(No Model.)

C. S. LITZENBERG.

VENTILATOR FOR MINING SHAFTS.

No. 261,466. Patented July 18, 1882.

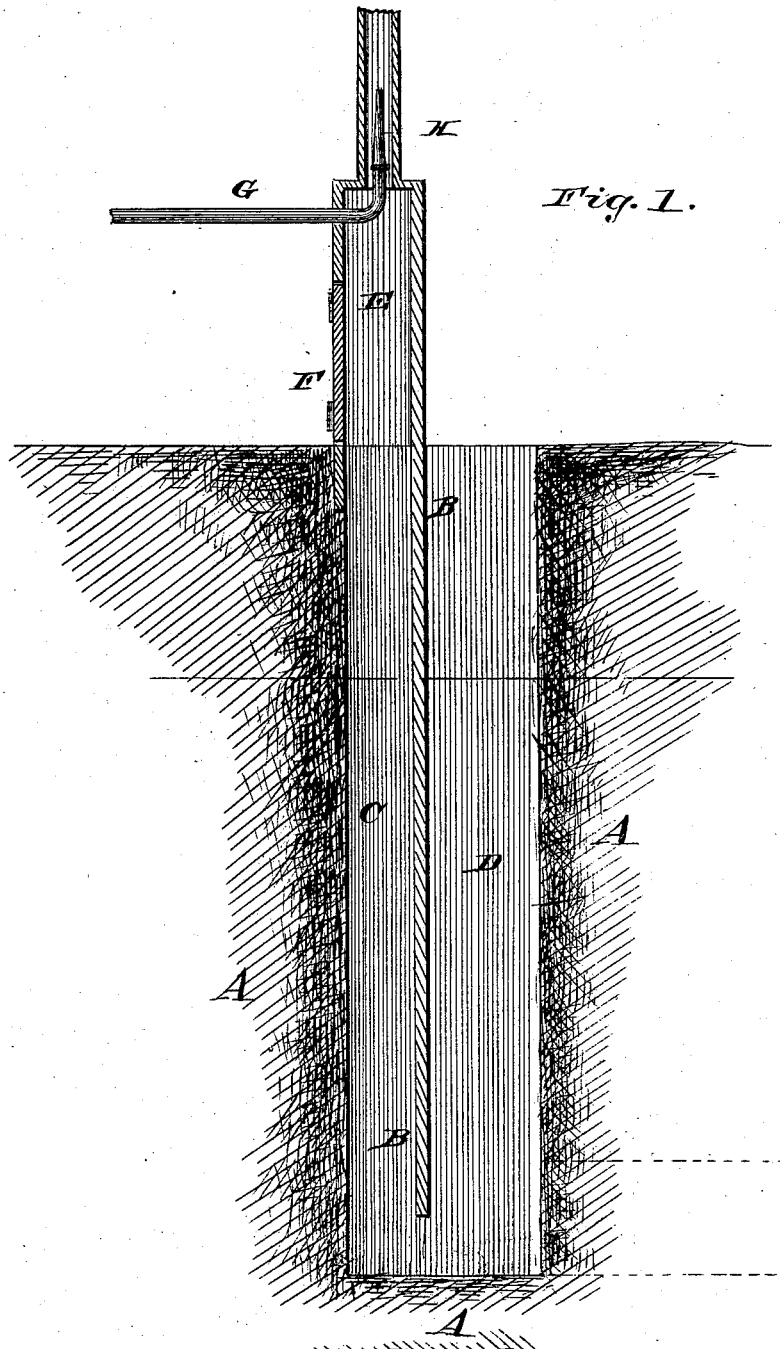

Fig. 1.

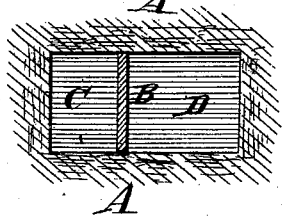

Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES S. LITZENBERG, OF INDIANOLA, IOWA.

VENTILATOR FOR MINING-SHAFTS.

SPECIFICATION forming part of Letters Patent No. 261,466, dated July 18, 1882.

Application filed May 11, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES SWAN LITZENBERG, of Indianola, in the county of Warren and State of Iowa, have invented certain new and useful Improvements in Ventilators for Mining-Shafts; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a vertical sectional view of a mining-shaft to which my invention has been applied, and Fig. 2 is a horizontal sectional view of the same.

Similar letters of reference indicate corresponding parts in both figures.

This invention relates to certain improved means for the ventilation of mining and other shafts to which pure air is difficult of access, as will be hereinafter more fully described, and particularly pointed out in the claims.

Referring to the drawings hereto annexed, A represents a vertical section of a mining-shaft, in which is constructed a vertical partition, B, extending from the top nearly to the bottom of said shaft, which is thus divided into two sections, C D, of which the former, which I term the "man-hole," is smaller than the latter, which is called the "bucket-hole." Directly over the man-hole is built a stack, E—say thirty feet in height, and having a door, F, at its lower end to admit the miners.

G is a pipe, one end of which is connected to a boiler or steam-supply. The pipe G enters the stack E above the door F and extends to near the center of said stack. It is then turned upward and provided with a nozzle, H. Suitably-arranged cocks may also be provided for regulating the steam-supply.

The operation of my invention will be readily understood. When steam is turned on through the nozzle H an upward suction or current is created in the compartment C of the shaft, as a consequence of which a downward current or draft of pure air takes place through the compartment D, from whence it passes up through compartment C. The shaft is in this manner kept freely ventilated. Access to the man-hole C is had through the door F.

My improved method of ventilating shafts is, as will be seen, exceedingly simple, and can easily be carried into effect.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. A shaft provided with a vertical partition extending from the top to near the bottom of said shaft, in combination with a steam-nozzle arranged in one of the compartments thus formed for the purpose of creating an upward current in the same, as set forth.

2. A mining or other shaft having a partition, B, extending vertically from the top to near the bottom, in combination with the stack E, built over and forming an upward extension of the smaller of the compartments thus formed, and provided with the door F, and steam-supply pipe G, having nozzle H, as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

CHARLES SWAN LITZENBERG.

Witnesses:
H. T. METCALF,
J. H. CARRUTHERS.