

(No Model.)

L. DEBARLE.
FLEXIBLE DAM.

No. 495,788.

Patented Apr. 18, 1893.

Fig. 1.

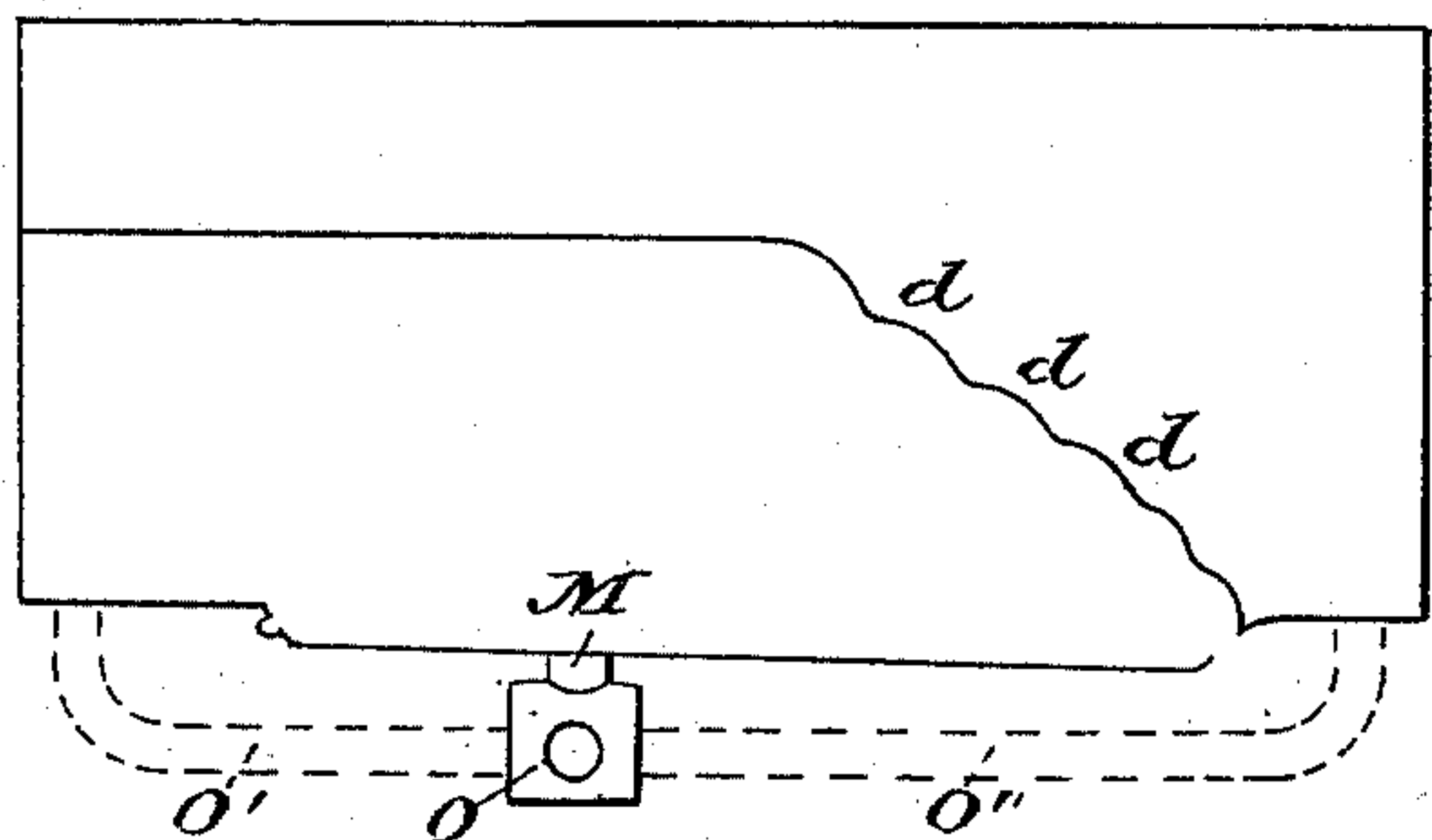


Fig. 2.

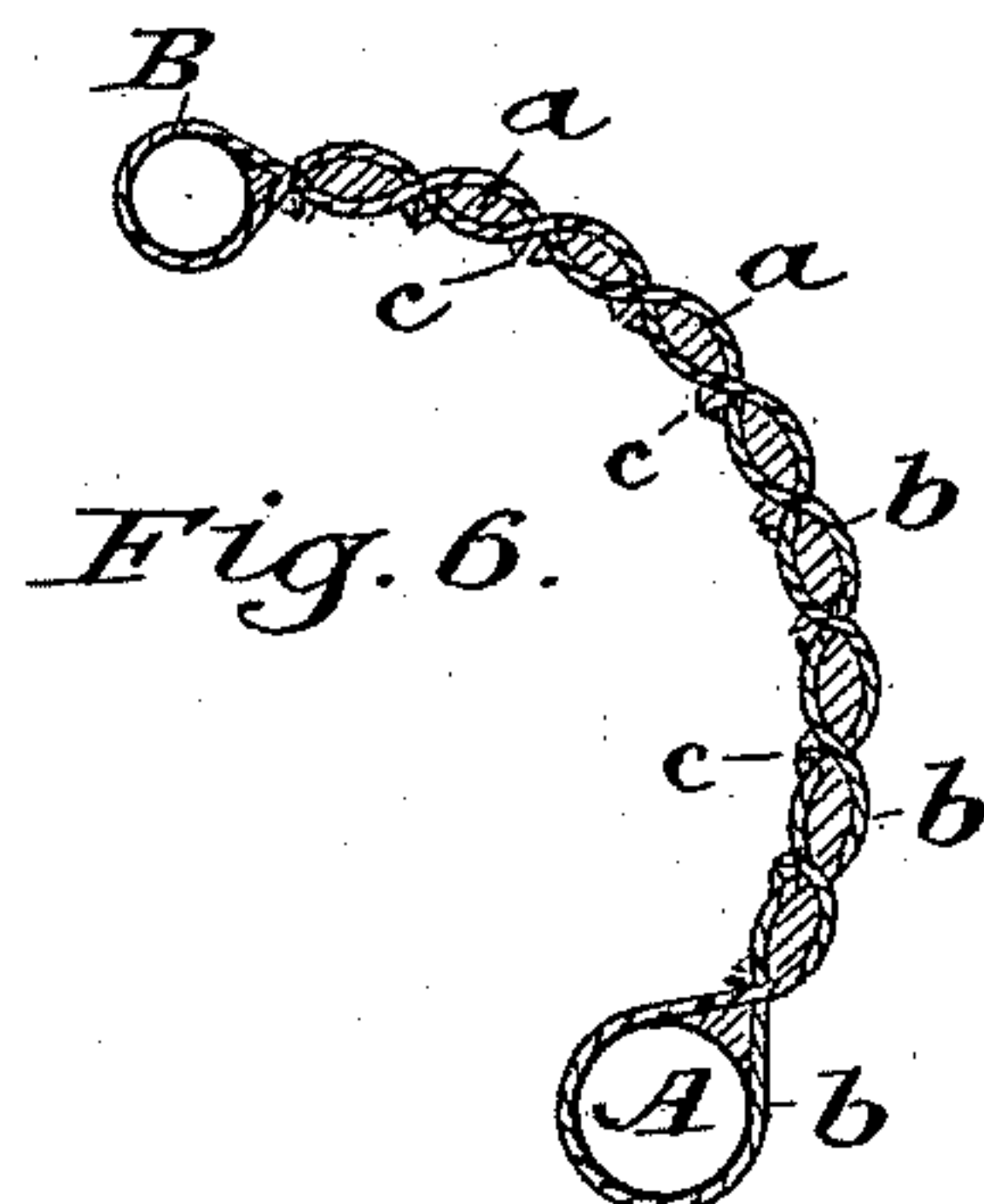
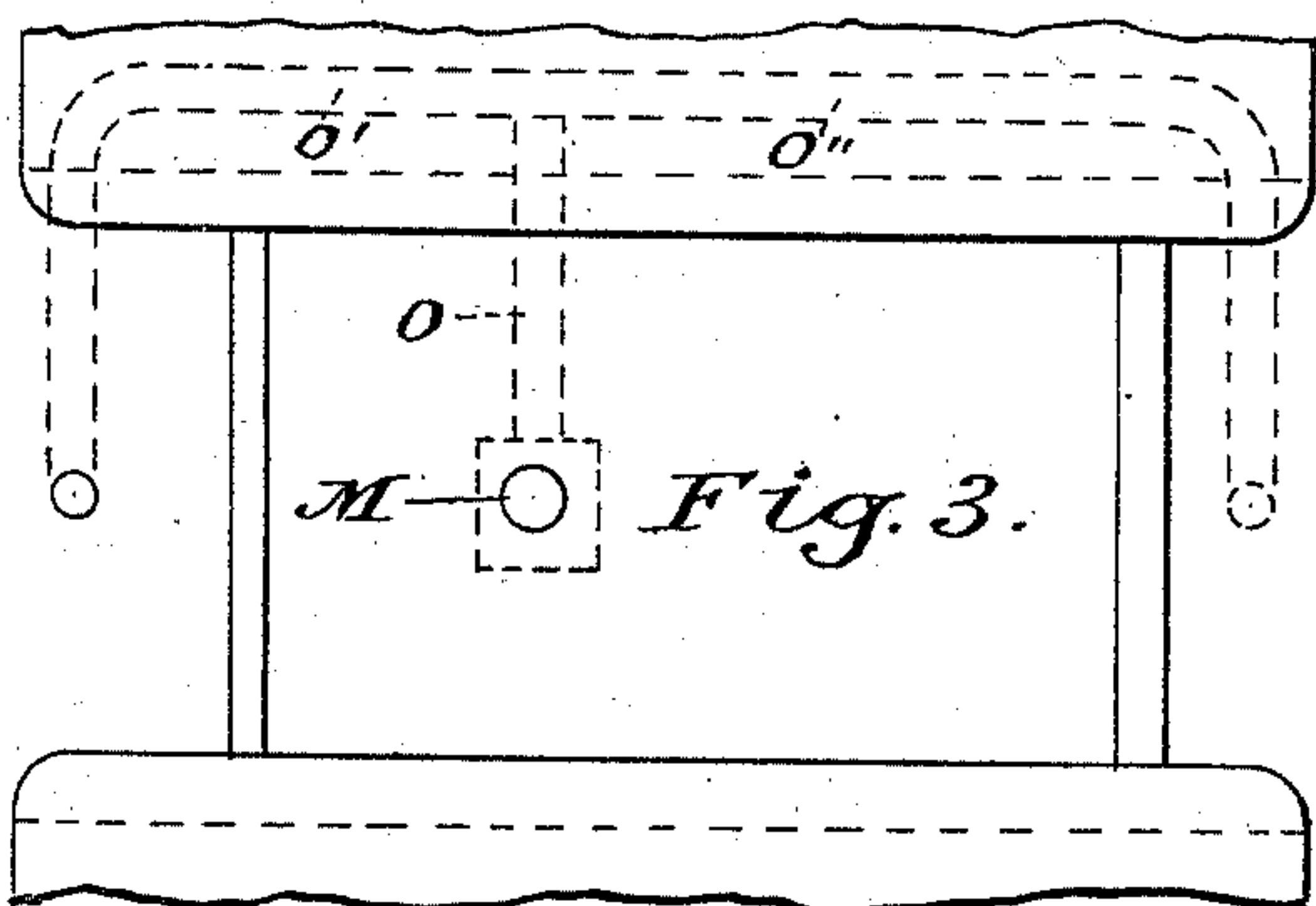
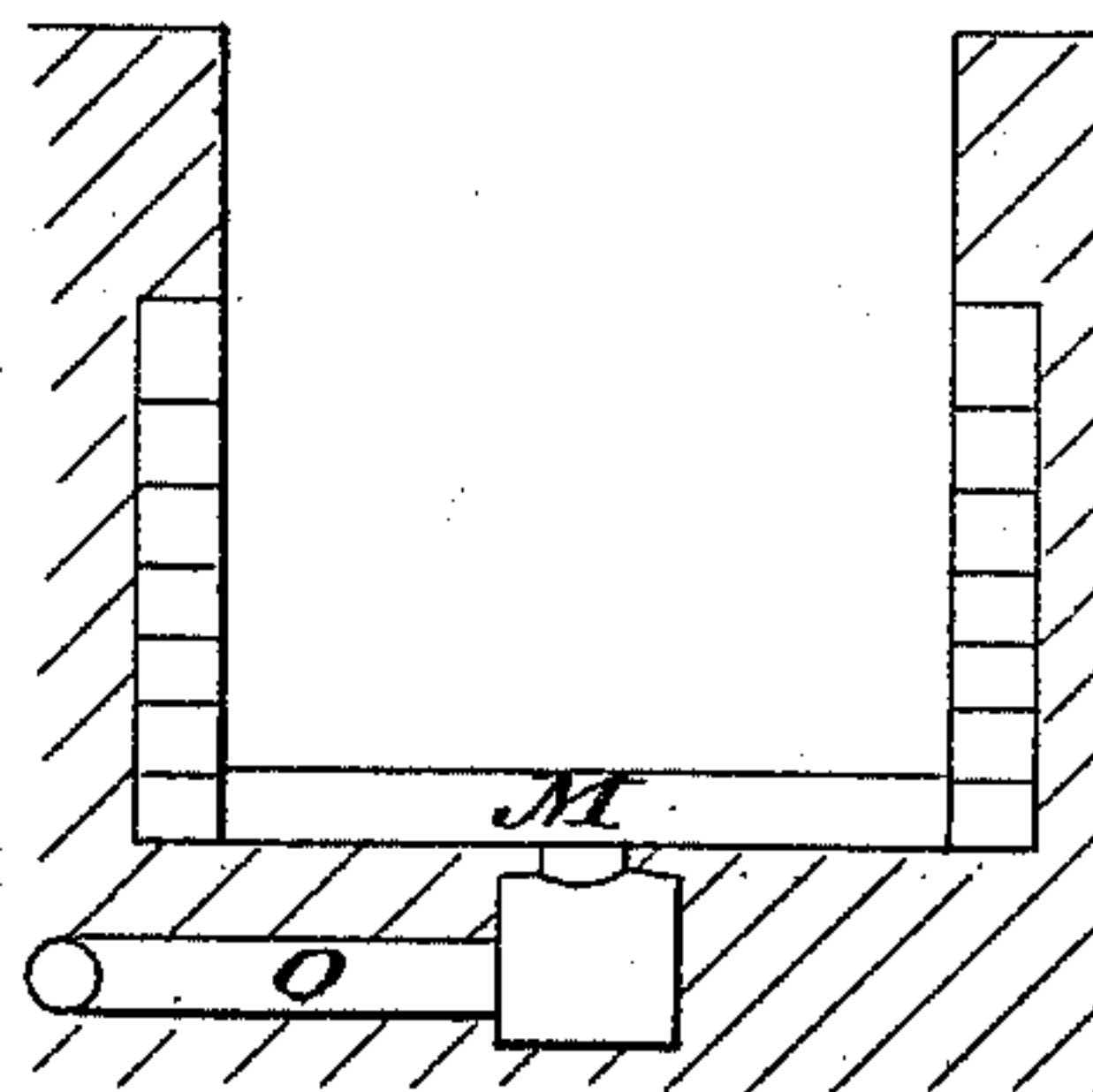


Fig. 4.

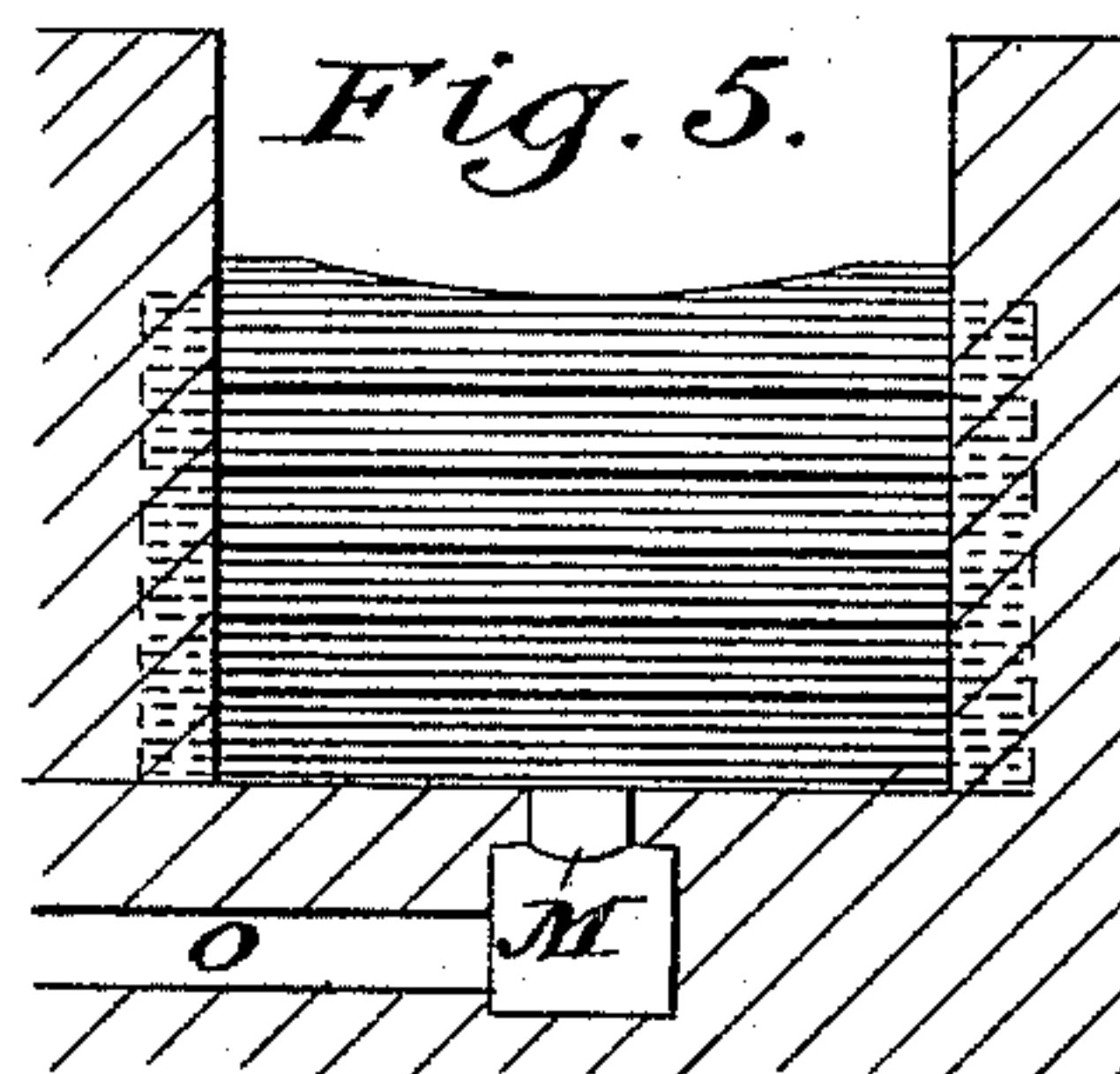
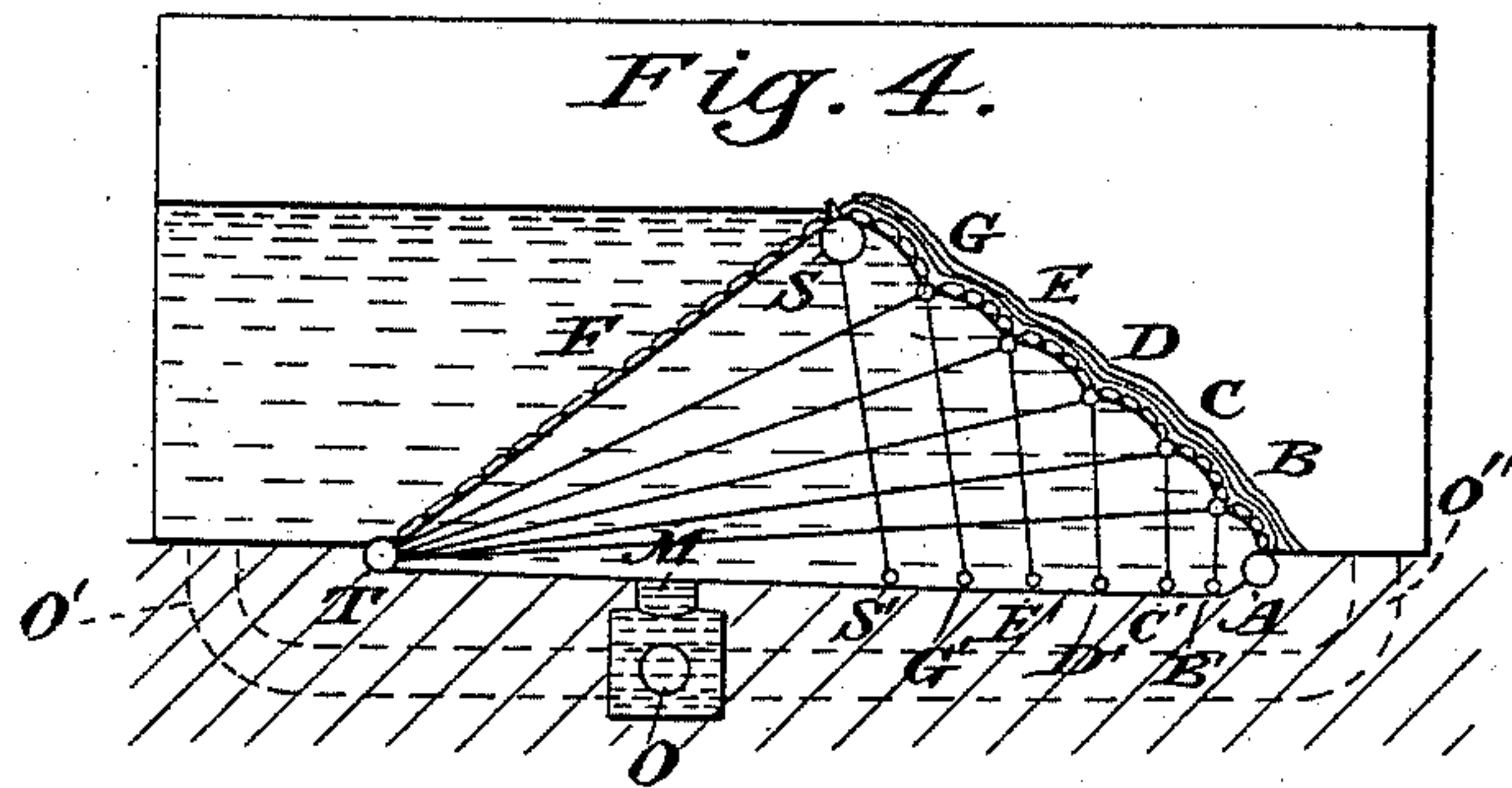


Fig. 7.



Fig. 8.



WITNESSES:

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UNITED STATES PATENT OFFICE.

LOUIS DEBARLE, OF PARIS, FRANCE.

FLEXIBLE DAM.

SPECIFICATION forming part of Letters Patent No. 495,788, dated April 18, 1893.

Application filed October 11, 1892. Serial No. 448,506. (No model.) Patented in France March 12, 1892, No. 220,078.

To all whom it may concern:

Be it known that I, LOUIS DEBARLE, a citizen of the French Republic, residing at Paris, in the Republic of France, have invented certain new and useful Improvements in Flexible Dams; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention has been patented in France March 12, 1892, No. 220,078.

My invention relates to dams and consists of a flexible structure adapted to be raised or lowered by the pressure of the water under the control of the operator and includes many details of construction all as hereinafter fully described and particularly claimed.

In the accompanying drawings Figure 1 is a side elevation of the dam; Fig. 2 a sectional view of the same; Fig. 3 a plan view; Fig. 4 a sectional elevation; Fig. 5 a view of the dam raised, in end elevation; Fig. 6 a detailed view of one way of forming the flexible structure, and Figs. 7 and 8 represent details.

In these drawings the location of the dam is within the channel between the walls of the canal as shown in Fig. 5, and it is the aim of my invention to provide a dam which may be adjusted and raised or lowered readily and by the action of the water. The bottom of the channel in which the dam is located is excavated as shown in Fig. 4 and the dam is arranged above the same, inclining from the point A upwardly and rearwardly to the point S, and having connections from the point S to the point T as will be more fully hereinafter described. I fix securely in the stone work on each side of the channel extending across the bottom cylinders, A, T, which may be solid or hollow, and to the cylinder A is secured the lower end of the flexible dam which as shown in Fig. 6 may be made of a series of logs *a*, flexibly connected by iron or steel cables *b*, these flexible sections being arranged in series and extending from A to a floating cylinder B and from B to a series of like cylinders C, D, E, and G. From the cylinder G a section of the dam passes over the floating cylinder S which forms the apex of

the dam and from this point a metallic shield F extends downwardly at an angle, to the support T as shown in Fig. 4 and this shield serves not only as a stay for the dam but also to protect the inner wall of the dam against ice and other floating obstructions coming down the stream. The dam is further strengthened and sustained by means of a series of stays extending from the floats downwardly to the points S' G' E' D' C' and B' and other stays extend from the float to the point T.

The dam is manipulated by means of a conduit O which extends beneath the dam where it is provided with an opening M and this conduit communicates with the stream above the dam and below the dam by means of branch conduits O' and O² and a suitable valve or gate is provided so as to permit the operator to control the inflow or outflow of water as desired. It will thus be seen that in order to raise the dam, connection is made through the conduit O' and the water flows in under the dam to raise the same, while if it is desired to lower the dam the up stream connection is closed and the down stream opened with the result that the water flows out from beneath the dam. The abutments are curved as shown at *d*, in Fig. 1 to correspond to the sections constituting the dam and thus serve to support the same under the pressure of the water and tend to keep the dam in one position. The float S at the top of the dam has a projection at each end which serves to direct the water to the center so that the greatest fall is at this point. The sections of the dam may be made water tight either by tarred canvas *c*, as shown in Fig. 6 or in any suitable manner.

I claim—

1. In combination with the channel or stream, a flexible dam supported at its lower end, a series of floats in connection therewith and means for elevating the dam by delivering water beneath the same, substantially as described.

2. The combination, with a conduit O having a branch connection above and below the dam, of a dam extending over the same, made

flexible, a series of floats in connection therewith and stays between said floats and suitable supports, substantially as described.

3. A flexible dam consisting of a series of
5 sections and floats connected therewith and a protecting shield extending from the upper part of the dam to a suitable support, substantially as described.

4. In combination with a series of floats pro-
10 vided with connections therefrom to supports,

a flexible covering supported by said floats, and the abutments having projecting bearings *d*, for the dam substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

LOUIS DEBARLE.

Witnesses:

CH. CASALONGA,

ROBT. M. HOOPER.