April 23, 1940. R. C. K. CHADWICK 2,197,787

WASTE TRAP

Filed Aug. 18, 1938

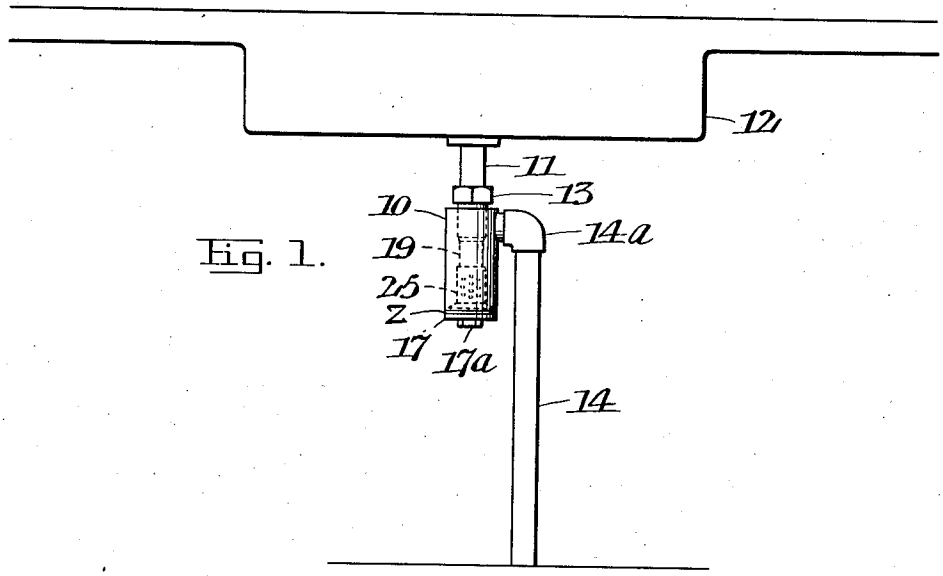


Fig. 1.

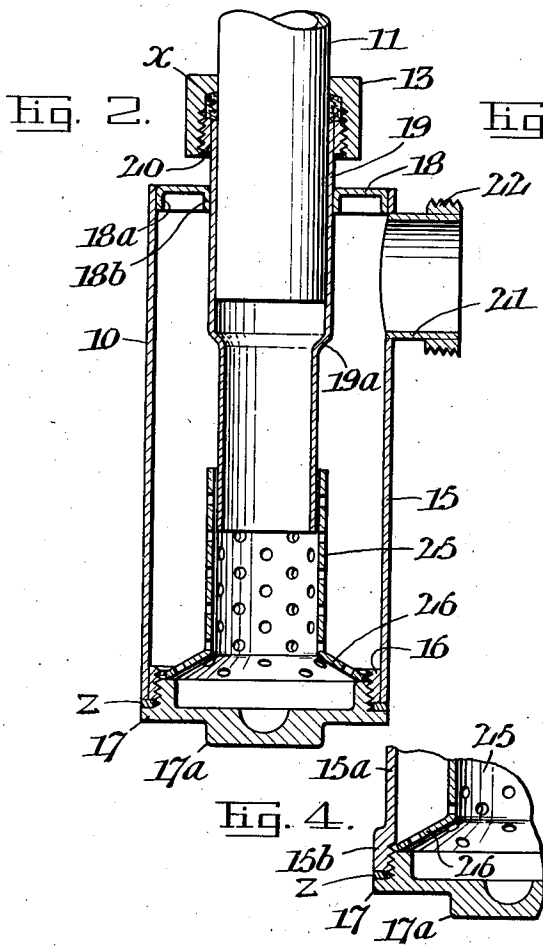


Fig. 2.

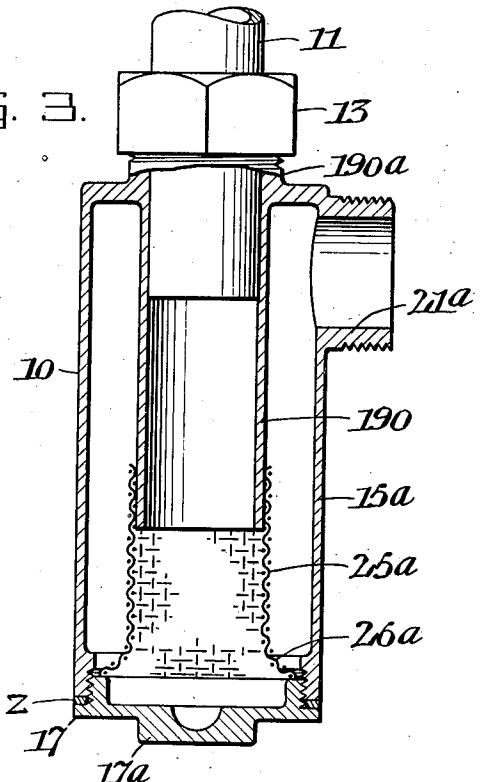


Fig. 3.

Fig. 4.

Inventor
R.C.K. Chadwick,
by Murray B. Boyer
Atty.

Patented Apr. 23, 1940 2,197,787

UNITED STATES PATENT OFFICE

2,197,787

WASTE TRAP

Richard Charles K. Chadwick, Philadelphia, Pa.

Application August 18, 1938, Serial No. 225,639

3 Claims. (Cl. 182—23)

My invention relates to waste traps employed in the waste outlets of sinks or drains, such as the sinks or drains of kitchens, soda fountains, bars, and/or similar establishments where the water passing to waste usually contains particles of food or bits of other foreign matter which, unless trapped, would clog the waste discharge pipe.

One object of my invention is to provide a simple and efficient structure of few parts and readily and cheaply manufactured, with removable means designed to entrap bits of food, particles of dish cloth and other foreign matter and, to some extent, grease that may pass through the sink outlet.

A further object of my invention is to provide a structure that may be built up from standard tubular sections of suitable metal, or cast in a single piece.

These and other features of my invention are more fully described hereinafter; reference being had to the accompanying drawing, in which:

Figure 1 is a view of my improved sink trap in the position of use with respect to a sink of usual kitchen type.

Fig. 2 is a sectional elevation of one form of trap within the scope of my invention.

Fig. 3 is a similar sectional view illustrating modified details of my trap construction, and

Fig. 4 is a fragmentary sectional view illustrating another modification of the trap construction.

My improved waste trap comprises a suitable shell or casing, indicated generally at 10, which may be connected in any suitable or usual manner to the outlet 11 of the sink 12. In the present instance I have shown a common type of union connection, indicated at 13. A waste pipe of usual type, indicated at 14, may be connected to the shell 10 adjacent the upper end of the same by an elbow fitting 14a, of usual type.

The form of shell or casing illustrated in section in Fig. 2, comprises a section of tubing or pipe of any suitable metal—brass having some preference—indicated at 15, in the lower end of which an internally threaded ring 16 may be sweated, brazed, or otherwise secured; such threaded ring receiving a detachable closure member 17, which may have a polygonal extension 17a for the reception of a wrench when it is desired to remove or replace the same.

In the upper end of the shell or casing 15, a cap piece 18 may be mounted; the latter having inwardly depending flanges 18a and 18b at its outer and inner margins. The outer flange 18a may be sweated, brazed, or otherwise secured to the upper end of the shell or casing 15, while the inner flange 18b may be similarly secured to a tube 19, part of which depends within the shell or casing and whose upper end outside the casing receives the outlet 11 from the sink. The tube 19 may have different diameters at top and bottom, as indicated, providing a shoulder 19a which serves to limit the extent to which the outlet pipe 11 may enter the same. It is within the scope of my invention to provide these different diameters wholly within the tube 19. The upper end of the tube 19 carries an externally threaded ring 20, which may be sweated, brazed, or otherwise secured thereto, and this threaded ring receives the union connection 13, with a suitable packing, indicated at *x*, to insure a tight joint.

At the side of the shell or casing and near the upper end of the same, a short tubular section 21 is attached, and this may be brazed, sweated, or otherwise secured in position and constitutes the overflow outlet from the shell or casing 15. The outer end of the tubular section 21 may carry an externally threaded collar 22, which may be brazed, sweated, or otherwise secured thereto, for connection to the elbow 14a at the upper end of the waste water pipe 14.

The tube 19 may depend substantially two-thirds of the depth of the shell or casing 15; the lower end being well below the outlet 21, so as to provide the desired seal.

Loosely fitting the lower end of the depending tube 19, a foraminous sleeve 25, preferably provided at its lower end with an outturned, diagonally disposed flange 26, which flange substantially fits the inner space of the shell 15 and may rest on the closure member 17. This sleeve is provided with closely placed apertures of suitable size throughout its entire extent, to form a proper strainer and hold back bits of solid matter entrained with the waste water. This sleeve may be of the type illustrated in Fig. 2, or I may employ a similarly shaped straining sleeve of screen wire of suitable size mesh, as shown in Fig. 3.

The form of trap structure illustrated in Fig. 3, may comprise a cast shell or casing 15a, with a tubular depending portion internally thereof as indicated at 190; the upper end having an extension 190a externally of the shell or casing for the reception of the outlet pipe 11 from the sink, which may be connected thereto in the same manner as illustrated in Fig. 2. In this form of the trap structure, the tubular element 190 may have the same diameter throughout. The outlet 21a is at the same level as the outlet 21 illustrated in Fig. 2, and may be connected to

the waste water pipe 14 in the same manner. The lower end of the shell 15a may be internally threaded for the reception of the closure member. In this form of my improved trap structure, the foraminous sleeve, indicated at 25a, is shown as constructed of screen wire; being of substantially the same shape or contour as the sleeve 25 illustrated in Fig. 2, with an outturned, diagonally disposed flange 26a, which substantially fits the inner space of the shell or casing and may rest on the closure member. It will be understood of course that either form of the foraminous screen may be used with either form of the trap structure.

Both forms of the foraminous screening sleeves are free to slide on the tubular portions 19 (or 190). These sleeves serve to strain from the waste water passing from the sink, bits of solid matter, such as waste food, coffee grounds, bits of wash cloth, etc., and, to a certain extent, particles of grease which may be entrained with the waste water flowing from the sink. By employing loosely fitting straining sleeves, they have a chance to rise during rush of the waste water and permit the foreign matter to collect beneath the flange of the same so that cleansing is not required too frequently. The lower outturned flange of the straining sleeves prevents particles of solid matter passing up the side walls and escaping to the waste water pipe 14.

It may be desirable to have the outturned and diagonally arranged flange of the foraminous sleeve in close engagement with the inner surface of the casing wall and for such purpose the lower end of the casing may be of the shape illustrated in Fig. 4, with an external flange 15b which provides sufficient metal to permit the formation of threads in the same plane as the inner surface of the shell wall to receive the closure member.

When it is desired to clean the trap from accumulated foreign matter, the closure member is removed and then the training sleeve will drop out or may be readily removed, together with all foreign matter collected beneath the same. After cleansing, the straining sleeve may be returned to place; the closure member replaced and firmly seated and the trap is ready for further use. By preference, a washer z is interposed between the closure member and the lower end of the shell or casing.

While I have shown more or less specific embodiments of a particular form of structure, it will be understood that modifications may be made in the details of construction without departing from my invention; all of which is deemed to be within the scope of the appended claims.

I claim:

1. In a waste trap, the combination of a shell or casing, a tubular member carried by the upper end of the casing and depending into the same; said tubular member receiving the discharge pipe of a sink and stopping short of the bottom of the casing, an overflow connection for said casing disposed above the lower end of said tubular member; said casing opening at its lower end to its full area, a closure for the lower end of the casing, and a foraminous sleeve disposed within the lower part of the casing through which waste water passes to the overflow connection; said sleeve being freely slidable on the internally disposed tubular member and having an enlarged lower portion, also foraminous, initially resting on said closure.

2. In the structure set forth in claim 1; a foraminous sleeve having an outturned and downwardly flaring apertured flange initially resting on the closure and substantially fitting the inner wall of the casing.

3. In a waste trap, the combination of a shell or casing of cylindrical form, a tubular connection carried by the upper end of the casing; said tubular connection receiving the discharge pipe of a sink in its upper end and having its lower end stopping short of the bottom of the casing, means for maintaining a water-tight fit between the waste pipe from the sink and said tubular connection, an overflow outlet for the casing disposed above the lower end of the depending internal tubular connection; said casing opening at its lower end to its full area, a closure for said lower end, and a perforated sleeve freely slidable on the depending tubular connection and having an outturned and downwardly flaring perforated flange at its lower end initially resting on the casing closure and substantially engaging the inner wall of the casing and forming a strainer for the waste water passing to the overflow connection.

RICHARD CHARLES K. CHADWICK.