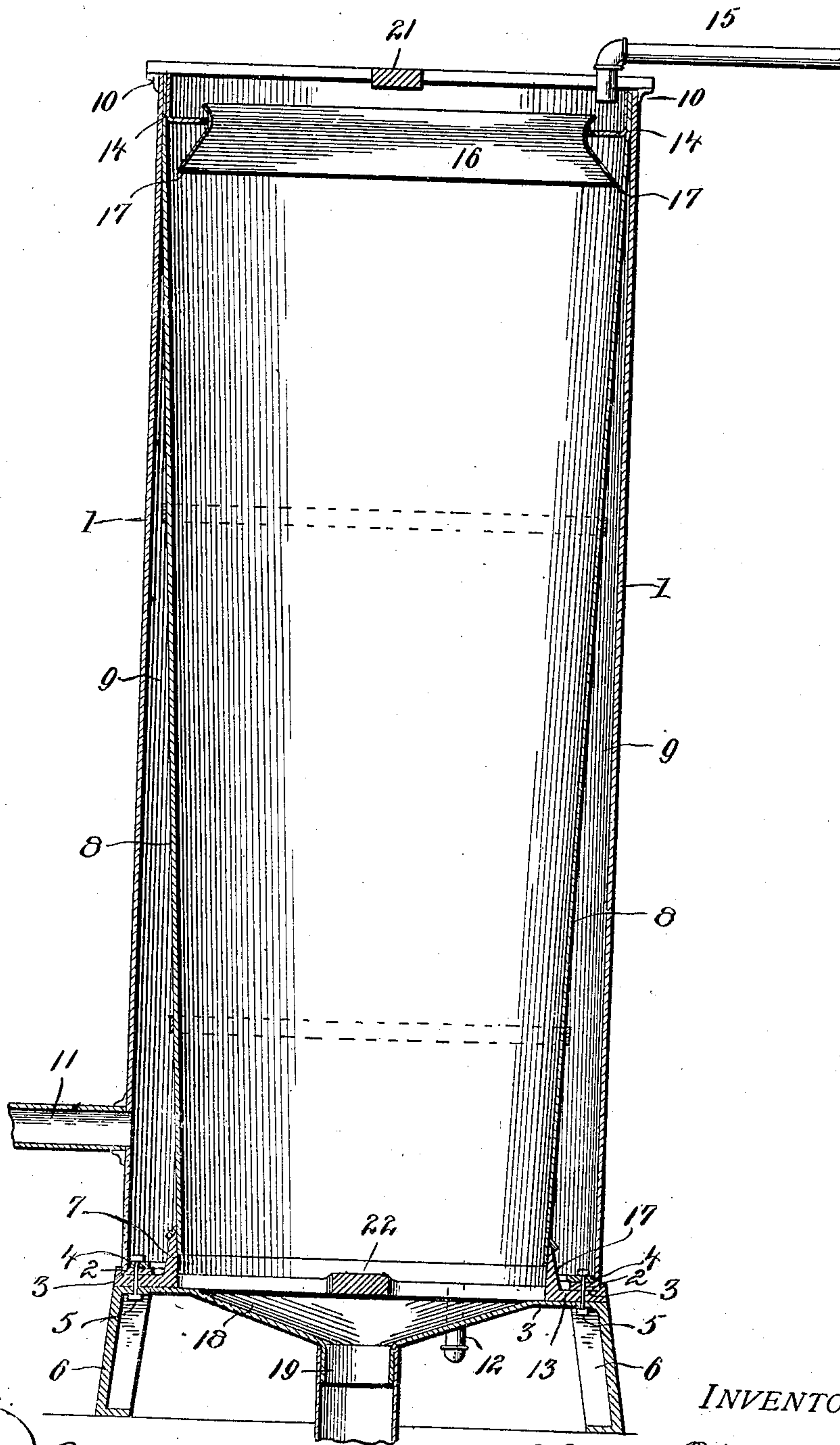


No. 828,042.

PATENTED AUG. 7, 1906.

C. MILD.
CONDENSER.

APPLICATION FILED SEPT. 6, 1905.



WITNESSES:

W. F. H. Co.

Irving M. Cathran

INVENTOR

BY *Charles Mild*
Finley & Young Attorneys

UNITED STATES PATENT OFFICE.

CHARLES MILD, OF MOUNT VERNON, OHIO.

CONDENSER.

No. 828,042.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed September 6, 1905. Serial No. 277,167.

To all whom it may concern:

Be it known that I, CHARLES MILD, a citizen of the United States, residing at Mount Vernon, in the county of Knox and State of Ohio, have invented a new and useful Improvement in Condensers, of which the following is a specification.

My invention relates to improvements in condensers, and pertains particularly to that class used in distilling water.

The object of my invention is to provide a condenser of this character in which the steam to be condensed is confined between two plates both of which are exposed to the atmosphere and the inner plate is supplied with a sheet of cold water continuously running down over the same.

A still further object of my invention is to provide a condenser of this character which is more simple and cheap and having a greater condensing action than other condensers having the same area of condensing-surface.

In the accompanying drawing the figure is a vertical sectional view of my improved condenser.

Referring now to the drawing, 1 represents a vertically-arranged cylindrical member provided with an inwardly-turned flange 2 at its bottom, said flange resting upon the annular base or support 3. Resting upon said flange 2 is a ring 4, which is bolted to the base or support 3 by bolts 5 and by means of which a tight joint is made between the base and cylindrical member. The said cylindrical member 1, as before stated, is vertically-arranged and made of sheet galvanized iron which is of sufficient strength to withstand the strain of the steam, and the same being galvanized prevents it from rusting. The base 3 is provided with feet 6, by means of which it is supported, the base at its inner edge being also provided with an upwardly-extending flange 7, to which is secured the lower end of the inner cylindrical conical plate 8, thus forming a circular steam-space 9 between the two plates. The conical-shaped plate is secured at its upper end at 10 to the outer cylindrical member 1, and the diameter of the inner conical plate 8 gradually decreases toward the bottom, the purpose of which will be hereinafter more fully described. This arrangement of the two plates, as before described, forms the steam-space 9 between the plates, is provided with a steam-supply pipe 11, which enters from the outside through the outer plate

1 at a point intermediate its top and bottom. The said space 9 adjacent the lower end is provided with an outlet 12, which, as shown, is a slight distance above the bottom of the space, thus forming a water-containing receptacle 13 at the bottom, which, in other words, would form a sediment-chamber or a water seal for preventing the escape of the steam through the outlet-opening 12.

As before described, the inner and outer plates 1 and 8 are fastened together to form a steam-tight joint, and adjacent said connection the inner plate 8 is provided with an inwardly-projecting annular flange 14, upon which is supplied cold water from the supply-pipe, the flange being adapted to distribute said water around itself, as will be clearly seen. Within said flange, but spaced a slight distance therefrom, is a deflecting-plate 16, which is of a conical shape, as shown, and flared outwardly, but not quite touching the inner plate 8, the space 17 surrounding the same. It will be seen that the water enters through the supply-pipe 15 and passes down upon the deflecting-plate 16 and is sprayed in a fine sheet upon the inner plate 8 over the entire surface thereof, and the inclined arrangement of the inner plate allows the water to travel downwardly thereon to the bottom. This, as is readily seen, allows only a thin sheet of water to run over the plate, which being exposed to the atmosphere admitted through the top of the inner cylinder is more thoroughly cooled.

Secured to the lower face of the base 3 is a funnel-shaped bottom 18, which receives the water from the lower end of the inner plate 8, conveys it to the center, and discharges it through the opening 19.

The steam, as before described, enters through the pipe 11 and fills the space 9 between the plates, and by the engagement of the steam with the outer plate cooled by the atmosphere and the inner plate cooled by the atmosphere and the water the steam is condensed and collects in the bottom of the space and is conveyed off through the outlet-pipe 12.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A condenser comprising inner and outer cylindrical members having a tapering opening through same and forming a steam-space between them, a circumferential ring carried within the cylinders, a water-supply for said

ring, and a deflecting-plate adapted to deflect the water against the face of the inner cylindrical member.

2. A condenser comprising an outer cylindrical plate supported upon a base, a second cylindrical plate secured upon the base within the first plate and spaced a distance therefrom, said inner plate flared outwardly and secured to the outer plate at their upper ends, forming a steam-chamber between the same, and a tapering central opening and means for spraying water to the upper inner face of the inner plate.

3. A condenser comprising an outer cylindrical plate supported upon a base, a second cylindrical plate secured upon the base with the said first plate and a distance therefrom said plates secured together at their upper ends, a circumferential ring carried by the inner face of the upper end of the inner cylindrical plate, a water-supply for said ring, and a deflecting-plate receiving the water from the ring and deflecting it against the upper inner face of the inner cylindrical plate.

4. A condenser comprising an outer cylindrical

plate supported upon a base, a second cylindrical plate secured upon the base within the first plate and spaced a distance therefrom forming a steam-chamber, said inner plate flared outwardly and secured to the outer plate adjacent its upper end, a funnel-shaped bottom closing the lower end of the inner cylindrical plate, a steam-supply pipe in communication with the steam-chamber, a water-discharge pipe in communication therewith, a circumferential ring carried by the inner face of the upper end of the inner cylindrical plate, a water-supply pipe for said ring, a deflecting-plate receiving the water from the ring and deflecting it against the upper inner face of the inner cylindrical plate, over which it spreads and travels downward.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES MILD.

Witnesses:

WILLIAM MILD,
J. B. WAIGHT.