

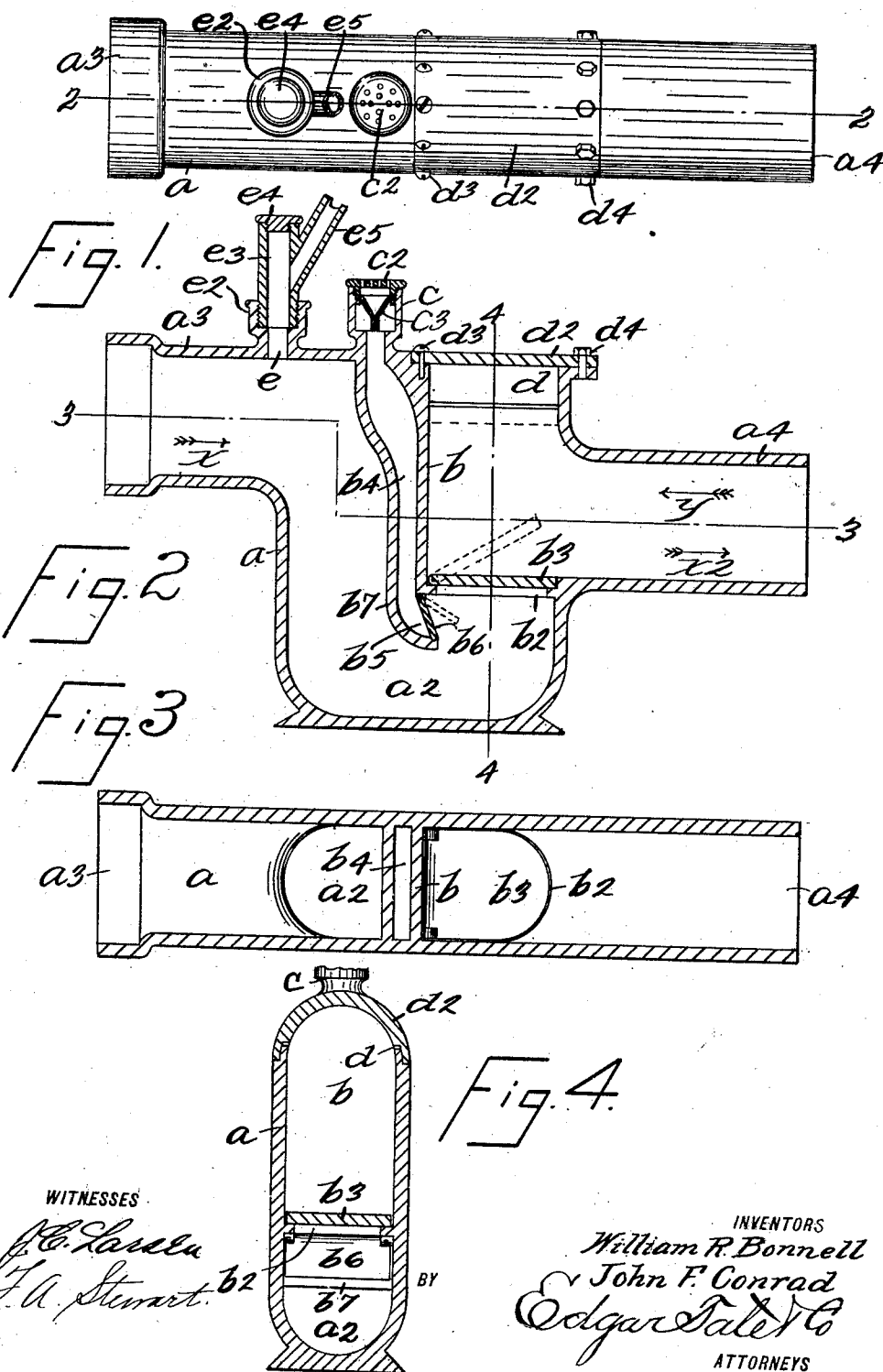
No. 838,001.

PATENTED DEC. 11, 1906.

W. R. BONNELL & J. F. CONRAD.

DRAINAGE TRAP FOR HOUSES.

APPLICATION FILED DEC. 30, 1905.



UNITED STATES PATENT OFFICE.

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DRAINAGE-TRAP FOR HOUSES.

No. 838,001.

Specification of Letters Patent.

Patented Dec. 11, 1906.

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To all whom it may concern:

Be it known that we, WILLIAM R. BONNELL and JOHN F. CONRAD, citizens of the United States, residing at Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Drainage-Traps for Houses, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to drainage-traps for houses; and the object thereof is to provide an improved combination device of this class designed for use as a cellar-drain and back-water-trap and which is simple in construction and operation and which may be conveniently cleaned whenever necessary and also conveniently used wherever devices of this class are required.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of our improvement are designated by suitable reference characters in each of the views, and in which—

Figure 1 is a plan view of our improved trap; Fig. 2, a longitudinal section on the line 2 2 of Fig. 1; Fig. 3, a horizontal section on the line 3 3 of Fig. 2, and Fig. 4 a vertical section on the line 4 4 of Fig. 2.

In the practice of our invention we provide a trap of the class specified, which comprises a casing *a*, in the bottom of which is a chamber *a*², and said casing is provided at the top thereof and at one side thereof with a tubular inlet extension *a*³, which forms a connection for the water pipe or pipes of a house, and at the side of the casing *a* opposite the tubular extension *a*³ and below the top of said casing is a tubular outlet extension *a*⁴, by which in practice the trap is connected with a sewer.

The casing *a* is provided with a vertical partition *b*, which extends below the bottom of the tubular extension *a*⁴ and between the lower end portion of which and the tubular extension *a*⁴ is an opening *b*², which is adapted to be closed by a valve *b*³, hinged to the bottom portion of the partition *b*, and said partition contains a vertically-arranged passage *b*⁴, which opens below the partition *b* and in the direction of the tubular extension *a*⁴ of the casing *a*, as shown at *b*⁵, and the opening at the lower end of the passage *b*⁴ is

adapted to be closed by a valve *b*⁵, hinged at the upper edge of said opening and preferably in such position that when said valve is closed it is at an inclination to a vertical plane passing through the casing *a*, the inclination of the valve being in the direction of the tubular extension *a*⁴ of said casing.

At the top of the passage *b*⁴ is a drainage-inlet *c*, closed by a perforated and removable cap *c*², and within the inlet *c* is preferably placed a flexible and elastic seal device *c*³, similar in construction and operation to that described and claimed in Letters Patent of the United States, No. 803,979, granted to William R. Bonnell, one of the applicants herein, on November 7, 1905, and in the use of this trap the casing *a* is so placed that the drain-water from the cellar will pass downwardly through the inlet *c* and through the perforated and removable cap *c*², which holds the elastic seal *c*³ in place.

Between the partition *b* and the outlet extension *a*⁴ the casing *a* is provided with a large top opening *d*, closed by a removable cap *d*², which is secured in place by screws and bolts *d*³ and *d*⁴ or in any desired manner, and the said cap *d*² may also be packed in any desired way.

On the side of the partition *b* adjacent to the inlet extension *a*³ the casing *a* is provided in the top thereof with an inlet or opening *e*, formed by a tubular coupling extension *e*², and in practice a Y-coupling *e*³ is detachably secured in the extension *e*², said parts being preferably screw-threaded, and the Y-coupling *e*³ is closed by a removable cap *e*⁴, and the branch *e*⁵ of said coupling is designed to serve as a connection for an air-supply pipe, and by removing the cap *e*⁴ the trap or the casing *a* thereof may be cleaned at any time, and this operation may also be performed by raising or removing the cap *d*².

It will be understood that the partition *b*, which extends downwardly, centrally, and transversely of the casing *a* and especially the wall *b*⁷ of said partition which extends below the opening *b*² into the bottom chamber *a*² of the casing *a* in connection with the bottom portion of said casing, forms the trap proper, and water from the house pipe or pipes enters the trap in the direction of the arrow *x* and leaves in the direction of the arrow *x*², and in this operation the valve *b*³

is raised by the water as it passes through the trap. It will also be understood that the drain-water from the cellar flows into the trap through the passage b^4 and is discharged with the water entering the trap, as indicated by the arrow x . If at any time and for any reason backwater from the sewer or branch pipes thereof should be forced backwardly into the trap in the direction indicated by the arrow y , the valve b would be at once closed and the backwater from the sewer would not flow backwardly through the trap and the overflow of the cellar will thus be prevented at all times, and it will also be understood that the valve b^6 is normally closed except when drain-water from the cellar is flowing downwardly through the passage b^4 .

This invention is simple in construction and operation and comparatively inexpensive, and changes in and modifications of the construction described may be made without departing from the spirit of my invention or sacrificing its advantages.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A trap of the class described, comprising a casing provided at one side and at the top thereof with a tubular inlet and at the opposite side and below the top thereof with a tubular outlet, a partition extending transversely across the casing and extending from the top thereof downwardly below the bottom of the tubular outlet, a valve hinged at the bottom portion of said partition and adapted to close the connection between the bottom of the casing and the tubular outlet, said casing being also provided in the top thereof and at the sides of the partition adjacent to the tubular inlet with a cellar-drain inlet, substantially as shown and described.

2. A trap of the class described, comprising a casing provided at one side and at the top thereof with a tubular inlet and at the opposite side and below the top thereof with a tubular outlet, a partition extending transversely across the casing and extending from the top thereof downwardly below the bottom of the tubular outlet, a valve hinged at the bottom portion of said partition and adapted to close the connection between the bottom of the casing and the tubular outlet, said casing being also provided in the top thereof and at the side of the partition adjacent to the tubular inlet with a cellar-drain inlet, and a passage extending from the cellar-drain inlet to the bottom of said partition, substantially as shown and described.

3. A trap of the class described, comprising a casing provided at one side and at the top thereof with a tubular inlet and at the opposite side and below the top thereof with a tubular outlet, a partition extending transversely across the casing and extending from the top thereof downwardly below the bot-

tom of the tubular outlet, a valve hinged at the bottom portion of said partition and adapted to close the connection between the bottom of the casing and the tubular outlet, said casing being also provided in the top thereof and at the side of the partition adjacent to the tubular inlet with a cellar-drain inlet, and a passage extending from the cellar-drain inlet to the bottom of said partition and provided with a valve which is adapted to open in the direction of the tubular outlet, substantially as shown and described.

4. A trap of the class described, comprising a casing provided at one side and at the top thereof with a tubular inlet and at the opposite side and below the top thereof with a tubular outlet, a partition extending transversely across the casing and extending from the top thereof downwardly below the bottom of the tubular outlet, a valve hinged at the bottom portion of said partition and adapted to close the connection between the bottom of the casing and the tubular outlet, said casing being also provided in the top thereof and at the side of the partition adjacent to the tubular inlet with a cellar-drain inlet, and a passage extending from the cellar-drain inlet to the bottom of said partition and provided with a valve which is adapted to open in the direction of the tubular outlet, the top of said casing on the side adjacent to the tubular outlet being also provided with a removable cap, substantially as shown and described.

5. A trap of the class described, comprising a casing provided at one side and at the top thereof with a tubular inlet and at the opposite side and below the top thereof with a tubular outlet, a partition extending transversely across the casing and extending from the top thereof downwardly below the bottom of the tubular outlet, a valve hinged at the bottom portion of said partition and adapted to close the connection between the bottom of the casing and the tubular outlet, said casing being also provided in the top thereof and at the side of the partition adjacent to the tubular inlet with a cellar-drain inlet, and a passage extending from the cellar-drain inlet to the bottom of said partition and provided with a valve which is adapted to open in the direction of the tubular outlet, the top of said casing on the side adjacent to the tubular outlet being also provided with a removable cap, and in the side thereof adjacent to the tubular inlet with an opening, and means for closing the same, substantially as shown and described.

6. A trap of the class described, comprising a casing provided at one side and at the top thereof with a tubular inlet and at the opposite side and below the top thereof with a tubular outlet, a partition extending transversely across the casing and extending from the top thereof downwardly below the bot-

5 tom of the tubular outlet, a valve hinged at
the bottom portion of said partition and
adapted to close the connection between the
bottom of the casing and the tubular out-
let, said casing being also provided in the top
thereof and at the side of the partition adja-
cent to the tubular inlet with a cellar-drain
inlet, and a passage extending from the cel-
lar-drain inlet to the bottom of said partition
10 and provided with a valve which is adapted
to open in the direction of the tubular out-
let, the top of said casing on the side adjacent
to the tubular outlet being also provided
with a removable cap, and in the side thereof
15 adjacent to the tubular inlet with an opening
and means for closing the same provided
with an air-inlet, substantially as shown and
described.

20 7. A trap comprising a casing provided at
one side and at the top thereof with an inlet
and at the opposite side and below the top
thereof with an outlet, said casing being also
provided centrally with a transverse parti-

tion which extends below the bottom of the
outlet, a valve adapted to close the opening 25
between the bottom portion of said partition
and the outlet and which opens upwardly, a
cellar-drain inlet in the top of the casing and
on the side of the partition adjacent to the
first-named inlet, said drain-inlet being pro- 30
vided with a flexible seal, the top of the cas-
ing on the side of the partition adjacent to
the outlet being provided with an opening
closed by a removable cap and on the side of
the partition adjacent to the first-named in- 35
let with an opening and means for closing the
same, substantially as shown and described.

In testimony that we claim the foregoing
as our invention we have signed our names,
in presence of the subscribing witnesses, this 40
28th day of December, 1905.

WILLIAM R. BONNELL.
JOHN F. CONRAD.

Witnesses:

F. A. STEWART,
C. E. MULREANY.