G. A. WILSON.

SEDIMENT TESTER.

APPLICATION FILED APR. 2, 1917.

1,248,232.

Patented Nov. 27, 1917.

2 SHEETS—SHEET 1.

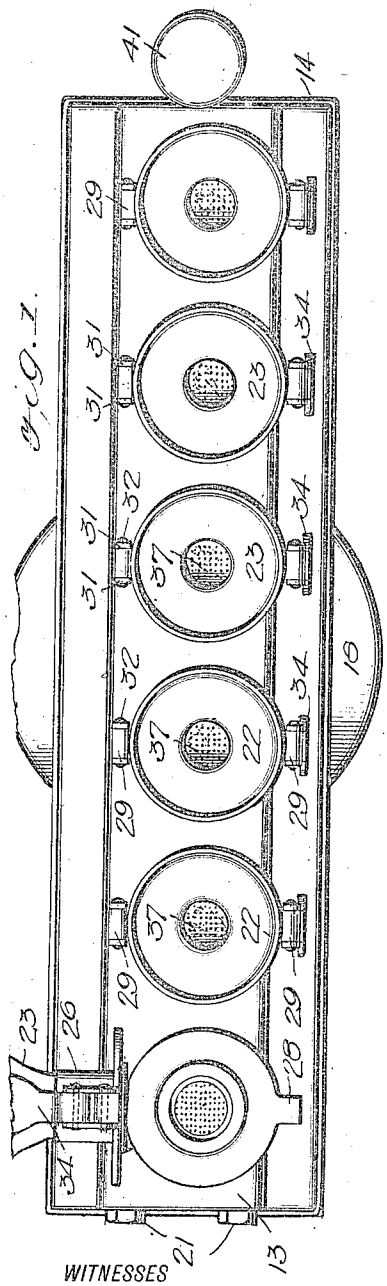


Fig. 1.

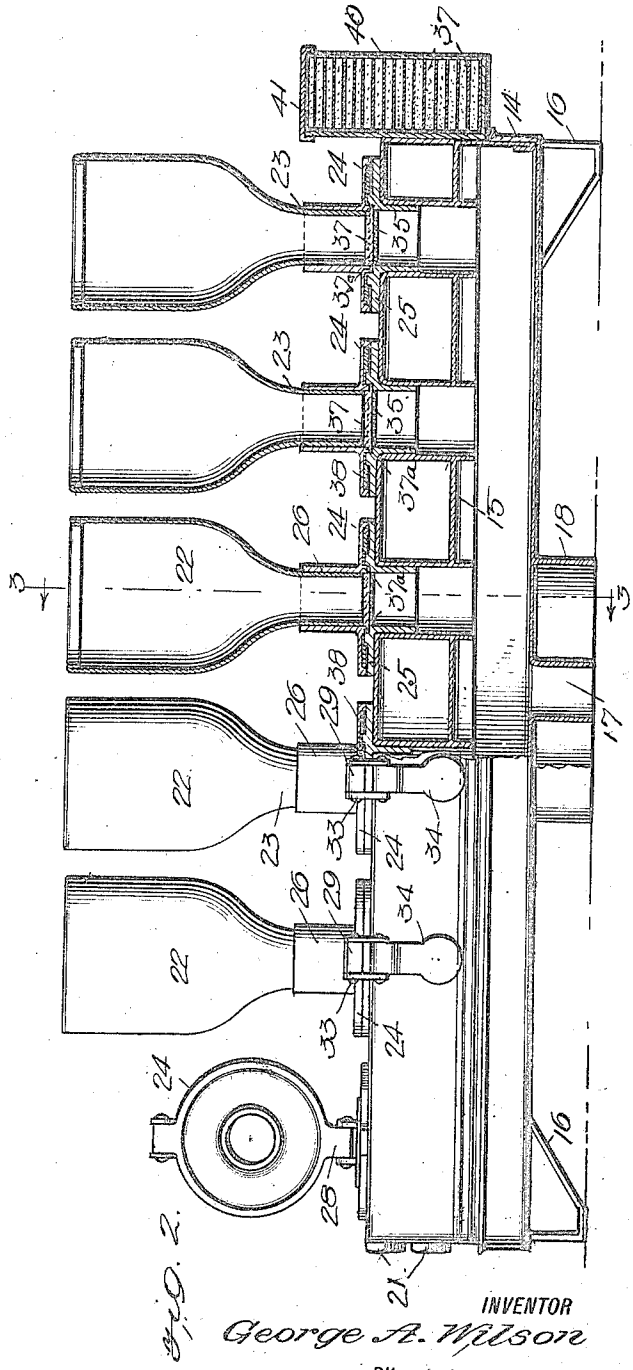


Fig. 2.

WITNESSES

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Fig. 4.

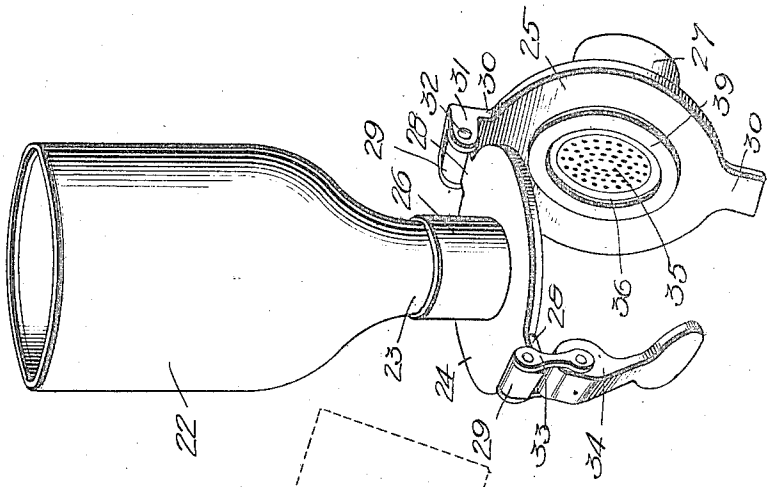
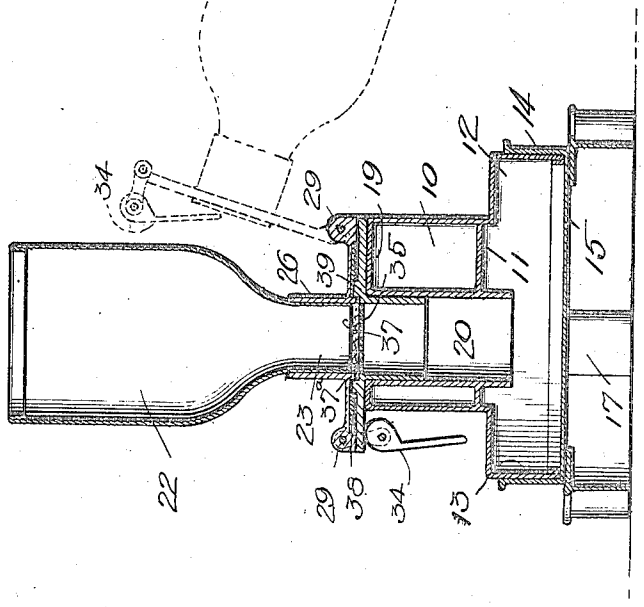


Fig. 5.



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SEDIMENT-TESTER.

1,248,232. Specification of Letters Patent. Patented Nov. 27, 1917.

Application filed April 2, 1917. Serial No. 159,100.

To all whom it may concern:

Be it known that I, GEORGE A. WILSON, a citizen of the United States, and a resident of Chase Mills, in the county of St. Lawrence and State of New York, have invented certain new and useful Improvements in Sediment-Testers, of which the following is a specification.

My present invention relates generally to testing apparatus, and more particularly to apparatus for testing the sediment of milk, my object being in the first instance to provide a sanitary apparatus of this character fully answering the standard health laws governing the production of devices of this nature, and one which will be effective and efficient in use.

A further and more specific object of my present improvement is the provision of a testing apparatus, the parts of which may be readily disassociated from one another in order that all surfaces in contact with which the milk comes in the operation of the apparatus may be readily reached for cleansing purposes.

A further object is to provide removable cup supporting means in the form of holders, for the support also of the sediment pads, the construction of which permits of readily locking and releasing the same in placing and removing such pads.

Other objects residing for the most part in the details of construction of the various portions of my improved tester, will be apparent from the following description thereof, reference being made to the accompanying drawings, forming a part of this specification and wherein—

Figure 1 is a top plan view.

Fig. 2 is a side view partly in elevation and partly broken away and in sections.

Fig. 3 is a vertical transverse section taken substantially on the line 3—3 of Fig. 2, and

Fig. 4 is a detail perspective view of one of the cups and its holder removed from the tank.

Referring now to these figures and particularly Figs. 1, 2 and 3, my invention contemplates the provision of a tank, generally of an elongated, rectangular form, having an upper closed chamber 10 extending for the full length thereof and divided by a horizontal partition 11 from the lower enlarged portion 12 of the said tank, the latter of which is open at its base and provided with a depending surrounding flange 13 arranged to telescopically fit within the upstanding flange 14 of the tank base 15, the latter of which may have depending end supports or legs 16 to maintain the same in upright position upon a flat supporting surface, and is provided with a depending central outlet 17 to extend within the mouth of a can or other milk receptacle, and with a depending annular flange 18 surrounding the outlet 17 in spaced relation to lap the outer portion of the pan or other receptacle into which the outlet 17 is extended.

The top wall 19 of the casing closes the upper portion of the upper chamber 10 and is provided with a longitudinal series of depending tubes 20, the lower ends of which extend through the horizontal partition 11 and open into the lower enlarged portion 12 of the tank, the said upper closed chamber 10 having end nipples and the like 21 to receive the inlet and outlet pipe (not shown) by which steam, hot water or other heating fluid is respectively conducted to and away from the closed chamber 10, to circulate in the latter around the several tubes 20 and maintain a substantially uniform temperature in the pipes so as to obviate deleterious effects in operation due to abruptly changing temperature and the extremes of heat and cold, it being obvious that a cooling fluid may be substituted for a heating fluid where it is desired to reduce instead of increase the temperature within the tank.

The upper open ends of the tubes 20 receive the holders for a plurality of milk receiving cups 22, the upper ends of the latter of which are open and the lower reduced and open neck portions 23 of which are removably supported by the holders as presently described.

Each of the holders referred to consists of upper and lower annular plates 24 and 25 as best seen in Fig. 4, the former having a central upwardly projecting tubular extension 26 and the latter having a similar though downwardly projecting tubular extension 27. The upwardly projecting tubular extension 26 of the upper plate 24 receives the lower contracted neck 23 of its respective cup 22 in telescoping detachable relation, and the depending tubular extension 27 of the lower plate 25 is arranged to interfit in similar detachable telescopic relation the upper end of one of the tubes 20 of

the tank, to permit the lower plate 25 to rest evenly and firmly upon the upper surface of the top wall 19 of the tank as clearly seen by a comparison of Figs. 2 and 3.

Referring again to Fig. 4, the upper plate 24 of each of the holders has diametrically opposed outstanding lips 28 each supporting a transverse bearing 29, and the lower plate has similarly positioned outstanding lips 30, one of which is provided with spaced upstanding ears 31 engaged by a pivot pin 32 extending through one of the bearings 29 and forming a hinge at one side of the holder upon which the upper plate is movable vertically with respect to the lower plate when in position upon the tank, for a purpose to be presently described, the opposite bearing 29 of the upper plate receiving a pin at the upper end of a pair of links 33 supporting in spaced pivotal relation an eccentric clamping member 34 movable beneath and in engagement with the lip 30 of the lower plate 25 with the parts in operative position as shown in Fig. 3 so as to clamp the two plates of the holder firmly in connection with one another.

Adjacent its upper end the depending tubular extension 27 of the lower plate 25 of each of the holders, supports a reticulated diaphragm or disk 35, suitably connected thereto or a part thereof, and which may be either of wire mesh or perforate metal, the disk or diaphragm just described being located immediately beneath a counterbore 36 at the upper end of the said tubular extension, adapted for the reception of the sediment holding pad 37. The lower surface of the upper plate 24 of the holder has an annular rib 37^a depending around the lower end of the tubular extension 26, to enter the counterbore 36, as seen in Figs. 2 and 3, and to seat upon and firmly hold the sediment pads 37 in place, the lower surface of the upper plate 24 also having an annular channel in which a gasket 38 is seated, which is firmly pressed upon an upstanding annular rib 39 of the lower plate 25, when the clamp 34 is engaged as seen in Fig. 3 so as to effectively prevent leakage outwardly between the two plates 24 and 25 of the holder.

In operation, it is obvious that milk poured into the cup 22 will pass downwardly through the lower contracted neck portions thereof and through the sediment pads 37 supported upon the diaphragms or disks 35, as well as by the engaging portions of the plates 24 and 25 of the holders, the milk passing on downwardly through the tubular extension 27, tube 20 and into the lower enlarged portion 12 of the tank, from which it may freely flow into the can or other receptacle over which the tank is disposed through the outlet 17 of the base 15, the sediment being, of course, retained by the pads 37 which may then be removed by releasing the extension clamp 34 and lifting the upper plate 24 upon the hinge 32, as seen at the left in Fig. 1. A fresh pad 37 is then placed in position and the operation is repeated.

One end of the tank 10, as seen in Figs. 1 and 2, is preferably provided with a vertical cylindrical holder 40 for a series of the pads 37, so that such pads may be conveniently reached for use, the receptacle 40 having a removable cover 41.

It is obvious, furthermore, that the tank may be removed from its base 15, so that upon removal of the several holders with their cups 22 from the tank, the latter may be conveniently and thoroughly cleansed, the same being true of the base 15 and of the several holders of which the cups 22 are detachable.

Thus my invention provides a sanitary apparatus of this character capable of effective and efficient use in operation, which is at the same time simple and comparatively inexpensive.

I claim:

1. In a sediment tester, the combination of cups and cup holders, and a tank in connection with which the cup holders are detachably mounted, having an upper closed chamber, and a plurality of vertical tubes the lower ends of which extend through and below the said chamber, one end of the said tank having nipples communicating with the interior of the closed chamber, for the purpose described.

2. In a sediment tester, a cup holder consisting of upper and lower plates hingedly connected at one side and having detachable clamping means at their opposite sides, the upper plate having an upwardly projecting tubular extension and the lower plate having a similar depending tubular extension, a cup provided with a lower reduced neck portion detachably interfitting the extension of the upper plate, and a tank having an upper opening into which the lower tubular extension removably seats.

3. In a testing apparatus of the character described, the combination of a tank having a plurality of openings, a plurality of cup holders mounted on the tank and detachably seated in the said openings, each of said holders having means to detachably hold a sediment pad, and a plurality of cups detachably seated upon the said holders.

4. In a sediment tester, the combination of a plurality of cups, a plurality of cup holders, and a tank in connection with which the cup holders are mounted, having a lower surrounding and depending flange, and a base having an upwardly projecting surrounding flange into which the flange of the tank fits, the base having a central depending outlet communicating with the interior of the tank.

5. In a sediment tester, a plurality of cups, a plurality of cup holders, and a tank in connection with which the cup holders are detachably mounted, having fluid passages communicating with the holders and with the cups and having a chamber extending adjacent the several cup holders and separate therefrom to receive a temperature controlling fluid.

6. In a sediment tester, a plurality of cups, a plurality of cup holders, the latter of which detachably supports the cups and are provided with depending tubular extensions and a tank having a plurality of vertical tubes into the upper open ends of which the said tubular extensions of the holders removably interfit, the said holders resting upon the upper surface of the tank and being bodily detachable therefrom.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."