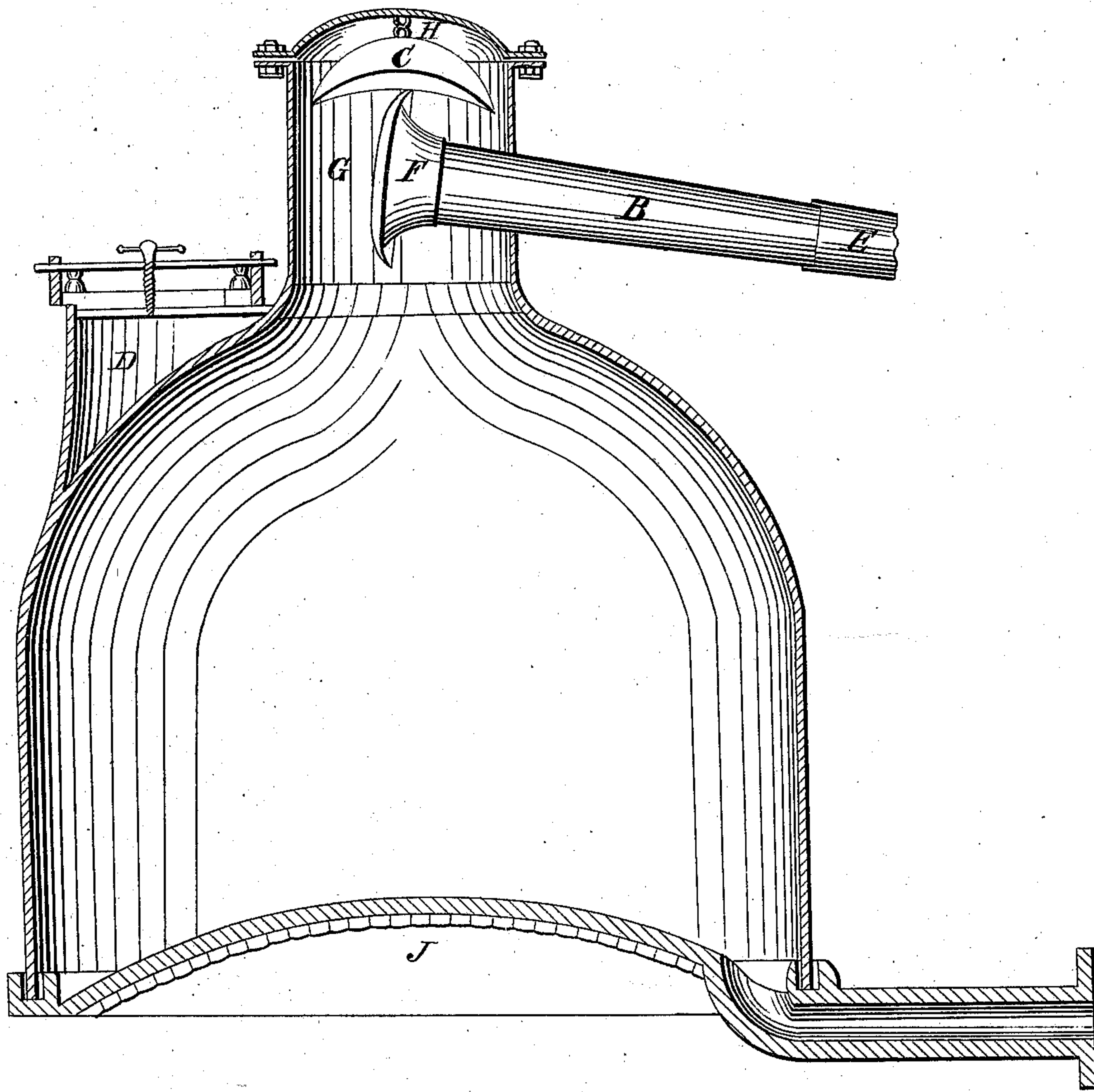


F. BOWMAN.  
Turpentine Still.

No. 12,852.

Patented May 15, 1855.



Witnesses:

*Albert Ebling*  
*Charles de Leding*

Inventor:

*Francis Bowman*



# UNITED STATES PATENT OFFICE.

FRANCIS BOWMAN, OF SOMERVILLE, MASSACHUSETTS.

## IMPROVEMENT IN ROSIN-STILLS.

Specification forming part of Letters Patent No. 12,852, dated May 15, 1855.

### *To all whom it may concern:*

Be it known that I, FRANCIS BOWMAN, of Somerville, in the county of Middlesex and Commonwealth of Massachusetts, have invented a new and improved still for extracting oil from rosin, crude oil, or equivalent in a more distinct and pure state than heretofore, and also the more perfect distillation of all other substances; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing, and the letters of reference marked thereon.

The nature of my invention consists in adding to the top of the still A a section which is indicated in the drawings by the letter G, of a sufficient height to admit the tube B, the section of tube, F, and inverted bowl C. Near the center of the section of the still A, designated in the drawings by letter G, I insert the tube B, which is a metallic tube entirely covered with glass inside and outside, placing the end at such a distance from the inside of the section G as to insure the arrest of the vapor in its suspended state. Such tubes, of English manufacture, enameled with glass, may be obtained in the market. Into this tube I insert the section of a metallic tube, also entirely covered with glass inside and outside, made in the form of a trumpet. (Designated in the drawing by letter F.) This, in connection with the tube B, both being covered with glass, prevents the pitch which crawls up on the sides of the still A by the action of heat from being carried over and mixing with the vapor in the condenser. I then suspend the inverted bowl C, covered with glass inside and outside, from the top or covering of the section of the still G, (designated in the drawing by letter H,) over the top of the section of the tube F, to prevent the pitch which is forced up by the action of heat on the sides of the section of the still, (indicated in the drawing by letter G,) from falling from the top and mixing with the vapor as it passes over into the section of the tube F, thereby rendering it impure. Under the bottom of the still A, I form an arch of fire-brick, soapstone, or any other substance not easily destroyed by fire, to prevent it from touching the bottom of the still. This produces a uniformity of heat in the liquid

mass, prevents the pitch from adhering to the bottom of the still, and the cold air from cracking the bottom when the fire is drawn. Having perfected the still and apparatus, I attach a condensing-worm to the pipe E. I place in the still a quantity of rosin sufficient to fill it on a level with the top of the man-hole D, and place a fire under the arch, leaving the man-hole open till the rosin is reduced to a liquid mass, and the water and acid evaporated, which is indicated by its emitting a strong odor of naphtha. I then draw the fire from under the arch and let it remain till the mass is partially cooled and the vapor ceases to pass off. I then close the man-hole, replace the fire under the arch, raise and continue it till the naphtha is evaporated from the mass in the still, which can be known by manipulating the discharge from the condensing-worm between the thumb and finger and its oily appearance. The heat must now be kept up till all the oil is run off, which is indicated by the discharge from the condensing-worm assuming a yellowish appearance and greater consistency. I now draw the fire from under the arch and let it cool sufficiently to draw the pitch out of the still through the pipe (indicated on the plan by letter I) without danger.

Having described my apparatus for obtaining pure oil from rosin, crude palm-oil, or equivalent, what I claim therein as my invention, and desire to secure by Letters Patent, is—

1. The arrangement of section G of the still A by inserting the metallic tube B and section of a tube, F, covered with glass inside and outside, or a similar tube, not covered with glass, projecting at any distance from the inside toward the center of section G, also the suspension of the inverted bowl C, covered with glass inside and outside.

2. The formation of an arch under the still A, (designated in the drawing by letter J,) constructed of fire-brick, soapstone, or any other substance to prevent the fire from touching the bottom of the still.

FRANCIS BOWMAN.

In presence of—

CHARLES DE SELDING,  
ALBERT EBELING.