

C. DOERING, JR. & M. A. DOERING.
 WATER DISPENSING DEVICE.
 APPLICATION FILED FEB. 23, 1915.

1,241,352.

Patented Sept. 25, 1917.

Fig. 1

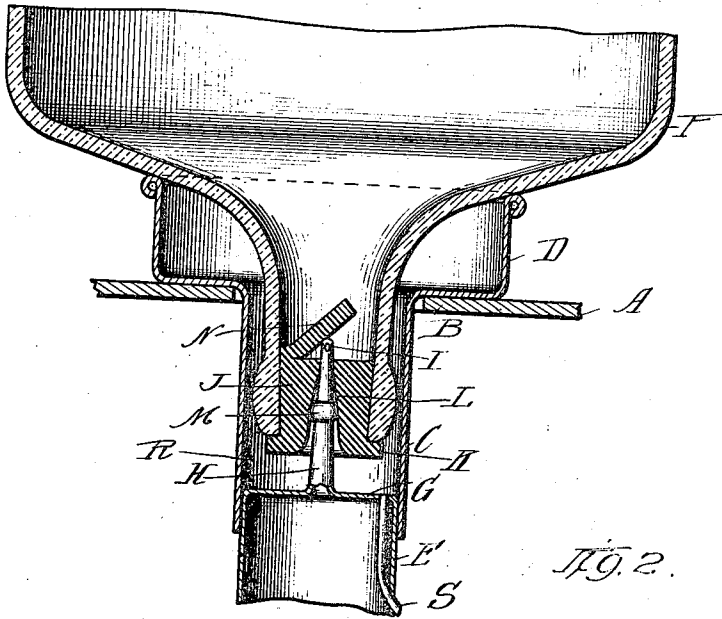


Fig. 2

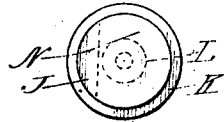


Fig. 3

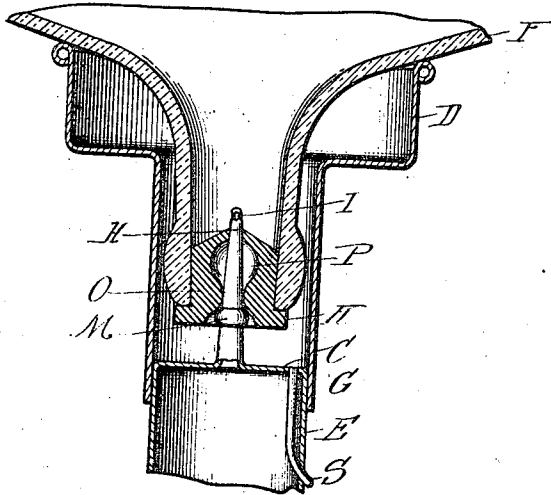
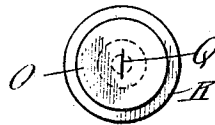


Fig. 4



Witnesses:

Arthur W. Cullen
 Robert H. Haver

Inventors:

Charles Doering, Jr.
 Max A. Doering
 By Rudolph S. [unclear] atty.

UNITED STATES PATENT OFFICE.

CHARLES DOERING, JR., OF OAK PARK, AND MAX A. DOERING, OF CHICAGO, ILLINOIS.

WATER-DISPENSING DEVICE.

1,241,352.

Specification of Letters Patent.

Patented Sept. 25, 1917.

Application filed February 23, 1915. Serial No. 9,923.

To all whom it may concern:

Be it known that we, CHARLES DOERING, Jr., of Oak Park, Cook county, Illinois, and MAX A. DOERING, of Chicago, Cook county, Illinois, both citizens of the United States, have invented certain new and useful Improvements in Water-Dispensing Devices; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has for its object to provide improvements in liquid dispensing devices and particularly to that class of devices in which liquid is fed directly from an inverted bottle or similar reservoir containing the same which is adapted to be mounted upon and removed from the cooler or other dispensing device for transportation to and from a source of supply.

The particular object of the invention is to provide means for connecting the inverted bottle with another receptacle for causing the liquid from the bottle to flow into said receptacle, so constructed and arranged as to prevent any liquid flowing from the bottle coming in contact with exterior surfaces of the latter which are usually manually engaged in and prior to disposing the bottle in inverted position upon the receptacle or dispensing device.

Another object of the invention is to provide means in the mouth of the bottle or similar reservoir for maintaining the same sealed until communication with another receptacle has been established, and in which the means connecting the same with another receptacle effect an opening of the bottle sealing means without permitting leakage.

Another object of the invention is to provide bottle sealing means adapted to automatically close upon removal of the bottle from the means connecting the same with another receptacle or dispensing device.

In the accompanying drawings illustrating a suitable embodiment of the invention:

Figure —1— is a view in vertical longitudinal section of the neck portion including a part of the body portion of a bottle of the character in which drinking water is usually distributed, showing the same mounted in inverted position upon a support equipped with means for connecting the interior of the bottle with a receptacle for the contents thereof, said last-named parts being fragmentarily illustrated.

Fig. —2— is an inner end view of a stopper for normally maintaining the bottle sealed.

Fig. —3— is a view similar to Fig. —1— showing a modified form of construction of stopper or sealing device for the bottle.

Fig. —4— is an inner end elevation of the stopper or sealing device shown in Fig. —3—.

Referring now to said drawings A indicates the top wall or cover of the housing for an ordinary water cooler from which water is adapted to be dispensed from a faucet, and which is provided with an opening 3 through which the contracted end portion C of a cup D projects into the housing. The said contracted portion C of said cup D is cylindrical and is adapted to telescopically receive the upper end portion E of a receptacle adapted to receive liquid from the inverted bottle F, the latter being supported upon the rim of the cup D in a well-known manner. The upper or top wall G of the said portion E of said receptacle is provided with a central upwardly extending stem or nozzle H provided in its upper end with openings I, and which is adapted to pass through the stopper J in the mouth of the bottle F and receive liquid from the latter, which passes through the same into the said receptacle.

The stopper J is preferably composed of rubber or a similar suitable material and is provided with an annular flange K adapted to rest upon the rim of the bottle to limit the projection of the stopper J into said bottle and it is further provided with a tapered central opening L adapted to receive the said nozzle H, the latter being provided between its ends with an annularly enlarged or bulged portion M for effecting a fluid-tight joint around said nozzle between the ends of said stopper J. Upon the inner end of said stopper J a valve N is mounted, the latter being preferably integral with the body of said stopper and being formed by cutting an incision laterally of the latter parallel with its inner end and extending almost through the same whereby said valve N becomes flexibly connected with the body of the stopper J and normally maintains the inner end of the central opening L therein sealed.

The length of the nozzle H is such that when the bottle is disposed in the position shown in Fig. —1—, the said nozzle will pass entirely through the said stopper J

and will contact at its inner end with the valve N and open the latter whereupon liquid from the bottle will pass into the openings I and thence into the said receptacle E. Thus the bottle may be readily inverted without spilling any of the contents thereof during inversion and prior to effecting communication between the interior of same and said receptacle E.

- 10 The construction may be variously modified and a suitable modification thereof is illustrated in Figs. —3— and —4— in which the stopper O is provided between its ends and adjacent its inner end with a hollow chamber P, the inner wall of said stopper being conical and being provided with an incision Q intersecting the apex of the cone, and which is adapted to be opened by the projection of the nozzle H therethrough.
- 20 Between the chamber P and the outer end of the stopper O is a passage of normally smaller diameter than the nozzle H so that the latter in passing through said stopper will expand said opening and at the same time effect a fluid-tight joint between the stopper and said nozzle. The annular bulge M of the nozzle is adapted to seat around the outer end of said contracted portion to further insure a fluid-tight joint at this point.
- 30 The incision Q is normally maintained closed by the resiliency of the material of which the stopper Q is composed and normally maintains the bottle sealed, and will automatically seal the same upon withdrawing the nozzle H from said stopper O.

35 In the event of any leakage from the bottle past the nozzle and into the chamber R above the upper wall G of the receptacle E such liquid cannot find its way into the latter, but is preferably drained from said space by a small pipe S passing through an opening in said top wall G and through an opening in the circumferential wall of said receptacle E.

- 45 It will be obvious that our invention provides a thoroughly sanitary mode of connecting the interior of a bottle or similar removable reservoir with the dispensing receptacle of a cooler or other device inasmuch as the liquid flowing from the bottle or reservoir cannot come in contact with any of the exterior surfaces of the latter which have been handled by teamsters or other persons in delivery of the bottle and in effecting the mounting of the same in inverted position upon the cooler. The invention also permits a partially empty bottle still containing liquid being removed from the position shown in Figs. —1— and —2— without causing any liquid to be spilled during such removal.

We claim as our invention:

1. In a liquid dispensing device of the kind specified, the combination with a receiving receptacle, and a removable reservoir, of a nozzle on the receptacle adapted to project into the reservoir, and a valved stopper for the reservoir normally maintaining the latter sealed and adapted to receive said nozzle, the nozzle automatically opening the valve of said stopper, the stopper provided with a circumferential enlargement below its upper end adapted to maintain a fluid-tight joint around the exterior of said nozzle for preventing leakage from said reservoir as said valve is opened.

2. In a liquid dispensing apparatus of the kind specified, the combination with a receiving receptacle and a removable reservoir for liquid, of automatically coacting means for effecting connection between the interiors of said parts, comprising a yielding stopper for the removable reservoir having an opening therethrough and a valve at the inner end thereof for controlling said opening for preventing flow of liquid from the reservoir, and a nozzle rigid with a part of the receiving receptacle and provided with an opening for admitting liquid to the latter, said nozzle being adapted to pass through the opening in said stopper and open the valve controlling the same to permit passage of liquid into said nozzle, and a circumferential enlargement on the nozzle between its ends for compressing the body of the nozzle below its inner end to effect a fluid tight joint between the nozzle and the stopper.

3. The improvements herein described comprising a closed liquid reservoir, a compressible closure therefor having a passage adapted to afford communication with the interior of the reservoir, an integral valve located at and normally closing the inner end of said passage, a liquid receiving receptacle an upstanding rigid nozzle thereon adapted when the reservoir is superposed upon the receptacle to enter said passage open said valve and permit the liquid to flow from the reservoir into the receptacle, said nozzle provided with a rounded enlargement removed from its free end adapted to compress the walls of the closure below the inner end thereof to form a fluid tight joint therebetween.

In testimony whereof we have signed our names in presence of two subscribing witnesses.

CHARLES DOERING, JR.
MAX A. DOERING.

Witnesses:

LORETTA M. MAY,
JOHN H. BAUMGARTNER.