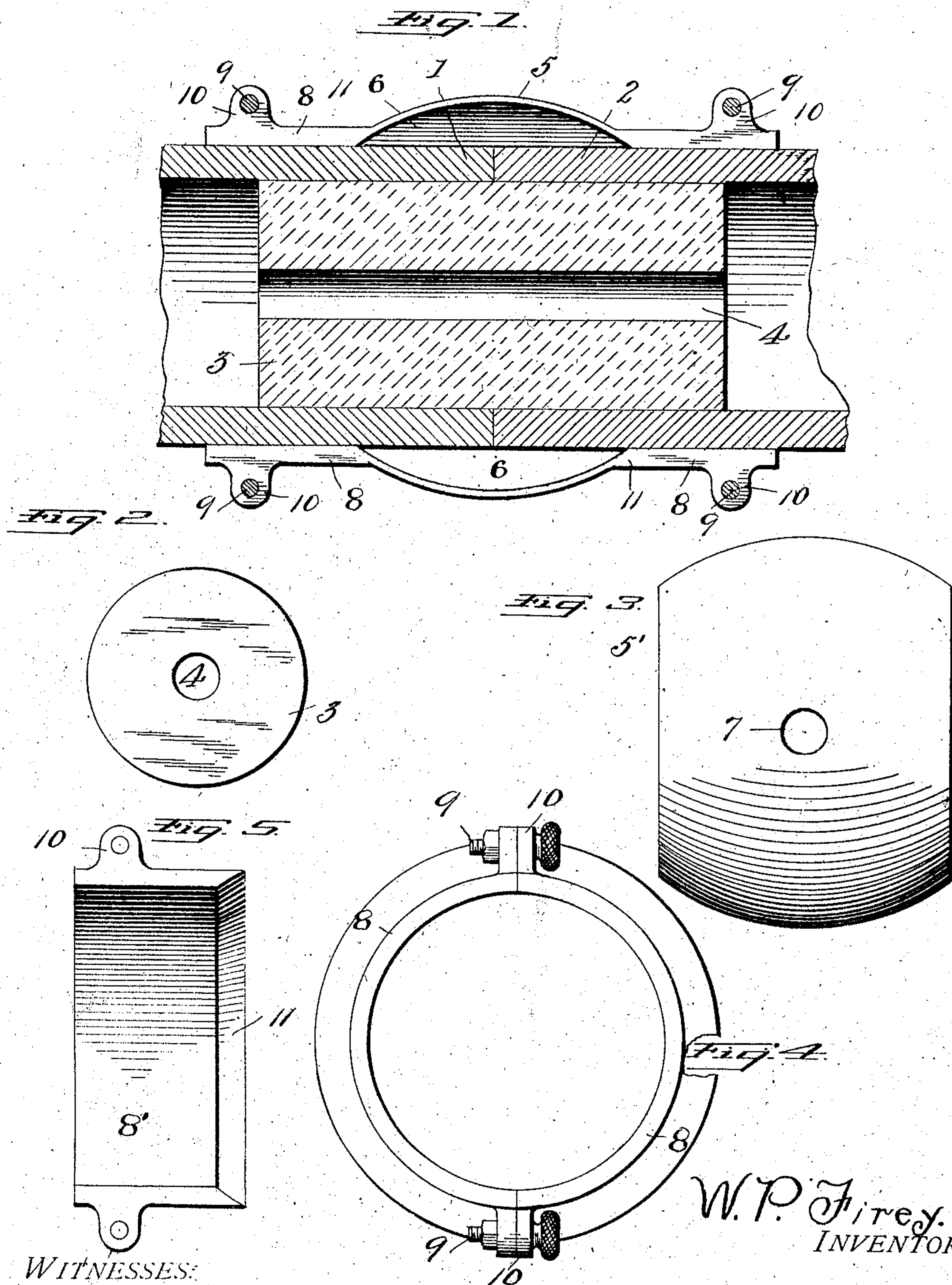


No. 827,223.

PATENTED JULY 31, 1906.

W. P. FIREY.  
CORE.

APPLICATION FILED OCT. 19, 1905.



WITNESSES:

Chas. H. Davies

W. A. Johnson

W. P. Firey.  
INVENTOR

BY *Shepherd and Parker*  
Attorneys



# UNITED STATES PATENT OFFICE.

WILLIAM P. FIREY, OF ROANOKE, VIRGINIA.

## CORE.

No. 827,223.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed October 19, 1905. Serial No. 283,546.

*To all who it may concern:*

Be it known that I, WILLIAM P. FIREY, a citizen of the United States, residing at Roanoke, in the county of Roanoke and State of Virginia, have invented certain new and useful Improvements in Cores, of which the following is a specification.

My invention relates to apparatus for molding pipe-joints.

The object of my invention is to provide means whereby an unskilled operator may be enabled to obtain more uniform results and to economize time and material.

It is a further object of my invention to provide apparatus for molding pipe-joints which will enable the material of which the pipe is made to be fused with the joint-forming material without the pipe losing its shape and permits the rapid removal of the core of the apparatus by the liquid carried by the pipe.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be herein-after more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings I have illustrated one complete example of the physical embodiment of the invention.

In the drawings, Figure 1 is a horizontal section of my improved sectional molding apparatus in one form. Fig. 2 is an end view of the core. Fig. 3 is a top plan view of a shell used to form the mold when it is desired to permanently retain the shell over the joint. Fig. 4 is an end view of the complete removable mold shown in Fig. 1. Fig. 5 is an inside view of the separate clamping-plates used with the shell of Fig. 3.

Referring to the drawings, 1 and 2 are the adjacent ends of the pipes to be joined. In the abutting ends of said pipes 1 and 2 and lying partially in each of said pipes is inserted a core 3, of soluble material, having a passage 4 running longitudinally therethrough, said core being adapted to retain the shape of the pipe when said pipe is heated to fusing-point.

5 is a metal sectional shell portion the open ends of which are approximately of the same

diameter as that of the pipes to be joined, the said ends being of less diameter than the central portion, thereby allowing a space 6 between the inner wall of the shell and the pipes, into which is poured the molten metal or solder through an aperture in the shell. The shell 5 is formed in two sections or halves having at each end the integral sectional clamps 8. The sectional mold is adapted to be held in position over the pipe ends by bolts 9, passing through holes in lugs 10 of the clamp ends. This form of mold is used when it is desired to use only the molten metal or solder to complete the joint, the shell portion being removed after the molten metal has set; but in some instances I contemplate the use of the shell as a permanent retainer over the joint. In this construction an integral shell 5' is used provided with an opening 7 for pouring the molten metal. The clamp-sections, as 8' in Fig. 5, are formed in a set of two pairs and joined by bolts, as before. The adjacent edges of 8' are beveled inward to receive the ends of shell 5', as shown at 11, thus forming a tight joint between the shell and pipe, thereby retaining the metal within the shell.

In forming a joint the adjoining ends of the pipe are brought together, with the core 3 between and connecting them. The two parts of the sectional mold are placed around the joint, as in Fig. 1, and secured by bolts 9 and molten metal poured through the opening in the shell portion. After the molten metal has set, the two sections of the mold are removed, leaving a solid and durable joint. In the modified form, the shell 5' being placed on one of the pipes, core 3 is inserted the proper distance in the end of said pipe, and the other pipe is placed in position on the outside of the projecting parts of the core. The shell is then slid into position over the joint and the clamps 8 are bolted around the pipe firmly against the ends of the shell. The mold being in position, molten metal or solder is poured through the aperture 7 into the annular chamber 6 between the pipes and shell. As soon as the solder has set, the clamps are removed, leaving the shell firmly secured to the pipes. When the pipes are put into service, the liquid passing through passage 4 will quickly dissolve the saline core and leave the interior of the pipes unobstructed.

It will be observed that the clamps and saline core will prevent the pipes losing this



shape should the pipe-metal fuse, and at the same time the core presents no permanent obstruction to the liquid carried by the pipes. The metallic shell when left on the joint, besides forming the mold for the molten metal, tends to naturally strengthen the joint.

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

- 10 1. In a device of the character described, a soluble core having a longitudinal passage therethrough.
2. In a device of the character described, the combination with a soluble core provided
- 5 with a longitudinal passage, of a mold.
3. A soluble core having a longitudinal passage therethrough and adapted to be used in molding pipe-joints, the material of which said core is composed being fusible at a tem-

perature higher than the temperature of the molten metal used in molding said pipe-joints. 20

4. In a device of the character described, the combination with a soluble core, provided with a longitudinal passage, of a mold, said core being adapted to be used in combination with said mold in molding pipe-joints, the material of said core being fusible at a temperature higher than the temperature of the molten metal used in molding said pipe-joints. 25 30

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM P. FIREY.

Witnesses:

D. M. FIREY,  
R. C. ROYER.