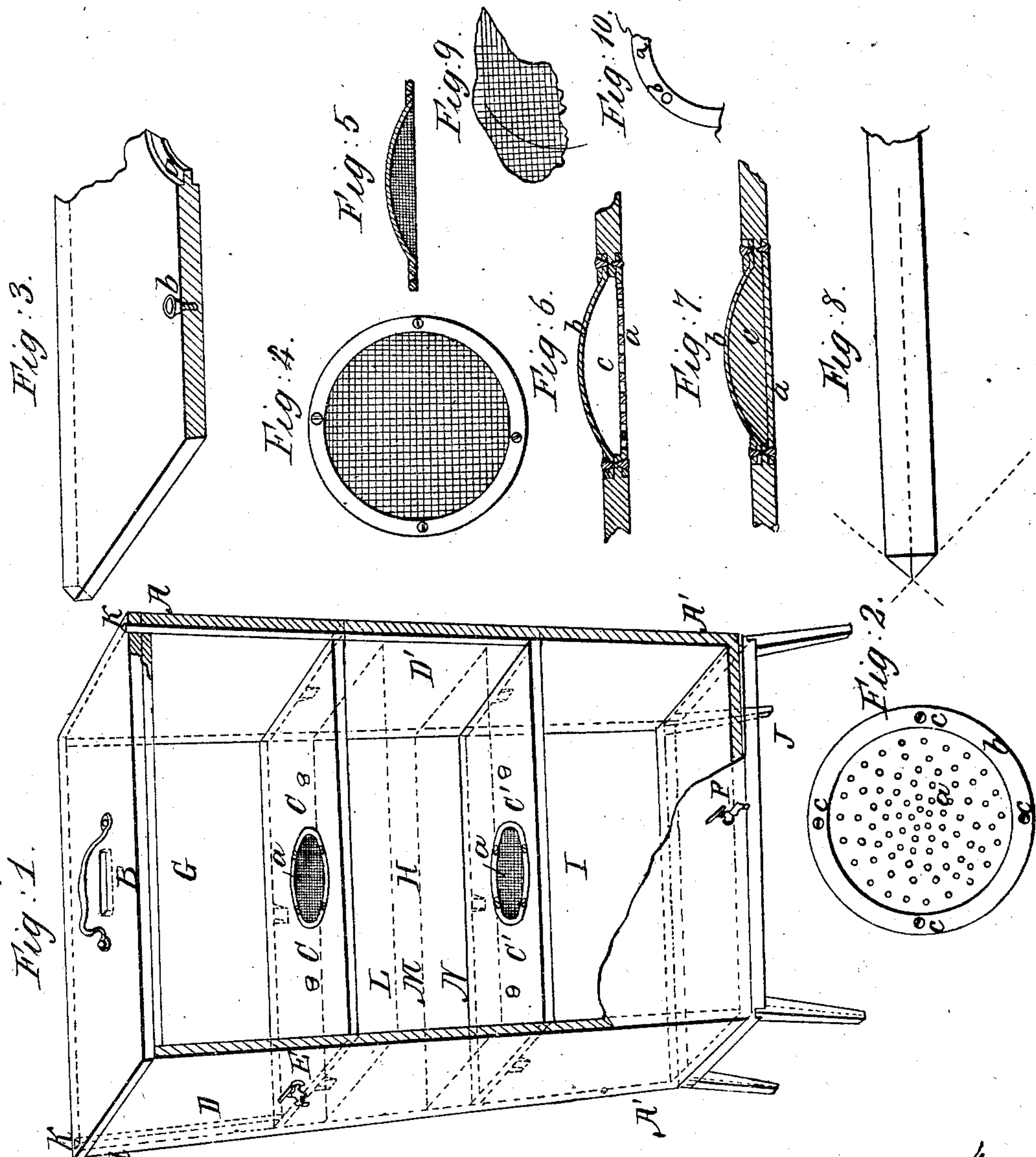


L. TILLIERS.  
HYGIENIC PURIFIER.

No. 23,325.

Patented Mar. 22, 1859.



Witnesses;  
J. Laugel }  
J. A. K. K. K. }

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# UNITED STATES PATENT OFFICE.

LOUIS TILLIERS, OF WEST MORRISANIA, NEW YORK.

## FILTER.

Specification of Letters Patent No. 23,325, dated March 22, 1859.

To all whom it may concern:

Be it known that I, LOUIS TILLIERS, of West Morrisania, in the county of Westchester and State of New York, have invented a new and Improved Hygienic Purifier; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

*Drawings.*—Figure I is a view of my “improved hygienic purifier”. A, A, A' A' show a box, in the shape of a truncated pyramid, open at its base A A, and closed at its section A' A'. B is a cover in wood, its object being to close the base A A. C' C', C' C' are two partitions, to divide the box into three compartments G, H, I. a and a' are two circular cast iron strainers. D, D' are two vent pipes, placed each at the angle of the box (A A A' A'). diagonally opposite each other, the one intended for the use of compartment H and the other for compartment I. E is a cock, for removing the sediments of the upper compartment, (G Fig. 1;) F, a faucet for draining off the water after purification. J, is a stand upon which the box rests. K, K, represent two triangular holes in the cover (B) for the passage of the air from the vent pipes (D, D'). L, shows the portion of the compartment H, to be filled with sand; M, the portion of the same to be filled with pulverized charcoal; N, the portion of the same to be filled with a second layer of sand.

Fig. II is a view of the cast iron strainers shown in Fig. I, and marked a, a', in which a show the perforations, and b the outer rim provided with four holes for screws, (c, c, c, c).

Fig. III is a view of one of the compartments described in Fig. I, and lettered C C C' C'—in which a shows the flange shaped to admit the insertion of the cast iron strainer (a Fig. I) and b a knob to remove the same, (the compartment C, C).

Fig. IV is a view of the raised strainer formed of wire gauze, and placed directly over the circular cast iron strainer (a and a'); Fig. V, a sectional view of the same; Fig. VI, a plain view of that portion of the compartments (described as C, C, C' C'), Fig. II showing the space between the cast iron strainer (a, a' Fig. 1) and wire gauze strainer (Fig. IV) to be occupied by a

sponge—a showing the cast iron strainer, b the gauze one, and c the space for the sponge; Fig. VII, a sectional view of the same, same letters representing same parts; Fig. VIII, a view of the vent pipes (described in Fig. I as D, D'); Fig. IX, a sectional view of the strainer of gauze; Fig. X, a sectional view of the rim inclosing the strainer of wire gauze, a showing the portion of the rim, b the screw hole.

The nature of my invention consists in providing an apparatus, to be known as a “hygienic pacifier”, by which aided by the strainer formed of wire gauze (Fig. IV) the sponge, to be placed between the strainer of wire gauze (Fig. IV) and the cast iron strainer (a Fig. I) and the use of a layer of sand, (L Fig. I,) one of charcoal pulverized (M Fig. I) and a second layer of sand (N Fig. I) it is intended water shall be passed and purified, being freed from all injurious matters and gases it may contain.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

*Construction.*—I provide a box (A, A, A', A' Fig. I) lined with zinc—zinc being preferable to any other substance. This box (A, A, A' A') is open at its base (A A) and closed at its section (A' A'). It is provided with a cover (B Fig. I) which cover is also provided with triangular holes (K, K Fig. I) to allow the air from the vent pipes (D D' Fig. I) to escape.

I provide two partitions (C C C' C') which divide the box (A A A' A' Fig. I) into three compartments (G, H, I, Fig. I). These compartments are provided in the center with a circular flange, upon the inner side of which is screwed the cast iron strainer (a a' Fig. I) and upon the upper side a strainer formed of gauze cloth (Fig. IV). The corner is shaped (as shown at a Fig. III) to admit the passage of the vent pipe (D Fig. I and Fig. VIII). Between the strainer of cloth and of galvanized iron a sponge is inserted. Directly below the compartment (C C) I place a layer of sand (L Fig. I). Beneath this a layer of charcoal finely pulverized (M Fig. I), and lastly a layer of sand (N Fig. I). These compartments (C C C' C') are covered with a cement formed of carbonate of lime and sweet oil, the sweet oil being added to prevent the cement drying too rapidly and are thus rendered water tight, and attached to



the box (A A A' A' Fig. I) resting upon supports.

The box (A A A' A') is provided with two faucets (E and F Fig. I) the former to be used for drawing off the sediments that may collect in the chamber (G Fig. I), the latter for drawing off the water after being clarified or purified.

*Operation.*—The water to be clarified is introduced into the chamber (G Fig. I), passes through the strainer of wire cloth, the sponge, and the cast iron strainer into the compartment (H Fig. I), passes through the layers of sand, pulverized charcoal, and sand (L, M, N Fig. I) and thence into the inner chamber (I Fig. I) and is then drawn off by means of the faucet (F Fig. I). I would here remark that by its passage through the wire cloth strainer and sponge of the partition C C Fig. I the greater part of the substances kept in suspension are left behind, as the water passes down below, through the layers of sand, charcoal and sand. As the water passes from one compartment to the other the air is driven out by means of the vent pipes (D, D' Fig. I).

The various substances that tend to impurify water and give it often properties of an injurious nature to the health, the gases

that render it disagreeable to the smell are completely separated by this process, and the water filtered is as agreeable to the eye as to the taste; it is perfectly hygienic.

The chamber (G, Fig. I) should be washed every week, as well as the sponge placed between the strainer of gauze cloth and the cast iron one. By these washings the sand and charcoal used in the compartment beneath are rendered more durable.

*Claim.*—I am fully aware of the existence of what is known as the "Phelpes patent" granted in 1855, in which the claim is for the use of disks for filtering purposes formed of rolled wire gauze. I am also aware that charcoal and other materials I employ are not new for the same purposes, but I am not aware that an apparatus constructed in the peculiar manner mine is has ever been known or used prior to my invention of the same.

I therefore claim and desire to secure by Letters Patent,

A hygienic purifier, constructed in the manner herein described, operated as described, and for the purpose set forth.

LOUIS TILLIERS.

Witnesses present:

I. LAEPFFELY,  
FERD. ACKERMANN.