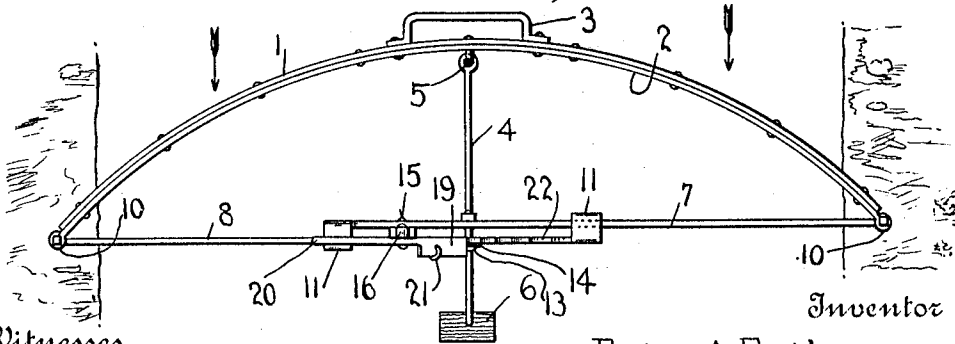
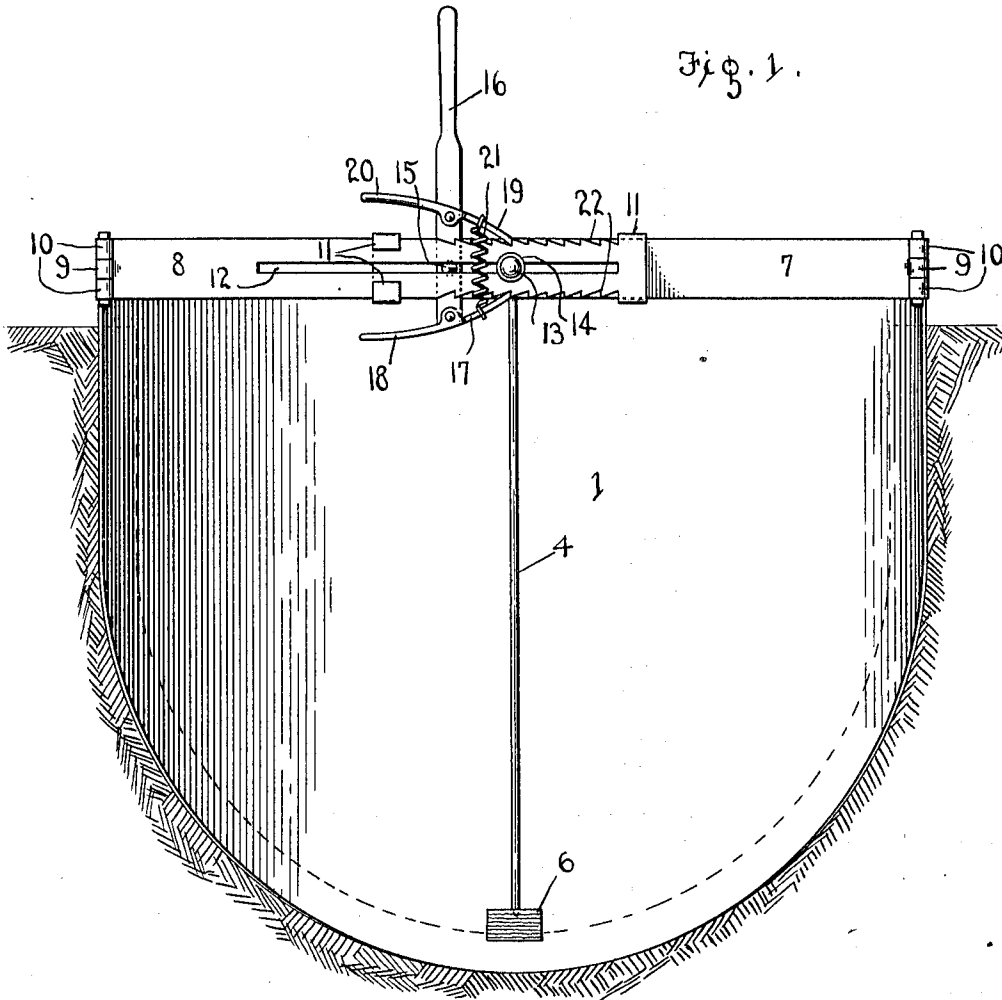


E. A. ENGLE.
 PORTABLE DAM FOR IRRIGATING DITCHES.
 APPLICATION FILED OCT. 12, 1911.

1,055,389.

Patented Mar. 11, 1913.

2 SHEETS—SHEET 1.



Witnesses
 L. B. James
 C. E. Hunt

Fig. 2.

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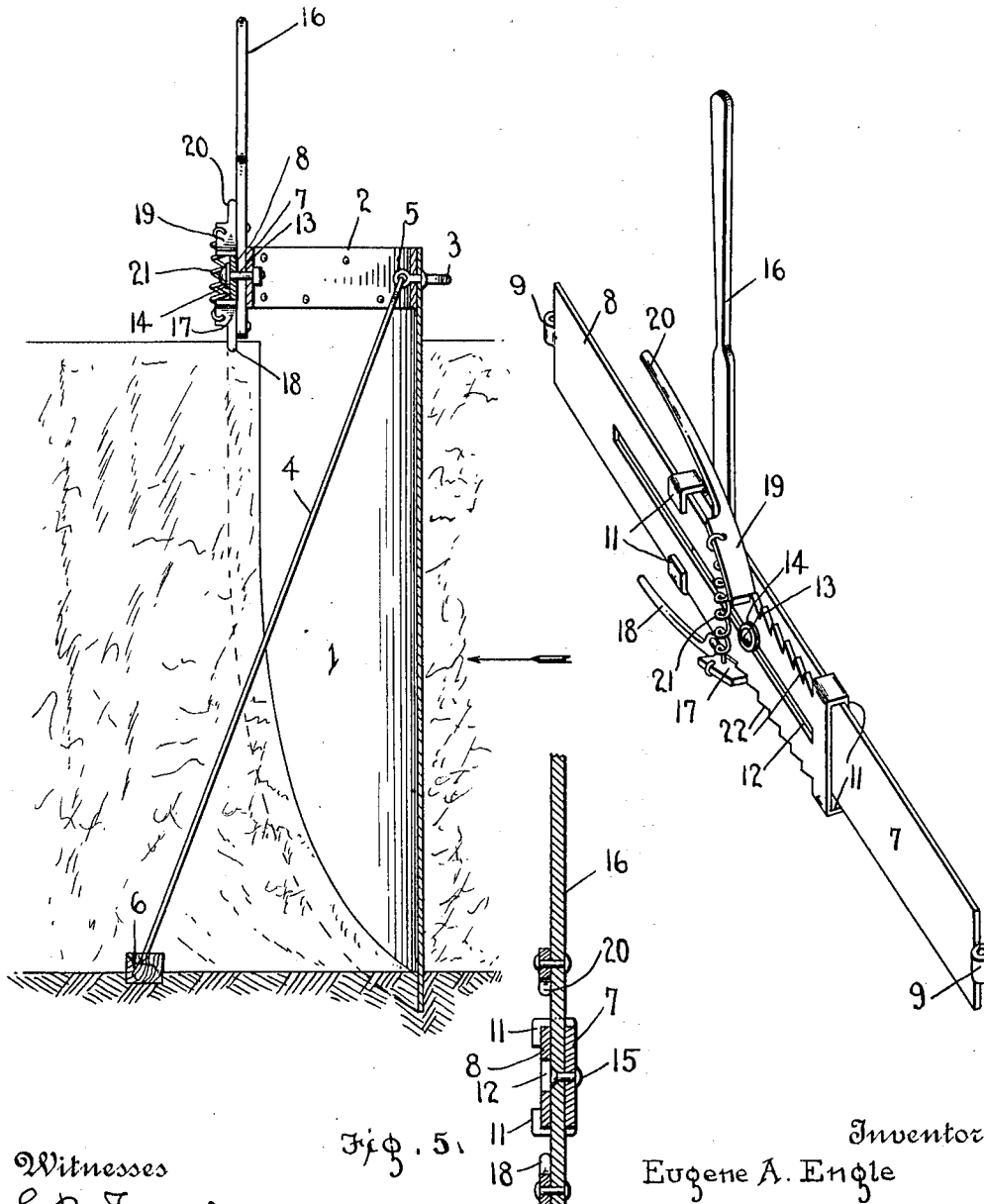
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2 SHEETS—SHEET 2.

Fig. 3.

Fig. 4.



Witnesses
 L. B. James
 C. E. Hunt

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 Eugene A. Engle

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UNITED STATES PATENT OFFICE.

EUGENE A. ENGLE, OF PRESCOTT, ARIZONA.

PORTABLE DAM FOR IRRIGATING-DITCHES.

1,055,389.

Specification of Letters Patent.

Patented Mar. 11, 1913.

Application filed October 12, 1911. Serial No. 654,285.

To all whom it may concern:

Be it known that I, EUGENE A. ENGLE, a citizen of the United States, residing at Prescott, in the county of Yavapai and State of Arizona, have invented certain new and useful Improvements in Portable Dams for Irrigating-Ditches; and I do 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 relates to portable dams for irrigating ditches.

One object of the invention is to provide a dam of this character designed particularly for use in connection with the laterals of irrigating ditches whereby they may be quickly and easily closed for flooding a certain area or for turning the water into other branch laterals.

Another object is to provide a portable dam of this character having means whereby the same may be readily adjusted to fit ditch laterals of different widths.

With these and other objects in view, the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings; Figure 1 is a cross sectional view through a lateral irrigating ditch showing the application of the dam; Fig. 2 is a top plan view of the same; Fig. 3 is a vertical longitudinal sectional view of the ditch lateral and the dam arranged therein; Fig. 4 is a perspective view of the dam adjusting mechanism; Fig. 5 is a vertical cross sectional view of the parts shown in Fig. 4 taken on the line with the operating lever of the adjusting mechanism.

Referring more particularly to the drawings, 1 denotes my improved dam which is preferably constructed in the form of a metal plate having a curved or rounded lower end and a squared upper end to which is riveted or otherwise secured a transversely disposed spring metal bar 2. Secured to the opposite side of the plate 1 from the bar 2 and adjacent to the upper edge of the plate is a centrally disposed

bail shaped handle 3 whereby the plate 1 is forced down into the ditch or lateral to form the dam. In thus applying the plate the lower end and side edges thereof will be forced into the banks or sides and the bottom of the ditch or lateral as clearly indicated in the drawings, thus forming a fluid tight connection between the edges of the plate and the sides and bottom of the ditch.

In order to firmly hold the plate 1 in operative position in the ditch I provide a brace rod 4 which is loosely connected by an eye bolt 5 to the bar 2 and upper portion of the plate on the opposite side thereof from the direction of the flow of the water, the lower end of the brace rod being engaged with a block 6 arranged in the bottom of the ditch, said block being provided to prevent the end of the brace rod from being forced into the mud or soft bottom of the ditch. When thus arranged the plate 1 will form an efficient dam across the ditch or lateral and will effectually prevent the flow of water through the ditch or lateral thus turning said water into another branch lateral or causing the same to overflow the banks of the ditch and thus irrigate the surrounding area.

In order to adjust the plate 1 to fit ditches of different width, I provide means for bending or curving the plate to a sufficient extent to bring the side edges thereof the proper distance apart to fit between the banks of the ditch or lateral to which the same is to be applied. The adjusting mechanism for thus regulating the width of the dam comprises two flat metal bars 7 and 8 on the outer ends of which are formed eyes 9 whereby said ends are hingedly connected with eyes 10 formed on the ends of the spring metal bar 2 on the upper end of the plate 1. The inner ends of the bars 7 and 8 have formed thereon laterally projecting hook shaped guide lugs 11, the lugs on the end of one of said bars slidably engaging the edges of the other bar thereby slidably connecting said bars together. The bar 8 has formed therein a longitudinally disposed slot 12 in which is engaged a rivet or headed stud 13 (secured in bar 7) between

the head of which and the adjacent side of the bar 8 is arranged a washer 14. By thus arranging the stud 13 in the bar 7 for engagement in the slot 12 in the bar 8 an additional connection is provided for slidably securing said bars together.

Pivotally mounted on a stud or rivet 15 in the bar 7 and adapted to work between said bars 7 and 8 is an adjusting lever 16 having pivotally connected to its lower end a pawl 17 having a shank or handle 18, while to the lever adjacent to the upper edges of the bars 7 and 8 is pivotally connected a pawl 19 having a shank or handle 20. The pawls 17 and 19 are operatively connected together by a coiled spring 21 the pressure of which is applied to the pawls to hold them in yielding engagement with upper and lower racks or series of ratchet teeth 22 formed on the upper and lower edges of the inner portion of the bar 8 as shown. By thus arranging the lever 16 and the pawls 17 and 19 the lever when swung back and forth on its pivot stud 15 will engage first one and then the other of the pawls with the racks or ratchet teeth 22, thus drawing said bars together. In thus drawing the bars 7 and 8 together it will be understood that the side edges of the plate 1 will be drawn inwardly thus bowing or curving the plate to a greater or less extent as is clearly indicated in Fig. 2 of the drawing. By thus bowing or curving the plate 1 it will be seen that the dam may be adjusted to any desired width for engagement with the ditch or lateral in the manner described. In applying the dam the convexed side of the plate is disposed toward the direction from which the water is flowing so that the force of the water striking the convexed side of the plate or dam will tend to more firmly engage its side edges with the banks of the ditch. When it is desired to increase the width of the dam it is simply necessary to disengage the pawls 17 and 19 from the racks 22 by grasping and compressing the handles and shanks 18 and 20 whereupon the spring action of the bar 2 on the upper end of the plate 1 will cause the plate to expand or the sides of the same to spread apart thus increasing the width of the plate or dam.

From the foregoing description taken in connection with the accompanying drawings the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as claimed.

Having thus described my invention, what I claim is;

1. A dam for ditches, comprising a nor-

mally substantially flat metal plate and means for laterally curving the plate to vary its effective width to suit it for use with ditches of different widths, said curving means comprising a pair of slidably connected bars secured at their outer ends on the outer edges of the plate, and means for sliding the bars upon each other and holding them in their adjusted positions.

2. A dam for ditches, comprising a normally substantially flat metal plate and means for laterally curving the plate to vary its effective widths to suit it for use with ditches of different widths, said curving means comprising a pair of slidably connected bars secured at their outer ends on the outer edges of the plate, and means for sliding the bars upon each other and holding them in their adjusted positions comprising teeth on one of the bars, and a lever pivoted to the other bar, and pawls pivoted to the lever and adapted to engage the teeth on the first named bar.

3. In a dam for ditches a plate flat throughout its entire length, a spring metal bar secured to the upper end of said plate, a brace to assist in holding the plate in position in the ditch, a plate adjusting mechanism adapted to vary the effective width of said plate to suit it for use in ditches of different widths, said plate being expanded or straightened by the action of the spring bar secured thereto when said adjusting mechanism is released.

4. In a dam for ditches a plate, a spring metal bar secured to the upper end thereof, a plate adjusting mechanism comprising a pair of slidably connected bars having a hinged connection at their outer ends to the ends of said spring bar, a pawl and ratchet adjusting mechanism connected with said slidably bars, and a lever to actuate said adjusting mechanism whereby the bars may be drawn together to curve said plate thereby regulating its effective width.

5. In a dam for ditches, a sheet metal plate, a spring metal bar secured to the upper end of the plate, a pair of adjusting bars hingedly connected at their outer ends to the ends of said spring bar, one of said adjusting bars having formed therein a longitudinal slot, a rivet arranged in the other bar to slidably engage in said slot, hook shaped guide lugs formed on the inner ends of said bars, the lugs on one of said bars slidably engaging the edges of the other bar whereby said bars are adjustably connected together, ratchet teeth formed on the upper and lower edges of one of said bars, a pawl operating lever pivotally mounted on the other bar, pawls pivotally connected to said lever and adapted to engage the ratchet teeth on the opposite edges of the other bar, a spring to hold said pawls in operative en-

gagement with said ratchet teeth, and
handles formed on said pawls whereby the
latter may be released thus permitting the
plate to expand under the action of the
5 spring metal bar secured to the upper end
thereof.

In testimony whereof I have hereunto set

my hand in presence of two subscribing witnesses.

EUGENE A. ENGLE.

Witnesses:

L. D. STEWART,
E. S. CLARK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
