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H. J. BIRKENKAMP.

MEANS FOR GUARDING OPENINGS INTO CISTERNS, CATCH BASINS, &c.

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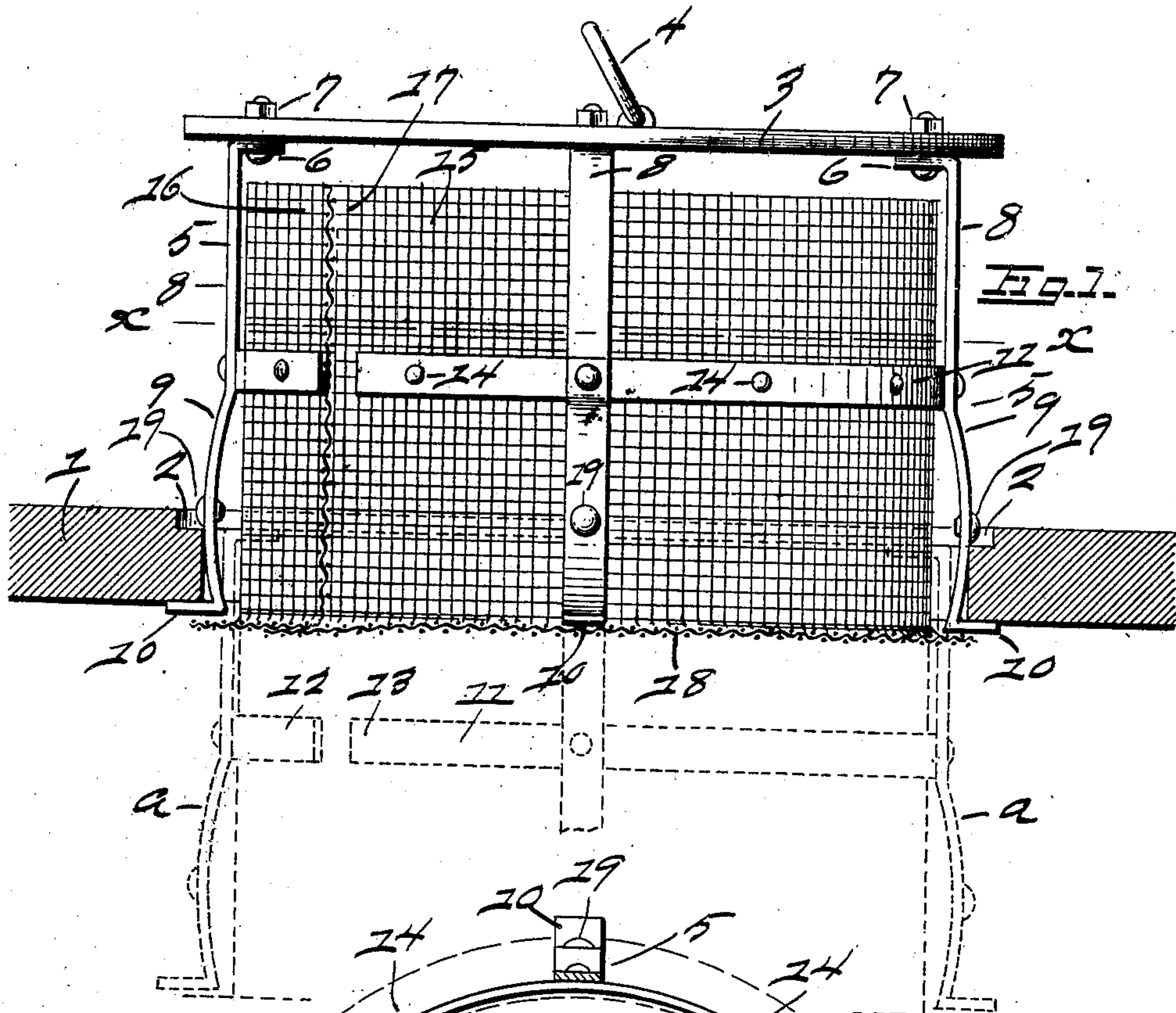


Fig. 1.

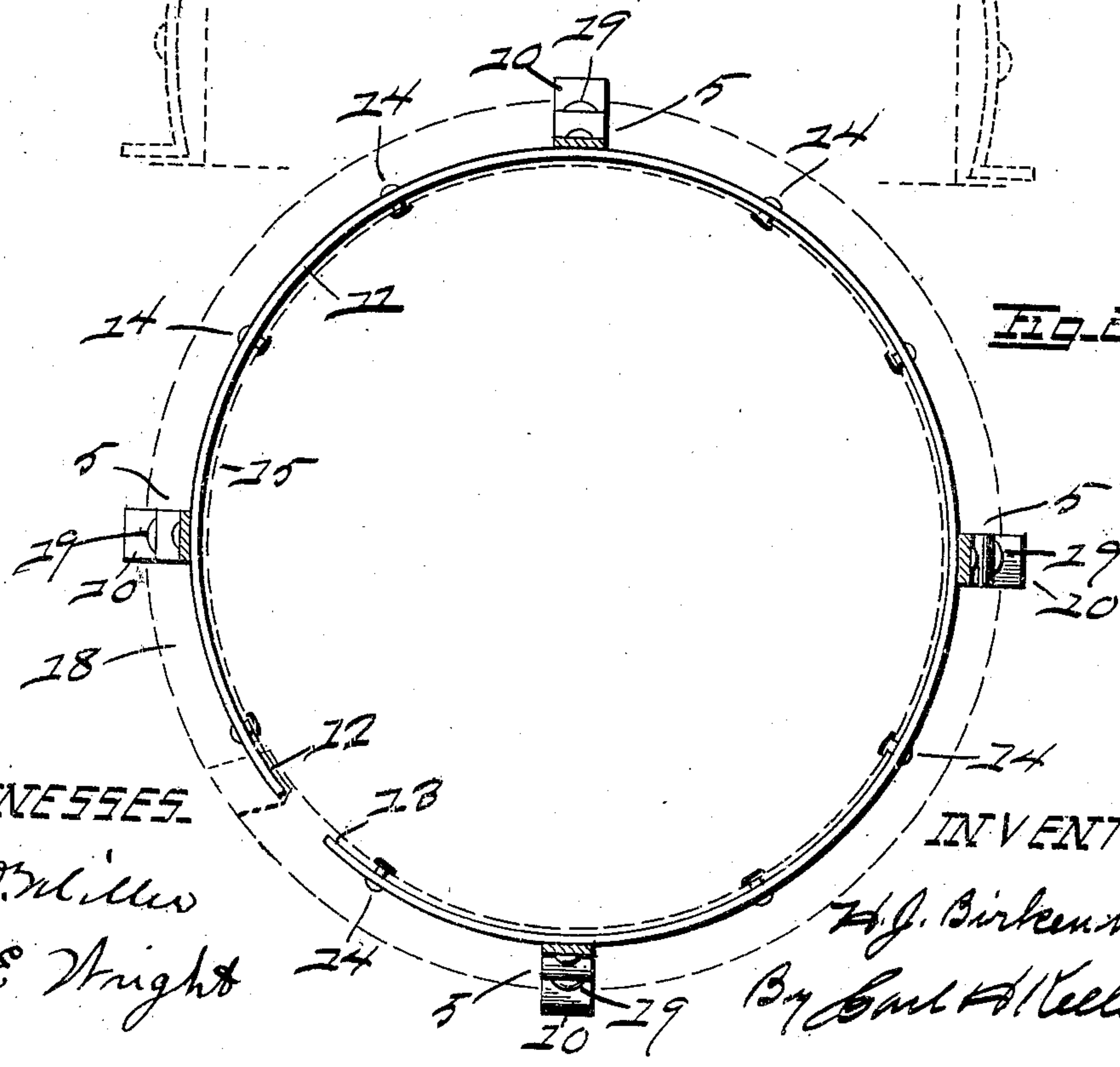


Fig. 2.

WITNESSES.

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MEANS FOR GUARDING OPENINGS INTO CISTERNS, CATCH-BASINS, &c.

No. 830,700.

Specification of Letters Patent.

Patented Sept. 11, 1906.

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To all whom it may concern:

Be it known that I, HENRY J. BIRKENKAMP, of Toledo, county of Lucas, and State of Ohio, have invented certain new and useful Improvements in Means for Guarding Openings into Cisterns, Catch-Basins, &c.; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

My invention has reference to improved means for protecting the openings into cisterns, catch-basins, &c.

The main object of my invention is to provide a cover for the opening in the top of a cistern or catch-basin which shall have a provision for effectively guarding the opening when the cover is elevated for the purpose of ventilation.

It is well known that the frequently-occurring accidental drownings of children result from the careless practice of permitting the openings in the tops of cisterns to be unguarded when the plate which serves as a closure for the opening has been temporarily removed. Although in a majority of such cases the accident may be attributed to carelessness in permitting the opening in the cistern-top to be unguarded, it is a fact that in many cases the children themselves remove the cover for the purpose of looking into the cistern to satisfy their curiosity and in doing so fall through the opening. My invention is constructed to permit the cover to be supported in elevated position above the opening in the cistern-top, and when in such position its entire removal is absolutely prevented and the space between the cover and the top will be effectively guarded.

In carrying out my invention I employ the novel combination, arrangement, and details of construction hereinafter shown, described, and specifically pointed out in the claims.

In the accompanying drawings, illustrative of my invention, Figure 1 is an elevation showing the application of my invention. Fig. 2 is a plan view, the section being on line $x\ x$, Fig. 1, the wire guard being shown in broken outline.

Referring to the details of construction, 1 indicates the stone top of a cistern or catch-

basin provided with the usual circular opening therethrough and having the opening formed with a marginal off-set or shoulder 2 to receive the marginal edge of the cast cover 3 of the usual disk form. The latter is provided at an approximately central point with a ring or handle 4, adapted to serve as a means for elevating the same. Secured to the under side of the cover at equidistant points adjacent to its outer margin are a plurality of supports 5. These supports are constructed of straps of steel or wrought-iron bent angularly at their upper ends at 6 to receive the bolts 7, which are adapted to firmly secure the supports to the cover. The upper portions 8 of the supports are made straight and assume positions away from the sides of the opening in the cistern-top to permit them to freely pass therethrough. The lower portions 9 are curved outwardly to contact with the sides of the opening, and thereby, owing to their resiliency, maintain the cover in elevated position, as shown in full lines, Fig. 1. The extreme lower ends of the supports are bent angularly outward at 10 to contact with the lower face of the cistern-top adjacent to the opening therein. To the inner faces of the supports is secured a resilient band or ring 11, having the ends 12 and 13 free to move relative to each other when the ring is contracted or expanded. Ring 11 is adapted to impart its resiliency to the supports, and being capable of compression the same will readily yield to pressure of the supports thereon.

Secured to the ring 11, preferably by rivets 14, is a section of wire-netting 15, bent in the form of a cylinder having the meeting ends 16 and 17 overlapped to permit the same to slide upon each other. The lower edge of the netting is bent angularly outward at 18 to underlie the margin of the opening in the cistern-top, thereby preventing mice, leaves, and other foreign material from falling into the cistern to contaminate the water therein.

To more securely hold the cover in elevated position and to insure against possible lowering of the same by slight pressure directed upon its top face, I provide knobs 19 upon the curved portions 9 of the supports adapted when the cover is elevated to rest upon the shoulder surrounding the opening in the cistern-top. These knobs are preferably large rivet-heads, the shanks of the rivet being directed through perforations in the supports and having their inner ends upset,

the construction being both cheap and effective.

The device is shown in elevated position above the opening in a cistern-top by full lines, Fig. 1, and in lowered position by the dotted lines *a*. The cover is elevated by lifting forcibly upon the ring 4, and the same will be maintained in elevated position by the combined resiliency of the supports and the ring 11 directing pressure against the walls in the opening in the cistern-top. The knobs upon the curved portions of the supports will also materially assist in holding the device in elevated position. The entire removal of the device will be prevented by the angular lower ends of the supports. When the cover is elevated, the wire-netting will effectively guard the space between the cover and the cistern-top and permit foul air to escape from the cistern and fresh air to enter. The cover is lowered to close the opening by pressure of the foot and the weight of the body directed upon its upper face.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a device of the class described, the combination with the top of a cistern, catch-basin or the like, having an opening, of a cover adapted when in lowered position to close the opening, and means for supporting the cover in elevated position above the opening comprising a plurality of resilient supports pressing outwardly against the sides of the opening, and a resilient ring secured within said supports, substantially as described.

2. In a device of the class described, the combination with the top of a cistern, catch-basin or the like, having an opening, and means carried on the under side of the cover to support the same in elevated position and prevent its removal, comprising a plurality of resilient supports pressing outwardly against the sides of the opening and having angular lower ends to contact with the margin of the opening in the top, and a resilient ring secured within the supports, substantially as described.

3. In a device of the class described, the

combination with the top of a cistern, catch-basin or the like, having an opening, of a cover for said opening, a plurality of resilient supports attached to the under side of the cover having straight upper portions disposed to move freely out of contact with the sides of the opening when the cover is elevated, said supports also having outwardly-curved lower portions adapted to contact with and press against the sides of the opening, the lower ends of said supports being bent angularly outward to limit their upward movement, and projecting knobs upon the curved portions of the supports adapted to rest upon the margins of the opening in the top when the cover is elevated, substantially as described.

4. In a device of the class described, the combination with the top of a cistern, catch-basin or the like, having an opening, of a cover to close the opening, resilient supports for the cover adapted to press outwardly against the sides of the opening when the cover is elevated and maintain the same in elevated position, a resilient ring secured within the supports, and a wire guard secured to said ring and having overlapping ends to permit free contraction and expansion of the ring, substantially as described.

5. In a device of the class described, the combination with the top of a cistern, catch-basin or the like, having an opening, of a cover to close the opening, resilient supports for the cover engaging the sides of the opening, a resilient ring disposed within the supports to impart its resiliency thereto, a wire guard of cylindrical form supported upon the ring and having overlapping ends freely movable with relation to each other and also having its lower edge extended outwardly to underlie the margin of the opening in the top, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HENRY J. BIRKENKAMP.

Witnesses:

CARL H. KELLER,

W. L. HOYT.