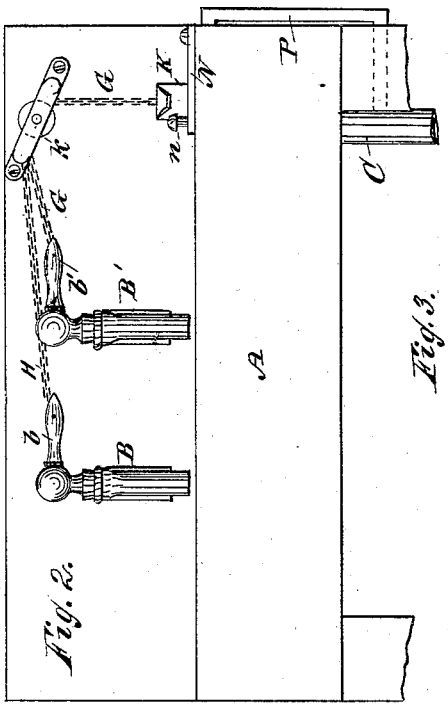
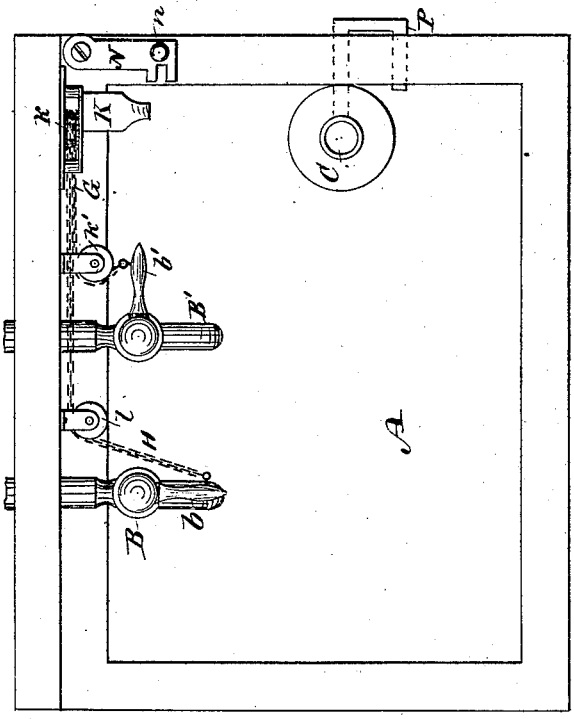
(No Model.)

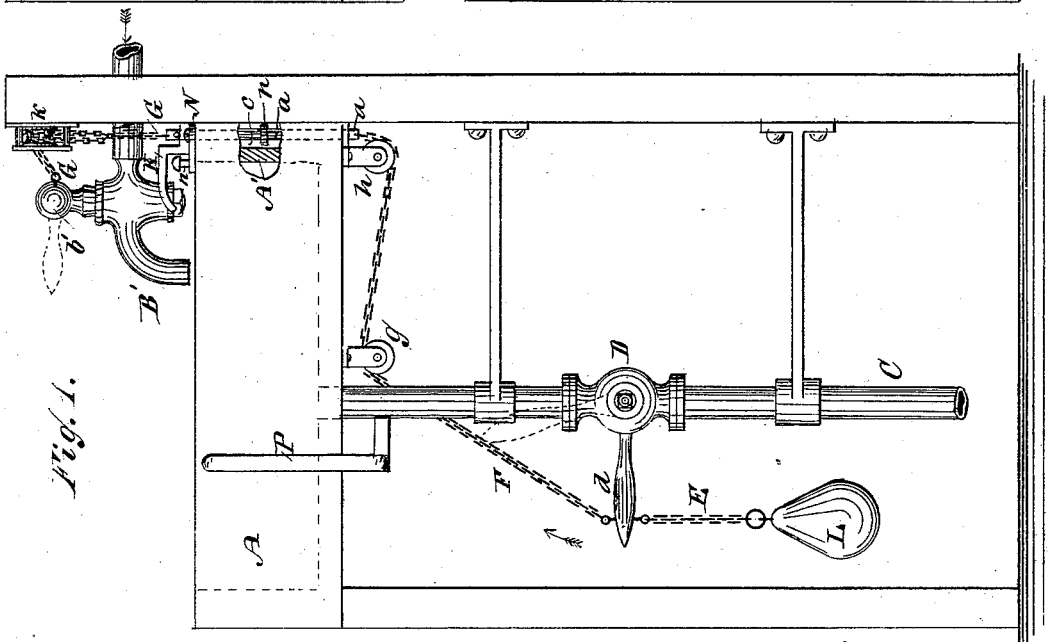
F. A. DAVIS.

AUTOMATIC VALVE FOR WASTE PIPES.

No. 264,250. Patented Sept. 12, 1882.







WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANCIS A. DAVIS, OF NEW YORK, N. Y.

AUTOMATIC VALVE FOR WASTE-PIPES.

SPECIFICATION forming part of Letters Patent No. 264,250, dated September 12, 1882.

Application filed January 5, 1882. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS A. DAVIS, of the city, county, and State of New York, have invented a new and Improved Automatic Valve for Waste-Pipes, of which the following is a full, clear, and exact description.

The object of my invention is to provide automatic means for opening and closing waste-pipes in such a manner that all escape of sewer-gas is prevented by positively-acting mechanical devices, the invention being more especially applicable to all kinds of waste-pipes leading from dwelling-houses.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation, partly in section, of a sink having my improved automatic valve applied thereto. Fig. 2 is a partial front elevation of the same, and Fig. 3 is a plan view of the sink and stop-cocks.

A represents the sink. B B′ represent the stop-cocks attached to the water-supply pipes, and C represents the waste-pipe leading from the bottom of the sink to the sewer. In the waste-pipe, between the bottom of the sink and the floor, is placed the stop-cock D, the passage through the spindle of which is arranged in such manner relative to its handle *d* that the waste-pipe will be closed by the spindle when the handle stands at right angles to the pipe, and opened when the handle stands parallel, or nearly so, with the waste-pipe.

To the handle *d* is attached the small chain F, which passes over the small pulley *g*, secured to the under side of the bottom of the sink, and under the pulley *h*, also secured to the under side of the bottom of the sink, and is attached to the lower end of the rod *a*, which is placed in the passage *c* made through the back board, A′, of the sink, as shown in Fig. 1.

To the upper end of the rod *a* is attached the chain G, which passes over the pulley *k*, secured immediately above the rod, and around the pulley *k′*, and is attached to the handle *b′* of the cock B′, and to the chain G is attached the chain H, which passes around the pulley *l*, and is attached to the handle *b* of the cock B, as clearly shown in Fig. 3. The passages through the spindles of the cocks B B′ are so formed that the supply-pipes will be opened when the handles *b b′* of the spindles are turned parallel with the pipes and closed when the handles stand at right angles to the supply-pipes.

The handle *d* of the cock D is provided with the chain, cord, or wire E, and to this wire, chain, or cord is attached the weight L, which serves to keep the cock D closed, except when opened by drawing upon the chain F. The chain F and the chains G and H are of such length relative to the distance of movement of the ends of the handles *b b′* necessary to open the cocks B B′ that the chain F will be drawn a sufficient distance for opening the cock D whenever the supply-cocks B or B′ are opened, and when the said cocks are closed the weight L will automatically close the cock D, thus effectually preventing all possibility of sewer-gas passing up through the waste-pipe and entering the house or apartment.

To provide for the escape of any water that may remain in the sink after the cock B or B′ is closed and for the escape of any water which may be poured into the sink, I provide the upper end of the rod *a* with the finger-lift K, by which the rod may be raised for drawing the chain F for opening the cock D independent of the cocks B or B′; and in order to retain the rod *a* in an elevated position for holding the cock D open, I hinge or pivot to the upper edge of the sink the catch or plate N, (which is provided with the projection *n* upon its upper side for operating the plate,) which is adapted to shut under the collar or similar projection *p*, secured upon the rod *a*, as shown in Fig. 1.

The overflow-pipe P of the sink leads from near the upper edge of the sink down to and enters the waste-pipe C above the cock D, as clearly shown in the drawings. By this arrangement it will be seen that the waste-pipe will (when not purposely held open) be automatically closed by positively-acting mechanical means, and the construction of the device is simple and inexpensive.

Though I have shown my invention applied to sinks, it will be understood that I do not confine myself to such application alone, as it

can be applied to wash-basins, water-closets, bath-tubs, in fact, all kinds of waste-pipes, with equal facility and with like positive results; and, instead of using chains for connecting the cocks to the rod *a*, wire, cord, or any other suitable connecting means may be used.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the handle *b'* of the cock B' and pulleys *k* and *k'*, of the rod *a*, chain F, and weighted cock D in the waste-pipe C, substantially as described.

2. The rod *a*, formed with the collar *p*, and the hinged plate N for holding the valve D open, substantially as and for the purpose set forth.

3. The cock D, provided with the weight L, in combination with the chain F, rod *a*, finger-lift K, and the pulleys *g* and *h*, substantially as and for the purposes set forth.

FRANCIS A. DAVIS.

Witnesses:
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C. SEDGWICK.