C. M. DISSOSWAY.

DISTRIBUTING SYSTEM.

APPLICATION FILED JUNE 7, 1907. RENEWED DEC. 3, 1909.

964,001. **Patented July 12, 1910.**

Fig. 1

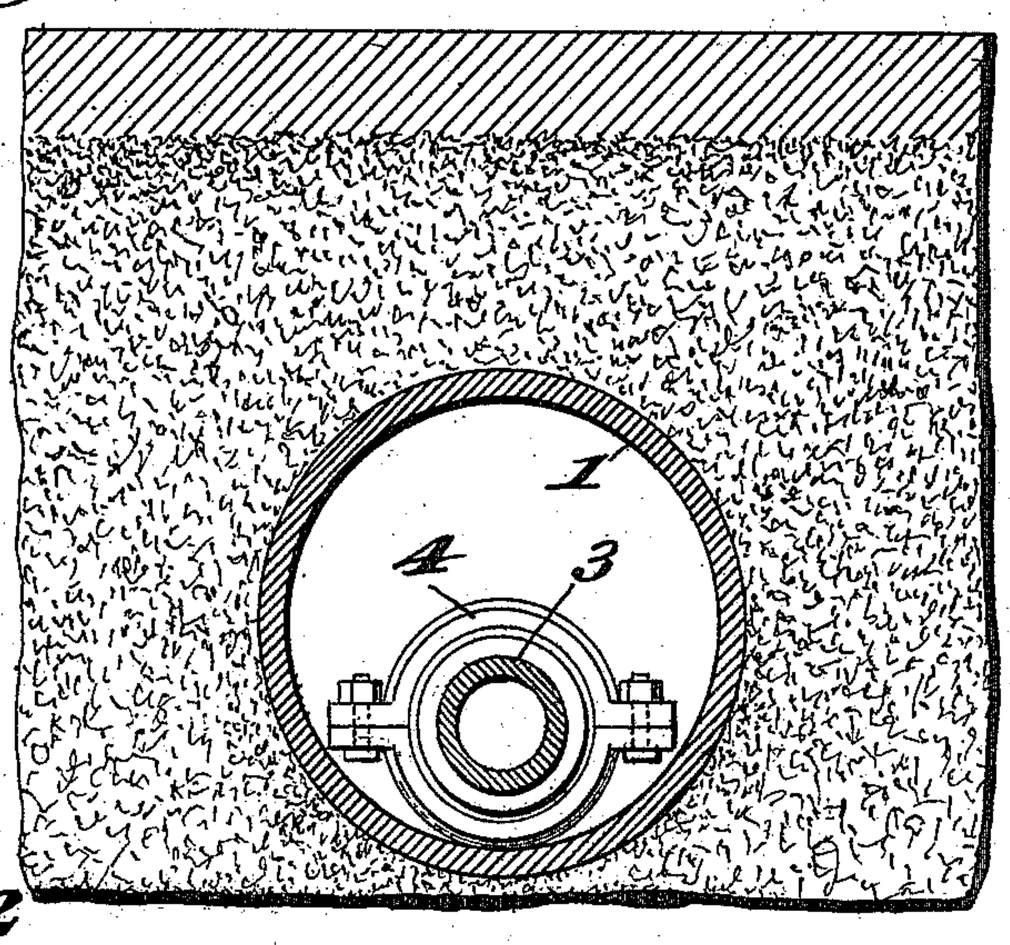


Fig. 2

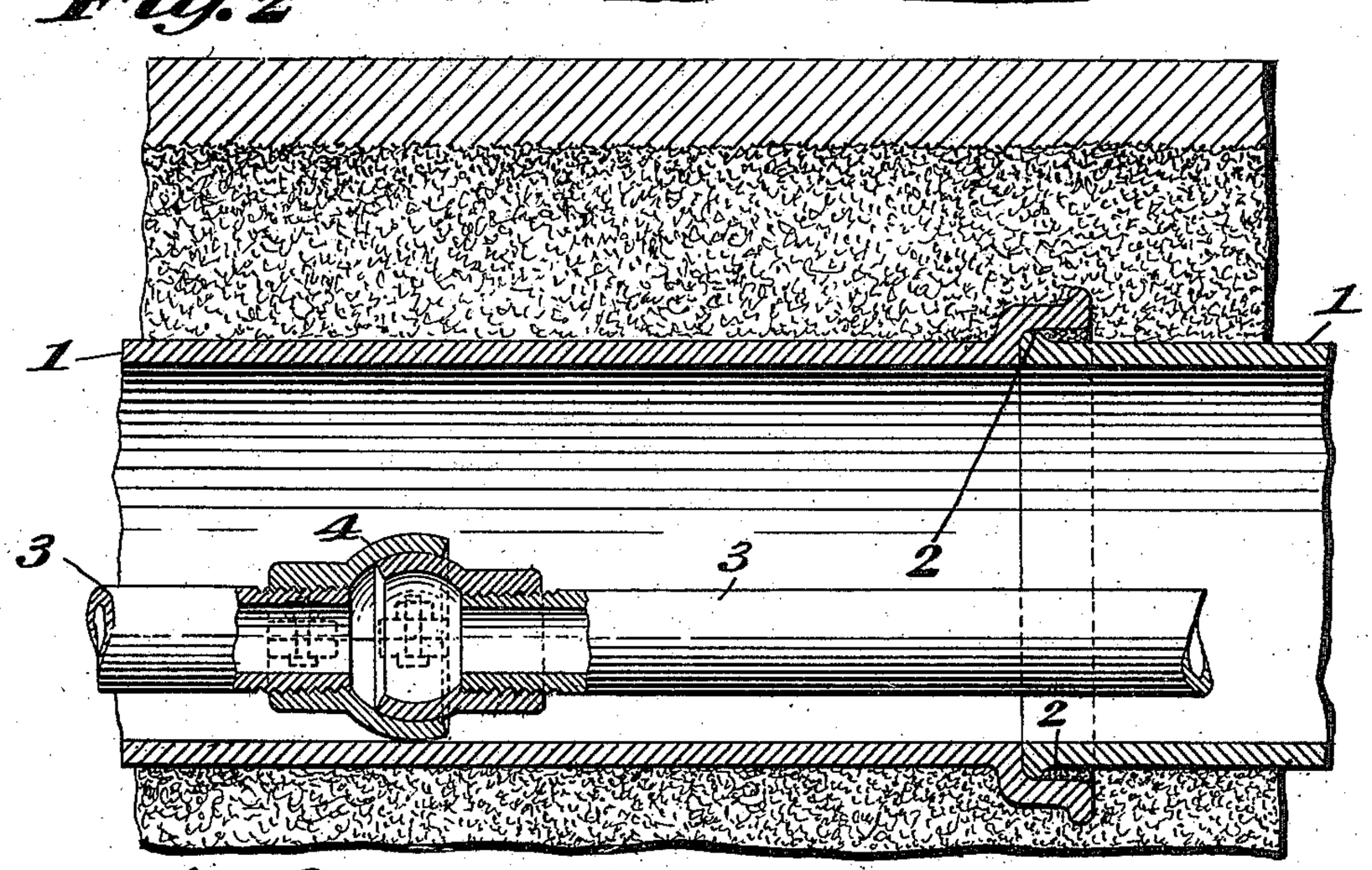
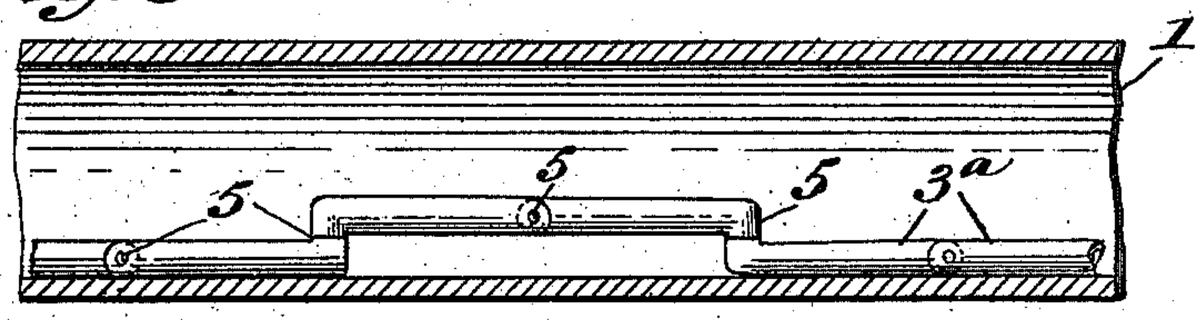


Fig. 3



Witnesses:

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UNITED STATES PATENT OFFICE.

CROWELL M. DISSOSWAY, OF NEW YORK, N. Y.

DISTRIBUTING SYSTEM.

964,001. Specification of Letters Patent. **Patented July 12, 1910.**

Application filed June 7, 1907, Serial No. 377,675. Renewed December 3, 1909. Serial No. 531,234.

To all whom it may concern:

Be it known that I, CROWELL M. DISSOSWAY, a citizen of the United States, residing in the borough of Manhattan, in the city, county, and State of New York, have invented certain new and useful Improvements in Distributing Systems, of which the following is a specification.

This invention relates to certain improvements in systems of distribution such as are commonly employed, particularly in towns and cities for the supply of water, both for ordinary consumption and as a means of protection against fire, and the object of the invention is to provide, for use in such systems of distribution, means for preventing the cutting off or impairment of the protection against fire in case of distortion or fracture of the mains wherein the water supply for ordinary consumption is conveyed, such as commonly occurs from earthquakes, explosions, and settling due to excavations and the like.

The invention consists, in part, in a system of distribution of this character wherein two sets of conduits or mains are provided, one of which is particularly designed and adapted for carrying water for protection against fire and is housed and protected within the other conduit or main, the latter being particularly designed and adapted for carrying a supply of water for general consumption.

The invention also contemplates certain novel features of the construction, and combinations and arrangements of the several parts of the improved system of distribution, whereby certain important advantages are attained and the system is rendered simpler, more effective and is otherwise better adapted and made more convenient and desirable for use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In the accompanying drawings which serve to illustrate my invention—Figure 1 is a sectional view taken transversely and vertically through a main of a system of distribution embodying my improvements; Fig. 2 is a fragmentary sectional view taken lengthwise through the main shown in Fig. 1, and Fig. 3 is a sectional view taken lengthwise through a main, showing a modified formation of my improvements applied thereto.

As shown in these views 1 represents a main or conduit of large diameter such as is usually formed from cast iron in short lengths or sections jointed as seen at 2, and embedded beneath the surface in such a way as to be adapted for carrying, under ordinary circumstances, a comparatively large supply of water for general consumption, and 3 represents a smaller pipe or main, housed and inclosed within said large main or conduit 1, and of such relative diameter that its presence shall not materially impair the desired capacity of said main or conduit 1 for supplying water for general consumption.

The inclosed smaller main or pipe 3 will be preferably formed from sections of wrought iron or steel of sufficient strength, said sections being connected by universal or other movable joints as shown at 4 in Fig. 2, and said inner smaller main or pipe 3 is designed particularly for conveying a supply of water for use in emergency or as protection against fire. Such emergency or protective supply thus conveyed by way of said smaller inclosed main or pipe 3 may also be at a higher or different pressure from the supply for general consumption conveyed through the large outer or inclosing main 1.

Where mains are laid in the ordinary way, the earth wherein they are embedded is often displaced by the great strains imposed upon it during earthquakes and tremors, and even from explosions, and from excavation and the like, and in such cases, an excessive strain is imposed upon the jointed sections or lengths of the main so that the joints are often opened by distortion and the lengths or sections themselves are often broken, whereby the supply of water not merely for general consumption, but also for emergency uses, as for protection against fire, for example, is altogether cut off.

By my improved system of distribution wherein an emergency supply is carried by way of the smaller inclosed main or pipe 3, it will, however, be seen that said pipe or main is wholly inclosed and protected within the larger incasing main 1, which is permitted to move laterally to a certain limited extent without danger of injury to said inclosed smaller main 3, so that in case of distortion or breakage of the larger outer main 1 said inclosed smaller main or pipe 3 re-

mains intact and serves to insure the supply of water for protection against fire and other emergency purposes.

Where the inclosed smaller main 3 is formed from wrought iron or steel, it is also further adapted to resist ordinary strains which may be imposed upon it in case of breakage or distortion of the large inclosing main, by reason of the inherent flexibility of such materials, and where the sections of said inner smaller main or pipe are connected by universal couplings as seen in Figs. 1 and 2, this ability to resist strains without injury is further increased. The construction shown in Fig. 3 wherein the joints 5, 5 between the inner pipe sections 3^a, 3^a are adapted for pivotal movement in planes at right angles to each other is also calculated to afford a similar protection against impairment of the emergency supply.

From the above description of my improvements, it will be seen that the system of distribution constructed according to my invention is of an extremely simple and comparatively inexpensive nature and is especially well adapted for use by reason of the security afforded against impairment of the emergency supply of water in case of breakage of the supply for general consumption, whereby the improved system is rendered particularly serviceable in large towns and cities where secure protection against fire is most desirable. It will also be obvious from the above description that my improved system of distribution is capable of considerable modification as regards its details of construction without material departure from the principles and spirit of the invention and for this reason I do not desire to be understood as limiting myself to the precise forms and arrangements of the several parts herein shown in carrying out my invention in practice.

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

1. A system of water distribution comprising mains or conduits of different diameters, one such main or conduit being housed and capable of movement within the other conduit or main, the outer main or conduit conveying water for general consumption and the inner main or conduit carrying an emergency supply of water and being protected by said outer main or conduit.

2. A system of water distribution comprising mains or conduits of different diameters, one housed within the other, and adapted to convey independent water supplies, the inner conduit being formed from flexible material and being loosely rested at the base of the outer main or conduit and being capable of free movement within the same.

3. A system of water distribution comprising an outer main or conduit adapted to convey water for general consumption, and a smaller main or conduit comprising sections jointed for relative movement and formed from flexible material, said smaller main or conduit being housed within and free for lateral movement within said outer main or conduit and adapted to carry an emergency water supply.

In witness whereof I have hereunto signed my name this 2nd day of May, 1907, in the presence of two subscribing witnesses.

CROWELL M. DISSOSWAY.

Witnesses:

WILLIAM J. FIRTH,

H. G. HOSE.