

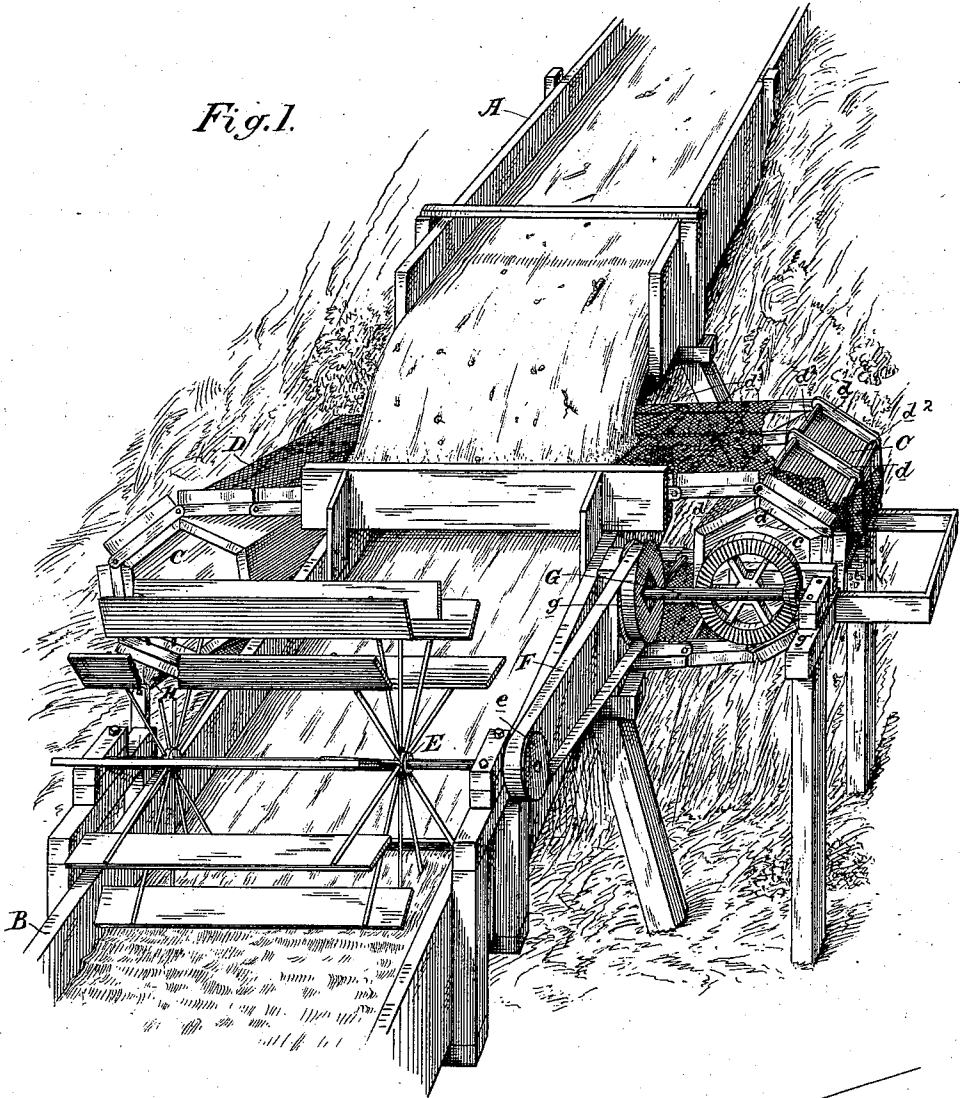
(No Model.)

D. B. HUNT.

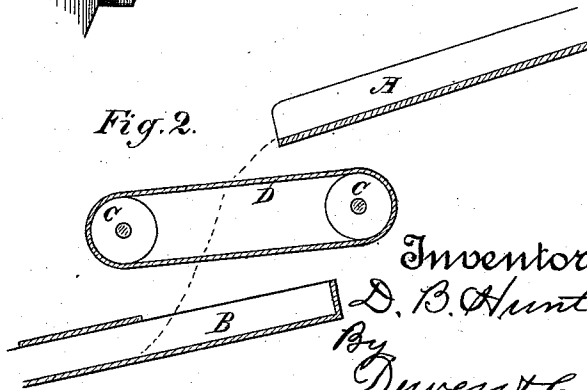
AUTOMATIC SCREEN FOR FLUMES AND DITCHES.

No. 365,521.

Patented June 28, 1887.



*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

DAVID B. HUNT, OF ANGEL'S CAMP, CALIFORNIA.

## AUTOMATIC SCREEN FOR FLUMES AND DITCHES.

SPECIFICATION forming part of Letters Patent No. 365,521, dated June 28, 1887.

Application filed September 7, 1886. Serial No. 212,945. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID B. HUNT, of Angel's Camp, Calaveras county, State of California, have invented an Improvement in Automatic Screens for Flumes and Ditches; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a new and useful screen interposed or let into a flume or ditch, and having for its object the catching and disposition of all débris—such as leaves, &c.—which come down with the water from the head of the flume or ditch, and preventing them from passing down to the tank.

My invention consists in an endless traveling screen located between sections of the flume or ditch, said screen receiving the water from the upper section and discharging it into the continuation of the flume below, the débris being caught by it and disposed of.

My invention further consists in the mechanism by which the endless screen is driven, and in minor details of construction and arrangement, all of which I shall hereinafter fully describe.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a perspective view of my screen, showing it in its position in the flume. Fig. 2 is a side elevation of a modified arrangement.

A is one section of the flume, and B is its continuation or other section, which is in a lower plane than the section A.

C are two drums, one on each side of the flume and parallel therewith. Over these drums passes the endless screen D, the direction of whose travel is at right angles to the flume. The upper section of the flume is above the screen, while the lower section, B, is under its upper fold and is in line with the upper section, being adapted to receive the water from said section.

The construction and arrangement of the drums and of the screen may be of any suitable character, though in practice I use polygonal-sided drums, over which pass two or more endless chains,  $d$ , whose links are bars or rods pivoted together by rods  $d'$ , which are long enough to serve as pivots for all the chains, the links of each chain being held in place by gas-pipe sections  $d''$ . These chains, thus united, become a

carrier on which the sections  $d''$  of the screen are laid and secured.

The means by which the endless screen is driven are as follows: E is a water-wheel mounted in bearings on each side of the flume, said wheel being operated by the stream of water in said flume. Upon the shaft of the wheel is a pulley,  $e$ , from which a belt, F, extends to a pulley,  $g$ , on a counter-shaft, G, the other end of which carries a small beveled pinion,  $g'$ , meshing with the beveled gear  $e$  on the shaft of one of the drums.

The operation of the device is as follows: The water coming down the section A brings with it a lot of leaves and other débris which usually goes on down to the tank; but where my device is interposed the leaves and débris are caught upon the screen D, while the water passes through into the lower section of the flume. The motion of the screen carries the leaves and débris off to one side and discharges them, presenting continually a free surface to the downcoming water.

If found necessary, I may have a brush, H, for keeping the meshes of the screen open and preventing it from becoming clogged. In Fig. 2 I show a slightly-modified arrangement. The sections A and B of the flume are in line with the endless screen D, which is placed at a slight downward inclination, as shown. The force of the downcoming current, assisted by the weight of the débris, causes the screen to have a slight movement sufficient to carry the débris off. The lower section of the flume would in this case be covered for a short distance, to prevent the leaves on the screen from getting in again.

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

1. The combination, with the upper and lower sections of a flume or ditch, of an endless screen interposed between said sections, whereby the water passes through it while the leaves and débris are caught and carried off, substantially as herein described.

2. The combination, with the upper and lower sections of a flume or ditch, of an endless screen interposed or let into the flume or ditch between the sections, whereby the leaves and débris are caught and carried off, and a power

mechanism in the flume operated by the flow of water and affecting the travel of the screen, substantially as herein described.

3. In combination with the upper and lower sections, A and B, of a flume or ditch, the endless traveling screen D, interposed between the sections, whereby the water passes through while the leaves and débris are carried off, substantially as herein described.
4. In combination with the upper and lower sections, A and B, of a flume or ditch, the drums C on each side thereof, the endless screen D, passing over said drums and interposed between the sections of the flume or ditch, whereby the water passes through and the leaves and débris are caught, and means for operating the drums to cause the travel of the screen, substantially as herein described.
5. A screen mechanism for flumes or ditches, comprising the drums C, the endless screen D, interposed or let into the flume or ditch and carried by the drums, the water-wheel E, operated by the flow of water in said stream or ditch, and power-transmitting mechanism between the wheel and the drum C, by

which the screen is driven, substantially as herein described.

6. In combination with the upper and lower sections, A and B, of a flume or ditch, the drums C upon each side thereof, the endless screen D, passing over the drums and interposed between the sections A and B, the water-wheel E in the flume or ditch, the pulleys *e g*, the belt F, the counter-shaft G, and the gears *g' c*, by which the screen is caused to travel, substantially as herein described.

7. In combination with the sections A and B of a flume or ditch, the drums C, the endless screen D, interposed between the sections, the water-wheel E, and mechanism for driving the endless screen from said wheel, and the brush H, by which the meshes of the screen are kept open, substantially as herein described.

In witness whereof I have hereunto set my hand.

DAVID B. HUNT.

Witnesses:

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C. D. COLE.