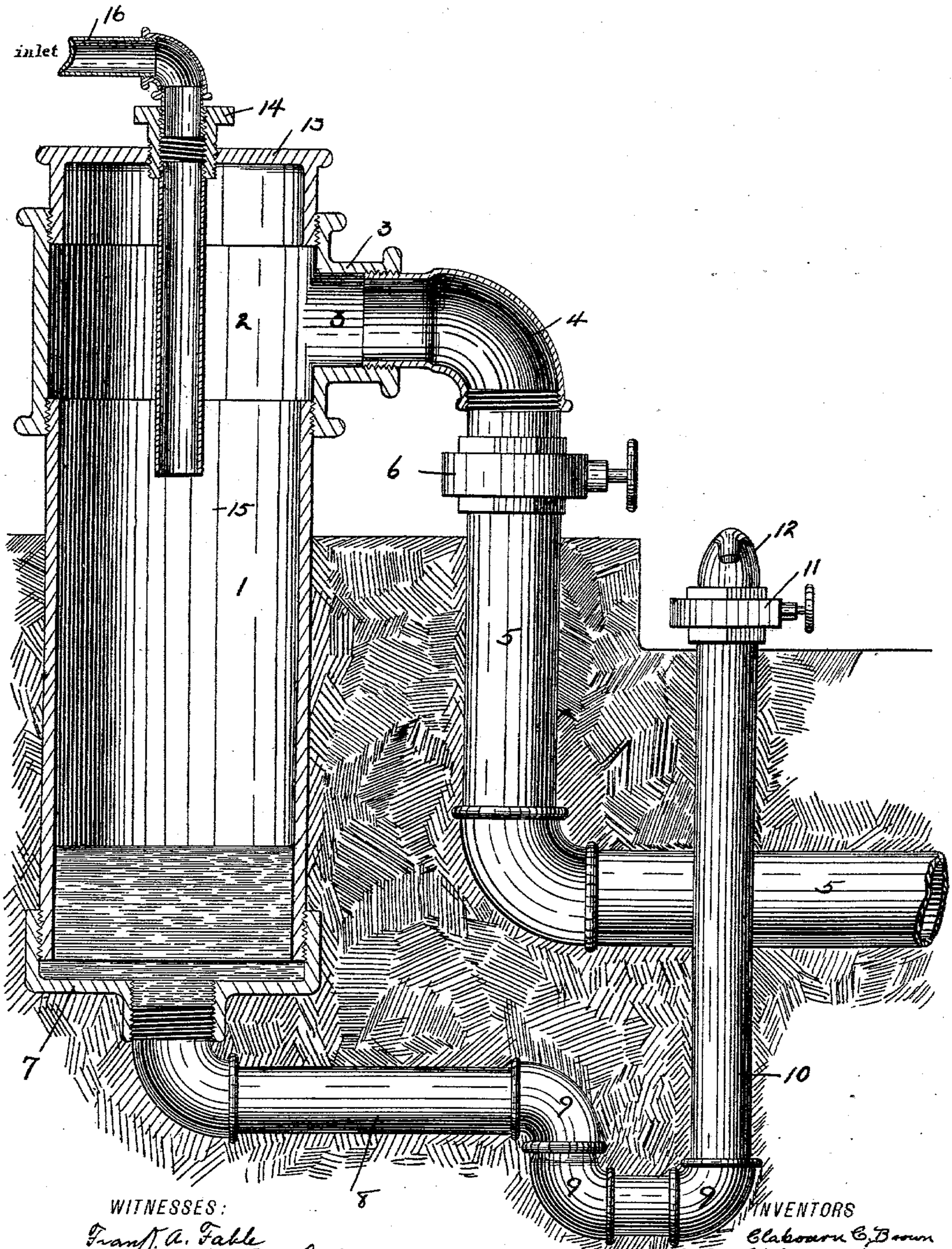
No. 629,845. Patented Aug. 1, 1899.

C. C. & W. E. BROWN.

GAS AND OIL SEPARATOR.

(Application filed Feb. 28, 1898.)

(No Model.)



WITNESSES:

Frank A. Fable

Samuel Ashby

INVENTORS

Clabourn C. Brown

William E. Brown

BY

Arthur M. Hood

ATTORNEY.

UNITED STATES PATENT OFFICE.

CLABOURN C. BROWN AND WILLIAM E. BROWN, OF PENDLETON, INDIANA.

GAS AND OIL SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 629,845, dated August 1, 1899.

Application filed February 28, 1898. Serial No. 671,923. (No model.)

To all whom it may concern:

Be it known that we, CLABOURN C. BROWN and WILLIAM E. BROWN, citizens of the United States, residing at Pendleton, in the county of Madison and State of Indiana, have invented a new and useful Gas and Oil Separator, of which the following is a specification.

Our invention relates to an improvement in devices for separating oil or water from gas, especially natural gas.

The object of our invention is to produce a simple, cheap, and effective device of the class described.

The drawing, which is a central vertical section of a device embodying our invention, clearly illustrates the same.

In the drawing, 1 indicates a separating-cylinder, formed, preferably, of a section of ordinary piping depending in size upon the amount of gas to be handled. To the upper end of cylinder 1 is secured a coupling 2, provided upon one side with an outlet 3. Connected with outlet 3 is an L 4 and pipes 5 5, which lead downward and out toward the main pipe-line. If desired, there may be mounted in pipes 5 a suitable regulating-valve 6, the purpose of which will appear. Secured to the bottom of cylinder 1 is a cap 7, from which extends a smaller pipe 8, to which is connected a series of L's 9 9 9 and an upright pipe 10, the upper end of which is provided with a regulating-valve 11 and, if desired, with a suitable nozzle 12. Secured to the upper end of coupling 2 is a cap 13, in which is mounted a nipple 14. To the lower end of nipple 14 is secured a small pipe 15, which extends down into the cylinder 1 some distance below the outlet 3, and to the upper end of said nipple are connected suitable pipes 16, which lead from the source of gas.

In order to condense the liquids carried by the gas and in order to prevent said liquids from freezing, the whole device is partially buried in the ground, as shown.

The operation is as follows: The gas, laden with water or oil, or both, is introduced into cylinder 1 through pipes 16 and 15. The water or oil here becomes condensed and drops to the bottom of the cylinder, while the gas rises and passes out through the outlet 3 and pipes 5 into the mains. The separated oil and water accumulate within the pipes 8 9 10 and the bottom of the cylinder, the tortuous outlet being provided in order to completely condense the liquid and to separate all of the gas therefrom. The upper end of pipe 10 is preferably lower than the outlet 3, so that by opening valve 11 the cylinder 1 may be partially drained. This position of the water-outlet is not necessary, however, for by closing valve 6 for an instant the pressure of the gas within cylinder 1 will increase sufficiently to blow the accumulated liquid from the cylinder.

It will be noticed that by arranging the discharge end of pipe 10 higher than its receiving end and by means of the valve 11 and nozzle 12 the outlet of said pipe 10 may be so adjusted that a continuous stream of water may be discharged therefrom without in the least affecting the pressure of gas in the main leading from the separator. It has also been found by practical tests that by burying the lower portions of the device and by arranging the discharge end of the pipe 10 higher than its receiving end the fog or "fire-damp" is completely removed from the gas and condensed.

We claim as our invention—

In a device of the class described, the combination with the separating-cylinder 1, the coupling 2 having outlet 3, pipes 5 connected therewith, cap 13, pipe 15, pipes 8 and 10 and L's 9, leading from the bottom of the cylinder, all combined and arranged to coöperate substantially as described.

CLABOURN C. BROWN.
WILLIAM E. BROWN.

Witnesses:
E. W. COLLIS,
WM. DRAKE.