 is a fragmentary view in horizontal section taken on the line 4-4 of Figure 1,

Figure 5 is a fragmentary view in vertical transverse section taken on the line 5-5 of Figure 1, and drawn to an enlarged scale.

Reference being had to the drawings by numerals, my improved cooling apparatus, as shown, comprises an elongated, rectangular frame, of wood preferably, having end pairs of corner uprights 1 connected together by top side bars 2, intermediate side bars, as at 3, and top, intermediate and bottom end cross bars 4, 5, 6. The intermediate side bars have suitably fixed thereto laterally spaced cross supports 7. Hanger bars 8 extend across the pairs of uprights 1 intermediate said side bars 3, and the end cross bars 6. The bottom end cross bars 6 support a platform 9. The purpose of the cross supports 7, hanger bars 8 and platform 9 will presently appear.

A casing 10, preferably of sheet metal, encloses the described frame at the sides and ends thereof and which is open at its top and bottom.

An elongated, rectangular, open top tank 11 is supported by the cross supports 7 with its ends fitted between the pairs of end uprights 1 and spaced from the casing 10 at the ends of the frame. The tank 11 may be secured to said supports 7, if desired, in any suitable manner. The tank 11 is of double-walled construction, prefer-

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ably sheet metal, with cork insulation 12 packed between the walls thereof.

Cooling coils 13 extend horizontally along the inner wall of the tank 11 within said tank and close to said wall.

A plurality of cylindrical, open top, beverage containers 14 are provided in the tank 11 to fit, in upright position, in the cooling coils 13, and are spaced apart equidistantly longitudinally of said tank. The containers 14 may be formed of suitable sheet metal, or the like, with rims crimped to form internal threads, as at 15, at the tops thereof. Disc-like, flanged covers 16 suitably threaded, and preferably formed of wood, are turned into the tops of the containers 14. The containers 14 are removably anchored in the tank 11 by means of bottom discharge nipples 17 depending axially therefrom and threaded into upstanding sockets 18 in the bottom of the tank 11 spaced along said bottom in the longitudinal center thereof. The sockets 18 are provided with discharge nipples 19 extending out of the bottom of the tank 11 and connected by elbows 20 with discharge pipes 21 extending horizontally between the supports 7 out of what constitutes the front side of the casing 10 and by way of fittings 22 in said side, the fittings 22 forming part of discharge faucets 23.

A suitable drain pan 24 extends along said front side of the casing 10 beneath the discharge faucets 23.

Means are provided at the top of the tank 11 for forming a seal around the tops of the containers 14 and between the same and the inner wall of said tank. As best shown in Figures 3 and 5, such means comprises sealing gaskets 25 of suitable material, such as rubber, fitting around the tops of the containers 14 and in said tank 11, and a suitable apertured cover plate 26 for said tank secured thereon by screws 27 and in which said gaskets 25 are secured by tongue and groove connections, as at 28.

Agitator mechanism for beverages in the containers 14 is provided and now to be described in detail.

An electric motor 29 is suitably mounted on the platform 9 with a small drive pulley 30 on the armature shaft thereof operatively connected by a belt 31 to a pulley 32 fast on a worm shaft 34, mounted in bearings 35 on uprights 36 arising from the platform 9. The worm shaft 34 drives a worm wheel 37 fast on a crank shaft 38 having its ends journaled in bearings 39 bolted as at 40 to the hanger bars 8 in the median plane of the described frame. A pair

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of cranks 41 on the ends of the crank shaft 38 are operatively connected by links 42 to the lower ends of a pair of slide rods 43 having bearings in the cross bars 4, 5 and upper ends fixed by nuts 44 in the opposite ends of a cross head beam 45 overlying the top of the tank 11 in the median plane thereof. Plunger rods 46 depend from the cross head beam 45 into the containers 14 by way of bushings 47 threaded axially into the covers 16. Forked heads 48 on the upper ends of the plunger rods 46 straddle said cross head beam 45. Pivot bolts 49 connect said heads 48 to the cross head beam 45. Disc-like agitators 50 are fixed on the lower ends of the plunger rods 46. It will be noted that the slide rods 43 are interposed between the ends of the tank 11 and the ends of the casing 10.

A condenser and compressor unit 51 operated by a motor 52, and which is of conventional construction, is mounted on the platform 9 with suitable feed and return pipe lines 53, 54 to opposite ends of the coil 13, said lines being suitably extended through and sealed in the bottom of the tank 11.

The use and operation of the described invention will be readily understood. The cooling tank 11 is designed to contain a non-freezing liquid, such as a dilute alcohol solution, not shown. The containers 14 are used for different beverages. The condenser and compressor unit 51 is designed to circulate the usual refrigerant through the cooling coil 13. The motor 29 operates the worm shaft 34 to rotate the crank shaft 38 which reciprocates the slide rods 43 to raise and lower the cross head beam 45, with a vibratory motion, so that the plunger rods 46 are reciprocated to similarly operate the agitators 50 which maintain the beverages in the containers 14 in motion. Thus the contents of all the containers 14 are maintained cool and settling of sediment therein is prevented. To fill the containers 14, it is merely necessary to unscrew the covers 16 and slide the same upwardly on the plunger rods 46 sufficiently to permit the beverages to be poured into said containers. Afterwards, said covers 16 may be replaced. By opening the faucets 23, the beverages may be discharged from the containers 14, at will. The nuts 44 provide for detaching the

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cross head beam 45 from the slide rods 43 so that, after the covers 16 are unscrewed, said covers, the beam, plunger rods and agitator discs may be removed as a unitary assembly, after which the containers 14 may be removed, by unscrewing the nipples 17, so that said containers may be cleaned and kept sanitary. By removing the screws 27 and the plate 26, with the containers 14 replaced, access may be had to the tank 11 for filling the same. Any suitable connected drain cock, such as shown at 55, may be provided for draining the tank 11. The motors 29, 52 are designed to be connected to any suitable source of power and for control in the conventional manner.

The foregoing will, it is believed, suffice to impart a clear understanding of my invention without further explanation.

Manifestly, the invention, as described, is susceptible of modification without departing from the inventive concept, and right is herein reserved to such modifications as fall within the scope of the appended claim.

What I claim is:

Apparatus of the class described comprising a frame, an upper tank in said frame for a cooling fluid, beverage containers in said tank removably mounted therein and spaced from the walls thereof, means to discharge beverages from said containers through the bottom of the tank, cooling coils in the tank, means in the bottom of the frame for circulating a refrigerant through said coils, a removable cover plate for said tank, and gaskets in said plate forming a seal around said containers maintaining the same upright and removable with said plate.

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