

(No Model.)

M. D. CZVETKOVICS.
WEIR AND SLUICE.

2 Sheets—Sheet 1.

No. 331,038.

Patented Nov. 24, 1885.

Fig. 3

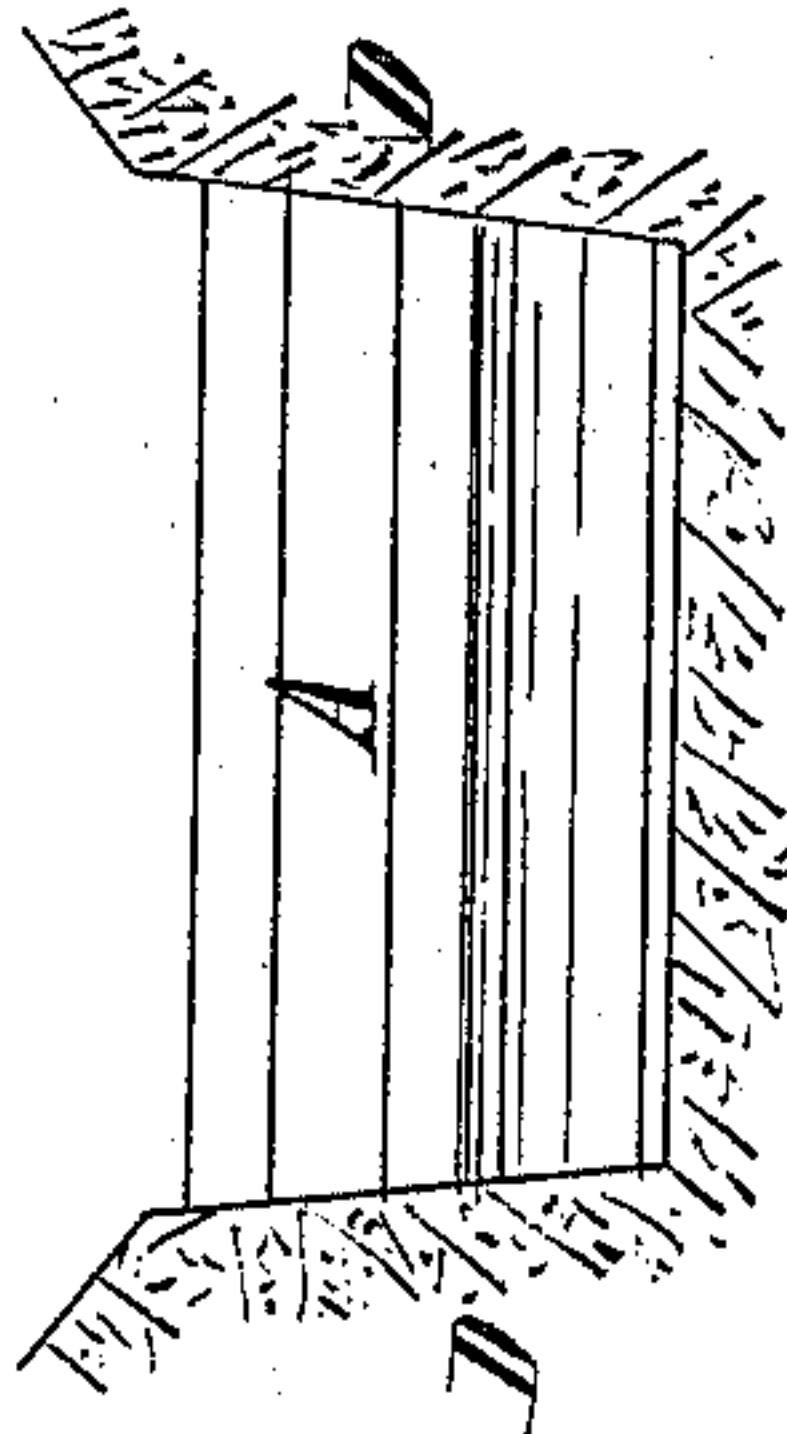


Fig. 2

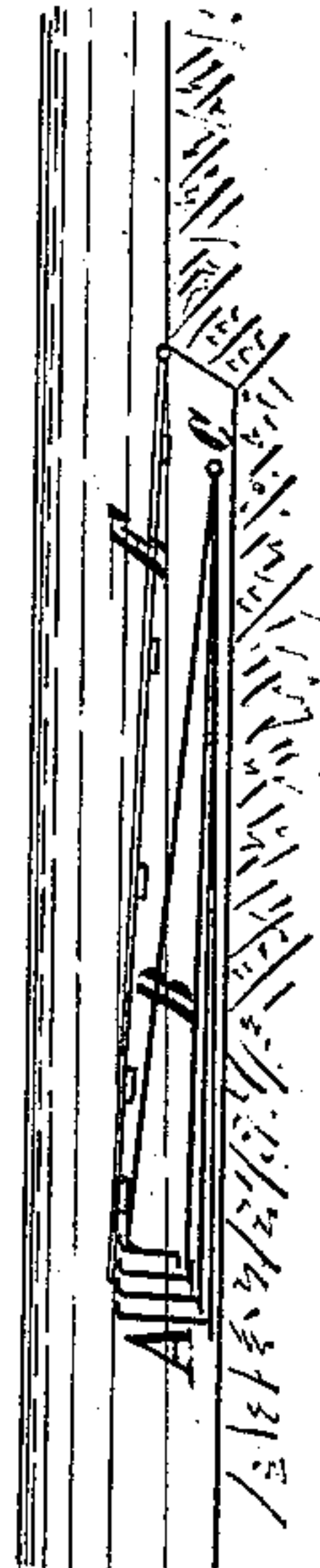


Fig. 1

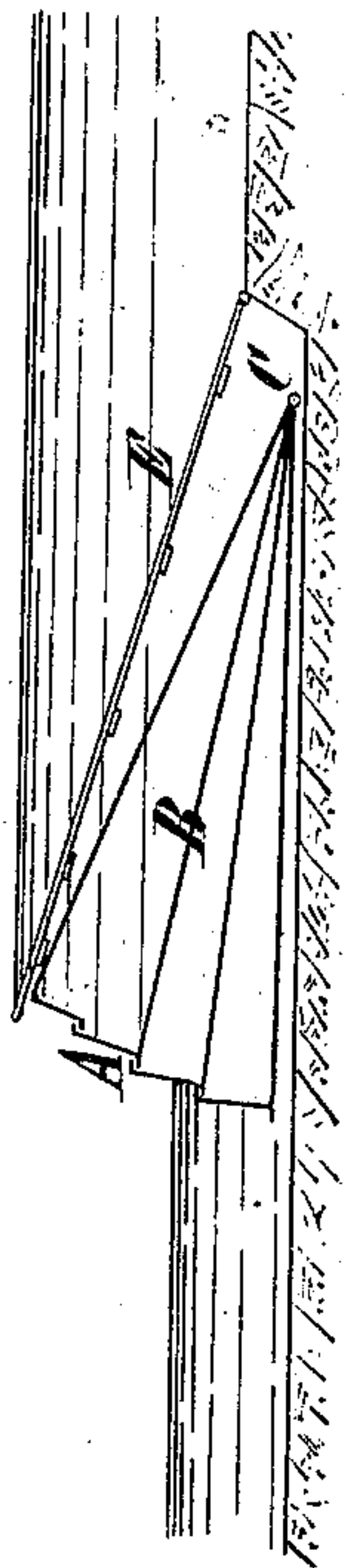
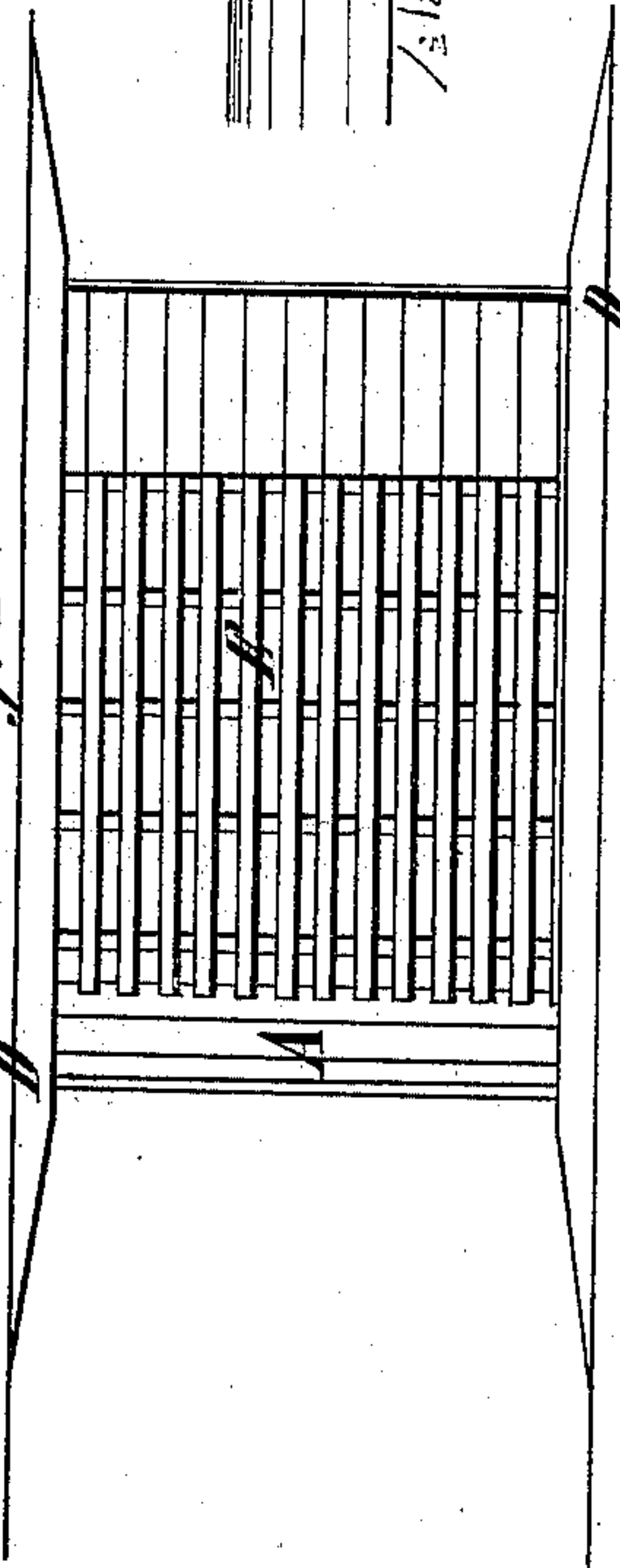


Fig. 4



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(No Model.)

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2 Sheets—Sheet 2.

WEIR AND SLUICE.

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Fig. 5

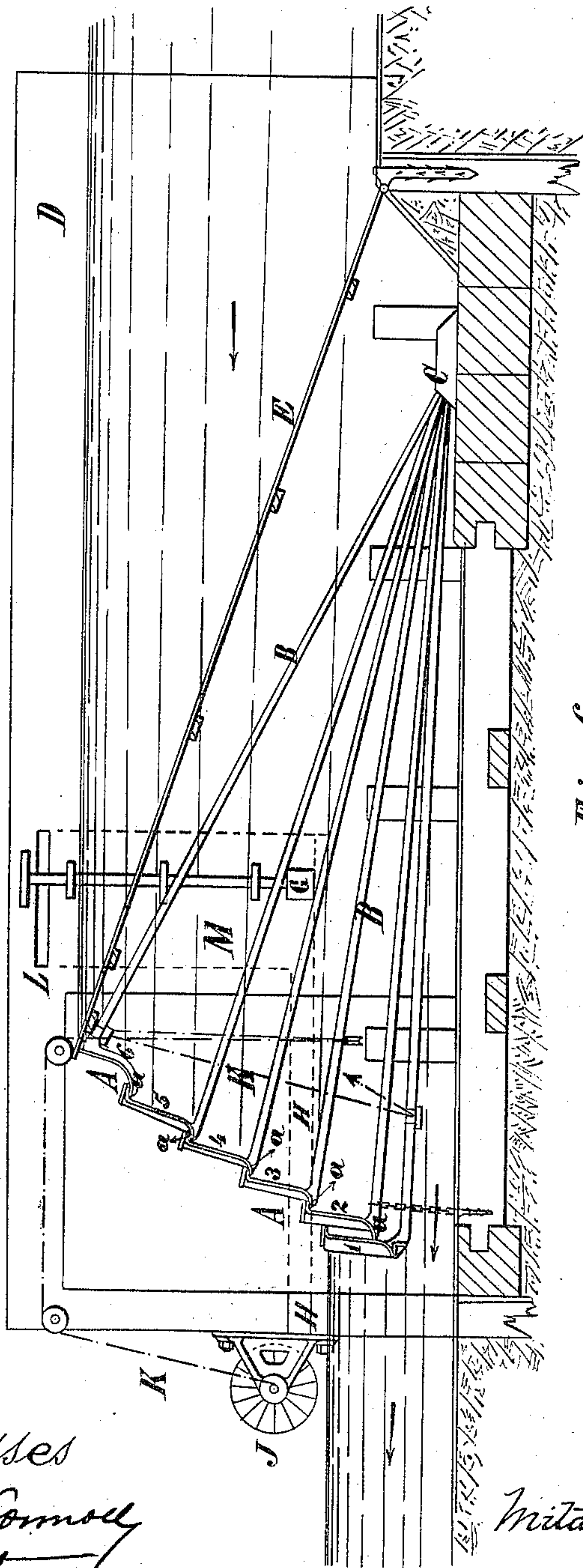
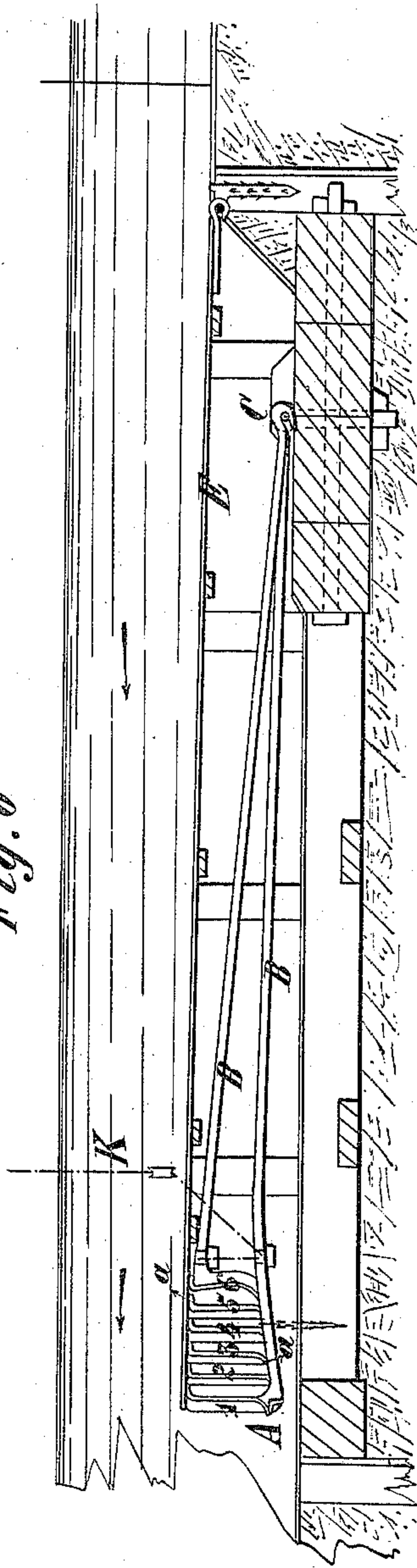


Fig. 6



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UNITED STATES PATENT OFFICE.

MITAR DEMETER CZVETKOVICS, OF VIENNA, AUSTRIA-HUNGARY, ASSIGNOR
OF TWO-THIRDS TO EDMUND HORBACZEWSKI AND WILHELM VON KO-
PAL, BOTH OF SAME PLACE.

WEIR AND SLUICE.

SPECIFICATION forming part of Letters Patent No. 331,038, dated November 24, 1885.

Application filed June 3, 1885. Serial No. 167,522. (No model.) Patented in Austria-Hungary July 18, 1884, No. 34 and No. 1,198.

To all whom it may concern:

Be it known that I, MITAR DEMETER CZVETKOVICS, a subject of the Emperor of Austria-Hungary, and a resident of the city of Vienna, in the Empire of Austria-Hungary, have
5 invented certain new and useful Improvements in Weirs and Sluices, of which the following is a specification.

The object of this invention is the construction of weirs and sluices in such a manner
10 that they regulate the water-height automatically, are raised automatically, like a fan, by the pressure of the water, are yet easily pressed together, like a fan, by slight mechanical pressure, and do not obstruct either the passage of
15 floats or sand and gravel or floating bodies.

In the accompanying drawings, Figures 1, 2, 3, and 4 show the substance of this invention. Figs. 5 and 6 show longitudinal sections
20 of a complete construction. Figs. 1 and 5 show the weir or sluice raised, and Figs. 2 and 6 show the same lowered. Fig. 3 shows a front view, and Fig. 4 a plan.

The weir or sluice consists of any suitable
25 number of sluice-hatches A, which are pivoted by means of rods B to a horizontal axis, C, fixed at the bottom of the running water.

In Figs. 5 and 6 the hatches A are numbered consecutively, 1, 2, 3, 4, 5, and 6.

30 D D are the side walls or shores of the running water.

The uppermost hatch is connected to a grate, E, of wood or of hollow tubes, which serves as a float to make the uppermost hatch
35 specifically lighter than water. This grate E also serves to cause floating bodies approaching the weir to pass over the edge of the uppermost hatch, but allows sand and gravel to pass through.

40 The hatches are provided with projecting edges a, which gear together, so that on raising the uppermost hatch, 6, Fig. 5, this hatch takes with it the next hatch, 5, this one the next, 4, and so on. As soon as the upper-
45 most hatch is raised from the position shown in Figs. 2 and 6 its depending flange creates

an obstacle to the flow of the water, which is thus caused to rise. This rising of the water causes the grating to rise still farther, and the hatches 5 4 3 are lifted one after another until
50 they have assumed the position shown in Figs. 1, 2, and 5, thus forming a dam, over which the increasing water can flow as it accumulates.

The hatch 2 is fastened by a chain to the
55 bottom of the stream; but the lowest hatch, 1, is loose, so as to be raised by the water-pressure, leaving a space beneath for the escape of superfluous water, which carries with it the sand and gravel, and thereby prevents their
60 accumulation.

The arrangement G H J K (shown in Fig. 5) serves for lowering the weir or sluice. On opening the valve G the water passes through the passage H to the water-wheel J, to the
65 shaft of which one end of a chain or rope, K, is attached, the other end of which is attached to the uppermost hatch. By the rotation of the water-wheel J the rope K is wound up and draws the hatch 6, and with it the other
70 hatches, to the position shown in Figs. 2 and 6.

The arrangement L M (shown in Fig. 5) serves for automatically lowering the weir or sluice in the case of a flood. The opening L, which ordinarily is situated above the level
75 of the water, communicates, through the passage M, with the passage H leading to the above-mentioned water-wheel J. In the case of a flood the water rising above the normal height reaches the opening L, and flows
80 through the passages M H to the water-wheel J, which, by its rotation, winds up the rope K, and thus lowers the hatches of the weir A.

I claim—

1. The hatches A, gearing together and piv-
85 oted at C, substantially as described.

2. The combination of the hatches A with the arrangement serving for automatically lowering the same, and consisting of the passage H, provided with a valve, water-wheel
90 J, and rope or chain K, substantially as described.

3. The combination of the hatches A with the arrangement L M H J K, for automatically
5 lowering the same in the case of a flood, substantially as described.

4. The combination of the hatches A with the floating grate E, substantially as described.

5. The combination, with a series of hatches
10 pivoted at one end and connected at the other end with a fastened chain, by which their upper movement is restrained and restricted, |

of a supplementary hatch constructed and adapted to rise and fall independently of the other hatches, substantially as described. 15

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

MITAR DEMETER CZVETKOVICS.

Witnesses:

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