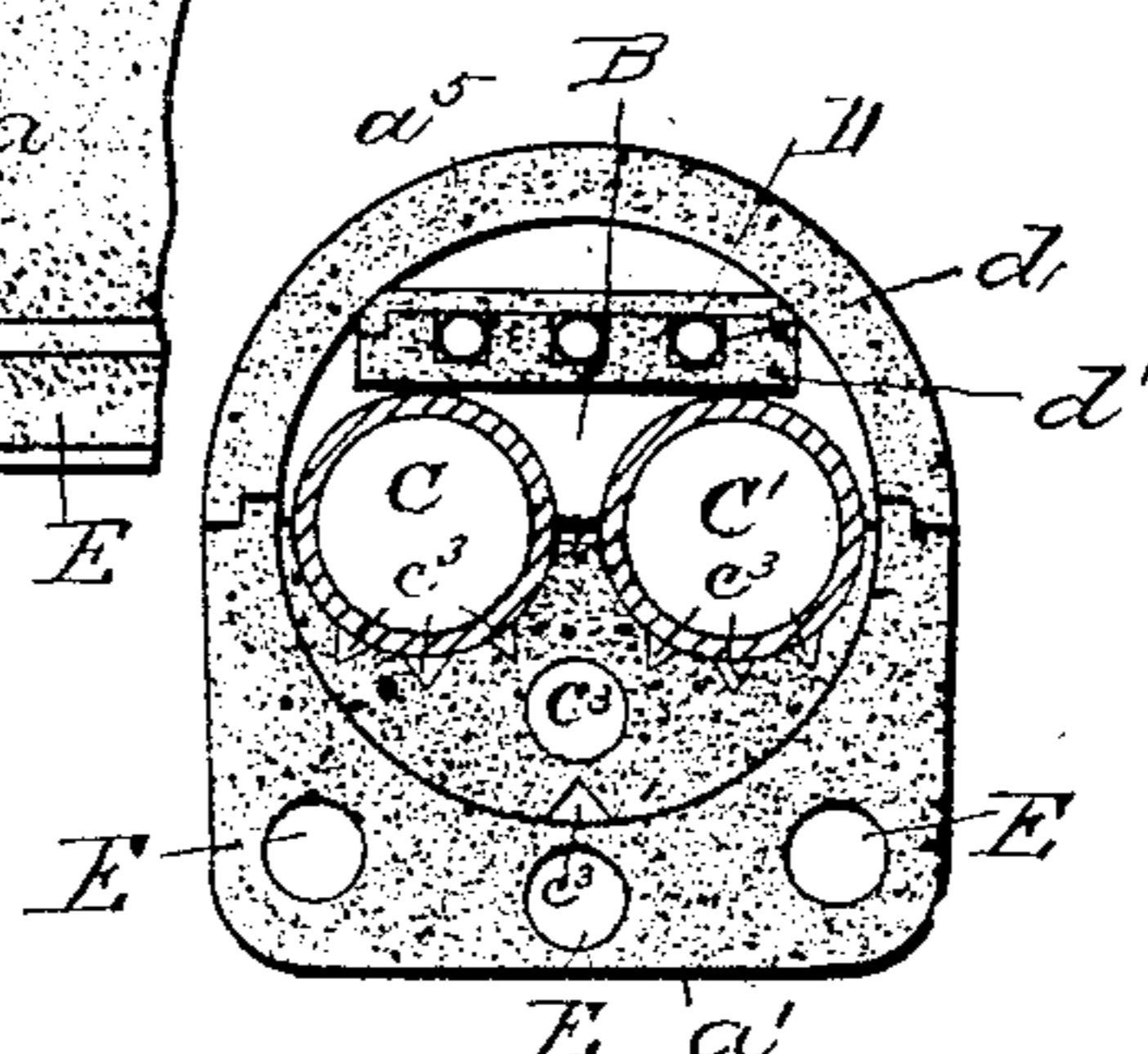
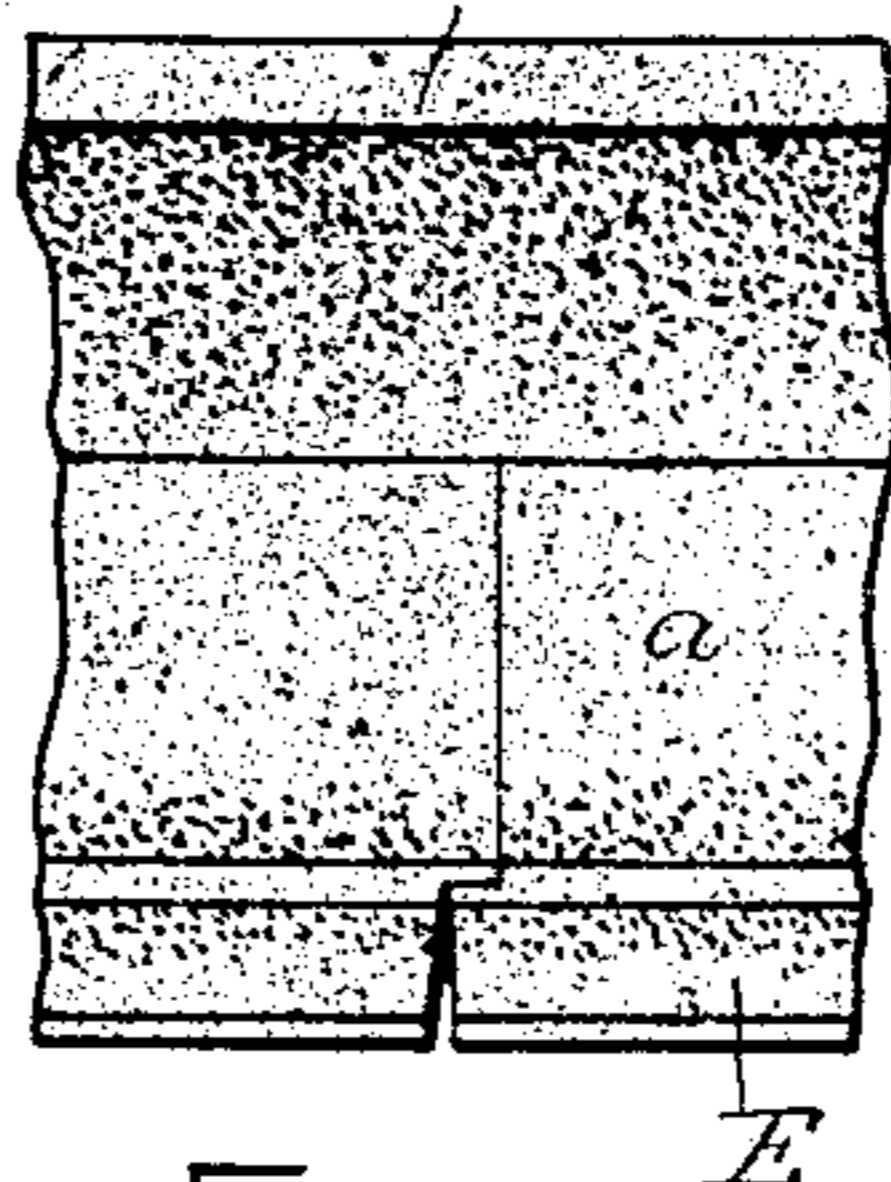
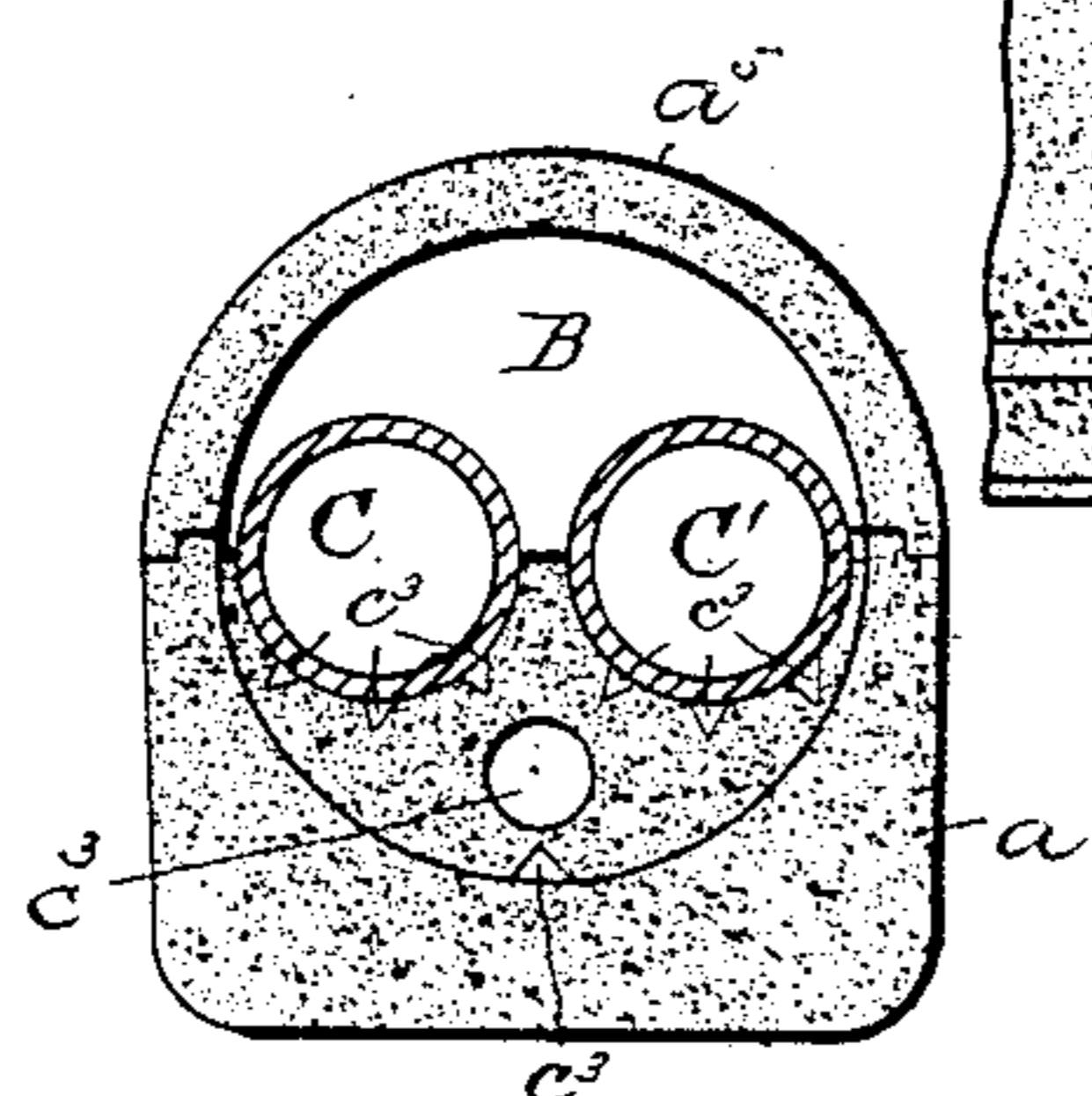
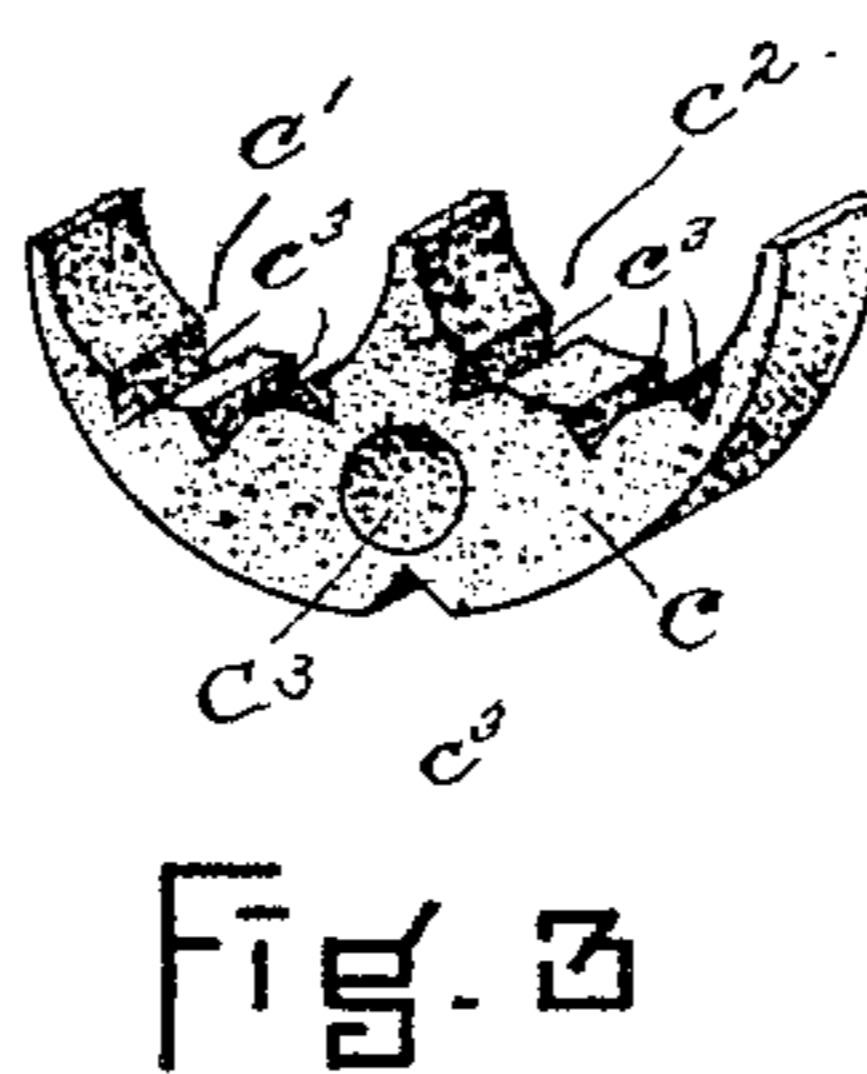
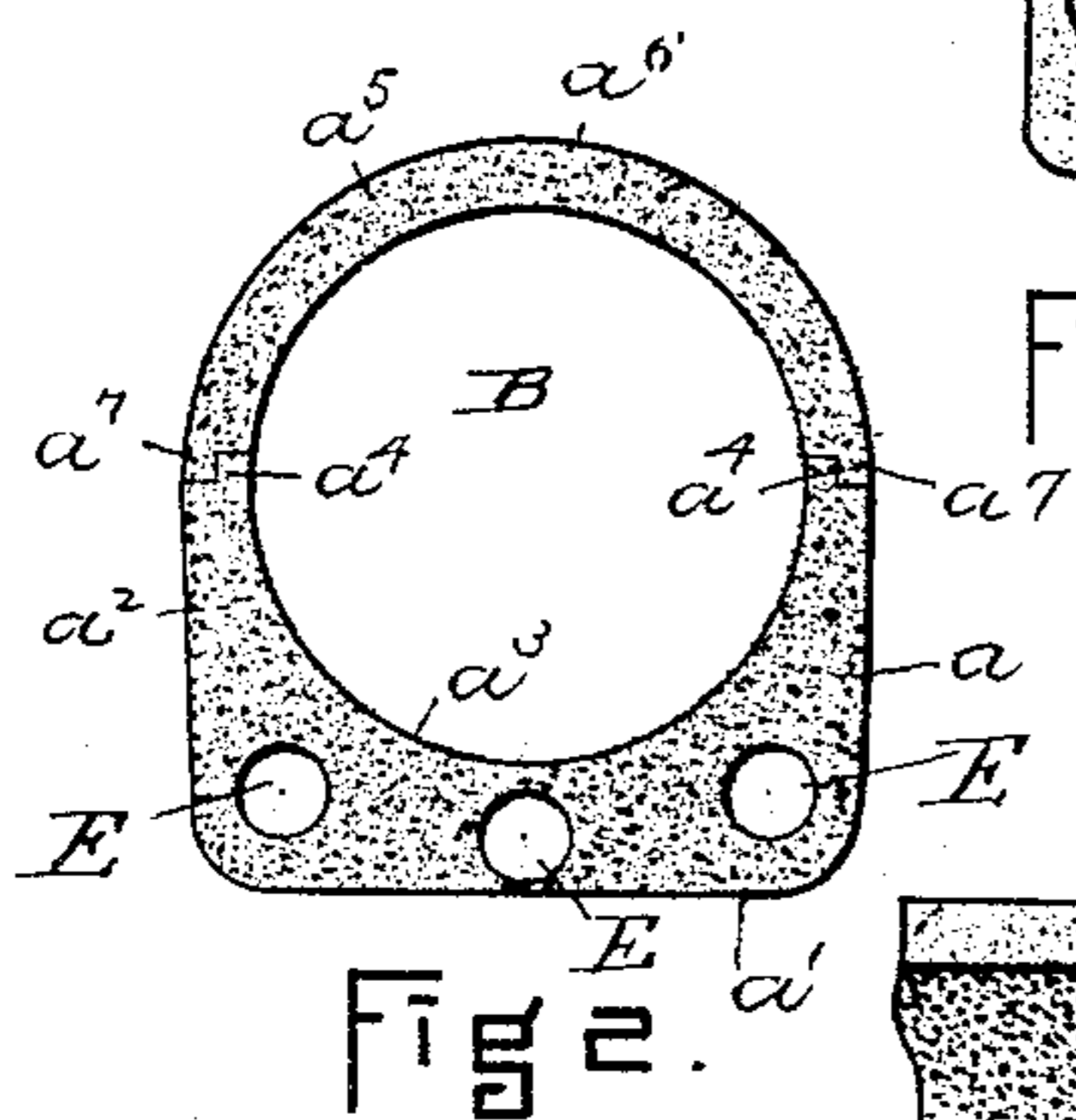
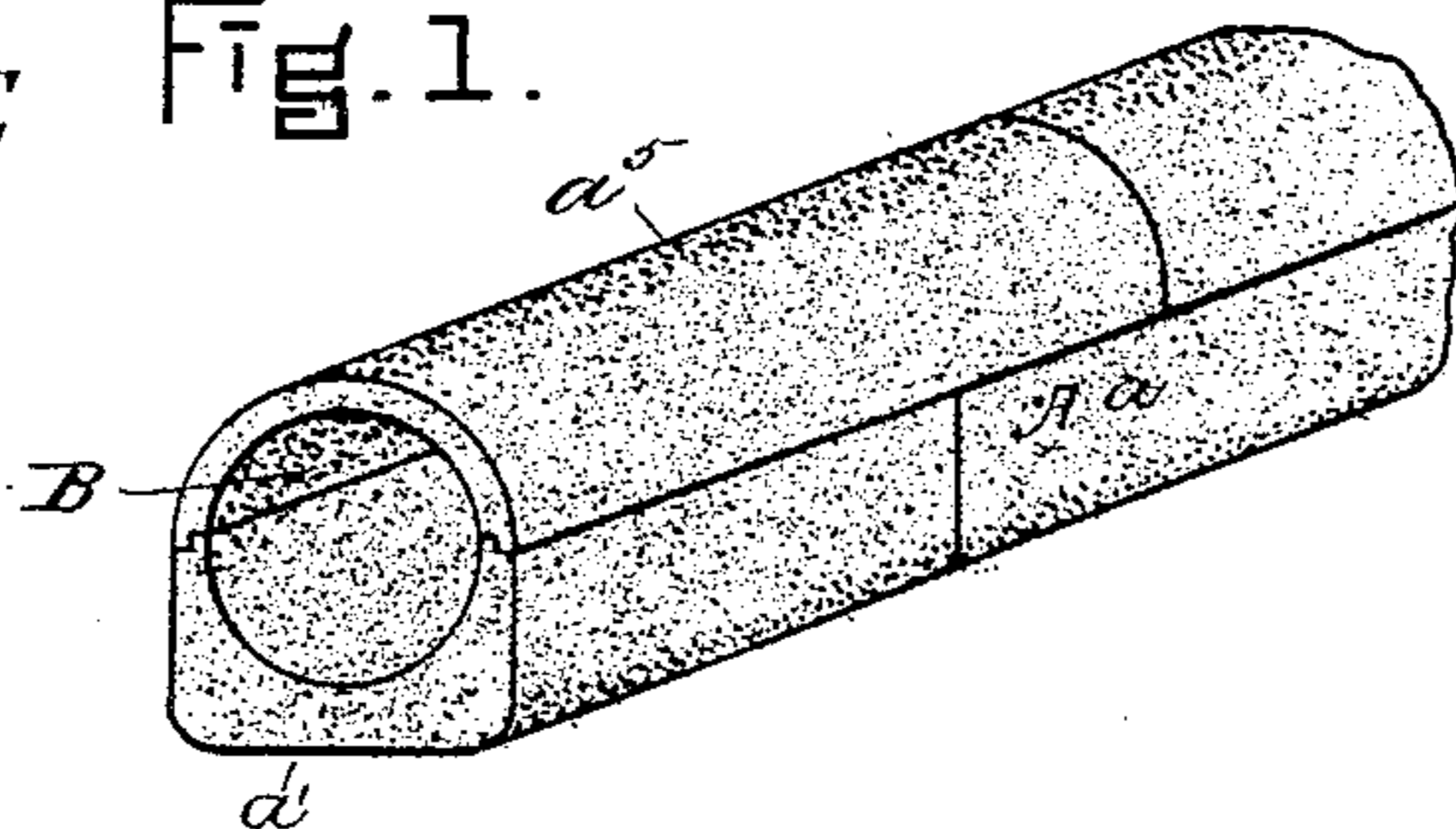
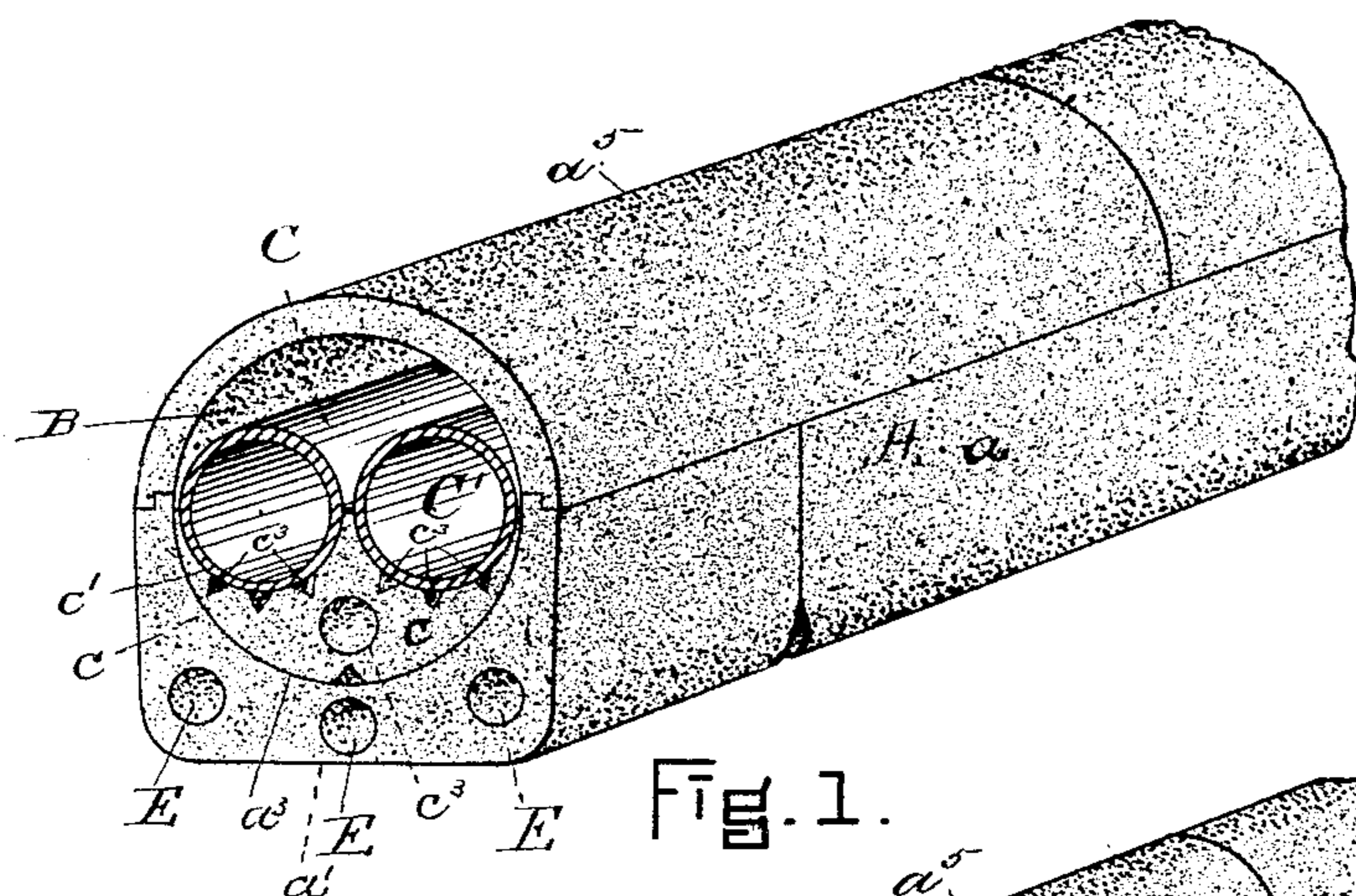


Patented June 19, 1888.



WITNESSES. Fig. 4.

J. M. Dolan.
J. B. Gardner.

Fig. 5. INVENTOR.

Michael Ullman.
my true ally
Clarke & Raymond

UNITED STATES PATENT OFFICE.

MICHAEL MEEHAN, OF BOSTON, MASSACHUSETTS.

CONDUIT.

SPECIFICATION forming part of Letters Patent No. 384,860, dated June 19, 1888.

Application filed June 18, 1887. Serial No. 241,694. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL MEEHAN, of Boston, in the county of Suffolk and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Conduits, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The object of the invention is to provide a conduit especially adapted for furnishing a support and covering to pipes for supplying steam or superheated water, electric light, telephone and telegraph cables, gas-pipe, &c. The conduit is made, preferably, in two longitudinal parts or sections, one of which acts as a support for the steam or hot-water pipes, and the other of which acts as a cover, and they are made, preferably, of sand and cement tamped in suitable molds and carbonized.

In the drawings, Figure 1 is a view in perspective of my improved conduit. Fig. 2 is a view in section thereof. Fig. 3 is a view in perspective of the pipe rest or support. Fig. 4 is a view in section with the pipe rest and support and pipes in position therein. Fig. 5 is a view in section representing in the cavity of the conduit, in addition to the pipes, a box for holding electric conductors. Fig. 6 is a view in perspective to which reference is hereinafter made. Fig. 7 is a detail view.

Referring to the drawings, A is the conduit. a is the lower section. It preferably is made with the flat or substantially flat base a' , the sides a'' gradually decreasing in thickness as they rise from the base, and the curved inner surface, a^3 , and the upper surface of each side a^2 has a section, a^4 , of a joint, which preferably is shaped as represented in Fig. 4. The other section or cover, a^5 , is of substantially the same thickness throughout, and is curved from its upper line or section, a^6 , downwardly, as represented in Fig. 1, and the lower surface of each edge has a section, a^7 , of the joint which matches with the sections of the joint on the sides. The cavity B of the conduit is preferably of a size to carry two large iron supply-pipes, C C', (see Fig. 1,) and also any desirable number of electric conductors or cables.

The pipes C C' preferably are supported in

the cavity, so as to be surrounded by air upon all sides, or practically on all sides, and I employ for holding them in this position in the cavity, as well as to keep them separated from each other, the support or center pieces, c , which are placed in the base-section of the conduit at convenient distances apart. These supports or center pieces are curved upon their under surface, c , to fit the curved upper surface, a^3 , of the base, and they have in their upper surfaces curved pipe-holding recesses c' c^2 . (See Figs. 1 and 3.) These center pieces or supports also act to hold the steam or water pipes in the conduit cavity above the bottom of the conduit or out of reach of any water which may enter the cavity or be formed therein by condensation; and in order that the supports or center pieces, C, may not act as a barrier to the escape of water from the conduit-cavity, I have formed therein holes or passages c^3 , one of which is arranged at the very lowest point of the support or center piece, another of which is formed above the first, and others of which are formed in the surfaces c' c^2 for the support of the pipes C C'. I would here remark that I do not confine myself to this especial form of support or center piece, but prefer to use one having the essential elements of the one described—that is, one having a firm base adapted to maintain the pipe or pipes substantially centrally in the conduit-cavity and constructed to permit the flow of water along the bottom of the conduit-cavity.

D represents the cables of a number of electric conductors. They may be located in the passages d in a covered box, d' , also made of carbonized cement and sand and placed upon the pipes, or they may be laid in any other convenient part of the pipe.

It will be desirable in certain instances to drain the soil in which the conduit is laid, and for this purpose I use the form of conduit represented in Fig. 1—that is, a conduit having in the base the drain passages or cavities E. (See Fig. 1.) When the drain-passages E are not used in laying the conduit, I prefer that the ends be joined together by the lapping of a shoulder upon one into a recess formed in the other, as represented in Fig. 7, and to arrange the covers so as to break joints, and to seal the joints by cement or other suitable ma-

terial. When the conduits have the drain-passages E, substantially the same construction is utilized for joining the sections, with the exception that the sealed joint does not extend
 5 below the upper line of the drain-holes, so that there is left below this seamed joint an opening from the sides of the conduit through which water may enter the drain-passages and escape from the soil immediately about the conduit.
 10 This construction is represented in Figs. 1 and 7.

In making the conduit I prefer to follow substantially the process described in the George Richardson patent application Serial No. 240,595, filed June 8, 1887—that is, each section is built up in molds of cement and sand
 15 by tamping and is afterward carbonized. This makes a very strong, durable, and accurately-made conduit.

Of course I would not be understood as limiting myself to this particular material, so far as the broad features of the invention are concerned, although I deem it the best for ordinary purposes.

The advantages of the invention arise from
 25 the comparative cheapness of the conduit itself and the laying of the same; also, because it provides a solid and substantial air-tight covering from the hot-water or steam pipes contained therein; also, because it provides
 30 means for the circulation of air about said pipes, which air acts as a jacket for preventing the escape of heat through the conduit and condensation on the outersurface of the pipe; also, in the construction of the conduit and the

location of the steam and hot-water pipes, 35 whereby the conduit acts to drain or carry off the water of condensation, or which may otherwise enter the same, without bringing it in contact with said pipes.

It will be seen that the top section may be 40 easily removed and the pipe exposed for tapping, repair, or inspection; also, that the pipe may be laid on the earth, concrete, or a plank, and the clamps may be put around the conduit and substructured and fastened by a proper 45 device to resist pressure from any point, if found necessary.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States— 50

1. The combination, with a molded conduit, of the pipe-supports *c*, having concave recesses *c'* *c''*, with drainage-openings *c'''* in said recesses, substantially as set forth.

2. The combination, with a molded conduit, 55 of the pipe-supports *c*, having concave recesses *c'* *c''*, with drainage openings *c'''* in said recesses and also below the same, substantially as set forth.

3. The conduit having the cavity B for containing hot-water or steam pipes, electric conductors, &c., and also provided with one or more drain-passages, E, as and for the purposes specified. 60

MICHAEL MEEHAN.

In presence of—

F. F. RAYMOND, 2d,
 J. M. DOLAN.