Oct. 25, 1949. D. H. LOOSLI 2,485,755

DITCH DAM

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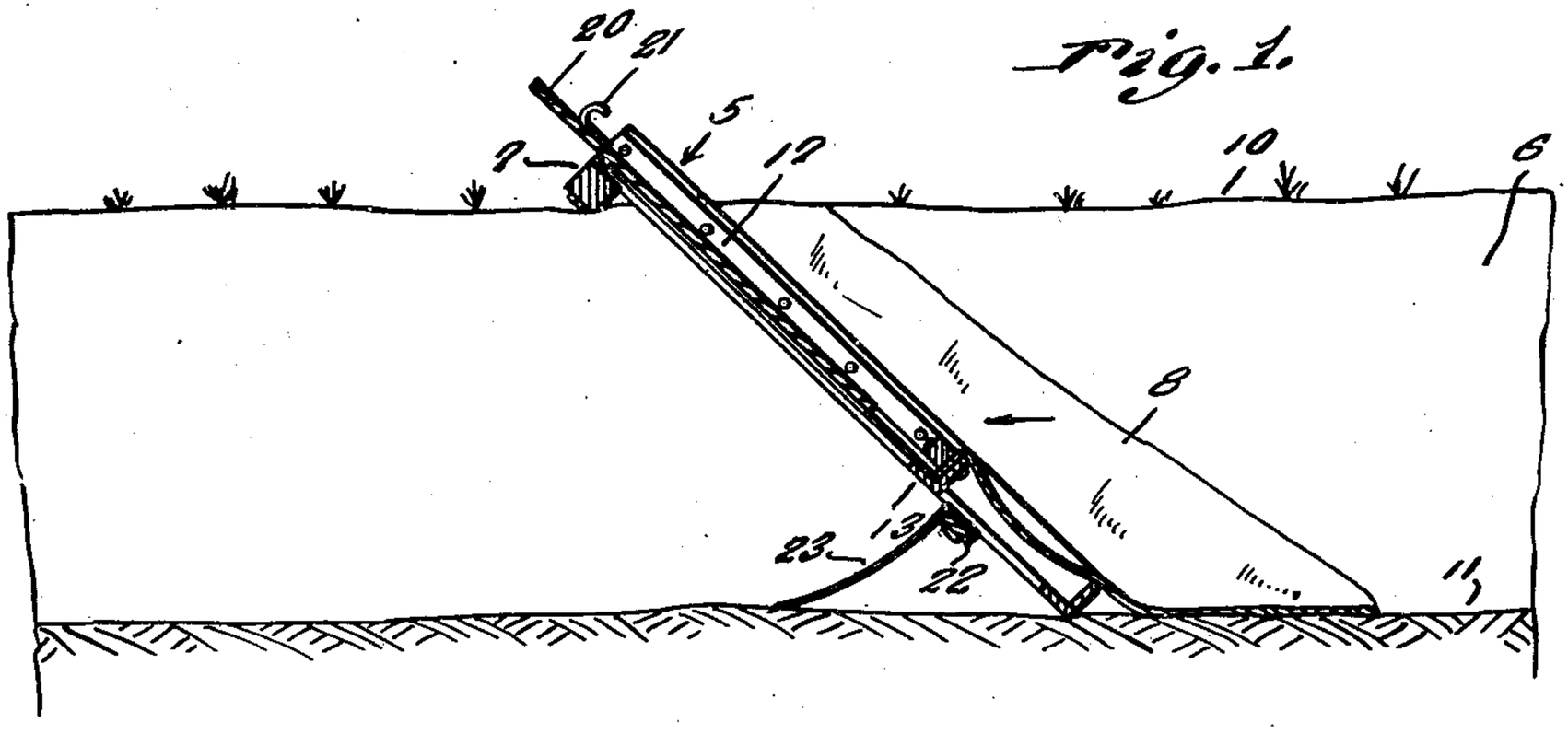
Fig. 1.



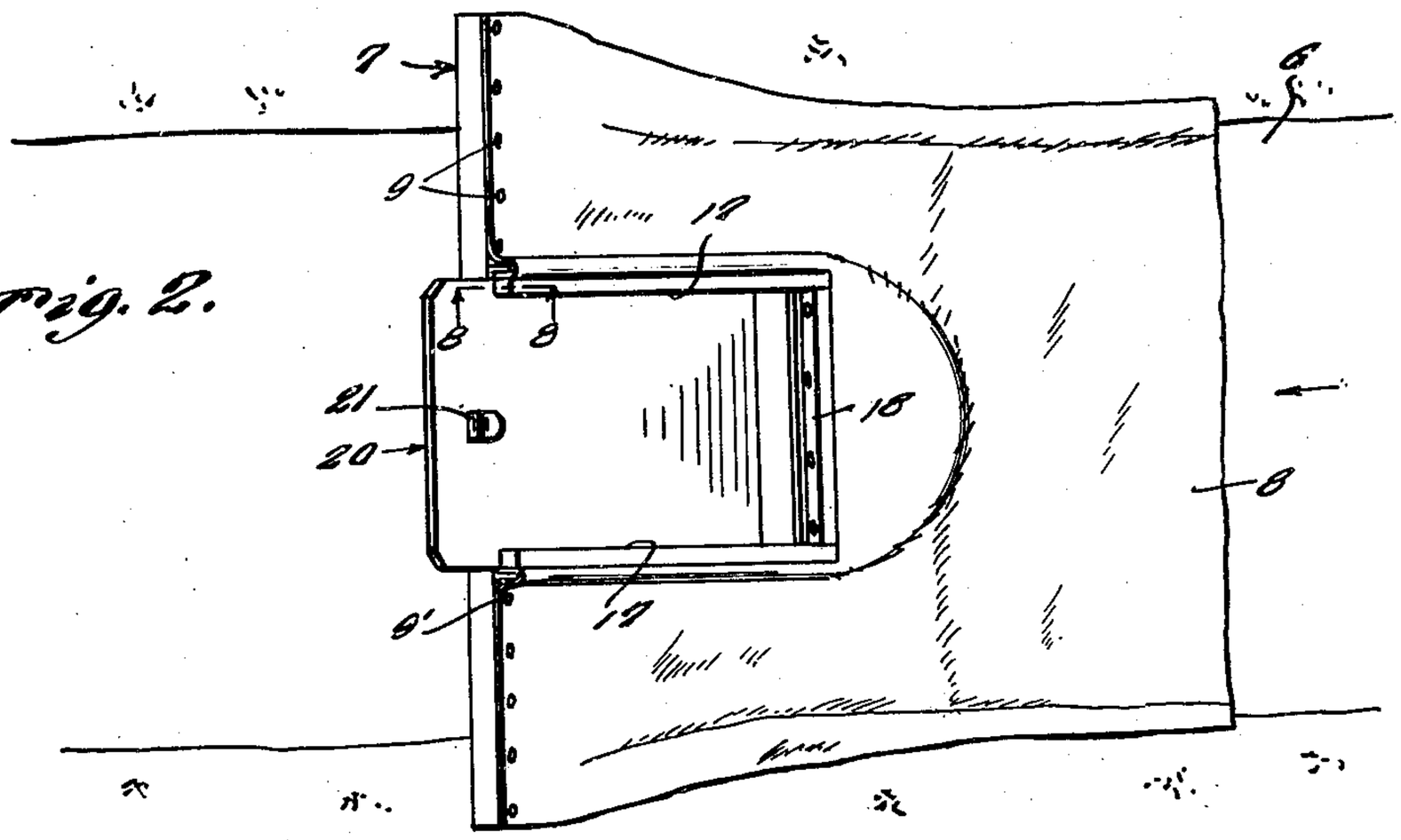


Fig. 2.

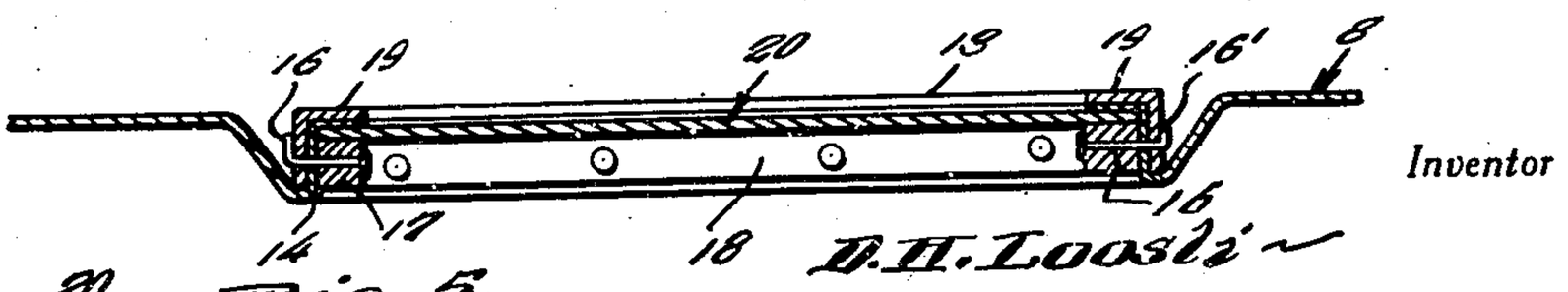


Fig. 5.

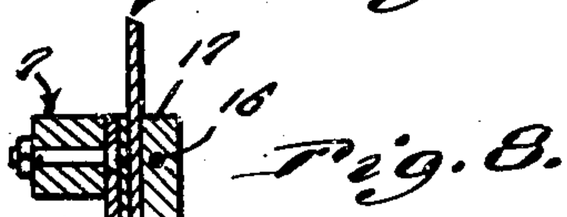


Fig. 8.

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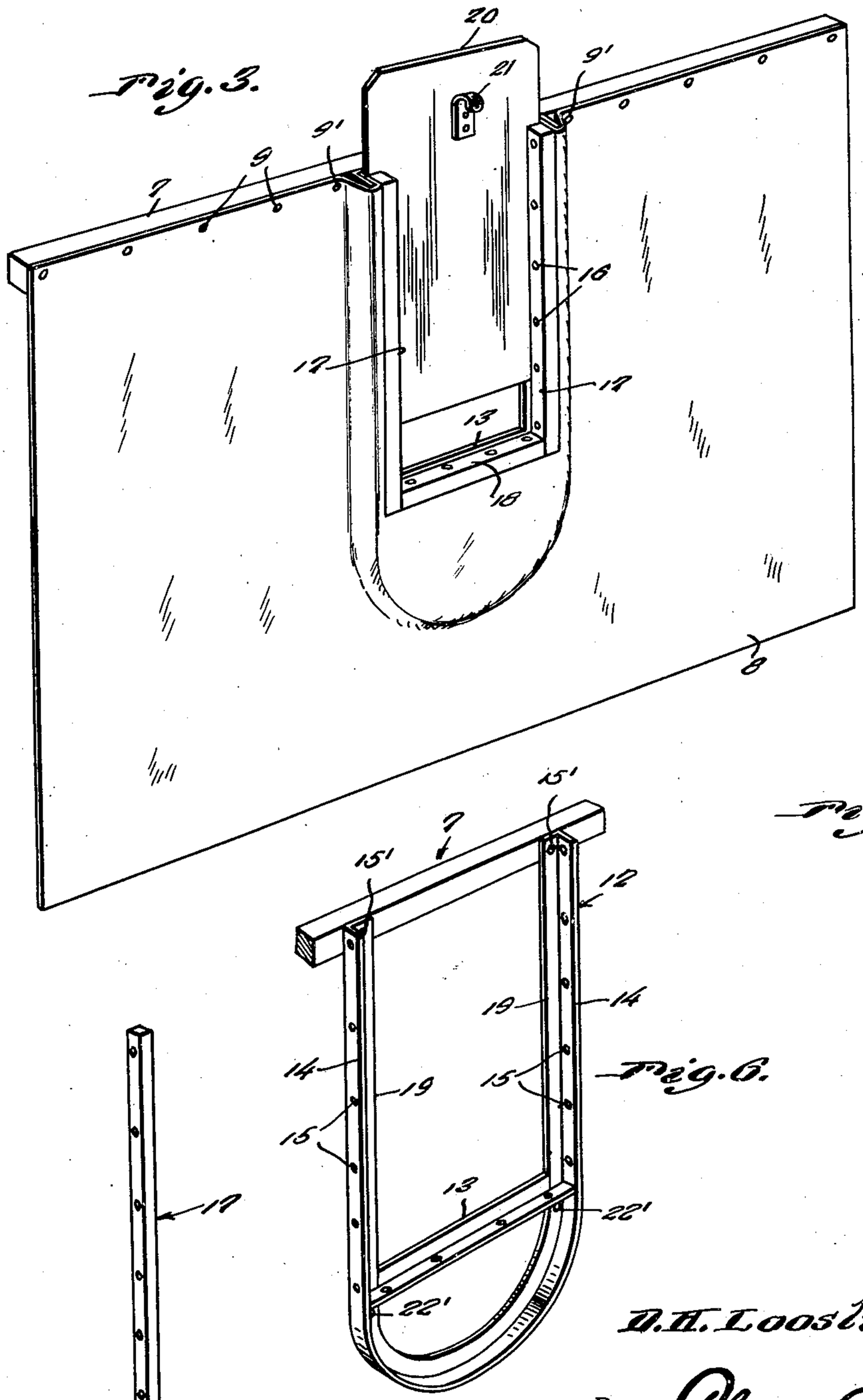
Fig. 3.



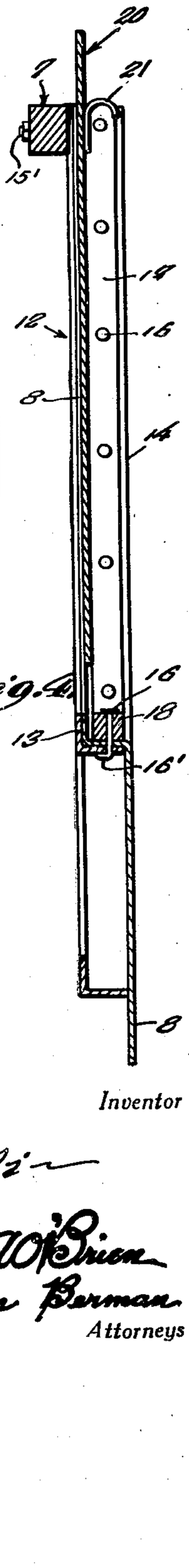


Fig. 4.

Fig. 6.

Fig. 7.

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DITCH DAM

Dimond Herschel Loosli, Idaho Falls, Idaho

Application December 3, 1948, Serial No. 63,411

4 Claims. (Cl. 61—29)

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My invention relates to the construction of ditch dams and the like, and particularly to water gate insert for a ditch dam which features extreme portability and lightness in weight, capability of being shipped through the mails, and which is produceable at extremely low cost, and an important object of my invention is to provide a simple and practical arrangement of the character indicated.

Other important objects and advantages of my invention will be apparent from reading the following description taken in connection with the drawings, wherein for purposes of illustration I have set forth the preferred embodiment of my invention.

In the drawings—

Figure 1 is a general vertical longitudinal sectional view taken through the ground and showing an arrangement in accordance with the present invention installed therein.

Figure 2 is a top plan view of Figure 1.

Figure 3 is an enlarged perspective view of the dam per se.

Figure 4 is an enlarged transverse vertical sectional view taken approximately centrally through Figure 3.

Figure 5 is an enlarged horizontal sectional view taken approximately centrally through Figure 3.

Figure 6 is a perspective view of the gate frame.

Figure 7 is a perspective view of one of the retainer strips of the gate frame.

Figure 8 is an enlarged horizontal sectional view taken through Figure 2 approximately on line 8—8, and looking upwardly in the direction of the arrows.

Referring in detail to the drawings, the numeral 5 generally designates the ditch dam of the present invention which is adapted to be disposed at right angles to the direction of flow of water in the water passage 6 in a position declining toward the approach of the water as indicated in Figures 1 and 2 of the drawings. In accordance with the present invention a long wooden or other bar or strip 7 has fastened to the approach side thereof the upper edge of the canvas 8 by means of roofing nails or the like 9 which are readily applied by unskilled persons, and which by their large heads provide a good attachment of the canvas to the bar 7, the bar 7 being of adequate cross section to provide the necessary rigidity and strength. The canvas sheet 8 extends substantially the length of bar 7 and has a sufficient height to have the desired reach into the ground below the ground level 10. Normally the length of the bar 7 and consequently the width of the canvas 8 will be greater than the width of the ditch 6 as indicated in Figure 2 of the drawings so that the bar 7 may rest on the opposite banks of the ditch and support the device in the desired position, with the lower end of the canvas rest-

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ing on the bottom 11 of the ditch and the opposite ends of the canvas sheet lying along the side walls of the ditch, all as indicated in Figures 1 and 2 of the drawings.

The principal features of the present invention is the gate frame 12, shown in Figure 6, which consists of a light weight angle iron bar bent into U-shape and provided adjacent its bight with a transverse horizontal angle iron brace 13. The side flanges of the vertical legs of the gate frame which project on the water side of the device are provided with suitable holes 15 to receive roofing nails or the like 16, while the other flanges 19 are provided with holes to accommodate the bolts 15 which fasten the gate to the cross bar 7. With the gate frame bolted to the bar 7 the canvas is laid thereon and the wooden retainer strips or cleats 17 provided with openings to receive the nails 16 are laid against the canvas lying on the flange 14 with the nails 16 installed therein, and the points of the nails are then pushed through the canvas and then through the openings 15 in the flanges 14, and the points of the nails then bent over as indicated by the numeral 16' in Figure 5 to hold the parts assembled. A similar arrangement with respect to a horizontal cleat 18 and the transverse brace 13 is made to hold the lower edge of the opening in the canvas. After the cleats are thus installed the canvas is cut around the inner edges of the frame so as to leave gasket forming edge portions lying respectively along the flanges 19 and the vertical flange of the cross member 13. The nails 9' similar to the nails 9 are placed close to the opening in the canvas so as to be located close to the gate frame as indicated in Figure 3 so that the canvas and the bar 7 lend support to the gate frame and a secure assembly is achieved. The vertical cleats or retainer members 17 are sufficiently outwardly spaced from the transverse flanges 19 of the legs of the gate frame and the edge portion of the canvas lying thereon to provide slide spaces for the opposite lateral edges of a vertically slidable gate 20 which has on its forward face a suitable operating handle 21. When the gate is in its lowered position with its lower end disposed between the lower cleat 18 and the vertical flanges of the cross bar 13, the upper end of the gate is flush with the top of the bar 7. The gate is shown in a partially open position in Figure 3 and also in Figures 1 and 2. The cleats 17, 17 and 18 are of suitable cross section wood or of other structurally suitable material of the same easily obtained and low cost character. The canvas between the gate 20 and the flanges 19 of the gate frame and the vertical flange of the cross member 13 act as a gasket to prevent water seeping between the opening in the canvas and the gate frame when the gate 20 is in closed position and frictionally hold the gate in adjusted positions.

The head of the bolts 15' are countersunk flush with the surface of the flanges 19 on the gate side thereof.

The gate frame is of a depth or height to rest its bight portion for support on the bottom of the ditch thereby more satisfactorily supporting the canvas, and preventing water from pushing the dam out of position, while holding the gate in such a position that an even and unobstructed flow of water through the gate is arranged for, enabling accurate control of the water discharge.

Bolted to the side members of the gate frame at 22' below the cross member 13 and on the opposite side of the gate frame is the wooden or other material cross bar 22 whose ends extend slightly beyond the side edges of the gate frame. A canvas flap 23 of the width of the bar 22 is secured to said bar so as to hang down and rest on the bottom of the ditch under the gate opening and act to prevent the water from washing away the soil where it falls after passing through the gate opening.

Although I have shown and described herein a preferred embodiment of my invention, it is to be definitely understood that I do not desire to limit the application of my invention thereof, any any changes or change may be made in the materials employed and in the structure and arrangement of the parts, within the spirit of the invention and the scope of the subjoined claims.

Having described the invention, what I claim as new is:

1. A ditch dam comprising a horizontal bar, a flexible sheet secured to depend from said bar, said sheet being formed with an opening extending from said bar to a point below said bar, a gate frame secured to depend from said bar around said opening, said gate frame comprising angle-iron vertical side members and a cross member extending between the lower ends of the side members, with one flange of the angle irons projecting at right angles to said horizontal bar and said sheet, and with the side edges of said opening brought around and engaging the laterally inward faces of the projecting flanges of the vertical side members of the frame, and cleats connected to the frame and secured to said side edges of the opening to the said faces of the flanges, said cleats being spaced from the remaining flanges of the vertical side members of the frame to define slide grooves, and a vertically slidable gate having its opposite side edges confined in said grooves.

2. A ditch dam comprising a horizontal bar, a flexible sheet secured to depend from said bar, said sheet being formed with an opening extending from said bar to a point below said bar, a gate frame secured to depend from said bar around said opening, said gate frame comprising angle-iron vertical side members and a cross member extending between the lower ends of the side members, with one flange of the angle-irons projecting at right angles to said horizontal bar and said sheet, and with the side edges of said opening brought around and engaging the laterally inward faces of the projecting flanges of the vertical side members of the frame, and cleats connected to the frame and secured to said side edges of the opening to the said faces of the flanges, said cleats being spaced from the remaining flanges of the vertical side members of the frame to define slide grooves, and a vertically slidable gate having its

opposite side edges confined in said grooves, said cross member comprising an angle-iron with one flange projecting substantially at right angles to said horizontal bar and said sheet, with the projecting flange overlaid by the lower edge of said opening, and a third cleat lying along and connected to the upper face of said projecting flange and securing said lower edge of the opening to said projecting flange, said third cleat being spaced from the remaining flange of said cross member to define a slot for reception of the lower end of the gate when in closed position.

3. A ditch dam comprising a horizontal bar, a flexible sheet secured to depend from said bar, said sheet being formed with an opening extending from said bar to a point below said bar, a gate frame secured to depend from said bar around said opening, said gate frame comprising angle-iron vertical side members and a cross member extending between the lower ends of the side members, with one flange of the angle irons projecting at right angles to said horizontal bar and said sheet, and with the side edges of said opening brought around and engaging the laterally inward faces of the projecting flanges of the vertical side members of the frame, and cleats connected to the frame and secured to said side edges of the opening to the said faces of the flanges, said cleats being spaced from the remaining flanges of the vertical side members of the frame to define slide grooves, and a vertically slidable gate having its opposite side edges confined in said grooves, portions of the side edges of the said opening also lying along the remaining flanges of the vertical side members of the frame so as to be engaged by the gate and act in conjunction therewith to prevent seepage of water between the gate and the frame.

4. A ditch dam comprising a horizontal bar, a flexible sheet secured to depend from said bar, said sheet being formed with an opening extending from said bar to a point below said bar, a gate frame secured to depend from said bar around said opening, said gate frame comprising angle-iron vertical side members and a cross member extending between the lower ends of the side members, with one flange of the angle irons projecting at right angles to said horizontal bar and said sheet, and with the side edges of said opening brought around and engaging the laterally inward faces of the projecting flanges of the vertical side members of the frame, and cleats connected to said frame and secured to said side edges of the opening to the said faces of the flanges, said cleats being spaced from the remaining flanges of the vertical side members of the frame to define slide grooves, and a vertically slidable gate having its opposite side edges confined in said grooves, a short cross bar secured to depend from vertical side members of the gate frame below and parallel to cross member of said gate frame, a flexible flap secured to depend from said short cross bar to hang down and rest on the bottom of the ditch under the gate opening and act to prevent the water from washing the soil where it falls after passing through the gate opening.

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No references cited.