

3 Sheets--Sheet 1.

J. MATTHEWS.

Apparatus for Cooling and Dispensing Soda-Water  
and other Liquids.

No. 151,895.

Patented June 9, 1874.

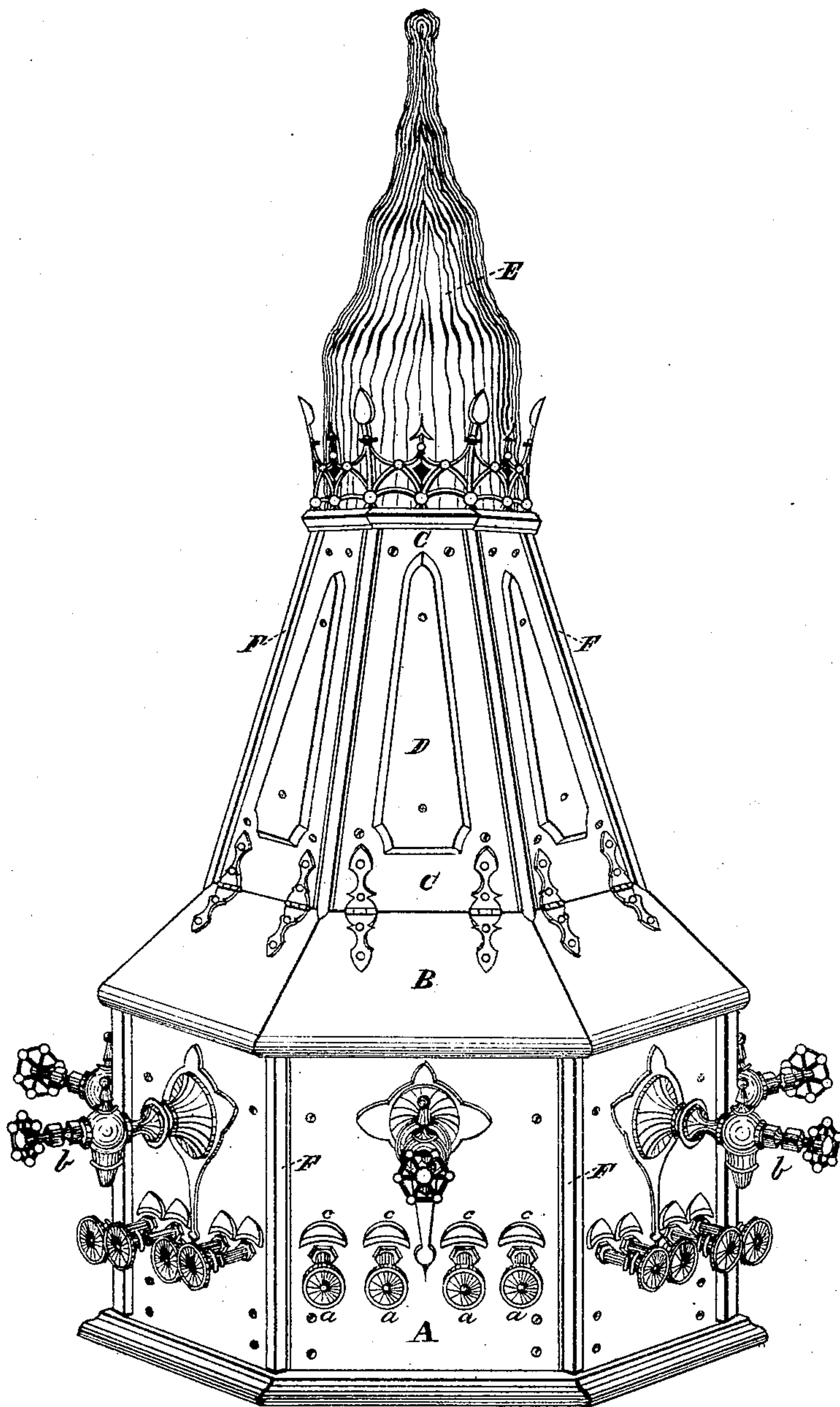


Fig 1.

Witnesses

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Inventor

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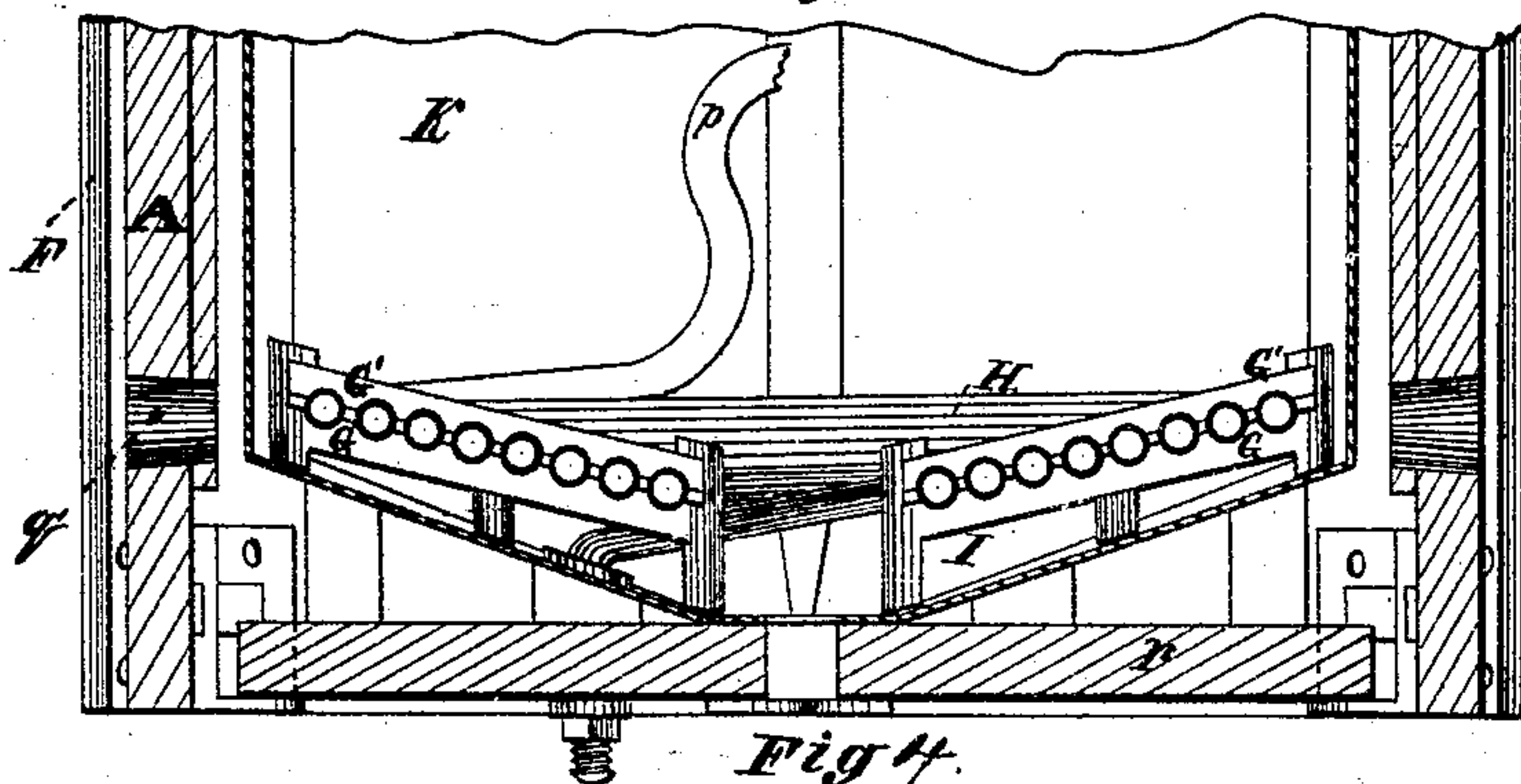
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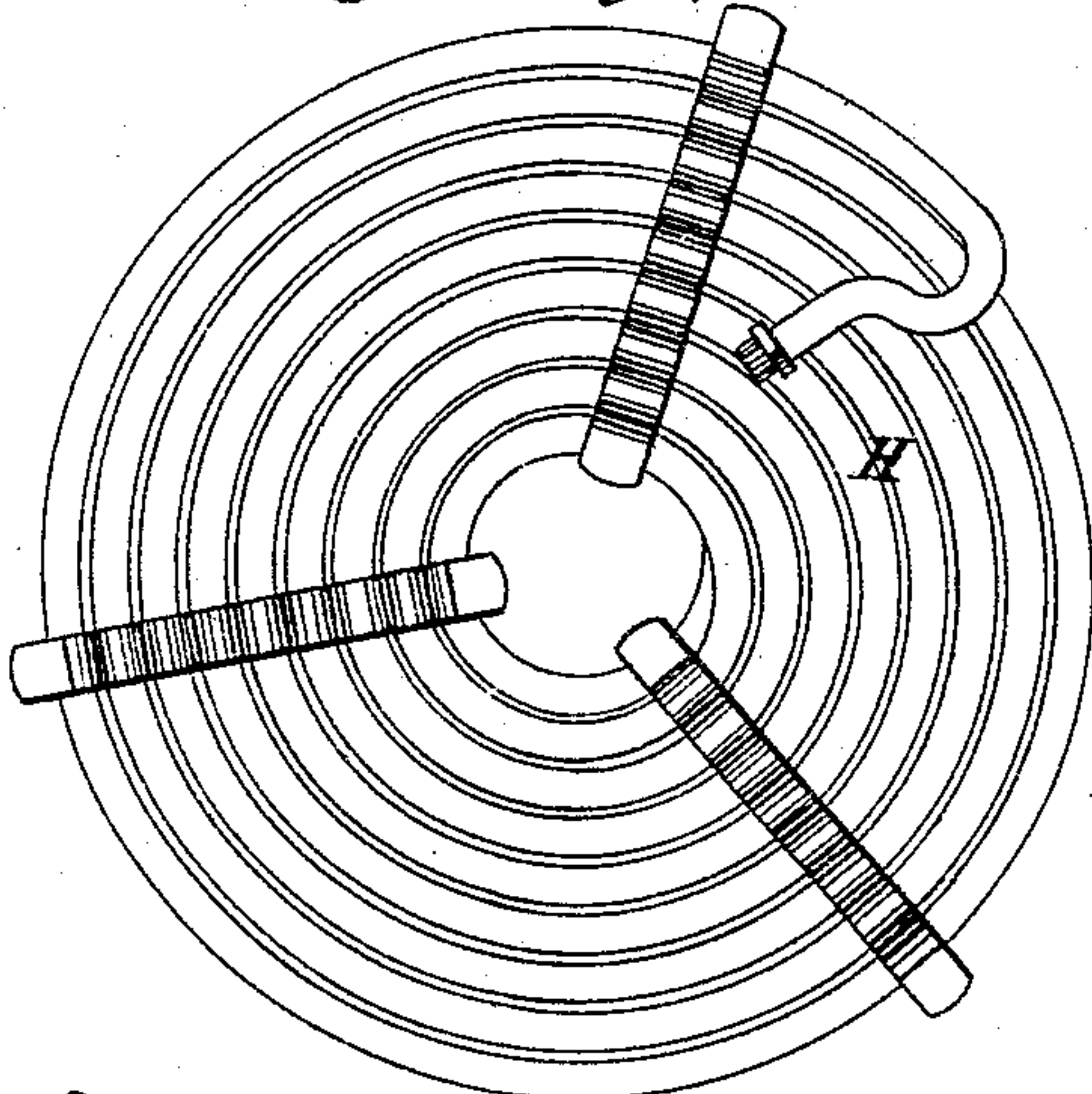
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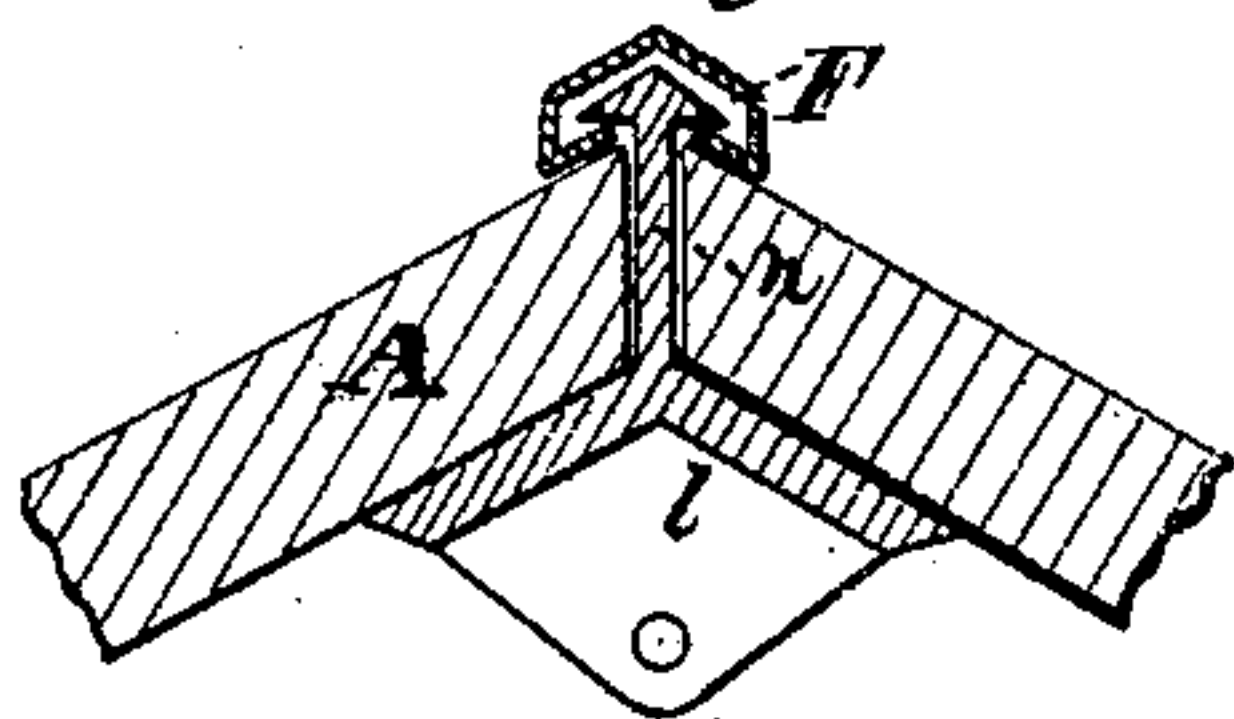
*Fig 3.*



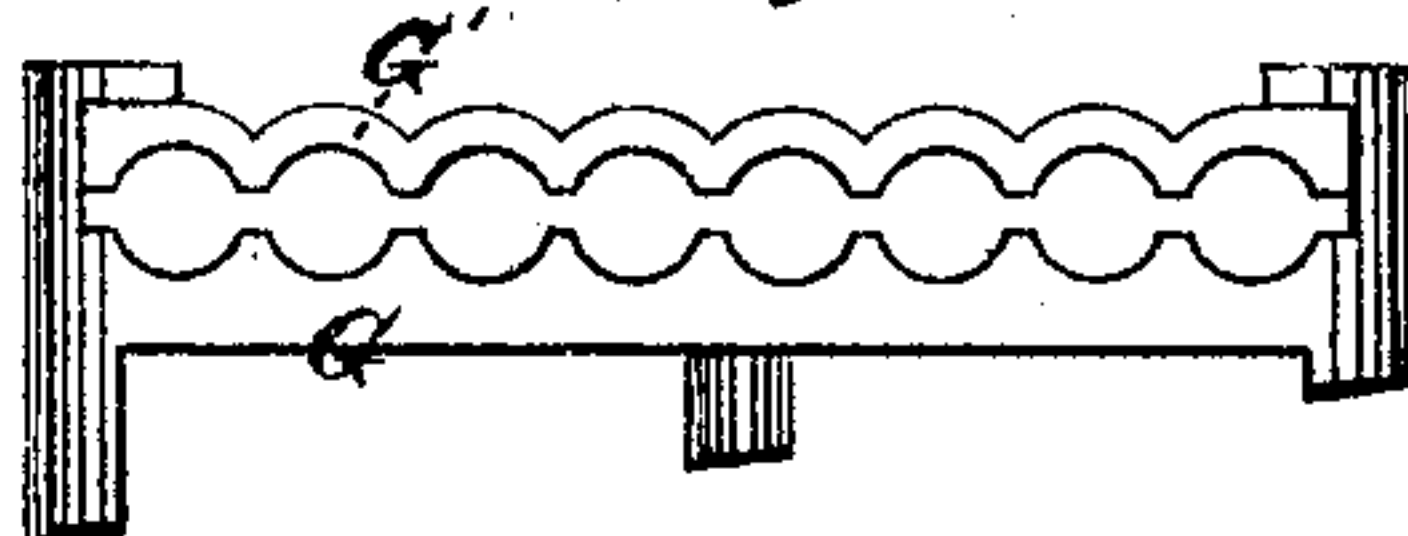
*Fig 4.*



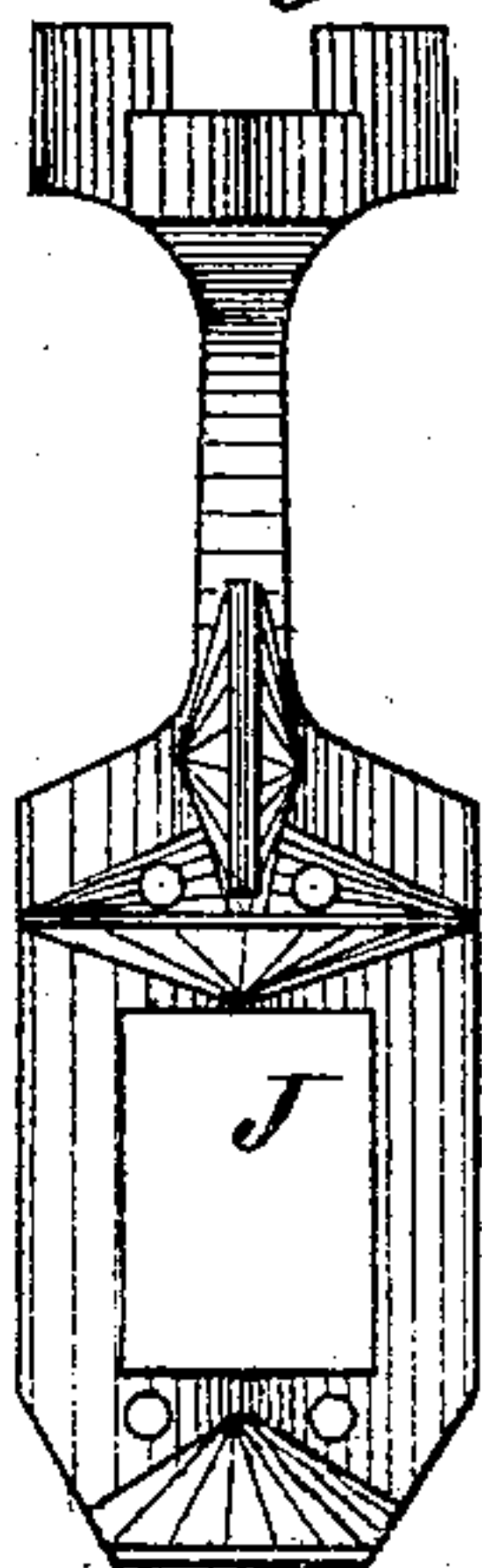
*Fig 5.*



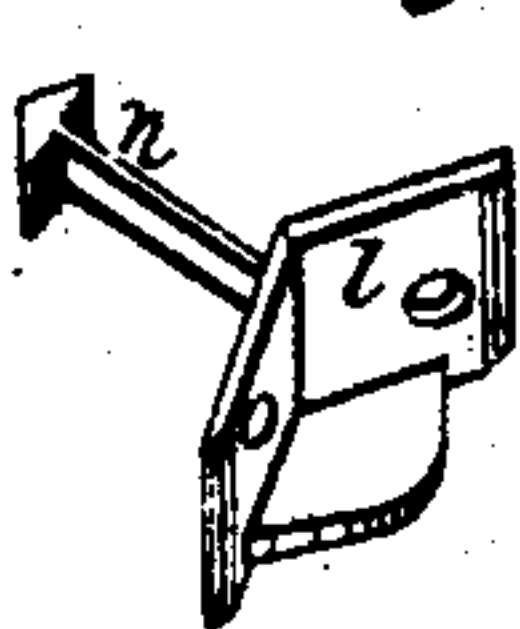
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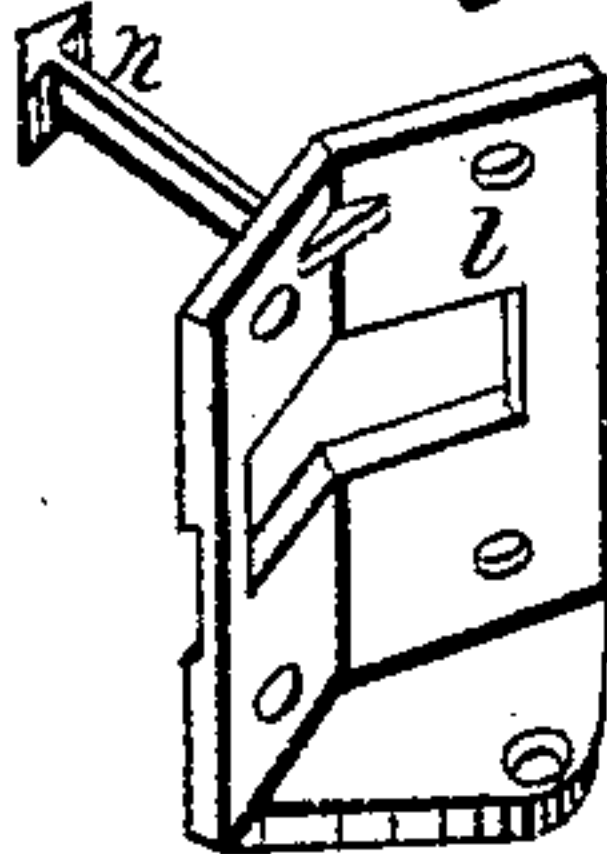
*Fig 7.*



*Fig. 8.*



*Fig 9.*



Witnesses

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# UNITED STATES PATENT OFFICE.

JOHN MATTHEWS, OF NEW YORK, N. Y.

## IMPROVEMENT IN APPARATUS FOR COOLING AND DISPENSING SODA-WATER AND OTHER LIQUIDS.

Specification forming part of Letters Patent No. **151,895**, dated June 9, 1874; application filed March 19, 1874.

*To all whom it may concern:*

Be it known that I, JOHN MATTHEWS, of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Apparatus for Cooling and Dispensing Soda-Water and other Beverages; and I do hereby declare the following to be full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification, in which—

Figure 1 shows a perspective view of the apparatus when finished; Fig. 2, a vertical section, in perspective, intersecting the apex of the hexagonal pyramid through its greatest external periphery; Fig. 3, a vertical section of the lower part of the apparatus, showing coil on inclined floor of cooler, also showing the clamps which hold the coil of pipe in a regular spaced position; Fig. 4, plan view of coil and clamps; Fig. 5, section of inner bracket, bolt, and joint-rod attached to post of the outer case; Fig. 6, elevation of clamp for holding cooling-coil in spaced position; Fig. 7, elevation of one of the ribs for holding the several parts of the superstructure together; Fig. 8, perspective of one of the brackets with bolt attached for holding the joint-rods in position; Fig. 9, perspective view of one of the brackets with bolt attached for holding joint-rods in position, and for assisting in supporting the inclined floor of the cooler.

Like parts are represented by the same letters in all the figures.

This invention consists, first, of a new material for the outside shell of apparatus for cooling and dispensing soda-water and other liquids, said material being formed of glass or ceramic ware, the object being to make such apparatus less liable to become stained or corroded, have less conducting power than the materials heretofore used, thereby effecting a saving in ice, and also producing highly ornamental effects, as will be hereinafter explained; second, new and improved devices and means for fastening the parts together; and, third, in an improved construction of the

coolers used in apparatus for dispensing soda-water and other beverages.

The exterior portions of such apparatus have generally heretofore been constructed of marble in plates or slabs. These plates were made by being sawed from a block of marble. The slabs were then cut into pieces somewhat larger than were required. The edges were next chiseled nearly to the required size and shape, and afterward rubbed and polished. The holes for fastening the case together, and the holes for the draft-arms and sirup-faucets, were afterward drilled in the marble plates.

Great disadvantages and losses attend the use of this material and the methods of working it, some of which I may here state: In the first place the manufacturer is limited to the particular color of the natural stone, unless he would apply artificial coloring by staining or japanning. These imitations have a meretricious effect, and are not generally approved; they are, moreover, not durable.

Although white marble is generally considered more beautiful if finished with a fine grain and not polished, such a surface cannot well be employed, as, being rough, it greatly aids the lodgment of substances which stain the marble. White marbles would be generally preferred to marbles of natural colors, and are doubtless the most appropriate for this purpose, but polish and purity of color are lost after a few weeks' use. Owing to the texture of colored marbles, they are not at all beautiful unless polished. Marbles of some very desirable colors cannot be obtained—as, for example, a marble of fine blue color, which produces a beautiful effect with silver mountings.

The frequent accidental fracture of the marbles in chiseling and drilling the necessary holes for the screws and faucets causes great losses, and to cut the pieces from the slabs often necessitates a great waste of material, besides the great labor and expense attending the fashioning and polishing of the stone and drilling the holes.

I construct my improved apparatus of an impervious material, preferably of glass or ceramic ware, molded to shape, and having the holes for the screws and faucets formed in



the plates in the process of molding. To produce a true surface on these plates where they are intended to be flat, I rub them upon a revolving rubbing-bed with sand and water. This produces a true surface with a grain more or less coarse, but the finish upon the surface can be raised from a rough grain to a polished surface.

Some of the most exquisite effects are produced by leaving a moderately fine grain upon the surface. This unpolished surface forms a fine contrast with the polished silver mountings, and the effect is thought by most persons to be much superior to that produced by a polished surface. Upon the moldings embossed or otherwise ornamented parts of these molded plates, this effect of grain upon the surface may be produced by etchings, by acid, or by the sand-blast process. Slabs or tablets of fine white, blue, or green color, transparent or opaque molded to form, and with the holes already formed for the screws and faucets, are thus produced with great cheapness. An apparatus thus constructed of glass or porcelain is impervious to the action of the soda-water or sirups, is more durable, and preserves its original purity and beauty for a great length of time. The names of the sirups, medallion sculpture, and rich moldings, can be formed or molded with great facility and economy, and if etched on the surface by the means described are of great beauty.

Another part of my invention relates to the means by which these tablets are fastened together and the joints covered. To secure the plates or tablets, I provide a bracket which is tapped so as to receive the screws which pass through the tablets, projecting through the joint, and attached to these brackets, is a bolt, which may be screwed into the bracket or cast upon it. In the latter case it is flattened so as not to require a wide joint, nor fitting into the edges of the tablets. The end of the bolt is provided with a head, over which the hollow bars fit and are thus secured.

Another improvement in my apparatus consists in the means by which the spire or upper part of the apparatus is sustained. This is accomplished by angle-shaped ribs overhanging so as to form a rest or seat for the spire, and they may at the same time serve at either or both ends to attach the exterior plates of the apparatus. By the use of these ribs the base of the spire may be smaller than the main body of the apparatus, and yet be sustained upon the exterior or lower case of the apparatus, thus avoiding the obstruction caused if internal columns are used, and permitting the introduction of the sirups and ice into the apparatus between the base of the spire and the exterior of the body of the apparatus, and also affording a convenient arrangement for the attachment and seat of the valves or arms.

Another improvement in this apparatus consists in the means by which the coils of pipe

serving for the coolers within the apparatus are sustained in an advantageous manner, by which great efficiency is attained and the cost greatly decreased.

Heretofore soft block-tin pipe, closely coiled to form a dish upon which the ice was placed, was secured by soldering the coils together.

Although this may seem a simple and effective construction, it is really attended with great disadvantages, some of which I will here point out. In soldering these coils it frequently happens that the workman melts the easily-fused pipe, so as to cause a partial or complete obstruction to the flow of water through the cooler. Such coils of pipe, once soldered, cannot readily be detached without risk of again melting them, so that such coils cannot be used for other purposes if it is so desired. These pipes being closely coiled, melt off the slender tongue of ice which tends to insert itself between the coils when in use. In a short time the impurities from the ice lodge themselves between the coils, and soon fill up the interstices between the coils and prevent contact between the ice and a large portion of the pipe. These impurities are not good conductors, and consequently the efficacy of the cooler is much impaired by reason of the lessened surface in contact with the ice. I avoid the disadvantages above named, and greatly economise the cost of such coolers by clamping the pipe forming the dish in such manner as to sustain the pipe securely, and at the same time to leave space between each coil of pipe. The clamps are made, preferably, of metal in two sections, having depressions at the requisite distances to fit the pipe. Coolers constructed in this way allow the ice to penetrate between the coils, and will not permit the lodgment of impurities in the coil. Such coolers may again be uncoiled and the pipe used for other purposes.

My improved coolers are less costly than coolers as ordinarily coiled, and, although they do not require as much pipe to cover a given surface, are much more effective than a close coil on the same surface. I have found that a cooler having the same ice-surface after a few months' service is twice as effective as a cooler of the usual form.

To prevent the lodgment of impurities beneath the coil, I construct the metallic lining of the apparatus with an inclined surface, and sustain the coil upon ribs or thin blocks arranged to permit the descent of the impurities to the waste-pipe. The portion of the apparatus which surmounts it is composed of a hollow transparent glass finial, representing in general form a jet of water. This finial I vary in form so as to represent a variety of jets, as may be desired.

A beautiful effect is produced by the introduction of a jet of water within this finial, or even if so conducted as to issue from the top of the finial, and flow over its exterior. The passage of the water over the irregularities of



the glass, either on the interior or exterior, produces the effect of motion of the entire finial; so that the effect of a large jet of water is produced with a comparatively small quantity of water, and without the splashing of water over neighboring objects.

I would say that the use of the common glass shades with regular surfaces, and having an internal jet, has been known and used before; but such shades serve only as fenders to prevent the splashing of the water-jet. The effect is much inferior to the improved finial having its surface modeled to simulate a jet of water in general outline.

The following is a description of the apparatus as made and shown in the drawings:

A A are the side plates, made of the materials named above, with holes for the screws to fasten the parts together. B B are similar plates, hinged to other plates C, having a panel, D, so as to admit the introduction of ice and other materials to the interior. The corners or joinings of all these plates are covered by angle-strips F. The finial or spire E rests upon an ornamental base, as shown in Fig. 1. G G' are the clamps for holding in place the cooling-coil H, so as to support it above the inclined floor I. The three kinds of brackets for supporting and joining the several tiers of plates are shown in Figs. 7, 8, and 9, being each provided with bolts *n* and flanges or webs *l*. The long bracket shown in Fig. 7 has the part J reaching the whole length of plates B, and its upper portion supports the lower corners of the plates C. The pipe *p*, in the form of a coil, receives the liquid to be cooled, and delivers it to the draft-faucets by any required number of branch pipes O O'. The metallic floor I is continued up the sides so as to form a complete lining, K, so as to form a water-tight box or tank to hold the ice, cooling-coil, and sirup-tanks, so that there is

no leak or drop, and all parts requiring it are kept perfectly cool. The lower part of this tank should be provided with a trap, drip-tube, or waste-pipe.

I have named glass, porcelain, and other ceramic wares, and mean to include under these the various kinds of glass, porcelain, and similar materials which are capable of being cast, pressed, or molded, and of being finished in the manner above described.

To describe all these is unnecessary, as the materials for them, and the manner of producing them, are understood by those skilled in the arts of working them.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The improved material herein described, for forming the exterior portion of soda-water apparatus, coolers, and other similar articles made by molding glass or ceramic ware, and finishing to resemble marble or other material, substantially as described.

2. The metallic bars, bolts, and inner brackets, so as to join the parts together, substantially as set forth.

3. The ribs, as shown, for sustaining the upper portion of the apparatus.

4. The hollow transparent finial with modeled surface, as and for the purpose specified.

5. The coiled-pipe cooler clamped, as set forth.

6. The rests or supports to support the cooler-coil, in combination with the inclined floor, as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 18th day of March, 1874.

JOHN MATTHEWS.

Witnesses:

S. A. CURTIS,

W. D. SLOAN.