(No Model.)

G. W. ALEXANDER.

Sewer Ventilator.

No. 239,418. Patented March 29, 1881.

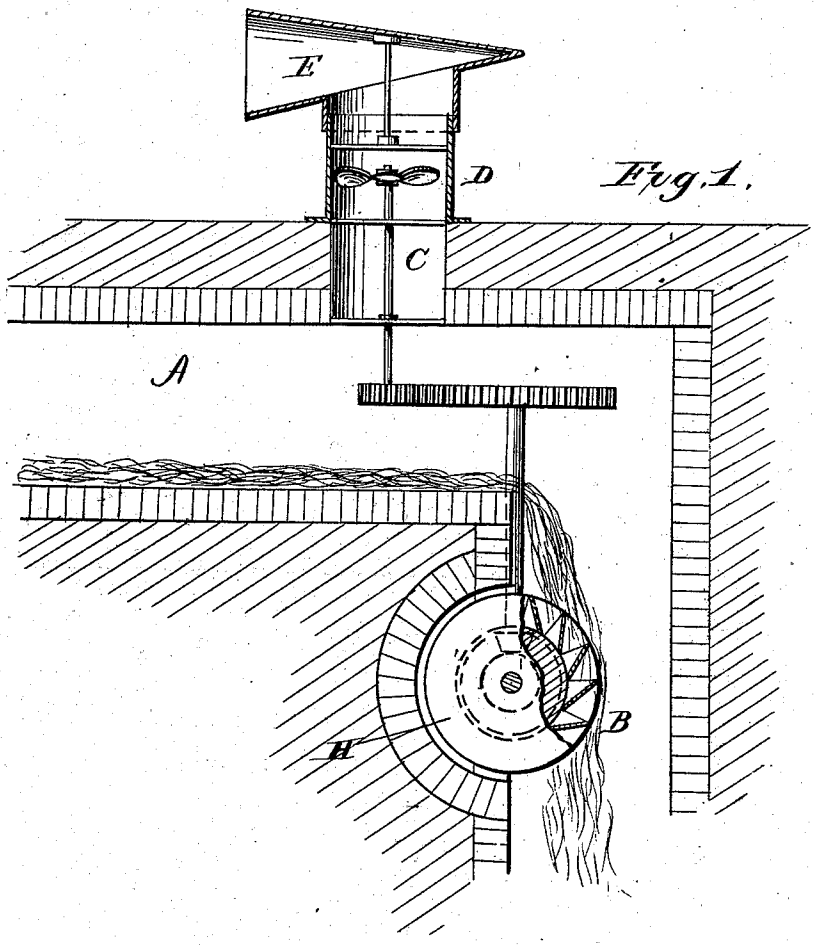

Fig. 1.

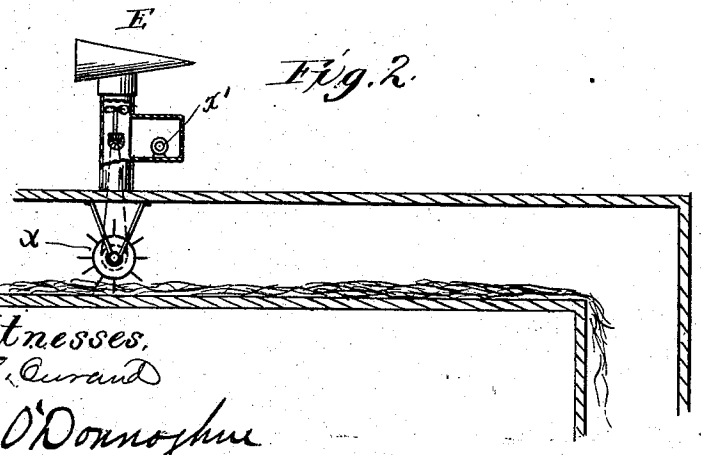

Fig. 2.

Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE W. ALEXANDER, OF BALTIMORE, MARYLAND, ASSIGNOR OF THREE-EIGHTHS TO CLINTON A. WRIGHT, OF SAME PLACE.

SEWER-VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 239,418, dated March 29, 1881.

Application filed January 24, 1881. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. ALEXANDER, a citizen of the United States, residing at Baltimore, in the county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Ventilators for Sewers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to a device for inciting a current of air in sewers above the level of the sewage; and the novelty consists in the means more fully hereinafter set forth, and specifically pointed out in the claims.

It is well known that the unhealthful and poisonous vapors arising and generating in sewers will seek not only the first exit, but the most convenient one, and hence the different sewer-apertures in dwelling-houses in cities, towns, and the like are mediums through which fatal and contagious diseases and poisons are communicated to the residents or inhabitants. It is also well known that a current of circulating air or gas in the sewers will relieve the different connecting-apertures with dwellings from the gas-pressure, and that such circulation will relieve the sewers from the noxious gases mentioned. To induce such a current within the run of the sewer, and to relieve the pressure and liability of the sewer-gas from entering the dwellings, my invention is designed; and in carrying out the invention the object is to have the inducing mechanism operated in the most cheap, simple, and efficient manner. To this end various methods and means may be employed.

In carrying out my invention I employ a vertical tube or pipe containing a propeller-wheel or blower, and at any proper distance above the surface of the land a shed-vane is swiveled to distribute the gas into the outer air, where it scatters and becomes dilute and harmless. The blower is attached by proper connecting mechanism to a motor, preferably the gravity of the sewer contents, which are generally emptied into the adjacent river at a point remote from the populated portions of the city.

As the preferable means for inducing the air-current in the sewer, I will specify the gravity of the sewer contents, as shown in the drawings accompanying this specification, in which—

Figure 1 is a vertical longitudinal section, and Fig. 2 a similar view, showing the draft-inducing mechanism at a point distant from the mouth of the sewer and an undershot operating-wheel.

Referring to the drawings, A represents or designates the sewer, having shedding-exit B, from the region of which arises a tube or pipe, C, in which is pivoted a propeller-wheel, D, and upon the upper end of which is pivoted a shed-vane, E.

An overshot-wheel, H, upon which the sewer contents are deposited in their exit, is properly connected by suitable gearing to a pinion upon the propeller-wheel shaft.

In certain cities, where the sea-coast is near, tides may be employed by a proper float and differential gearing to manipulate and propel the wheel which induces the air-current.

The modification shown in Fig. 2 shows an undershot wheel operated by the sewage in its flow at a remote point from the sewer-outlet.

The object of the invention being, as stated, to induce a draft in the sewer, I illustrate in Fig. 1 the gravity of the emptying sewage as the motor operating an overshot-wheel—in Fig. 2 the flow of the sewage operating an undershot-wheel, *x;* but in come cases I employ the water force of the adjacent main as a motive power by any proper connection, as shown in Fig. 2 at *x'*.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In combination with a motor located within the sewer and operated by the sewage, a current-inducing device, whereby the noxious gases are withdrawn from the sewer, substantially as and for the purposes set forth.

2. A sewer having a vertical gas-pipe with a shed-vane and a current-inducing mechanism, combined with an overshot-wheel and proper connecting devices, as and for the purposes specified.

In testimony whereof I affix my signature in presence of two witnesses.

G. W. ALEXANDER.

Witnesses:

E. H. BRADFORD,

H. J. ENNIS.