

No. 619,815.

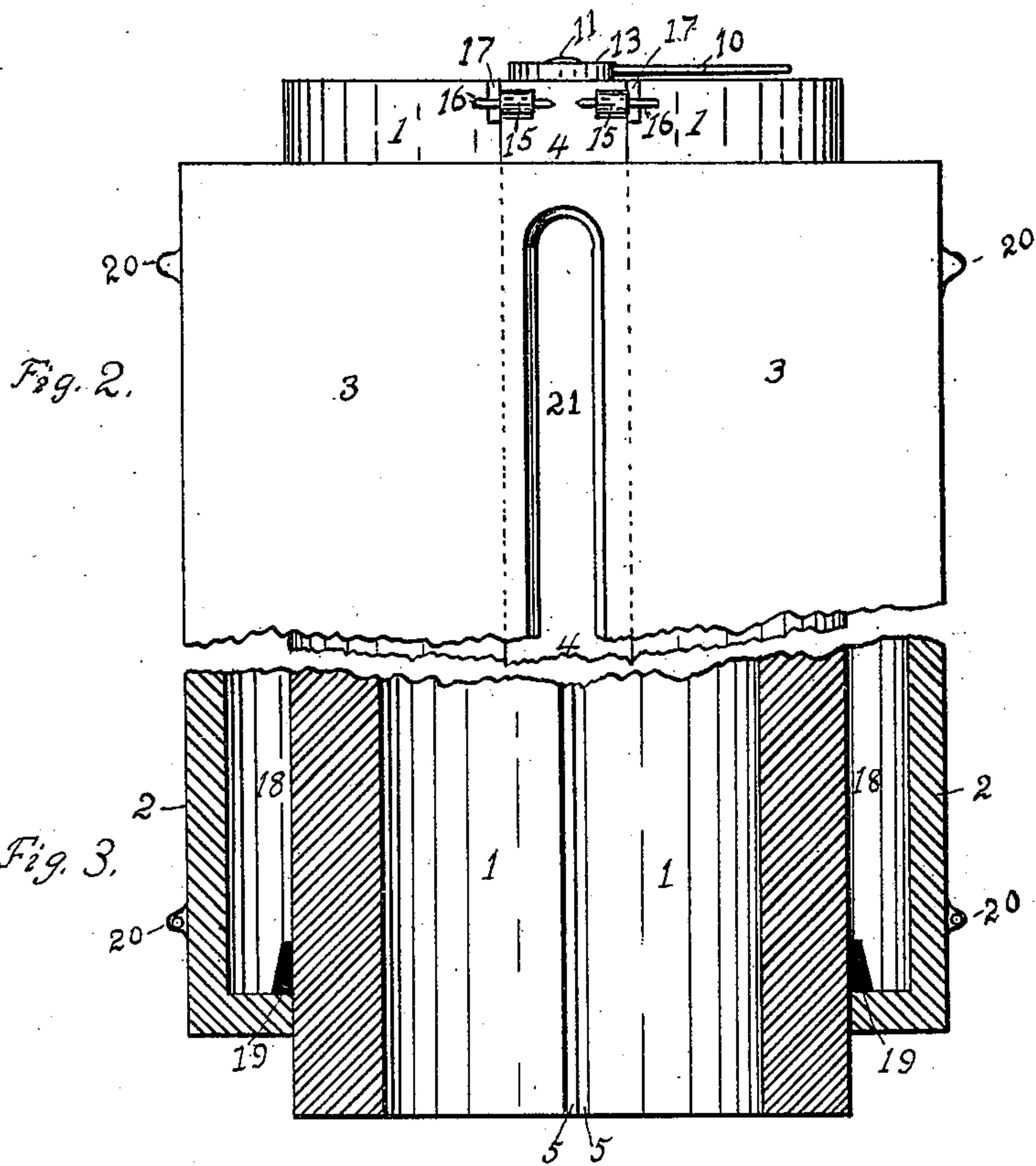
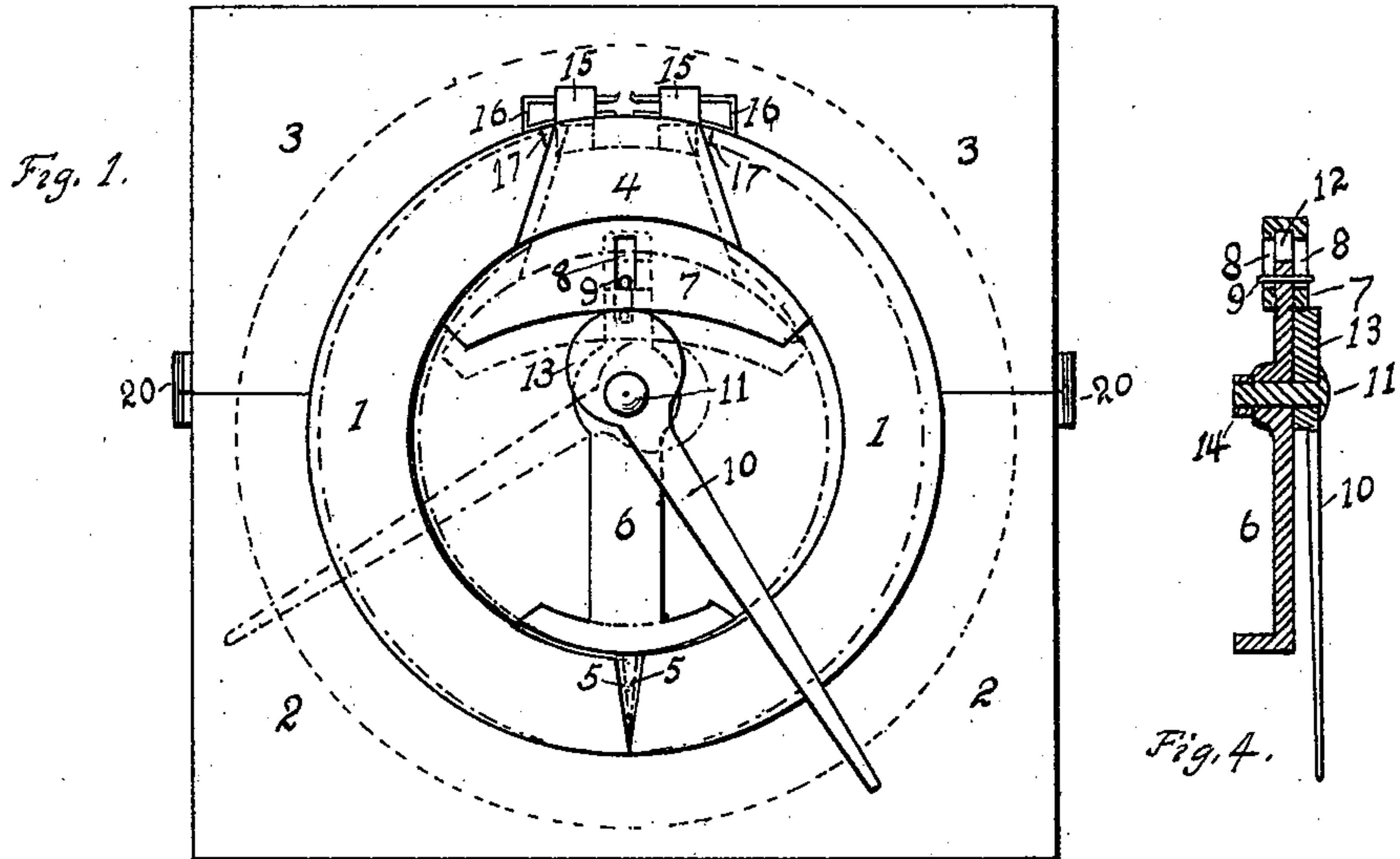
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G. G. WINANS.

SHRINKING CORE FOR MOLDING GLASS OR METAL PIPES.

(Application filed Apr. 28, 1898.)

(No Model.)



WITNESSES,
A. J. Branda
A. W. Hancock

INVENTOR,
Geo. G. Winans
per D. B. Repley
Attorney

UNITED STATES PATENT OFFICE.

GEORGE G. WINANS, OF SCRANTON, PENNSYLVANIA.

SHRINKING CORE FOR MOLDING GLASS OR METAL PIPES.

SPECIFICATION forming part of Letters Patent No. 619,815, dated February 21, 1899.

Application filed April 28, 1898. Serial No. 679,075. (No model.)

To all whom it may concern:

Be it known that I, GEORGE G. WINANS, a citizen of the United States, residing at Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Shrinking Cores for Molding Glass or Metal Pipes; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to molding devices such as are used for molding lengths of pipes adapted to be joined to each other, and is especially adapted for use in molding joints of pipes made from glass or similar substances which may be cast in a molten condition and contract considerably upon cooling.

The object of the device is to provide a shrinkable center or core to be used in connection with a molding-box, the said core being capable of being contracted and removed during the cooling of the joint of pipe to be cast, simpler in construction, and more efficient and easily operated than those heretofore in use.

To this end my device consists in the novel construction, arrangement, and combination of parts, as herein set forth, and illustrated in the drawings.

Referring to the drawings, Figure 1 is an end view of a molding-box having one of my cores inserted therein and showing a side view of the jack used to adjust and retain the core. Fig. 2 is a top view of the same end of the molding-box shown in Fig. 1. Fig. 3 is a horizontal cross-section of the opposite end of a similar molding-box with the jack shown in Fig. 1 removed. Fig. 4 is a vertical cross-section taken through the center of the jack shown in Fig. 1.

Similar figures of reference designate similar parts throughout the several views.

1 1 designate the two main portions of my shrinkable core, which extend longitudinally through a long molding-box, the lower half of which is designated 2, and is completed by the upper similar portion designated 3. For convenience of removal the lower portion of

the said box may include slightly more than half the circle. The two portions 1 1 are beveled at 5 5, so as to permit their upper portions to approach each other when the wedge-section 4, forming part of the walls of the core, is dropped inward or preferably downward, that portion of the core provided with the piece 4 being preferably placed upward when the device is in operation. The member 4 may be retained in position by means of the keys 16 16, passing through the lugs 15 15 at both ends of the said member, the said keys being preferably made from bent strips of metal, the lower portion of which should be so curved as to coincide with the outer convex surface of the core when they are placed in position. When the core is in position, it allows the space 18 between the outer walls of the core and the inner walls of the molding-box, into which the molten material may be poured through the slot 21 in the member 3 of the said box. The bell or female end of the joint is made by posing the ring shown in cross-section at 19 19 in Fig. 3. It is readily seen that the male end of the pipe may be formed by having a ring of reverse-shaped section inserted against the inner surface of the molding-box at its opposite end. The ring is not a part of my device and may be constructed of crockery-ware or any other suitable material.

The sections of the molding-box may be joined together in the usual way by lugs and pins at 20 20, &c. The member 4 may be lifted to and retained in position by means of the jack shown in cross-section in Fig. 4, which is an upright member 6, provided with a foot adapted to extend across the beveled portions 5 5 and also provided with the bossed portion through which the piece 11 secures a cam 13, operated by a lever 10, to the member 6, the said pin being retained by the nut 14 or in any other suitable way. The cam 13 engages with and is attached to actuate the curved cap 7, the top of which coincides with the inner surfaces of the members of the shrinkable core, and the said cap is provided with a socket 12, slotted at each side 8 8, into which the upper end of the member 6 slides during the operation of the jack, and is retained or prevented from becoming separated therefrom by means of the pin 9, fixed in the

member 6, having its ends loosely sliding in the slots 8 and 8.

The operation is now readily explained. As the cap 7 is allowed to drop downward after removing the keys 16 16 and turning the lever 10 into the position shown in dotted lines in Fig. 1 the sides 1 1 approach each other to the positions shown in dotted lines. The cuts 17 17 in the edges of 1 1 prevent an interference with the lugs 15 15, and in this position after the pipe has been poured or cast the core, with all its parts except the keys 16 16, may be slid lengthwise through and out from within the pipe-cast, which pipe may then be removed from the molding-box in the ordinary way.

I do not wish to be confined to the exact construction of lugs, keys, or jack shown, as it is evident that their construction may be varied without departing from the general spirit of my invention.

What I do claim, and desire to secure by Letters Patent, is—

In a shrinking core of the kind described the combination of two members thereof forming the sides and a third member being wedge-shaped and adapted to be forced outwardly until its outer side is flush and in line with the outer sides of the members aforesaid, keys for holding said third member in position, and the said third member being provided with lugs adapted to receive the said keys engaging with the outside surfaces aforesaid for the purpose of holding the said core at full size during the process of pouring the molten substance into the mold and the said third member being capable of dropping inwardly when the said keys are removed so as to permit shrinking of the core, substantially as specified and for the purpose set forth.

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

GEORGE G. WINANS.

Witnesses:

A. W. HANCOCK,
S. W. L'AMOREAUX.