

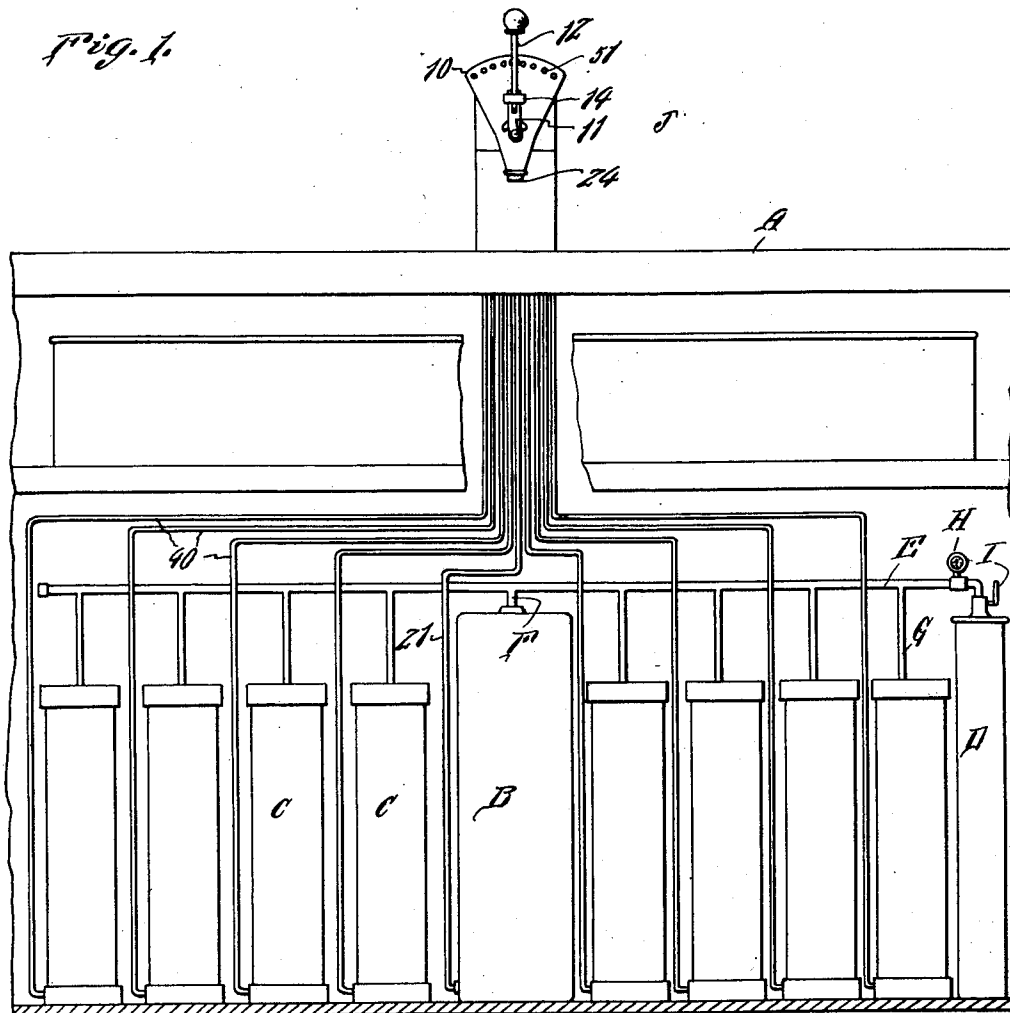
Sept. 14, 1926.

1,600,170

A. S. HENDERSON
BEVERAGE DISPENSING DEVICE

Filed August 15, 1925

3 Sheets-Sheet 1



A. S. Henderson

INVENTOR

BY *Victor J. Evans*

ATTORNEY

WITNESS:

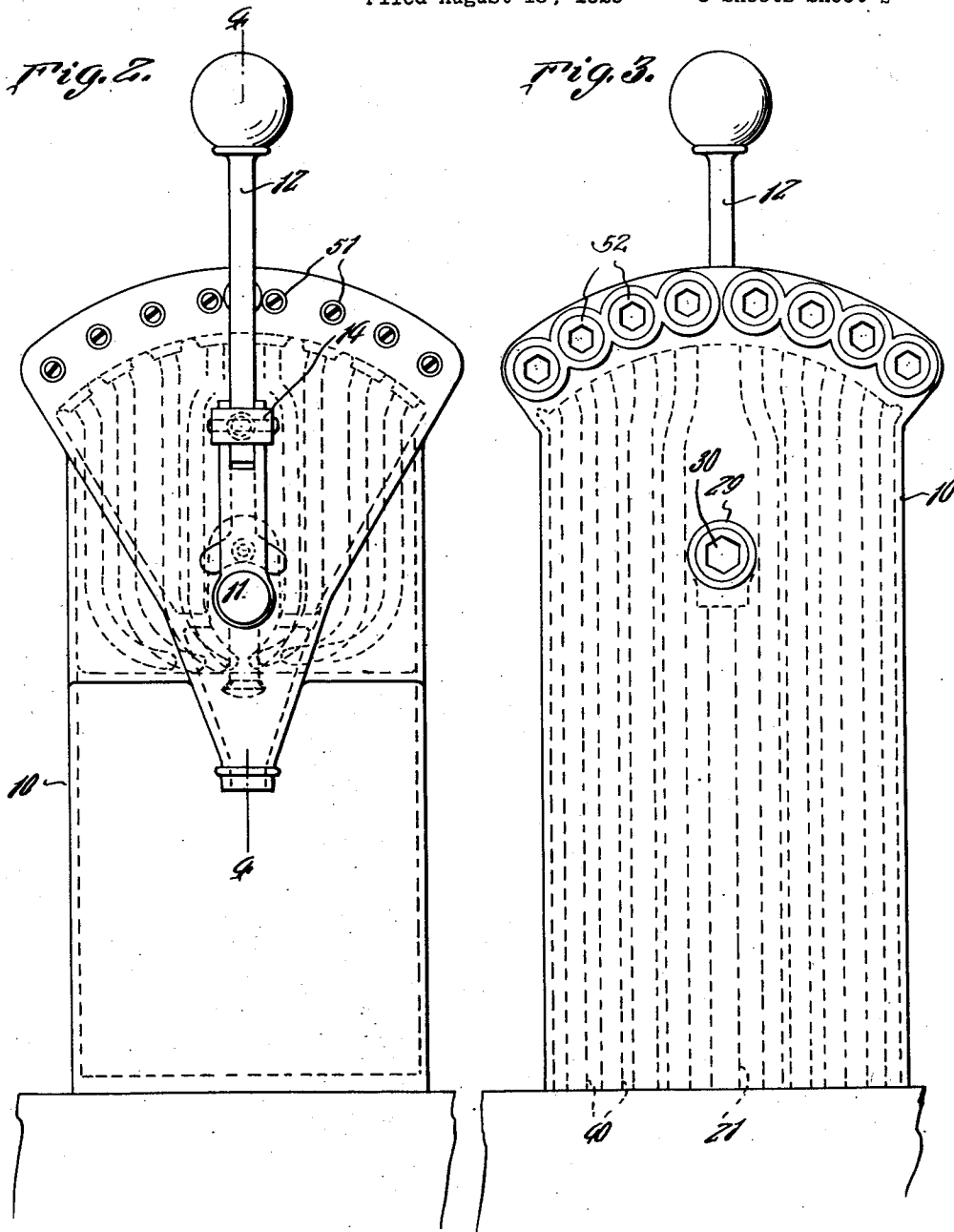
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A. S. HENDERSON
BEVERAGE DISPENSING DEVICE

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3 Sheets-Sheet 2



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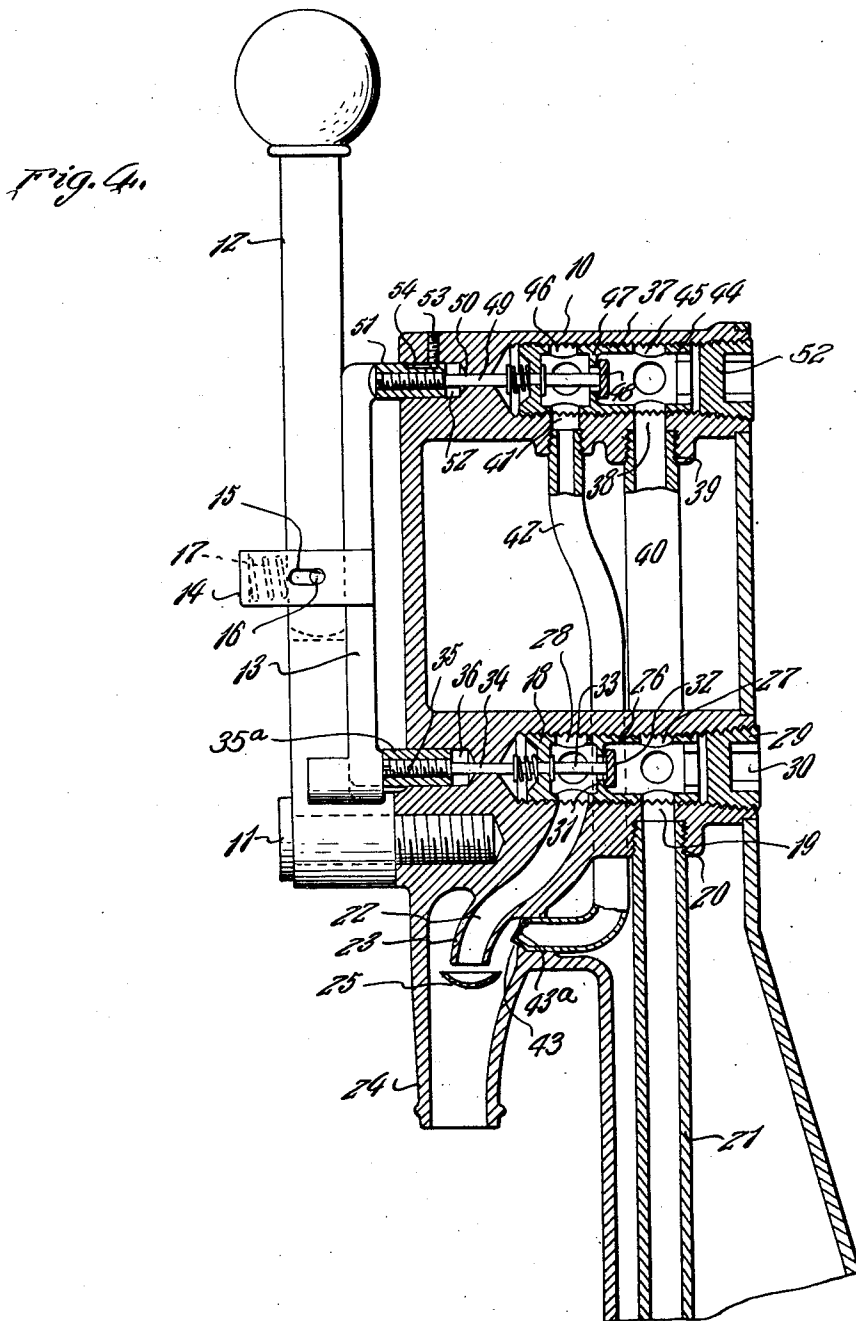
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A. S. HENDERSON

BEVERAGE DISPENSING DEVICE

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3 Sheets-Sheet 3



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WITNESS:

UNITED STATES PATENT OFFICE.

ARTHUR S. HENDERSON, OF KNOXVILLE, TENNESSEE.

BEVERAGE-DISPENSING DEVICE.

Application filed August 15, 1925. Serial No. 50,447.

This invention relates to a beverage dispensing apparatus and has for its object the provision of a novel device embodying a single control by means of which the dispensing of beverages of different kinds or flavors may be quickly and easily effected.

An important object is the provision of a dispensing device embodying a single control element by means of which the flow of syrup and carbonated water may be simultaneously controlled, the control member being capable of operation in any one of a large number of positions depending upon the number of flavors to be used, the control member being furthermore capable of being positioned so as to dispense carbonated water alone when such is desired.

Another object of the invention is to provide a dispensing apparatus of this character in which the various receptacles for the different syrups used have pressure supplied thereto so that the syrup therein will be forced to the distributing head at which the control member is located, the distributing head being furthermore provided with a plurality of selectively openable valve devices for controlling the flow of syrup or flavoring and carbonated water.

Another object of the invention is to provide a dispensing apparatus of this character in which the various receptacles for the different syrups, also the receptacle for the carbonated water, and the receptacle for plain water, will all have pressure applied thereto, the pressure being applied equally on all receptacles, so that the syrup or water will be forced to the mixing head, all at the same pressure, the distributing or mixing head being furthermore provided with a plurality of selectively openable valve devices for controlling the flow of syrup, flavoring, carbonated or plain water. The said valve devices having means of adjustment whereby they may be previously set so that they will automatically permit the proper and predetermined proportion of syrup, flavoring, carbonated or plain water to flow into the mixing chamber, thus insuring that all drinks will be uniformly mixed, and proportioned.

Still another object is the provision of a device of this character having a mixing chamber in which the carbonated water and flavoring matter will be adequately mixed together so that the beverage dispensed will

be ready for consumption without any stirring.

An additional object is to provide an apparatus of this character which will be comparatively simple and inexpensive in manufacture, easy to control and use, positive in action, efficient and durable in service, and a general improvement in the art.

With the above and other objects and advantages in view, the invention consists in the details of construction and the arrangement and combination of parts to be hereinafter more fully described and claimed, and illustrated in the accompanying drawings, wherein:—

Figure 1 is an elevation of the complete device.

Figure 2 is an elevation of the distributor head and control mechanism thereon.

Figure 3 is an elevation taken from the opposite side of Figure 2.

Figure 4 is a vertical section taken on the line 4—4 of Figure 2.

Referring more particularly to the drawings, the letter A designates a counter, soda fountain or the like at which my apparatus is installed. Located beneath the counter at some convenient point is a tank B containing carbonated water and located thereadjacent is a series of containers C for the syrup or other flavoring extracts used. The letter D designates a gas tank ordinarily used for carbonating the water. In order that the contents of all the tanks or containers may be maintained under pressure, I provide a pipe E leading from the tank D and with which are connected pipes F and G leading respectively into the tank B and containers C. The usual pressure gage H is provided in connection with the gas tank and there is also provided a control valve I.

Mounted at some convenient location upon the counter or fountain A is the mixing device indicated generally by the letter J. This mixing device includes or comprises a suitable casing 10 of any desired size, shape or material, upon the front of which is pivoted, at 11, the control handle 12 so pivoted that it is free to swing toward the right or left from the vertical position. Into the upper end of this handle is pivoted the control handle proper which is so pivoted that it may be swung to or from the operator, that is, toward the casing 10 or

away from it. Both of these parts form the control handle as a whole. This control handle as a whole carries an operating member 13 movable therewith and slidable with respect thereto. This member 13 is shown as having a loop like frame member 14 thereon embracing the control handle around the joint formed by the union of the two parts as above. Formed in the sides of the frame 14 are slots 15 through which passes a pin 16 extending through the handle 12 and each side of said frame. This pin acts as the pivot between the lower and upper parts of the control handle as a whole and also holds in place the member 13. A coil spring 17 is located within the confines of the member 14 and bears against the forward edge of the control handle 12 as is clearly indicated in Figure 4. The joint formed by the joining of the upper and lower parts of the control handle is of the tongue and groove type, the tongue extending downwards into the lower part. This tongue is intended to come into use when it is desired to depress the carbonated water valve only, and also when it is desired to depress the carbonated water and a syrup valve at the same time. This operation is accomplished by pulling the upper end of the handle toward the operator which causes the lower end of the tongue to bear against the member 13 a little below its center.

At an intermediate point in the casing 10 is formed a threaded bore 18 into which leads a port 19 communicating with a threaded opening 20 into which is screwed a pipe 21 leading from the tank B containing carbonated water. The central portion of the casing or member 10 is formed with a curved passage 22 communicating with the threaded bore 18 and extending through a nozzle 23 which is located within the discharge spout 24. In the spout 24 is a deflector 25 located in slightly spaced relation from the nozzle 23 for a purpose to be described. Threaded into the bore 18 is a valve cage 26 formed with ports 27, one of which registers with the above described ports 19. This valve cage is also formed with other ports 28 one of which communicates with the passage 22. The reason for providing a plurality of the ports 27 and 28 is to facilitate proper positioning of the cage within the bore. After the cage is in position, the outer end of the bore is closed by means of a suitable threaded plug 29 having a socket 30 therein, adapted to be engaged by any suitable tool. At an intermediate point, the cage 26 is formed with a partition 31 having an opening therein and constituting a valve seat normally closed by a valve 32 carried by a stem 33 slidable through a guide hole 34 in the member 10 and abutting at its outer end against an adjustable screw 35 threaded into a sleeve

35^a mounted within a recess 36. Obviously, under normal circumstances the valve 32 is in engagement with its seat for cutting off communication between the pipe 21 and the passage 22. The degree of opening is controlled by adjusting the screw 35.

The upper portion of the member 10 is formed with a series of threaded bores 37, the series being concentric with the pivot point 11 of the operating handle. Communicating with each bore 37 is a port 38 leading into a threaded hole 39. Screwed into all of the holes 39 are pipes 40 which connect with the respective flavoring containers C. Leading into each bore 37 is also a port 41, and connected at these ports are pipes 42 which lead into the upper portion of the discharge spout 24, upturned lips 43 being provided at the outlet ends of these pipes as clearly indicated in Figure 4. Pivoted on these lips are flap valves 43^a which will close automatically and prevent carbonated water from entering the pipes 42 through which syrup or flavoring is not flowing.

Located within each bore 37 is a valve cage 44 formed with ports 45 and 46, one of the former of which communicates with the ports 38 and one of the latter of which communicates with the port 41. Between these ports the cage member is formed with an apertured partition 47 constituting a valve seat normally closed by a valve 48 carried by a stem 49 slidable through a guide hole 50 in the member 10 and carrying an operating head 51 slidably mounted within a recess 52. It will of course be understood that this valve structure is duplicated at each point and that there must be the same number of these valves as there are syrup containers. Also the outer ends of the various bores 37 are closed by suitable socketed plugs 52 similar to the plugs 29 above described. Any suitable guide means may be provided for limiting the movement of the operating heads of the valves, such as for instance as the grub screws 53 threaded through the top portion of the casing and engaging within a guide slot 54 in the operating head.

All of the operating heads 51 are arranged in a circular path and are adapted to be engaged by the upper end of the member 13. However, the operating head 35 is arcuate in shape so as to be always engaged by the lower end of the member 13 regardless of the position of the operating handle 12.

When it is desired to draw carbonated water only the handle is moved to the central position so that the upper end of the member 13 bears against a "blind" boss on casing 10. But when the handle is moved so that the upper end of this member rests against a syrup valve stem, syrup and carbonated water will be drawn at the same

time which is necessary in order to mix them in the mixing chamber.

When it is desired to draw a syrup only the control handle is moved so that the member 13 has its upper end resting against the proper valve stem. The handle is then pushed away from the operator and toward the casing 10, thus depressing the upper end only of the member 13, and thus causing only the syrup valve to be opened. Assuming that the operator wishes to draw syrup or other flavoring together with carbonated water, the handle member 12 is swung upon its pivot 11 to bring the upper end of the member 13 into alinement with the selected one of the operating heads 51 of the valve devices provided for controlling the flow of flavoring matter. When the proper point has been reached, the operator pulls the handle toward himself the same as for drawing carbonated water only whereupon the valve 48 will be unseated, so that the desired flavoring will be forced from the proper one of the containers C through the pipe 40 connected therewith, through the port 38, valve cage 44, port 41 and pipe 42 into the spout 24. At the same time the operating head 35 engaged by the lower end of the member 13 will be forced inwardly to unseat the valve 32 and permit carbonated water to pass into the discharge spout 24. The deflector 25 operates to cause the carbonated water and syrup or flavoring to be thoroughly mixed by throwing the water back up around the lip 43 and washing the syrup as it issues from the port.

From the foregoing description and a study of the drawings, it will be apparent that I have thus provided a very simply constructed, neat and attractive and very easily operated device by means of which a large number of different kinds of drinks may be dispensed with the utmost ease and rapidity. It is believed that the construction, operation and advantages will be readily apparent to one skilled in the art without further explanation.

While I have shown and described the preferred embodiment of the invention, it should be understood that I reserve the right to make such changes in the form, construction and arrangement of parts as will not depart from the spirit of the invention or the scope of the subjoined claims.

Having thus described the invention, I claim:

1. In a device of the character described, the combination of a tank for carbonated

water, a plurality of containers for flavoring materials, means for maintaining the carbonated water and flavoring materials under pressure, and a distributing device comprising a supporting member formed with a discharge spout and a nozzle member leading thereinto, a control valve device located within said distributing member and having operating means, a pipe leading from said tank for carbonated water to the valve device, a plurality of valve devices arranged in series, pipes leading from said second named valves into said discharge spout, other pipes leading from the flavoring containers to the said second named valves, and means for opening the selected valve, comprising a handle member pivoted on said distributing member, a presser member slidable with respect to said handle member and having one end always positioned to engage the operating means for the first named valve, and having its other end adapted to be brought into contact with a selected one of the second named valve devices.

2. In a device of the character described, a distributor comprising a supporting casing formed with a circumferential series of bores and further formed with a single bore substantially concentric with respect to the series, cages located within said bores and formed intermediate their ends with valve seats, a nozzle leading from the cage of the second named bore into the discharge spout, a carbonated water conducting pipe communicating with said cage of the second named bore, a slidably mounted valve located within the cage in the second named bore, discharge pipes leading from the cages in the first named bores into said spout, liquid conducting pipes leading into the cages, in the first named bores, slidably mounted valves located within the second named cages for normally preventing communication therethrough, and means for simultaneously opening said first named valve and the selected one of said second named valves, comprising a handle member pivotally mounted upon said supporting casing, and a presser member slidably mounted with respect to and carried by the handle and having one end positioned to constantly engage the operating means for the first named valve and having its other end adapted to be brought into engagement with the operating means for a selected one of the second named valves.

In testimony whereof I affix my signature.

ARTHUR S. HENDERSON.