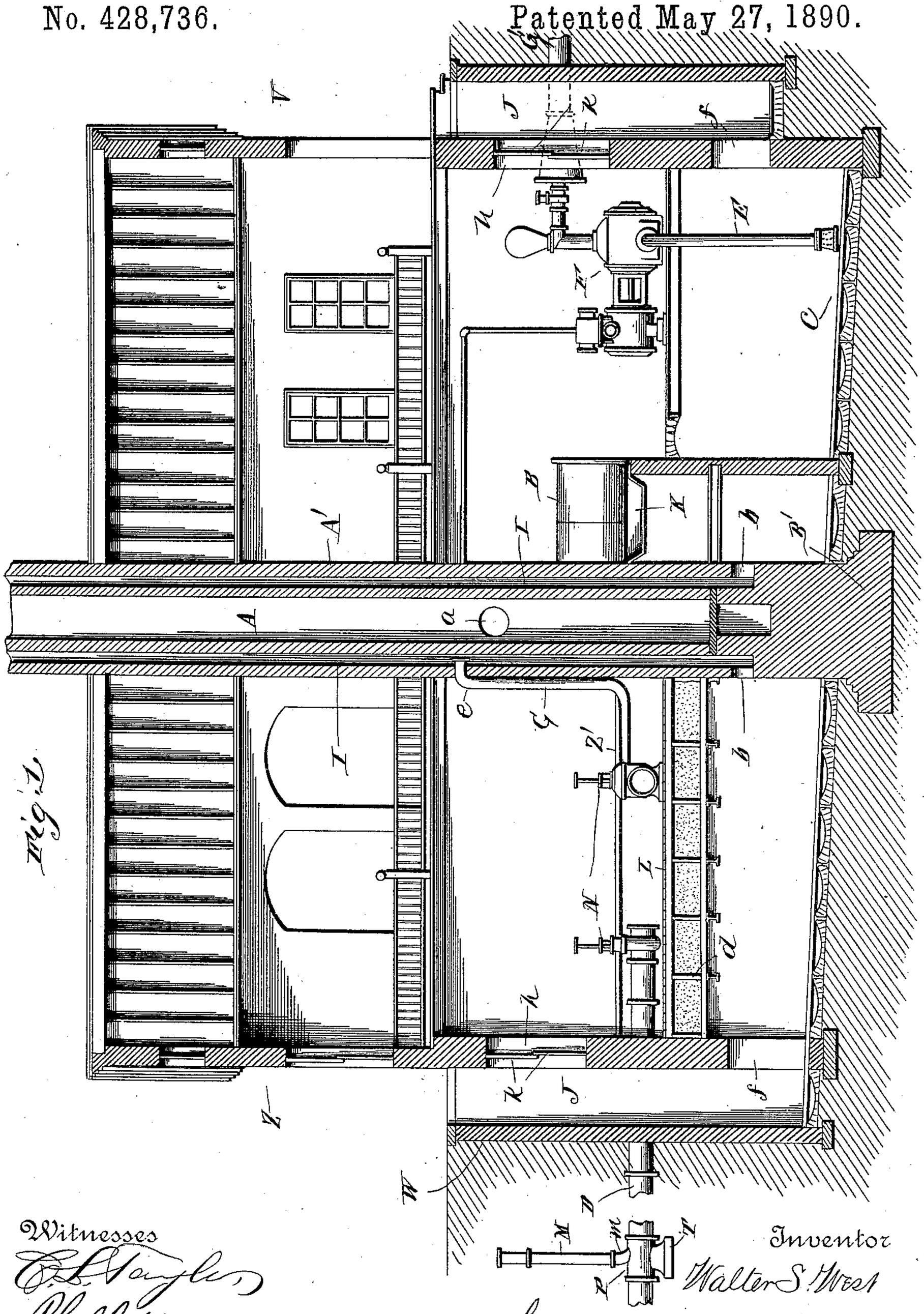
(No Model.) 2 Sheets—Sheet 1.

W. S. WEST.

SEWERAGE APPARATUS.

No. 428,736. Patented May 27, 1890.



Witnesses
C. L. Naylor
Phil. C. Masi.

Inventor
Walter S. West
By his Attorney
C. W. Anderson

(No Model.) 2 Sheets—Sheet 2.

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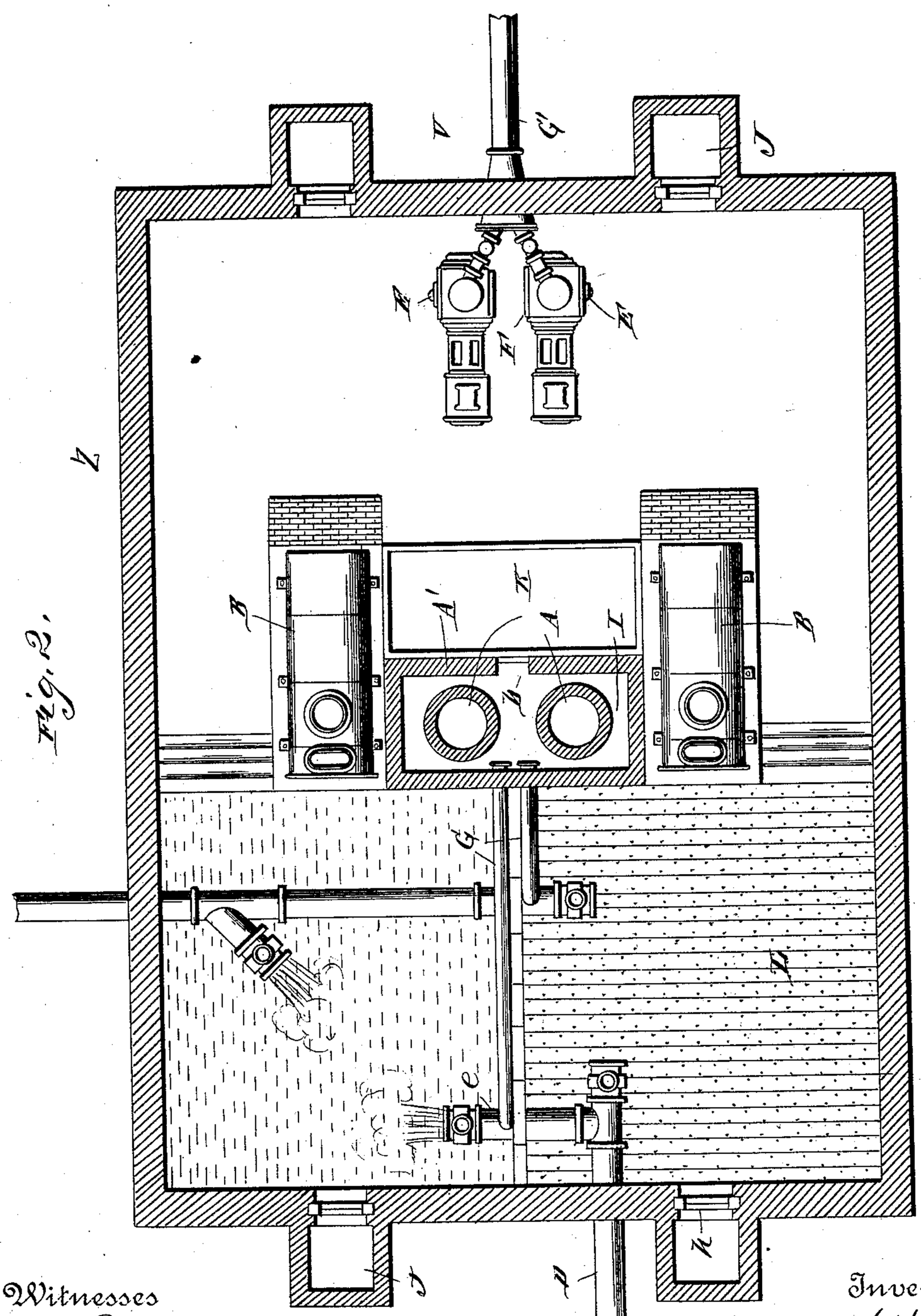

Fig. 2.

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UNITED STATES PATENT OFFICE.

WALTER SCOTT WEST, OF BROOKLYN, NEW YORK.

SEWERAGE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 428,736, dated May 27, 1890.

Application filed August 15, 1889. Serial No. 320,895. (No model.)

To all whom it may concern:

Be it known that I, WALTER SCOTT WEST, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Sewerage Apparatus; and I do 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 letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a vertical section of the main building and apparatus, and Fig. 2 is a horizontal section.

The object of the invention is to provide adequate means for lifting and transporting sewage from the point of discharge to the filtering-beds or other point of disposal, combining therewith devices designed to effect the separation of grease, paper, &c., and thorough and effective means of ventilation, all as hereinafter set forth.

In the accompanying drawings, illustrating this invention, the letter Z designates the main building of the pumping-station, whereof the excavated portion W is quite deep, being usually deeper than the height of the building V above ground.

A is the chimney, which is usually made double and surrounded by the outer chimney-wall A′, between which and the inner chimney A is the warm-air interspace I, this interspace extending around the chimney or chimneys from top to bottom, and communicating with the interior of the chimney or chimneys by the openings at *a* below the ground-surface. The chimneys A and their outer wall A′ extend to a considerable height above the building, and they are therefore constructed upon a strong foundation B′, which extends up into the lower chamber W of the building, as shown.

Openings *b* are made through the outer wall A′ of the warm-air shaft just above the base B′ and at the lower end of the shaft below the level of the screening-floor L.

The floor of the lower chamber W of the building inclines downward toward the pumping end, forming a trough at *c* for the accommodation of the suction-pipe E of the pump or pumps F, two being usually employed.

At the sides of the warm-air shaft A′ are the boilers B, and between these is located the grease-pan K, in which it is designed, by means of the waste heat and steam from the boilers, to reduce the grease which may be recovered from the sewage.

L indicates the screening-floors for the separation of paper and grease from the sewage delivered thereon, and designed to pass through the same to the inclined floor of the pumping-apartment. The screening-floor is laid upon suitable beams *d*, and consists of boards and frame-work filled in with sawdust, shavings, excelsior, charcoal, or other cheap material, which will serve, after its function as a screen, for the purpose of fuel.

The inlet-pipes from the sewer (indicated at D) enter the chamber W a little above the screening-floor, as shown, so that the material will be spread over the floor as it comes from the sewer-pipes, and will gradually pass through the same, leaving the paper, grease, and insoluble articles upon the floor, to be gathered up and burned or otherwise disposed of.

To each sewer-inlet pipe D is connected near its end a ventilating-pipe G, which rises by a bend or neck *e* upward, and, extending through the wall A′ of the warm-air shaft, communicates with the ventilating-chamber therein just above the level of the openings *a* into the chimney.

G′ is the discharge-pipe leading from the pumps to the filter-beds.

Exterior to the wall of the underground chamber W, and extending downward from the ground-level H, are the fresh-air ducts or chutes J, which are next said wall, and which are provided with openings *f* at the lower ends into the lower portion of the chamber or underground apartment W. Above the openings *f* these chutes or air-ducts are provided with other openings *h*, having doors or valves *k*.

The discharging end of each inlet-pipe D is provided with a gate-valve N, which can be raised or lowered to regulate the discharge, the operator passing along the platform Z′.

M indicates the house-connection for the sewer-pipe, this connection having a bend *m* at its lower end in the direction of the flow of

the sewage. This bend *m* is formed on the union sleeve P, which is provided with the base T, and it is designed to prevent clogging.

The free supply of air to the underground apartment W, through the chute or ducts J, serves to prevent the exhalation of fermentous odors, the tall chimneys and their surrounded warm-air shaft taking all gases and odors up, and in great measure burning them, or excessively rarefying them before their discharge at the top of the chimney. The denser gases are drawn into the chimneys themselves through the openings *a* and burned.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. In a pumping-station for sewage, the combination, with the chimney and its surrounding ventilating-shaft communicating with said chimney, of the underground pumping-chamber, its descending fresh-air ducts, boilers, pumps, and screen-floor, the sewage-inlet pipes above said screen-floor, and the ventilating-pipes extending from said inlet-pipes to the ventilating-shaft around the chimney, substantially as specified.

2. In a pumping-station for sewage, the combination, with the chimneys, boilers, and pumps, and the underground pumping-apartment having the descending fresh-air inlet, of the main ventilating-shaft surrounding the chimneys and communicating therewith above, and with the underground apartment below, the screening-floor, the sewage-inlet pipes above the same, their adjustable valve-gates, and their ventilating-pipes leading to the ventilating-shaft, substantially as specified.

3. The combination, with the sewage-pipes leading thereto, of a deep underground receiving-apartment, its exterior descending air-chutes, and central ventilating air-shaft having inlet-openings at its base, the chimney inclosed in said air-shaft and communicating therewith, the boilers and pumps, the valved sewage-inlet pipes, and their ventilating-pipes communicating with the ventilating-shaft, and the screening-floor below the sewage-inlet pipes and separating the same from the lower or trough portion of the underground apartment from which the suction-pipe ascends to the pumps, substantially as specified.

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

WALTER SCOTT WEST.

Witnesses:
GEO. W. DELANO,
DUNCAN CAMPBELL.