April 12, 1927. 1,624,317

C. E. CROWNOVER

IRRIGATION HYDRANT

Filed Jan. 12, 1925

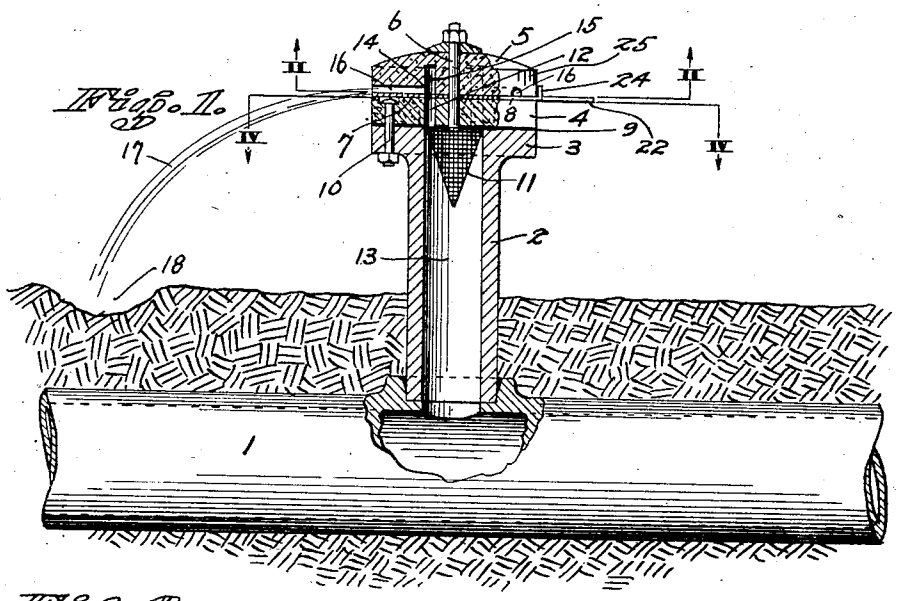


Fig. 2.

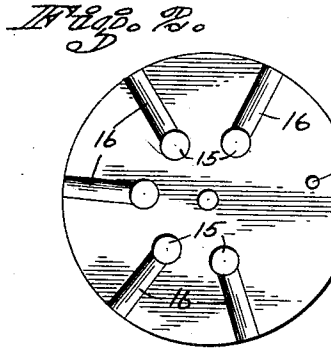


Fig. 3.

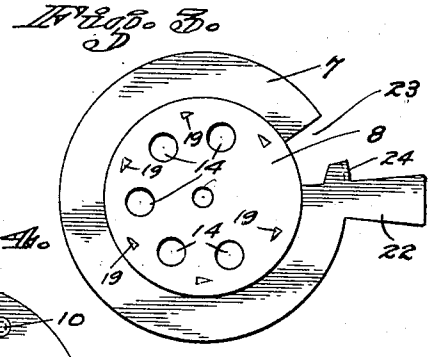


Fig. 4.

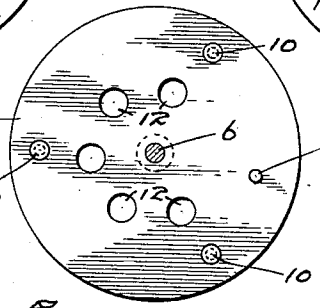


Fig. 5.

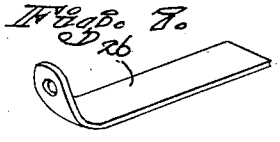


Fig. 6.

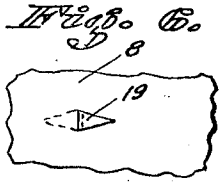


Fig. 7.

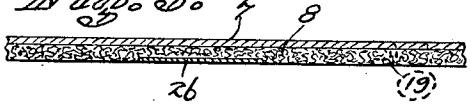


Fig. 8.

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UNITED STATES PATENT OFFICE.

CHARLES E. CROWNOVER, OF YAKIMA, WASHINGTON.

IRRIGATION HYDRANT.

Application filed January 12, 1925. Serial No. 2,025.

This invention relates to hydrants as used for farm irrigation and wherein it is desired to supply water from a head pipe in a plurality of controlled streams to a similar number of field furrows.

The objects of the invention are to provide a simple inexpensive hydrant, easily adjusted to control the streams, adaptable for any desired number of streams, proof against tampering, easily taken apart for cleaning, and which will last indefinitely.

These objects are realized in the hydrant construction shown in the accompanying drawings, and in which:—

Figure 1 is a sectional elevation of one of my hydrants in place projecting from the ground.

Figure 2 is a view of the cap of the hydrant looking in direction of the pointers 2—2 of Figure 1.

Figure 3 is a similar view of the controlling diaphragm.

Figure 4 is a plan of the hydrant head as seen from the pointers 4—4 of Figure 1.

Figure 5 is an enlarged vertical section of a fragment of the diaphragm showing the method of fastening the gasket thereto, and

Figure 6 is a plan thereof.

Figure 7 is a perspective sketch of a thin metal strip as used to stop off any one stream of water.

In the drawings, 1 represents the underground supply pipe at the head of the field. 2 is one of any number of spaced risers from the pipe, and on the upper end is a circular flange 3 to which is bolted a circular disk shaped head 4 and on top of the head is a circular cap 5 secured by a central bolt 6 passing through the head and clamping both together, but between the cap and head is positioned a control diaphragm or disk valve 7 having a gasket 8 secured to its underside in contact with the upper face of the head.

Also it should be observed that between the head 4 and flange 3 is a gasket 9 or coating of water proof tar or pitch compound so as to make a tight joint when the bolts 10 are tightened to draw the two together.

It should here be noted that my construction is one especially adapted for making out of cement concrete for the production of a cheap article available to the farming contingent for general use, which will be permanently operative once it is installed and will not wear out and, if made of concrete, it is contemplated that it be suitably reinforced with wires in the well-known manner.

From the underside of the head 4 depends a conical shaped screen 11 preferably secured by wires left protruding from the concrete or otherwise and having a base large enough to cover all of a series of holes 12 which lie within the circle of the riser passage 13.

The disk valve and its gasket have holes 14 to match holes 12 and the cap has vertical holes 15 also to match but terminating within the cap and each connecting with a lateral channel or outlet 16 joining the vertical hole 15 at a point considerably below its upper dead end.

The number of holes and laterals radiating therefrom depends on the size of the hydrant and the number of ground furrows it is desired to feed as each stream 17 is supposed to be received in a suitable ground furrow 18 to guide it for proper irrigation of the field, a half dozen or more holes being the usual arrangement.

The gasket 8 may be of rubber, heavy tarred roofing felt or similar material, and is secured to the under face of the disk 7 by means of small points 19 struck up out of the diaphragm and bent over in the face of the gasket as shown in Figures 5 and 6.

The disk valve is centered on and rotatable between the head and cup about the bolt 6 upon loosening of the bolt, and a stud 20 projecting from the head into a hole 21 in the cap holds these two members in proper position with holes aligning while the disk is being turned. The disk has a projecting piece 22 serving as a handle for turning it, and also has a notch at 23 to form a stop against the stud 20, at one limit to bring the disk holes in alignment with the head and cap holes, and at the other limit to close them off.

A small pointer 24 is also formed on the disk to project upward against the edge of the cap and suitable marks 25 on the edge of the cap cooperate with the pointer to indicate how far the holes are open.

If a hydrant head is arranged to discharge more streams than is wanted at a particular time, the bolt 6 is loosened and thin strips of metal 26 may be inserted between the gasket 8 and the head 4 covering any hole or holes not wanted, then upon tightly screwing up the bolt 6 the thin strips of metal will imbed themselves in the lower

face of the soft gasket, as shown in Figure 5 at 26, and thus seal off the holes not wanted. The screen 11 may be dispensed with where the water is free from trash, but in the event of any trash stopping the holes the bolt 6 is loosened and the valve disk worked back and forth a few times to chop up the trash so that it will be expelled by the water.

The connection of the laterals 16 with the vertical holes 15 below the upper end of the same as shown is very important in promoting a steady flow to the streams as all swirling is eliminated thereby.

In contemplating my invention as disclosed, it should be understood that tho I prefer concrete construction throughout and galvanized iron disk and bolts, other material may be used, and any modification in the shape of the parts may be made as may fall within the spirit of the invention and embraced in my appended claim.

I claim:

A hydrant comprising a vertical tube, a head above said tube, a cap above said head, passageways extending upwardly from the bore of said tube through said head and said cap, a rotatable disk having a plurality of apertures, said disk being disposed between said head and said cap and adapted to control the flow of water through said passageways, said cap having radial ducts, one for each said passageway, said ducts communicating with said passageways below the tops of the latter.

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