W. E. CLARK & H. I. STEVENSON.

FISH SCREEN.

APPLICATION FILED OCT. 23, 1911.

1,038,087. Patented Sept. 10, 1912.

2 SHEETS—SHEET 1.

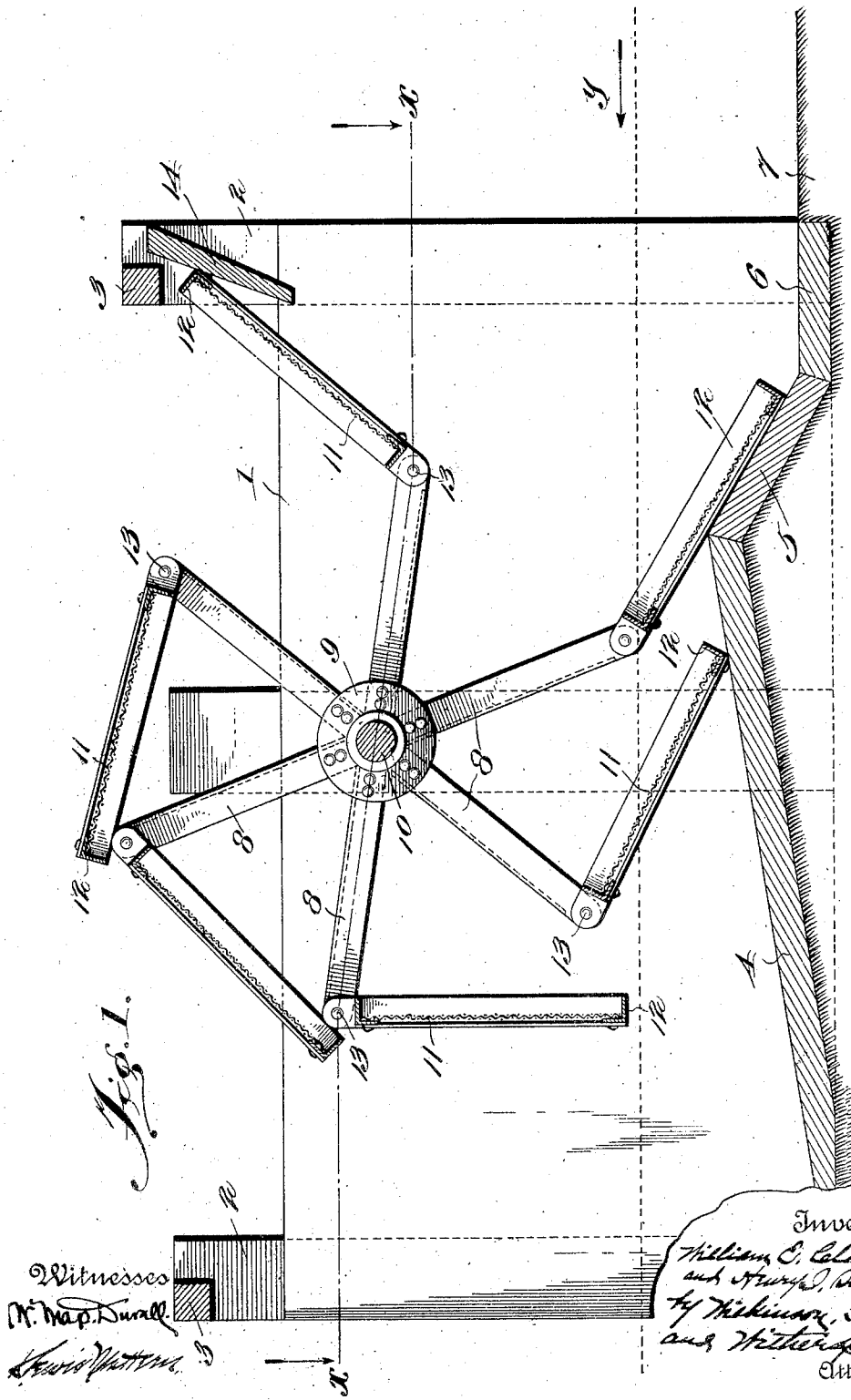

Fig. 1.

Witnesses
M. Mac. Durell.
Louis Whitten.

Inventor
William E. Clark
and Henry I. Stevenson
by Wilkinson, Fisher
and Witherspoon
Attorneys

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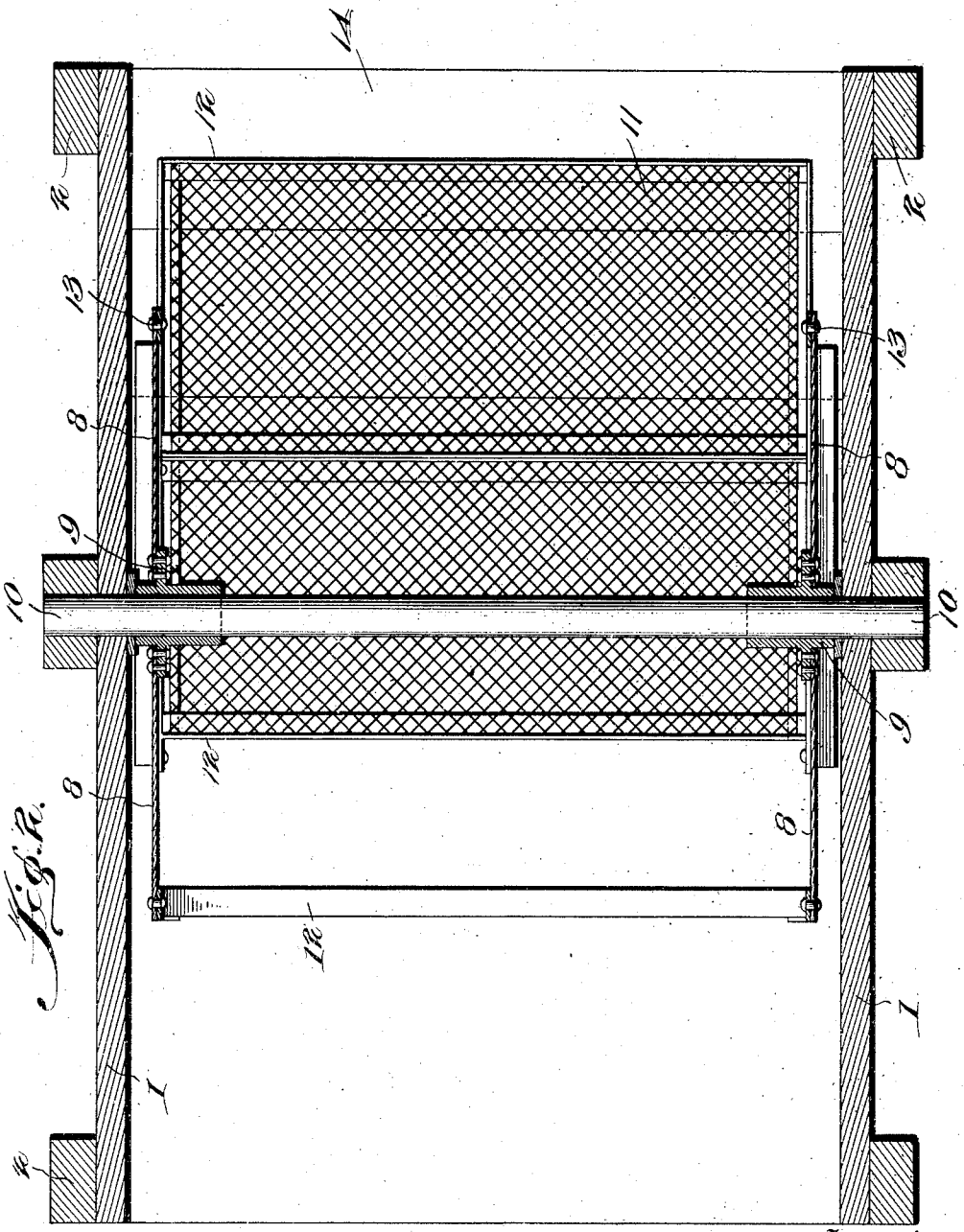

Fig. 2.

Witnesses

W. Mason Rowell

Inventor

William E. Clark

and Henry I. Stevenson

by Wilkinson, Fisher & Peterson

Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM E. CLARK AND HENRY I. STEVENSON, OF BOISE, IDAHO.

FISH-SCREEN.

1,038,087. Specification of Letters Patent. Patented Sept. 10, 1912.

Application filed October 23, 1911. Serial No. 656,119.

To all whom it may concern:

Be it known that we, WILLIAM E. CLARK and HENRY I. STEVENSON, citizens of the United States, residing at Boise, in the county of Ada and State of Idaho, have invented certain new and useful Improvements in Fish-Screens; and we 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 the same.

The present invention relates to an apparatus for obstructing water courses, especially irrigating ditches, for preventing fish from going into the water distributing channels.

The invention further proposes an apparatus of this character wherein the same is self cleaning and automatically operable to provide, at practically all times, an effective obstructing barrier in the channel and yet allowing a free end easy flow of the water.

With these and other objects in view the invention consists in the novel details of construction and combinations of parts more fully hereinafter disclosed and particularly pointed out in the claims.

Referring to the accompanying drawings forming a part of this specification in which like numerals designate like parts in all the views:—Figure 1 is a side elevational view, partly in section, of the apparatus, and Fig. 2 is a top plan sectional view thereof taken on the line X—X of Fig. 1.

Referring to the construction in detail the apparatus consists in a wheel journaled within suitable bearings in a frame-work comprising similar side sections 1, reinforced by corner posts 2 and united by cross pieces 3, as shown. The frame-work is designed to be located within the water channel and partially submerged in the water, and for a purpose to be presently explained the bottom of said casing is constructed with a long and gradually inclined section 4, and an abrupt and shorter inclined section 5 adjoining said section 4 and providing therewith a raised bed for the water flow. The bottom section 6 is disposed within the plane of the earthen bed 7 of the channel.

The wheel consists of two series of spokes 8 constructed of ordinary angle iron and secured to suitable metallic hub pieces 9. The hub members 9 are journaled to rotate on the shaft 10, and said shaft is suitably mounted in the frame-work as above stated.

A plurality of screens 11 is carried by the wheel, and each of said screens is secured within a suitable angle iron frame 12. The screen frames 12 are each, at one end, pivotally secured, as at 13, to a corresponding pair of the spokes 8, and are so mounted as to depend from the wheel during the upward movement of the screens, the purpose whereof being to obtain a self cleaning function for such matter as has accumulated on the screen during its obstruction of the water-way.

It is proposed to have the water-way, at practically all times, obstructed by one screen, and to this end the wheel is journaled adjacent the raised bed (4 and 5) of the frame-work in such manner that the acting screen will rest upon the inclined surface 5 and project slightly above the water level which is indicated by the broken line in Fig. 1.

Immediately to the rear of the acting screen is the screen which has just previously occupied the obstructing position, and which is now resting with its lower edge across the inclined surface 4. In this position said screen also obstructs the water-way.

The water is assumed to be flowing in the direction indicated by the arrow Y in Fig. 1, and in so doing carries the solid matter, such as leaves or other trash, against the acting screen, and when the accumulation of this matter has become sufficiently large it will, through the force of the flow of the water, cause the wheel to be rotated to effect the carrying off of such matter and to bring a clean screen into position. In rotating, the rear screen is caused to hang vertically as indicated by the screen occupying that position in Fig. 1, when the front screen assumes the position just occupied by the rear screen. This operation of the screens allows of the accumulated matter to fall clear and be carried off by the flow of water, and in this respect the apparatus is defined as being self cleaning.

The means for bringing the new or cleaned screen into position consists in a shelf or stop 14 secured to the upper ends of the posts 2 and disposed transversely of the water-way. The stop 14 is slightly inclined to engage with and interrupt the falling screen when the wheel is turned. By this arrangement the falling screen is caused to take substantially that position indicated

in Fig. 1, and on the further rotation of the wheel said screen is released, when it falls with a splash in the water-way and assumes that position now taken by the acting screen as shown in Fig. 1.

The splash of the falling screen will, as demonstrated by actual practice, suffice to scare away any fish that may be loitering in the neighborhood of the front obstructing screen. As also demonstrated by actual practice the obstructing screen remains in position for a period of hours, and the actual time consumed in changing the screens is about two seconds (*i. e.* from the instant of splash to settling in position). In this respect the apparatus is understood as providing at practically all times, an obstructing barrier.

It is obvious that those skilled in the art may vary the details of construction and arrangement of parts without departing from the spirit of our invention, and therefore we do not wish to be limited to such features except as may be required by the claims.

What we claim is:—

1. An apparatus for preventing fish from passing through a water course comprising a wheel; journal bearings for said wheel; a plurality of screens swingingly mounted on said wheel and disposed transversely of the water course; an obstruction for holding, at all times, one of said screens in active position; and an obstruction for intercepting and temporarily holding the next succeeding screen, substantially as described.

2. An apparatus for preventing fish from passing through a water course comprising a wheel; journal bearings for said wheel; a plurality of screens swingingly mounted on said wheel and disposed transversely of the water course; an inclined surface for engaging with and holding one of said screens in active position; an inclined surface for engaging with and holding another screen in active position; and an obstruction for intercepting and temporarily holding the next succeeding screen, substantially as described.

In testimony whereof, we affix our signatures, in presence of two witnesses.

WILLIAM E. CLARK.
HENRY I. STEVENSON.

Witnesses:
BENJ. E. THOMAS,
BEULAH MARUNA.