No. 815,722. PATENTED MAR. 20, 1906.

T. LYDON.

MEANS FOR FILTERING STREAMS AND THE LIKE.

APPLICATION FILED OCT. 17, 1905.

Fig. 1.

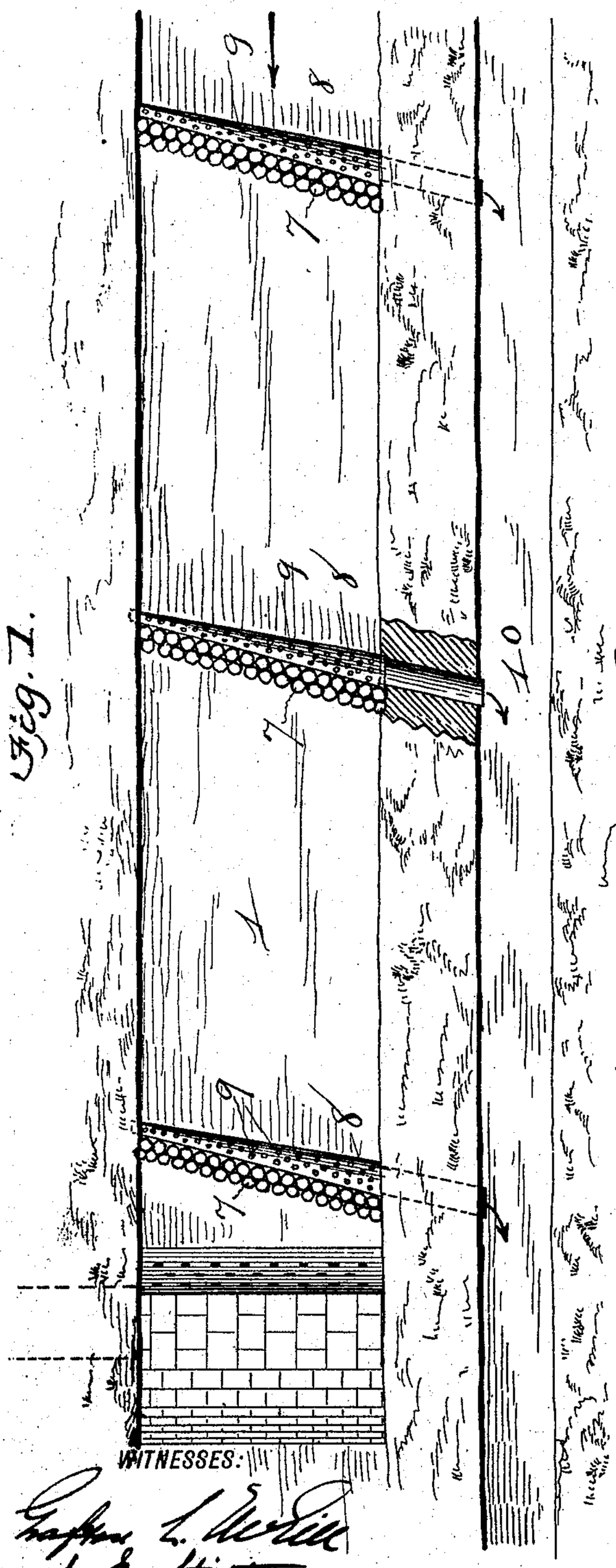
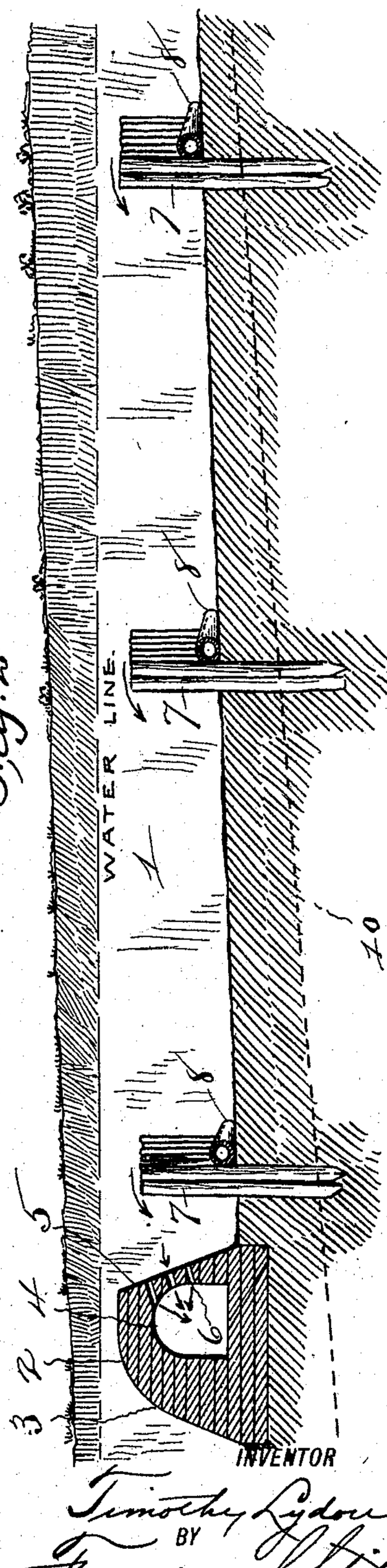


Fig. 2.



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MEANS FOR FILTERING STREAMS AND THE LIKE.

No. 815,722. Specification of Letters Patent. Patented March 20, 1906.

Application filed October 17, 1905. Serial No. 283,140.

To all whom it may concern:

Be it known that I, TIMOTHY LYDON, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Means for Filtering Streams and the Like; 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.

This invention contemplates certain improvements in means for clarifying the water of running streams, and is based, primarily, upon the improvements described and claimed in my Letters Patent No. 719,240, granted to me January 27, 1903.

The patented invention comprehended a series of pure-water discharge-pipes arranged to carry the surface water of a running stream to the city mains and a drain-pipe extending along the bottom of the stream in the rear of a dam or within a reservoir, said drain-pipe extending along the bottom and tapering from its discharge end to its receiving end and being provided in its walls with numerous intake-apertures designed to carry off slime and other impurities from the bottom of the stream or reservoir.

The present invention has for its object improved means for clarifying the water of running streams, said means employing or embodying the tapered pipes of my prior patent before mentioned and consisting in addition thereto in the novel arrangement of said pipes and their combination with supplementary dams; and it also consists in the arrangement of such pipes whereby pure water only is insured to be discharged in the mains, while the partly-cloudy or impure water is directed laterally from the main stream and may be utilized for various purposes. If this impure or muddy water contains sufficient sediment, it may be in its lateral deflection utilized for filling marshes or swampy places.

In the accompanying drawings, Figure 1 is a plan view of my invention, and Fig. 2 is a vertical longitudinal section thereof.

Referring to the drawings, the reference-numeral 1 designates a running stream of any depth or width, my invention being adaptable to all conditions just as they may be found. The numeral 2 designates the breast of a dam thrown across said stream, in its preferred structure said dam consisting of masonry provided with a strengthening portion 3, an arch 4 producing a lateral-extending draw-off passage, and a facing-wall 5, which is preferably inclined, as shown, and is provided with any desired number of ports or passages 6, through which the water may gain access to the lateral draw-off passage and pass therethrough to the gate-house or main.

At any desired intervals in the stream are built supplemental dams 7. In this instance said dams are three in number and extend across the stream from side to side thereof. It is to be understood that any number of these supplemental dams may be employed and at different intervals apart, according to the conditions existing. In the present instance also said dams are formed of any number of rows of spiles or piling, and they extend in an oblique direction, as indicated in Fig. 1. Beyond each supplemental dam 7 is located one of the tapering drain-pipes 8, before referred to, said pipes being provided on their upper sides with apertures 9. The drain-pipes 8 also extend obliquely and are of such length through the bank of the stream that they will discharge their contents into a branch stream or any other portion of the ground and at any desired distance from the main stream. They are located on the bottom of the main stream, and as the stream flows toward the dam the slime and sediment will "creep" along the bottom and by suction will be drawn off through the apertures 9 and pipes 8 to the desired point where it is intended the slime and other impurities shall be discharged. In the preferred embodiment of the invention that drain-pipe which is located farthest from the dam is provided with apertures of relatively large size, and the apertures of the respective other drain-pipes as the dam is approached are relatively smaller. Hence the larger articles, such as gravel and stone or other matter to be laterally discharged, are intercepted by the first-named drain-tube, while the others in succession intercept the impurities which are not caught by the first drain-pipe.

To obtain a maximum degree of suction upon the drain-pipes, the branch stream, which is here designated 10, is, as shown by the dotted line in Fig. 2, of a steeper inclination than the bed of the main stream 1, and I prefer, to obtain the best results, that the upper ends of the supplemental dams 7 be located about two feet below the low-water line of the main stream. It is to be under-

stood that the branch stream may be of any length. As the stream flows toward the dam the surface water will pass successively over the supplemental dams and be received in the main in a clarified state, while the drain-pipes will successively draw off the slime or other cloudy impurities from the bottom.

I claim as my invention—

1. Means for clarifying the water of running streams and the like, comprising one or more supplemental dams obliquely disposed across the stream, and drain-pipes arranged beyond each of said supplemental dams, said drain-pipes being provided in their upper sides with apertures and being arranged to discharge at a point some distance from the stream in a lateral direction.

2. Means for clarifying the water of running streams or the like, comprising a main dam and a supplemental dam arranged at the rear thereof and obliquely disposed across the stream and a drain-pipe at the bottom of the stream beyond said supplemental dam, said drain-pipe having a lateral discharge-outlet extending through the bank of the stream.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

TIMOTHY LYDON.

Witnesses:
GRAFTON L. MCGILL,
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