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M. H. MERGENTHALER.
COVERING FOR HYDRANT PIPES.

(Application filed Feb. 15, 1898.)

(No Model.)

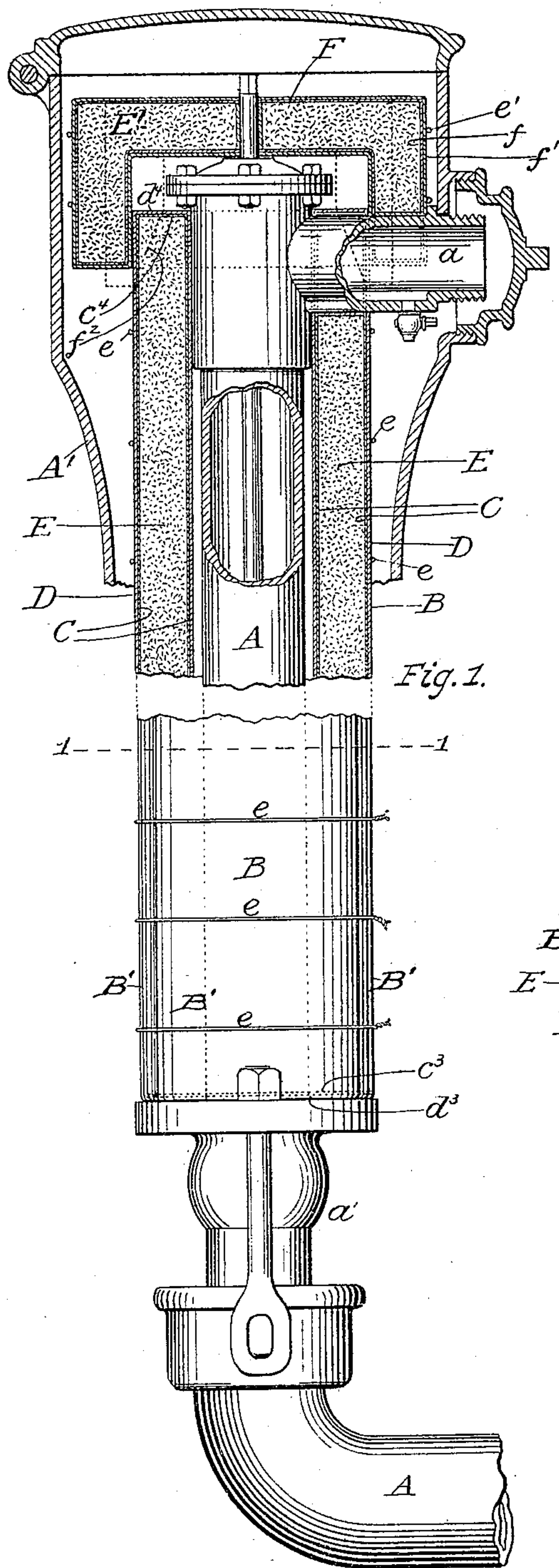


Fig. 1.

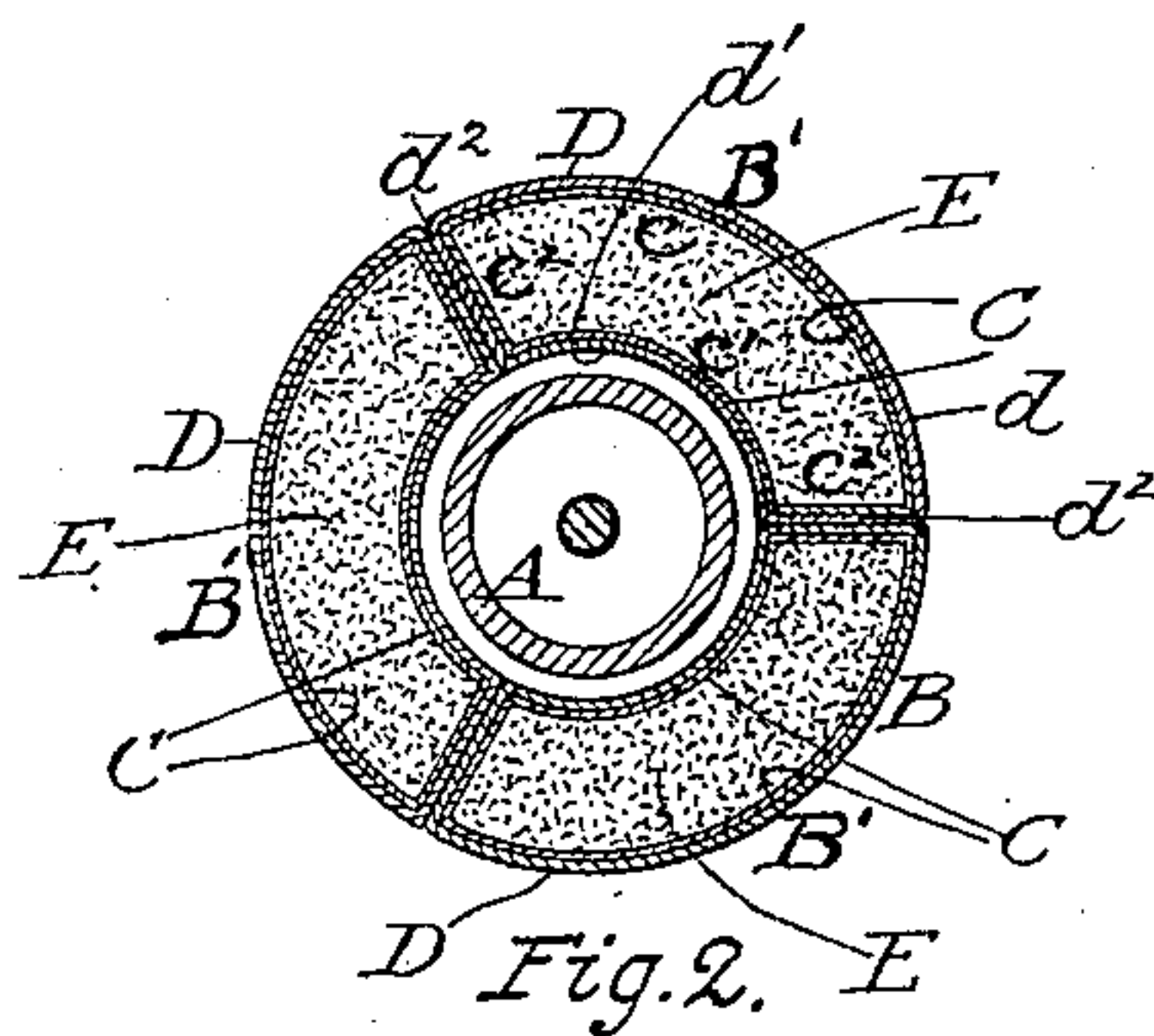


Fig. 2.

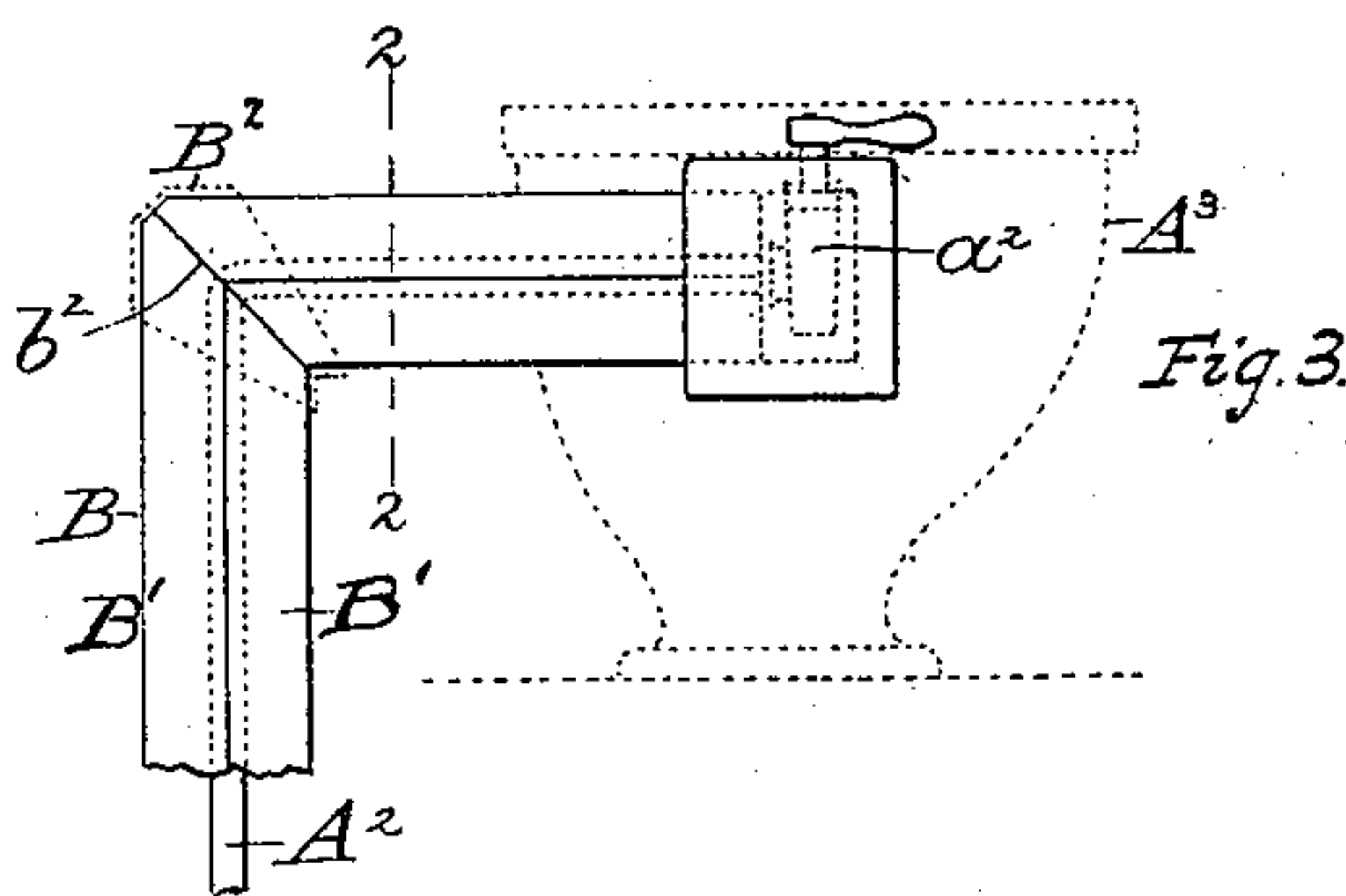


Fig. 3.

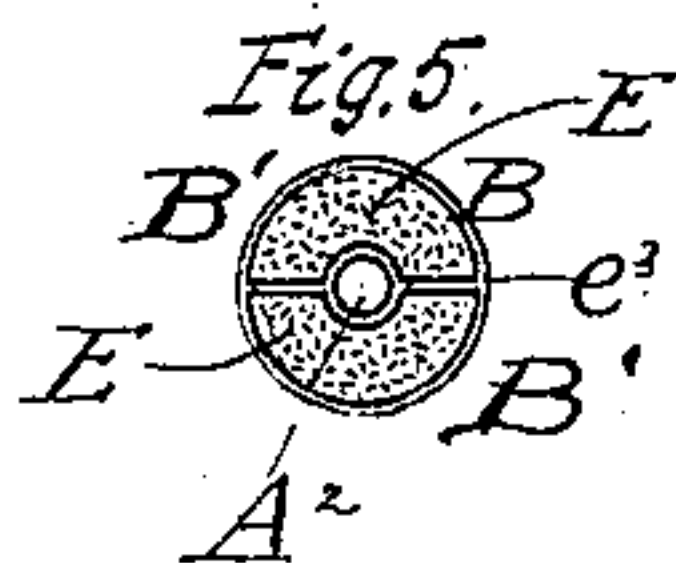


Fig. 5.

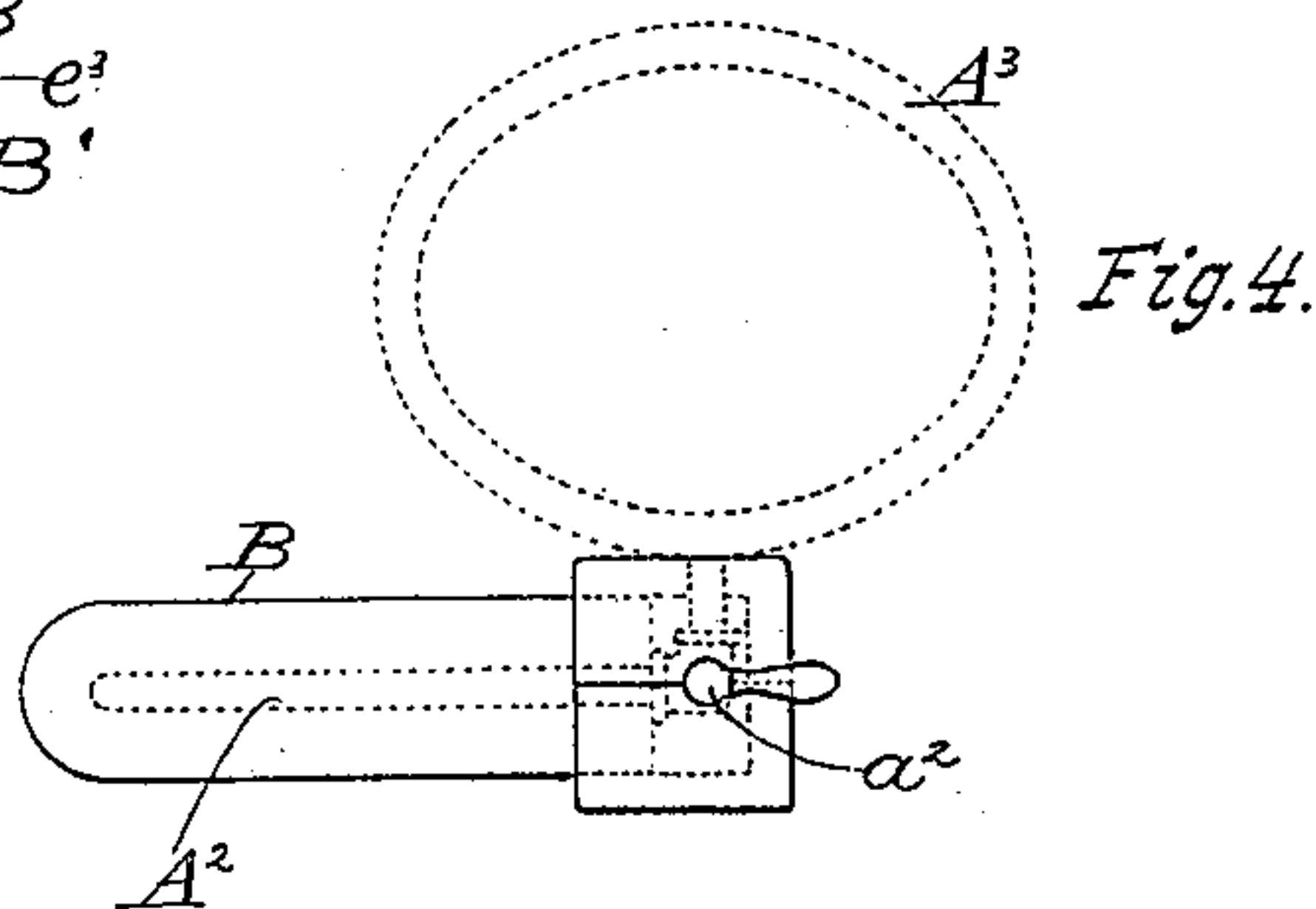


Fig. 4.

Witnesses.

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COVERING FOR HYDRANT-PIPES.

SPECIFICATION forming part of Letters Patent No. 616,127, dated December 20, 1898.

Application filed February 15, 1898. Serial No. 670,361. (No model.)

To all whom it may concern:

Be it known that I, MARIE H. MERGENTHALER, a citizen of the United States, residing at Albany, in the county of Albany and State of New York, have invented new and useful Improvements in Coverings for Pipes for Supplying Water to Hydrants, Hopper-Closets, &c., of which the following is a specification.

My invention relates to coverings for water-pipes of hydrants, hopper-closets, and other devices to which water is to be supplied in cold weather; and it consists of the novel features, elements, and combinations and arrangements of parts and elements hereinafter described, and pointed out in the claims.

The objects of my invention are, first, to provide for water-pipes for hydrants, hopper-closets, and other devices coverings which will protect the same from cold or freezing in winter; second, to provide the pipes for supplying water to such devices with longitudinal sections which will comprise wall-sections which will maintain their shape—i. e., textile-fabric walls which are non-absorbent of water and interior non-conducting substance through which neither heat nor cold will pass, and, finally, to provide with longitudinal sectional coverings comprising each walls which are non-absorbents of water, walls which are adapted to retain their original form and shape, and interior non-conducting substance, devices adapted to securely hold the said longitudinal sectional coverings in place as assembled around the pipes covered therewith.

Other objects and advantages of the invention will be fully understood from the following description and the claims when taken in connection with the annexed drawings, in which—

Figure 1 is an elevation, part in section, illustrating my invention applied to the water-supply pipe of a hydrant. Fig. 2 is a sectional view taken at line 1 1 in Fig. 1. Fig. 3 is an elevation illustrating my invention applied to a water-supply pipe of a hopper-closet. Fig. 4 is a plan view of the same, and Fig. 5 is a section taken at line 2 2 in Fig. 3.

The same letters of reference refer to similar parts throughout the several views.

In the drawings, A, Figs. 1 and 2, is a fire-hydrant supply-pipe, which pipe may be of

any suitable form of construction and provided with usual interior valve-chamber, valve, and adjuncts for operating the same, and the discharge member *a* for connection with fire-hose for service, and is provided with a suitable outer jacket *A'*, which may be of metal or wood, as is generally provided for protection, all of which devices and parts are so well known as not to require any particular description. This pipe *A* is made with such a length downward from its discharge end as may be required for place of the valve-chamber *a'* at a point below the surface of the ground, to which the frost cannot reach in coldest weather. *A*², Figs. 3, 4, and 5, is a supply water-pipe for a hopper-closet, which pipe is suitably connected by its discharge end with the hopper-bowl *A*³ and is provided with a suitable cock *a*², by means of which the water-supply may be cut off at will from discharging into the said bowl. This hopper-bowl, with its supply-pipe and cock, is so well known that it requires no particular description.

B is my improved pipe-covering, which is sectional in character in its longitudinal direction and may comprise two or more longitudinal sections, as illustrated in Figs. 2 and 5. These sections, (marked *B'* *B'*), whether two or more in number, for inclosing the pipe *A* or *A*², are made in cross area on segments of circles corresponding with that required in their assemblage for nicely inclosing the same, as illustrated in Figs. 2 and 5. Each of these sections *B'* in any group of two, three, or more are preferably made each substantially the same as the other in proportions of parts—say as halves, thirds, quarters, or other fractional forms—as may be preferred or may be found to be advantageous for use or convenience for readily covering the article to be protected from freezing. These sections *B'* *B'* of the covering *B* are shown on large scale in Figs. 1 and 2 and comprise each a stiff case *C*, a non-absorbent outer textile case *D*, and a non-conductor filling material *E*, closely packed within said case *C*. The walls *c c' c*² *c*³ (shown in Figs. 1 and 2 by full lines) of said inner stiff case may be made of any suitable stiff material which is adapted to retain its original form and shape when the section *B'* it forms a part of is completed for

use and may be made of sheet metal, as iron or zinc, or of hard compact paper-board sized and stiffened by resin and properly shaped and connected or secured together, so as to produce a stiff-walled case in which the inner concave wall c' , outer convex wall c , and side edge walls $c^2 c^2$, when properly connected or secured, may cooperate to keep the case in original curvature.

The walls of the outer case D, comprising walls $d d' d^2 d^2$, are made of suitable textile fabric, as, say, duck-canvas, of suitable thickness, well saturated with a suitable non-absorbent substance which will resist the passage of water through these walls. For cheapness as a substance, facility of saturation when heated, hardness when cold, effectiveness for resisting the passage of water through the walls of the case, and endurance in use I preferably saturate the material of said walls $d d' d^2 d^2$ of this outer case with a non-absorbent or water-resisting composition composed of resin and tallow, which may be used together in proportion of one-third, by weight, of the former to two-thirds of the latter, melted together and thoroughly incorporated with each other and applied and pressed into the fabric of said walls when heated. This proportion of the said two substances may be varied without materially changing the water-resisting quality of the composition. When this covering is to terminate in the ground or liable to have its lower end submerged at times in water, I form with each case C and D of each sectional covering B' a bottom, as c^3 , (indicated by dotted lines in Fig. 1,) and suitably connected with the respective walls $c c' c^2 c^2$ of case C, and a bottom, as d^3 , (indicated by dotted lines in the same figure,) suitably connected with walls $d d' d^2 d^2$ of case D, which bottoms $c^3 d^3$ of the respective cases are preferably made of materials like those of the walls they are joined to, with the bottom d^3 of the outer textile case D made to be a non-absorbent of water, the same as its side walls. These bottom walls $c^3 d^3$ operate to prevent water entering into either of said cases of the respective sections B' and gradually rise and become absorbed by capillary attraction in the non-conducting filling material E and wetting the same. Although the non-conducting filling material E of these sections B' of this pipe-covering may be of any suitable substance which is a good non-conductor of refrigeratory chills from the outer side walls to the inner side walls of the respective sections, yet I use as my preferred substance for a non-conductor filling material ashes of coal, preferably anthracite, uniformly granulated and dry-packed within each case C of each cover-section B' of this pipe-covering. These granulated coal-ashes are found by me to be a non-conductor of high order of refrigeratory chills and adapted to naturally pack uniformly within the cases of the sections and to be both comparatively light in weight and not

liable to readily shift within the cases inclosing the same and not adapted to operate when in bulk to bulge outwardly and deflect from original shapes any of the walls of the cases within which these ashes are held. This material E is filled into the respective cases of the sections to their full lengths of extension and are then closed over by suitable top wall-pieces d^4 of non-absorbent material, with or without a top wall-piece c^4 , which may in some cases be omitted, especially when a cap-form end-covering cap F, Figs. 1, 3, and 4, is applied. When these sectional coverings B' B' are assembled about the water-supply pipe or device, as illustrated in Figs. 2 and 5, with the surfaces of their adjoining side edges bearing against each other, as shown, there will be applied to the outer sides of these assembled sections suitable binding devices or bands at suitable distances apart, which devices I prefer to make of copper wire $e e$, of suitable size and proportionate to the size of the sections employed, tightly wound around and secured at their ends by twisting, as illustrated in Fig. 1.

For preventing the refrigeratory chill from freezing atmosphere from passing into the water-supply device through the walls of its head or other end I provide an end-closing cap F, Figs. 1, 3, and 4, which may be sectional in its form of construction, as illustrated by full and dotted lines in Fig. 4. This end-closing cap is made of the same material, preferably, as that employed in the cases of the sectional coverings B' B' and, like the latter, comprises two cases f and f' , the former of stiff material and the latter of textile material and made to be a non-absorbent of water by saturation with a water-resisting composition similar to that described as being preferably applied to the material of the walls of case D of the sectional covering B'. The chambers of cap F are filled with the granulated ashes, as a non-conducting filling material E'. The sections of the covering-cap F are securely and tightly bound together by suitable bands $e' e'$, preferably of copper wire and secured similar to binding-wires $e e$ of the assembled sections B' B'. These end-covering caps F may fit over the end portions of the assembled sectional coverings B' B' as do the telescopic form of cover shown by full lines in Fig. 1, or the inner side walls of the side portions of the cap may be made in the form of an annular bevel or incline, as indicated by dotted lines at f^2 , Fig. 1, and in correspondence with an annular bevel or incline given to the upper end of the covering B, as indicated by dotted lines at b , same figure. When this covering B is to be applied to pipes having a length thereof at an angle to another length, as pipes A A in Fig. 3, the joined coverings B B will be made with suitable bevel-joint at b^2 , when a suitable flexible or other bandage B², preferably of strong textile material and saturated with the water-resisting compound employed for saturating the ma-

material of the walls of the cases D of the sectional coverings B', so that this corner or bevel joint bandage may be adapted to exclude water from entrance to said joint.

5 I have omitted from Figs. 3 and 4 the binding devices shown at *e* and *e'* in Fig. 1 for tightly securing the assembled sectional coverings B B, yet it is to be understood that such binding devices are to be employed, and as illustrated in Fig. 5 at *e*³.

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

1. For use for covering water-supply devices, a longitudinal section-cover B' formed by the combination with an inner case C of stiff material and made with a form corresponding with the wall portion of the water-supply device it is to be applied to, and an outer walled case D of textile material which is a non-absorbent of water and inclosing said case C, of the non-conducting filling material E described packed in the case C, and having both ends closed by either wall *c*⁴ or *d*⁴ or both, substantially as and for the purposes set forth.

2. The sectional covering B, for water-supply devices, formed by the combination of two or more longitudinal section-covers B' B' comprising the inner case C, having its walls of stiff material, and an outer case D of textile material which is adapted to resist the passage of water, and incloses the said inner case, and the granulated non-conducting material E of coal-ashes filling said inner case, the said sections adapted to be bound together when assembled about the water-supply device by bands, substantially as and for the purposes set forth.

3. The combination with a water-supply device, of a sectional covering comprising two or more longitudinal sections B' B', adapted to inclose the entire outer circumferential surface of said water-supply device and comprising each an inner stiff walled case C, a

non-absorbent textile outer case D inclosing said stiff walled case, and the non-conducting substance E consisting of granulated coal-ashes filling said inner case, and the binding devices *e* substantially as and for the purposes set forth.

4. The combination with a water-supply device, of a sectional covering, comprising two or more longitudinal sections B' B', adapted to inclose the said water-supply device in its whole circumference, and formed each by the inner stiff wall-case C, the non-absorbent textile outer case D and interior non-conducting material E of granular coal-ashes described, and binding devices holding said sections bound tightly together, of the end-inclosing cap F formed of a stiff inner case, a non-absorbent textile outer case and interior non-conducting material of granular coal-ashes, described, the said cap being applied to the end portion of said water-supply device and lapping on the outer sides of the ends of the said sections B' B', substantially as and for the purposes set forth.

5. The combination with two sectional coverings B B of a water-supply device, each comprising two or more longitudinal sections B' B', having each the inner stiff walled case C the outer non-absorbing textile case D inclosing said inner case and the interior non-conducting substance E of granular coal-ashes, one of said coverings being arranged at an angle to the other with a bevel-form joint between their abutting ends, of a bandage B, which is a non-absorbent of water, applied to abutting end portions of said two sectional coverings, and tightly closing over the bevel-joint of said abutting parts, substantially as and for the purposes set forth.

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Witnesses:

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