Feb. 27, 1934. F. W. KAHLERT 1,948,523

DENTAL CUSPIDOR

Filed Aug. 21, 1930 2 Sheets-Sheet 1

Fig. 1.

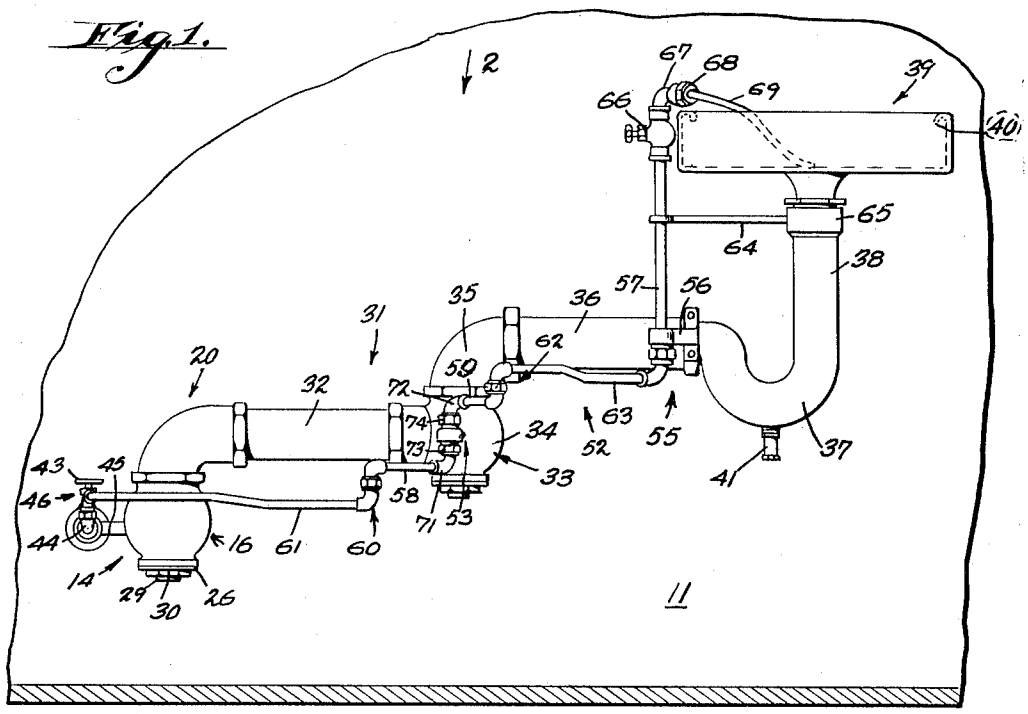

Fig. 2.

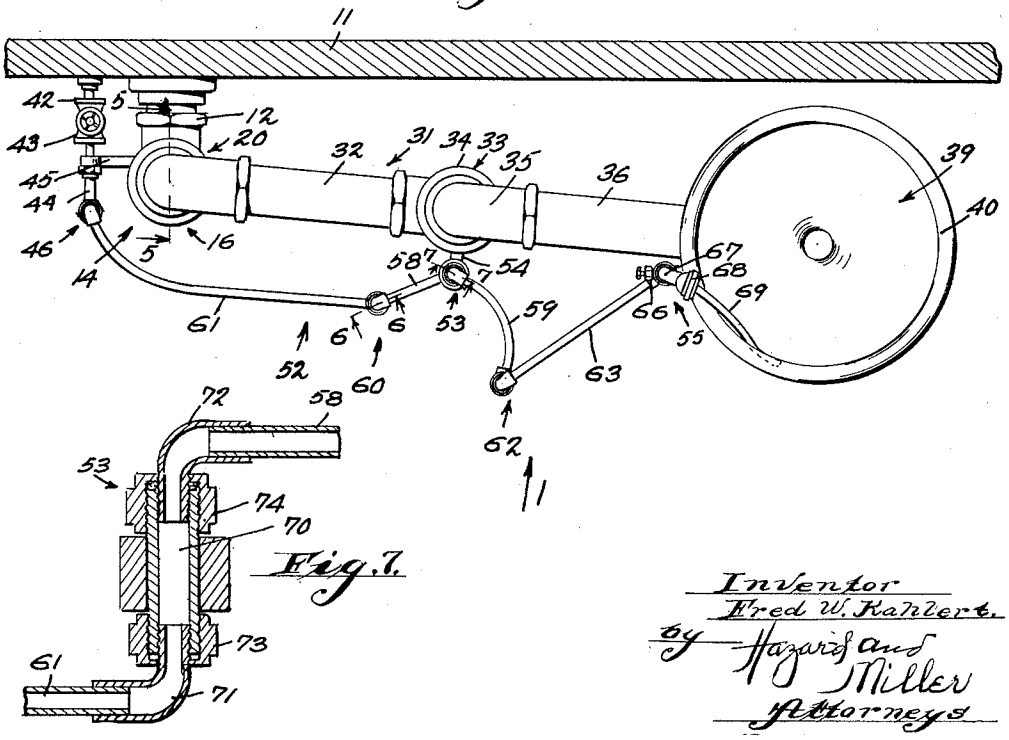

Fig. 7.

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Fig. 3.

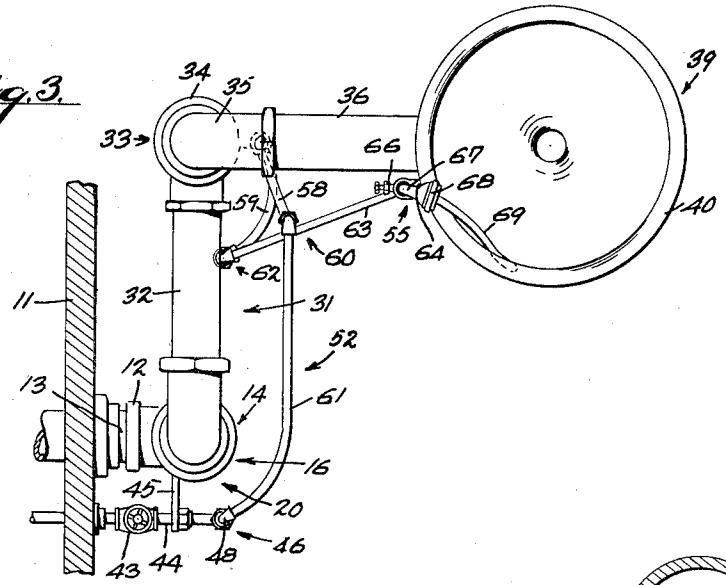


Fig. 4.

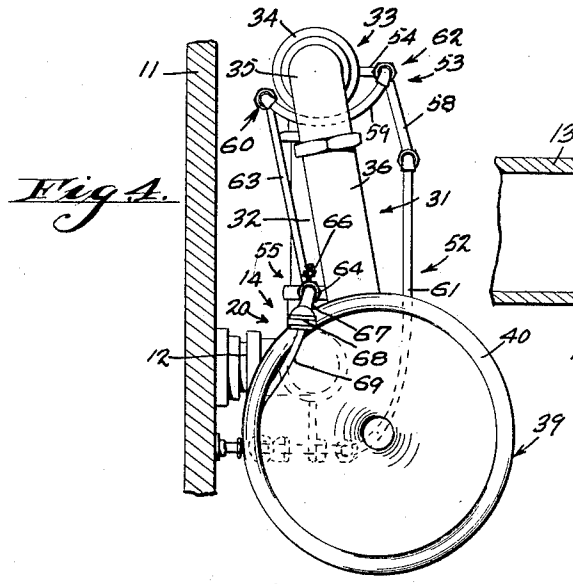


Fig. 5.

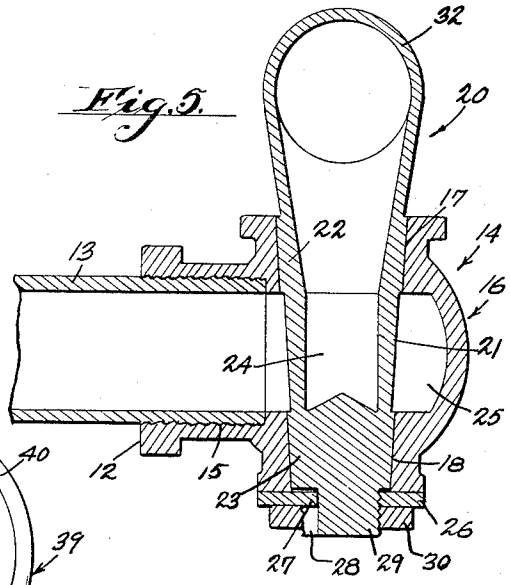
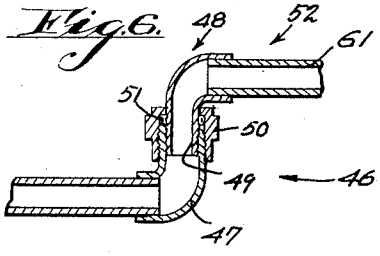


Fig. 6.



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UNITED STATES PATENT OFFICE

1,948,523

DENTAL CUSPIDOR

Fred W. Kahlert, Los Angeles, Calif.

Application August 21, 1930. Serial No. 476,787

8 Claims. (Cl. 4—263)

My invention relates to a dental cuspidor of a type in which the cuspidor with the drain pipe therefor and the water supply pipes have joint mountings so that the cuspidor may be located in a number of different positions and may swing to these positions in a horizontal plane.

An object of my invention is supporting the cuspidor on a joint drain pipe, this pipe having one joint attached to a wall fixture by which the cuspidor may swing in the arc of a circle in reference to the wall. The pipe has a flexible joint substantially mid-length so that the cuspidor may swing in the arc of a circle in reference to the section of the pipe leading from the wall fixture. By this construction the cuspidor may swing in an arc the full length of the pipe or may swing in an arc of substantially half the length of the pipe and may in this manner be extended to convenient position for the patient occupying a dental chair, or be moved out of the way along the wall with the pipe fully extended, or folded against the wall at the center joint of the pipe.

A further feature and object of my invention is having the supply of flushing water for the cuspidor carried by pipes having a series of flexible joints. This water pipe has a first joint connected to a wall fixture in which there is, preferably, a valve; a second main joint is connected to the middle joint of the drain pipe; a third joint is attached to the drain pipe underneath the edge of the cuspidor. Between these various joints there are two swinging joints which are adapted to allow short sections of the water supply pipe to swing in arcs of circles in accordance with the different positions of the cuspidor.

My invention is illustrated in connection with the accompanying drawings, in which:

Fig. 1 is an elevation taken in the direction of the arrow 1 of Fig. 2, showing the cuspidor and the drain and supply pipes, these latter being extended their full distance and lying alongside a wall structure.

Fig. 2 is a plan of Fig. 1 taken in the direction of the arrow 2.

Fig. 3 is a plan with the cuspidor swung on the center joint of the drain pipe and extending substantially at right angles from the wall.

Fig. 4 is a plan in which the cuspidor and the various pipes have been swung on the center joint until a reverse position is obtained with the cuspidor close to the wall and the sections of drain and flushing pipes fitting one over the other.

Fig. 5 is a detailed section through one of the flexible joints of the drain pipe taken on the line 5—5 of Fig. 2 in the direction of the arrows.

Fig. 6 is a section of a flushing water joint taken on the line 6—6 of Fig. 2 in the direction of the arrows.

Fig. 7 is a section on the line 7—7 of Fig. 2 in the direction of the arrows.

In the drawings a wall structure is designated by the numeral 11. This has a drain pipe wall fitting 12 secured thereto in any ordinary manner. The connection is illustrated in Fig. 5 as having a nipple 13 and a joint casing 14 connected thereto. The joint casing has a threaded section 15 and a barrel section 16. This latter section has a tapered opening 17 at the top and a second tapered opening 18 at the bottom of lesser diameter. An elbow 20 has a downwardly extending spigot section 21. This has a tapered upper portion 22 fitting in the taper 17 and a lower tapered portion 23 fitting in the taper 18. This spigot is provided with diametrical slots 24 which communicate with the barrel chamber 25 for flow of water. The spigot section of the elbow is held tightly in the barrel by means of a washer 26 having a tongue 27 fitting in a groove 28 in a threaded end 29 of the spigot and a nut 30 threaded on this end. The nut exerts a downward pull on the spigot section of the elbow which presents an essentially leak-tight joint but a joint which allows a turning of the elbow on its vertical axis.

The drain pipe is designated as a whole by the numeral 31 and has an inner section 32 connected to the elbow 20. This section 32 is connected to a center joint 33 which is of the same type as illustrated in Fig. 5, this having a barrel section 34 and an elbow section 35. The outer section of the pipe 36 is straight and has a goose neck 37 formed therein, with a stand pipe 38 at the top. This stand pipe supports the cuspidor bowl 39, which bowl may be of the usual type, having a rim 40 to prevent splashing of the water. An outlet 41 is provided at the bottom of the goose neck.

The flushing water supply pipe has a wall fitting 42 which is secured to the wall 11. This has a valve 43 therein and a connecting nipple 44 which is supported by a bracket 45 extending laterally from the joint casing 14 of the first joint of the drain pipe. This bracket may be welded to the joint casing or cast integral therewith, or attached in any suitable manner. The first joint of the flushing pipe 46 is connected to the nipple and such joint has an elbow 47 (note Fig. 6) in which there is fitted an upper elbow 48, these elbows having a threaded joint 49. A packing

gland 50 having packing 51 therein is threaded on the outside of the lower elbow and forms a water tight joint. However, I found that with parallel threads properly cut and oiled there is substantially no leak between the upper and lower elbows, and it will be realized that when the joint is turned there is a slight screwing in and out action of the upper elbow in reference to the lower elbow, but as the joints never turn more than substantially a half circle this screwing action is immaterial.

The flushing water pipe designated generally by the numeral 52 has a center joint 53, this joint having a bracket 54 attached to the center joint 33 of the drain pipe, the bracket being welded thereto or secured in any suitable manner. This joint is made in the same manner as that illustrated in connection with Fig. 6. An outer joint 55 is secured to a bracket 56, which bracket is illustrated as bolted to the outer end of the section 36 of the drain pipe. The coupling has a lower elbow similar to the elbow 47 and a vertical pipe 57 replacing the elbow 48.

The center joint 53 has a short, straight section of pipe 58 connected thereto, this being attached to the lower elbow 47, and a curved section of pipe 59 which is attached to the upper elbow 48. The straight section of pipe 58 has a first intermediate joint 60 which is of the same character as the joint illustrated in Fig. 6. This joint and the first joint 46 are connected by a pipe 61 which has a straight section near the joint 60 and a curved section near the joint 46. This pipe is connected to the upper elbow of the joint 56 and the lower elbow of the joint 60. A second intermediate joint 62 is of the same character as that illustrated in Fig. 6 and has a straight pipe 63 connecting to the upper elbow, and this is attached to the lower elbow of the joint 55.

The pipe 57 has a supporting bracket 64 which extends laterally from a collar 65 at the upper end of the stand pipe 38 of the drain pipe system. A valve 66 is preferably located at the top of the pipe 57 and has an elbow 67 connecting thereto with a universal joint 68 and a discharge pipe 69 of small diameter which discharges into the cuspidor adjacent the peripheral edge, giving the usual swirling action to the water.

The center joint 53 of the flushing water pipe is constructed with a nipple 70 which is supported directly by the bracket and has a lower elbow 71 threaded at the bottom and an upper elbow 72 threaded in the upper end. There are lower and upper packing glands 73 and 74 each with packing therein forming a leak-proof joint at the elbows. These elbows may turn, screwing slightly in and out of the nipple, but this is immaterial.

The use of the universal joint 68 connecting the discharge pipe 69 with the elbow 67 permits shifting of the discharge pipe from a location inside the bowl to the outside and permits convenient cleaning of the bowl. It will be noted that a characteristic feature of my invention is that the drain or waste pipe forms a complete support for the bowl and is attached to a wall fitting and has a first or inner swivel joint with an inner section of the drain pipe connected thereto, then the center joint and the outer section of the bowl being directly supported by the outer section of the pipe. This allows the inner and outer sections of the drain pipe to be arranged in alignment and extend radially from the first joint, or for the outer section to be turned on the center joint thereby bringing the bowl into a position closely adjacent to the inner or first joint. The supply pipe has a wall fitting and also a support from the first joint of the drain pipe and this pipe is also provided with an inner joint, a center joint which is connected to the center joint of the drain pipe and supported thereby, and an outer joint, which latter has a support on the outer section of the drain pipe. There are also two intermediate joints in the supply pipe and these accommodate the supply pipe to the various different positions which may be occupied by the drain pipe. These intermediate joints are free of support and allow the pipe sections connected thereto to swing into various positions.

I claim:

1. In a dental cuspidor mounting a wall fitting having a first and inner joint connected thereto with an inner section of pipe connected to the joint, a center joint connected to the inner pipe section, an outer pipe section extending from the center joint, a bowl supported by the outer section, and a supply pipe having a wall fitting, a center joint connected to the center joint of the drain pipe, and an outer joint connected to the outer section of the drain pipe, there being intermediate joints between the inner and outer joints and the center joint with connecting pipes, and a discharge pipe to discharge water into the bowl.

2. In a dental cuspidor mounting a wall fitting having a first or inner joint connected thereto, an inner section of pipe connected to the joint, a center joint connected to the inner pipe section, an outer pipe section extending from the center joint, a bowl supported by the outer pipe section, a supply pipe having a first or inner joint supported by the first or inner joint of the drain pipe, a center joint supported by the center joint of the drain pipe, an outer joint supported by the outer section of the drain pipe, intermediate joints between the first and the center and the center and the outer joints of the supply pipe, and an adjustable means to discharge water into the bowl.

3. In a dental cuspidor mounting as claimed in claim 2, the supply pipe having sections with curves to fit around the joints of the drain pipe.

4. A dental cuspidor comprising inner and outer drain pipe sections, a joint connecting the sections enabling them to assume various angular positions with respect to each other, a joint on the inner end of the inner section for connecting it to a stationary drain pipe and enabling it to be swung relatively thereto, a cuspidor bowl mounted upon the outer end of the outer section, and a water supply pipe for discharging water into the bowl, said water supply pipe having at least three joints intermediate its ends enabling angular movement to take place between the sections of the water supply pipe connected thereby, the center joint being fastened to the drain pipe.

5. A dental cuspidor comprising inner and outer drain pipe sections, a joint connecting the sections enabling them to assume various angular positions with respect to each other, a joint on the inner end of the inner section for connecting it to a stationary drain pipe and enabling it to be swung relatively thereto, a cuspidor bowl mounted upon the outer end of the outer section, and a water supply pipe for discharging water into the bowl, said water supply pipe having at least three joints intermediate its ends enabling angular movement to take place between the sections of the water supply pipe connected thereby, the center joint being fastened to the joint connecting the sections of the drain pipe.

6. A dental cuspidor comprising inner and outer drain pipe sections, a joint connecting the sections enabling them to assume various angular positions with respect to each other, a joint on the inner end of the inner section for connecting it to a stationary drain pipe and enabling it to be swung relatively thereto, a cuspidor bowl mounted upon the outer end of the outer section, a water supply pipe for discharging water into the bowl, said water supply pipe having at least three joints intermediate its ends enabling angular movement to take place between the sections of the water supply pipe connected thereby, the center joint being fastened to the drain pipe, and a joint at the inner end of the water supply pipe for connecting it to a stationary water supply pipe, the last mentioned joint enabling angular movement to take place between the inner end of the water supply pipe and the stationary water supply pipe.

7. A dental cuspidor comprising inner and outer drain pipe sections, a central joint connecting the sections enabling them to assume various angular positions with respect to each other, a joint on the inner end of the inner section for connecting it to a stationary drain pipe and enabling it to be swung relatively thereto, a cuspidor bowl mounted upon the outer end of the outer section, a fitting fastened to said central joint, a water supply pipe, said water supply pipe comprising an inner jointed section leading to said fitting and an outer jointed section leading from the fitting to the bowl, there being a joint on the inner end of the inner jointed section for connecting the water supply pipe to a stationary source of supply and enabling the water supply pipe to be swung relatively thereto.

8. A dental cuspidor comprising inner and outer drain pipe sections, a central joint connecting the sections enabling them to assume various angular positions with respect to each other, a joint on the inner end of the inner section for connecting it to a stationary drain pipe and enabling it to be swung relatively thereto, a cuspidor bowl mounted upon the outer end of the outer section, a fitting fastened to said central joint, and a water supply pipe having an inner section formed of two parts connected by a joint enabling said parts to assume various angular positions with respect to each other, a joint connecting the outer end of said section to the fitting enabling said section to swing with respect to the fitting, a joint for connecting the inner end of said section to a stationary source of supply enabling said section to swing with respect thereto, said water supply pipe also having an outer section formed of two parts connected by a joint enabling the parts to assume various angular positions with respect to each other, a joint for connecting the inner end of the outer section to said fitting enabling the outer section to swing with respect to the fitting, a stationary section of water supply pipe fastened to the outer section of the drain pipe and discharging into the bowl, and a joint connecting the outer end of the outer section of the water supply pipe to said stationary section of water supply pipe enabling the outer section to swing relatively thereto.

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