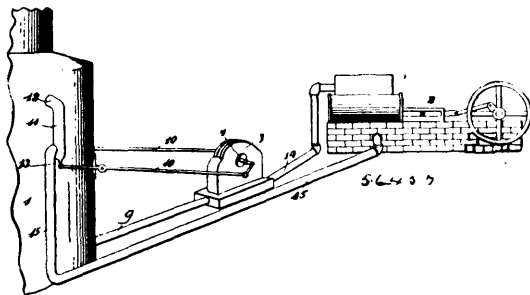


said tread-support may be clamped to the carriage of said stairway, substantially as described for the purpose specified. 3rd. A tread support for stairways, having clamp-brackets adjustably secured thereto, provided with clamp-bolts, whereby said tread-support may be clamped to the carriage of said stairway, substantially as described for the purpose specified. 4th. The tread support 4, clamp-brackets 6, 6, adjustably secured thereto, having bearing lugs 13, thereon, and provided with conoidal openings 12, to receive clamp-bolts 9, whereby said tread-support may be secured to the carriage of a stairway, substantially as described for the purpose specified. 5th. The tread support 4, clamp-brackets 6, 6, secured thereto, having ears 14, 14, thereon and provided with holes 12, to receive clamp-bolts 9, 9, whereby said tread-support may be secured to the carriage of a stairway, substantially as described for the purpose specified.

No. 56,457. Steam Boiler. (Chaudière à vapeur.)



Edward J. Cusack, Havelock, N.B., Canada, 2nd July, 1897; 6 years. (Filed 28th May, 1897.)

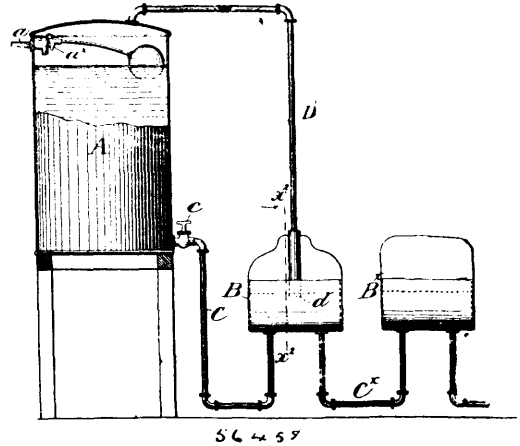
Claim.—1st. In a device of the class described, the combination, with a boiler and an air engine, of pipe connections between the same, and means interposed in said pipe connections and operated by the escape of rarified air from the boiler for supplying fresh air thereto for rarification, substantially as described. 2nd. The combination of a boiler and compressed air engine, means whereby the air normally contained in the boiler may be supplied in compressed condition to the said engine, and an exhaust connection between the engine and boiler whereby the air may be re-used, substantially as described. 3rd. The combination of a boiler and compressed air engine, a shaft provided with means whereby the air from the boiler will operate it, air pumps connected with and operated by said shafts, and a connection between said pumps and engine, whereby the air compressed thereby is supplied to said engine, substantially as described. 4th. The combination of a boiler, a compressed air engine, a fan casing in communication with the boiler, a shaft extending from said casing and provided with fans and propeller blades, pumps adapted to compress the air received from the boiler, and a connection between the said fan casing and the engine, whereby the air compressed by the pumps is supplied to the said engine, substantially as described. 5th. The combination of a boiler and compressed air engine, a fan casing having a pipe connection with said boiler above the water line thereof, a compressed air supply pipe connected with said engine, a shaft extending through said casing and provided with fans and propeller blades, pumps connected with and operated by said shaft to compress the air from the boiler, whereby the compressed air is supplied to the engine, and an exhaust pipe connection between the said engine and boiler, whereby the air used by the engine is carried back to the boiler and re-used and re-compressed, substantially as described.

No. 56,458. Automatic Watering Apparatus for Stock, etc. (Appareil pour abreuver le bétail, &c.)

John Kirkwood, Lennox, Mass, U.S.A., 2nd July, 1897; 6 years. (Filed 28th May, 1897.)

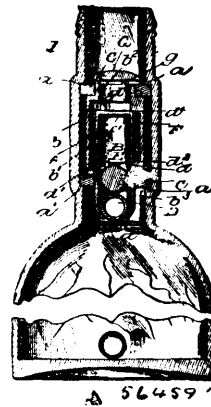
Claim.—1st. An automatic watering apparatus for animals, comprising as its essentials an hermetically closed supply tank, an open trough adapted to be supplied by gravity from said tank, and an air-pipe extending from the upper part of said supply tank, above the high water-level therein, to the trough, and the open end of said pipe at the trough so situated as to be sealed by the water in the trough when the water rises to the predetermined level therein, substantially as set forth. 2nd. An automatic watering apparatus for animals, comprising an elevated, hermetically closed supply tank A, a trough B, to be supplied from said tank, a cock-controlled pipe C, connecting the tank with said trough, and an air-pipe D, con-

necting the top of the supply tank with the trough, the open, lower end *d* of the said air-pipe being situated at about the predeter-



mined water-level in the trough, whereby the rise of water in the trough seals the end *d* of the pipe, substantially as set forth.

No. 56,459. Bottle Stopper. (Bouchon de bouteille.)



Frederick Ludwig Siegel, Atlanta, Georgia, U.S.A., 2nd July, 1897; 6 years. (Filed 29th May, 1897.)

Claim.—1st. A bottle-stopper comprising a casing formed in two parts, each part having a cylindrical portion and a bulged portion formed therewith, rings on said cylindrical portions, a ball-valve in said lower cylindrical portion, and stops for limiting the movement thereof, as set forth. 2nd. A bottle having a stopper in its neck, said stopper comprising a casing, a valve in said casing, and a solid ball in said bottle designed to unseat said valve, as set forth. 3rd. A bottle having a valve in its neck, a cylindrical casing in said neck having a seat for said valve, and a receptacle located within and concentric to said casing, said receptacle having a bore of uniform diameter open at one end in line with said valve-seat, substantially as set forth. 4th. A bottle having a valve in its neck, a casing located in said neck having a contracted portion forming a valve-seat and interior shouldered ribs, a receptacle within said casing held by said ribs, said receptacle having an open end in line with said valve-seat, and a weight for said valve, said receptacle being designed to receive and guide said valve and weight, substantially as set forth. 5th. A bottle having a hollow spherical valve in its neck, a casing for said valve having a central cylindrical portion and reduced ends, one of which is flanged to form a seat for said valve, a weight designed to hold said valve against its seat, and a hollow cylindrical receptacle open at one end in line with said valve seat, said receptacle being concentrically located within said casing and designed to receive said weight and valve, as set forth, a uniform space between said receptacle and casing forming a passage-way for the liquids when the bottle is inverted, as stated. 6th. The herein-described improved bottle having its neck provided with interior shouldered ribs, a two-part casing in said neck having reduced end-portions and interior shouldered ribs, one of said end-portions having a valve-seat, rings surrounding said end-portions and engaging said shouldered ribs, an inverted open-ended receptacle held in said casing by said shouldered ribs, a hollow spherical float valve, and a spherical weight therefor, said receptacle being in line with said valve-seat