This invention relates to dispensing devices for beverages and has for its object to provide a new and improved device of this description.

The invention has as a further object to provide a dispensing device for beverages so arranged that the parts by means of which the syrup and the charged water are mixed and discharged can be easily cleaned.

The invention has as a further object to provide a dispensing device for beverages where the mixing apparatus for mixing the syrup with the charged water can be easily and quickly removed and replaced in position.

The invention has further objects which are more particularly pointed out in the accompanying description.

Referring now to the drawings,

Fig. 1 is a front view showing one form of the device embodying the invention, with parts of the casing broken away;

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1, with parts omitted;

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1;

Fig. 4 is an enlarged detailed section of the upper end of the casing;

Fig. 5 is an enlarged detailed section taken on line 5—5 of Fig. 3;

Fig. 6 is a vertical sectional view of the draft arm and portions of the syrup container;

Fig. 7 is a sectional view taken on line 7—7 of Fig. 6;

Fig. 8 is a sectional view taken on line 8—8 of Fig. 6;

Fig. 9 is a side elevation of the draft arm supporting member;

Fig. 10 is a sectional view taken on line 10—10 of Fig. 6;

Fig. 11 is a sectional view taken on line 11—11 of Fig. 6.

Like numerals refer to like parts throughout the several figures.

I have shown in the drawings one form of device embodying the invention. In this construction there is a casing 1 which as herein shown consists of an outer metal member 2 and an inner metal member 3, with heat insulating material 4 between them. This casing in addition to the dispensing apparatus, contains some cooling material such as ice.

There is a cover 5 for the casing which is made up of an outer metal member 6 and an inner metal member 7, having heat insulating material 8 between them. Extending around the edge of the cover is a heat insulating member 9. The members 6 and 7 are provided with bent edges 10 and 11 which project into grooves in the member 5. The parts are held together by the fastening devices 12 which engage the inner member 7 and which passes through the insulating material 8 and the outer member 6 and are connected with the handle 13, which bears against the outer member 6, so that the handle and fastening parts therefore act also to hold the several parts of the cover together.

The inner metal members and the outer metal members of the casing and the cover are so arranged as to prevent heat transfer between them as to prevent the outer metal members from becoming cold and sweating and from conducting outside heat into the casing so as to reduce the efficiency of the device. For this purpose the upper open end of the casing is provided with a separate insulating member 14 which extends therearound. This insulating member 14 is preferably of rubber, although it may be of any suitable material. The metal member 2 is provided with a flange 15 and the separate insulating member 14 is fastened to this flange by the fastening devices 18. There is a metal member 17 between the head of the fastening member 16 and the insulating member 14. The inner metal member 3 is provided with a hook flange 18 which is hooked into a recess in the separate insulating member 14. It will be seen that by this construction there is no heat transfer contact between the inner metal member 3 and the outer metal member 2. The insulating member 14 has a projecting part 19 which projects beyond the outer metal member 2.

The insulating member 9 on the cover is provided with a groove 20 into which the projection 19 is received. The insulating material 9 has a projection 21 which engages the outer metal member 2. By the construction herein shown there is no heat transfer connection between either the metal members 6 and 7 of the cover and either of the metal members 2 and 3 of the casing, so that the metal member 6 of the cover does not get cold and sweat and does not act to transfer outside heat into the interior of the casing.

Within the casing is a syrup container 22 which contains the syrup which is to be mixed with the charged water to form the beverage. The syrup container 22 is supported in any desired manner. As herein shown it is provided with a discharge member 23 which projects into the hollow of the angle syrup conducting member 24. The syrup container is supported by this angle member 24. The discharge member 23 is preferably separated from the syrup container, but fastened thereto, and there is preferably an intervening washer 25 of non-conducting heat material between the angle member 24 and the syrup container. The syrup container is fastened to the member 24 in any desired manner. As herein shown there is mounted in the member 24 a holding member 26 which preferably has a threaded connection with the member 24. A strainer 27 is associated with
the discharge opening from the sirup container. A fastening device 28 has a threaded connection with the member 26 and extends up through the strainer 27. The strainer is provided with a cap 29 through which the member 26 passes, the member 26 having a non-circular head 30 by means of which it is rotated to connect or loosen the threaded engagement with the part 26. The member 24 is connected to the sirup measuring and mixing device which measures the sirup and mixes the sirup with the charged water. Fastening devices 30a on the sirup container engage holding devices 30b attached to the casing.

As herein shown, the sirup measuring and mixing device comprises a main body 31 in which is mounted a hollow cylindrical sirup controlling member 32 which is rockably mounted in the main body of the measuring and mixing device. The member 24 is preferably permanently connected with the main body 31 in any suitable manner, for example, by welding and discharges sirup into the controlling device 32. The sirup controlling device 32 is provided with a discharge opening 33. The main body 31 is provided with a sirup measuring chamber 34 which has an inlet 35. Some means is provided for rocking the controlling member 32 so as to move the discharge opening 33 into position to register with the admission opening 35, whereupon the measuring chamber 34 is filled with sirup and thereby measures the quantity of sirup to be used for each drink. A spring 35a removable connected to part 35b and member 26 elastically presses conical shape member 32 against its seat.

As herein shown, the controlling member 32 is locked by means of a handle 36 on the outside of the casing. This handle is connected with the controlling member so that it will rock but is arranged so that it may be entirely disconnected therefrom so that the sirup measuring and mixing device and associated parts can be easily and quickly removed from the casing.

In the construction shown, the controlling member 32 is provided with a connecting member 37 which is attached thereto by a pin 38. This connecting member is provided with a slot 39. A connecting member 40 is attached to the handle 36 and has a portion 41 which enters this slot, see Fig. 3. When the handle is turned the controlling member 32 is turned so as to turn the connecting member to connect or disconnect the opening 33 and 35. A connecting member 40 is connected with the handle 36 in any desired manner. As herein shown, this connecting member has a knurled end 42 which is driven into the handle 36. The connecting member 40 passes through a sleeve 43 on the interior of the bushing 44. The connecting member 40 is provided with a groove 45 and there is a pin 46 which projects into this groove and which is held therein normally by the spring 47. This permits the connecting member 40 on the handle 36 to be rocked, to rock the controlling member 32 to connect and disconnect openings 33 and 35 and to connect the passageway 40a to the air inlet passageway 40b and pipe 40c at one end and with the sirup measuring chamber 34 at the other end.

To disconnect the connecting member 40 from the connecting member 37, the handle is pulled outwardly so that pin 46 moves out of the slot 45. The members 40 and 37 are again connected by pushing the connecting member inwardly until pin 46 enters slot 45.

The bushing 44 is provided with a slot 48, see Fig. 5, and the handle 36 is provided with a projection 49 which works in the slot and which limits the rocking movement of the handle and the controlling member 32. The bushing 44 has an inner fastening 50 which engages the outer wall of the casing so as to limit the inward movement of the bushing.

There is preferably a packing member 51, held in position by a packing nut 52. The main body 31 of the sirup measuring and mixing device is mounted upon the holding frame 53, see Figs. 8 and 9, which has an opening 54a through which bushing 44 and connecting member 40 pass. A pin 55 passes through frame 53 into bushing 44 and a nut 56 prevents withdrawal of the bushing 44 (Fig. 0). The body 31 is held in position on said frame by the removable pin 54 which has a conical shape end 55 entering a conical shape opening 56 on one side of the frame 53. The pin 54 is provided with a conical shape head 51 which engages the frame 53 and secures the bushing 44 to the side of the frame 53 and engages the main frame 31. The opening 56 is shown as being made in a projecting part 59. The head 51 is held in place and pressed against the frame 53 by means of a nut 56 which has a threaded engagement with the frame 53 and a slot 58 in a projecting part 51 which engages the head 51, see Fig. 8.

The frame 53 for the sirup measuring and mixing device is provided with a hollow threaded projection 62 which engages a hollow clamp nut 63, see Fig. 3. There is a spacing collar 64 between the clamp nut and the insulation of the casing.

The carbonated water preferably passes through a pipe coil 65, which has a threaded end piece 66, which is threaded into a projection 67 on the side 68 of the sirup measuring chamber 31. The coil 65 has at the other end a threaded connection 68a for connecting it with the source of the charged water. The charged water passes through a suitable screening or filtering device 69 and enters a pipe 70, passing through the sirup measuring chamber 34 and connecting with a downwardly projecting pipe 71. The pipe 71 is supported on the main frame 31 by having a screw threaded connection therewith (Fig. 6). The interior of the pipe 71 is fitted with a valve 72 attached to a piston 73 sliding in a cylinder 74. The piston 73 has a groove 73a to retain liquid which may attempt to get past the piston and when the piston is moved down, this liquid is discharged through the opening 75. The cylinder 74 is provided with a discharge passageway 79 to the sirup measuring chamber 34. This valve is connected with a cylindrical member 80 which extends down along the cylinder 74 to a point near the end of the end piece 75. Springs 76 and 77 engage the end piece 75 at the lower end and are arranged to exert an upward pressure on the piston 73 so as to maintain the valve 72 closed against the end of the pipe 71. A valve 72 slides into an opening in the frame 31 and prevents the valve 72 from leaving the member 73. There is an outer nozzle member 83 which is removably fastened to the frame 31 in any desired manner. As herein shown, this nozzle member 83 is fastened to the frame by means of bayo-
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net joints. In the construction shown, the frame 31 is provided with one or more bayonet lock pins 84. The nozzle member 83 is provided with the bayonet slots 85 (Fig. 3). The outer nozzle member 83 is placed in position by moving it up until the bayonet lock pins enter the upper part of the slot then rotating it to the position shown in Fig. 3.

The sirup discharge valve 78 and the carbonated water discharge valve 72 are actuated by the movement of the handle 36. The rotation or rocking of the handle 36 moves the controlling member 86, associated with the said handle (Fig. 7). There is a limiting device 82 which works in a groove 86 in the member 86 and which limits the outward movement of the controlling member 32. This limiting member is held in position in any desired manner, as by the screw 86c. In proximity to the controlling member 86 are the actuating members 87 and 88 connected together by the connecting member 89. There is preferably an engaging part 90 on this connecting member which is preferably a roller (see Fig. 7). The controlling member is provided with a projection 91 which, when the controlling member is moved, engages the member 90 and moves the actuating members 87 and 88 downwardly. These actuating members engage the discharge valve 78 for the sirup measuring chamber 34 and, when moved, moves this valve to its open position. The actuating members 87 and 88 have associated therewith the springs 81a and 82a which when the roller 90 is released, return the actuating members 87 and 88 to their original position. In the construction shown, the member 86 forms the end of the controlling member 32 (see Figs. 3 and 6).

The valve 78 rests upon a plurality of pins 81. These pins connect with the piston 73 so that when they are moved down, the charged water valve 72 is moved down away from the end of the pipe 71, so as to open the pipe and the charged water then passes up and out through openings 93 in the side of the cylinder 74 and openings 94 in the top 95 of the cylinder 74. This cylinder is connected with and supported upon pipe 71 by means of a screw threaded connection between the top 95 and the pipe (Fig. 6).

The sirup chamber discharge valve 78 is held in position by the pins 81 and the piston 73, the springs 76 and 77, and the parts 74 and 75. When the handle 36 is moved, the sirup valve 78 and the charged water valve 72 are opened. During this time the sirup measuring chamber 34 is connected to the outside atmosphere by the pipe 40c and passageway 40a, extending through the controlling member 32 so that the sirup is free to move out of the sirup measuring chamber. The sirup passes out through passageway 78 and in through the space 96 between the nozzle members 80 and 83. The charged water surges up through the openings 93 and 94 and passes along the space 97 between the nozzle members 74 and 80.

The sirup and the charged water then meet in the nozzle and are discharged into the receptacle 100 so as to produce the mixed drink of the sirup and the charged water. There is an adjusting member 98 which is adjustable connected with the frame member 31 and by means of which the size of the sirup discharge opening 78 may be adjusted to meet the conditions present.

When ice is used to cool the sirup and the charged water, the receptacle is provided with an overflow pipe 100 through which the water produced by the melted ice escapes. This overflow pipe is preferably provided with a guard member 101 which fits over its upper end and which is provided with openings 103 at the side for the water to enter, thereby preventing the overflow pipe from being clogged.

Some means is provided for discharging some charged water into the glass before the sirup reaches the glass, as it is found that this provides a much better drink. This is accomplished in the construction herein shown as follows: The pipe 70 for the charged water, which is controlled by the valve 72, is provided at its lower end with a nozzle construction 71a which reduces the size of the passageway and increases the pressure at the point where the charged water is released, and the velocity of the charged water. This charged water is under a comparatively high pressure and the sirup drops only by gravity, so that when the valve 72 is opened, some of the charged water gets into the glass first and then the sirup follows, and this produces a much better drink. The two valves for the sirup and the charged water are opened at substantially the same time but since they are under different pressure, the sirup flowing by gravity and the charged water by a high pressure, the charged water reaches the glass first and the sirup follows and then the two then enter the glass together.

The use and operation of my invention are as follows.

When the device is put into use the parts are assembled as herein shown. Sirup is placed in the sirup tank 22 and the sirup measuring chamber 34 is connected with the source of carbonated water and the cooling material is placed on the inside of the casing. When it is desired to dispense a drink, the lever 35 is moved into the position shown in dotted line in Fig. 1. This movement of the handle causes the controlling device 86 to move so that the projection 91 engages the roller 90 and moves the actuating members 87 and 88 so as to move the sirup measuring chamber valve 78 to its open position to permit the escape of the sirup. This sirup then passes down along the space 96 between the nozzle members 80 and 83. At the same time the downward movement of the valve 78 through the agency of the pins 91 causes the piston 73 and the charged water valve 72 to move downwardly so as to open the valve 72 and permit the escape of the charged water, which surges up through the openings 93 and 94 and passes down through the space 97 between the nozzle members 74 and 80.

The charged water and the sirup then meet and pass out of the nozzle into the receptacle so as to form the charged drink.

The movement of the handle 36 also partially rotates the controlling member 32 so as to disconnect the openings 33 and 35 and shut off the further flow of sirup into the sirup measuring chamber 34. This movement of the controlling member 32 moves the parts so that the passageway 40a of the controlling member 32 has one end connected with the pipe 40c and the other end with the sirup measuring member 34 so that air may pass into the sirup chamber 34 to permit the proper discharge of the sirup therein through the open valve 78. The handle may be moved back to its original position, whereupon the valves 72 and 78 and associated actuating parts will be moved back to their initial position by the springs 76 and 77, and 81a and 82a.
The sirup tank and sirup measuring and mixing device and the nozzle may be easily and quickly removed from the receptacle by taking off the cover 5, disconnecting the carbonated water pipe 65 from the sirup measuring chamber and removing the holding or fastening device 54, whereupon the parts may be lifted out of the casing for examination, cleaning, repairing and for any other purposes desired.

I claim:

1. A dispensing device for beverages, comprising a casing, open at the top a removable cover therefor, a sirup container in the casing, a sirup measuring and mixing device in the casing, a frame mounted in the casing and separate from the sirup measuring and mixing device and the casing and a single removable connecting device out of contact with the casing for disconnecting the sirup container and the sirup measuring and mixing device with said frame and the casing, so that the sirup container and sirup measuring and mixing device may be removed through the open top of the casing.

2. A dispensing device for beverages, comprising a casing open at the top, a sirup measuring and mixing device in the casing, a removable frame mounted in the casing and separate from the sirup measuring and mixing device and means for removably connecting the sirup measuring and mixing device with said removable frame said frame being provided with a part having an opening therethrough registering with an opening in the casing, a connecting member on said sirup measuring and mixing device located entirely within the casing, a handle on the exterior of the casing and a cooperating connecting member attached to said handle and extending through the opening in the casing and the frame, said cooperating connecting member being disconnected from the connecting member on the sirup measuring and mixing device by moving the handle outwardly, thereby entirely disconnecting the sirup measuring and mixing device from the frame and the casing, so that the sirup measuring and mixing device may be removed as a unit through the top of said casing.

3. A dispensing device for beverages, comprising a casing, a sirup controlling and mixing device in the casing, a frame mounted in the casing and separate from the sirup controlling and mixing device and a handle on the outside of said casing, a free slot and tongue connection between said handle and said sirup controlling device extending through the casing and removably connected with the sirup controlling device, said connection being connected with and disconnectable from the sirup controlling device by moving the handle away from the casing.

4. A dispensing device for beverages, comprising a casing, a sirup measuring and mixing device in the casing, a rockable hollow controlling member forming part of the sirup measuring and mixing device, means for connecting said controlling member and a source of sirup supply, a sirup measuring chamber below the controlling member, openings in the controlling member and the sirup measuring chamber through which sirup from the controlling member passes into the sirup measuring chamber, said sirup measuring chamber being provided with a discharge opening, a valve for controlling said sirup measuring chamber discharge opening, a conduit through which charged water is conducted to a point in proximity to said valve for the discharge opening of said sirup measuring chamber, a valve for said conduit, a handle on the outside of the casing and connections between said handle and said hollow controlling member and carbonated water valve for simultaneously opening said valves to bring the sirup and the carbonated water together, the connection between the handle and the hollow controlling member comprising a slotted member on one of the parts and a projection on the other part received in the slot of the slotted member.

5. A dispensing device for beverages comprising a casing, a sirup measuring and mixing device in the casing, a frame mounted in the casing and separate from the sirup measuring and mixing device and the casing and a handle on the outside of said casing, a slot and tongue connection between said handle and said sirup measuring and mixing device extending through the casing and removably connected with the sirup measuring and mixing device, said connection being connected with and disconnected from the sirup measuring and mixing device by moving the handle away from the casing, and means for discharging a portion of charged water into the drinking glass before the sirup reaches the bottom thereof, whereby a better drink is produced.

6. A dispensing device for beverages, comprising a casing, a sirup measuring and mixing device in the casing, an outlet for the sirup, a charged water connection leading into the casing, an outlet for charged water, valves controlling the sirup outlet and the charged water outlet, the valve for the charged water outlet being below the valve for the sirup outlet, and means for discharging some of the charged water into the drinking glass before the sirup reaches the bottom thereof, comprising a nozzle construction in said charged water connection below the sirup valve which reduces the size of the charged water connection and increases the pressure at the point where the charged water is released, whereby a better drink is produced.

7. A dispensing device for beverages comprising a casing, a sirup controlling and mixing device located within the casing, a removable frame mounted in the casing and separate from the sirup controlling and mixing device, a removable pin extending through said frame and said sirup controlling and mixing device, and out of contact with said casing, for removably fastening them together, said frame having a part provided with an opening which registers with an opening in said casing, a slotted connecting member connection with said sirup controlling and mixing device located entirely within the casing, a handle on the outside of the casing, a connecting member connected with the handle and rotatably mounted in the opening in the casing and having a free connection with the slotted connecting member of the said sirup controlling device, said connecting member being slidable longitudinally in the opening in the casing to disconnect it from the sirup controlling member.

JAMES K. LUND.