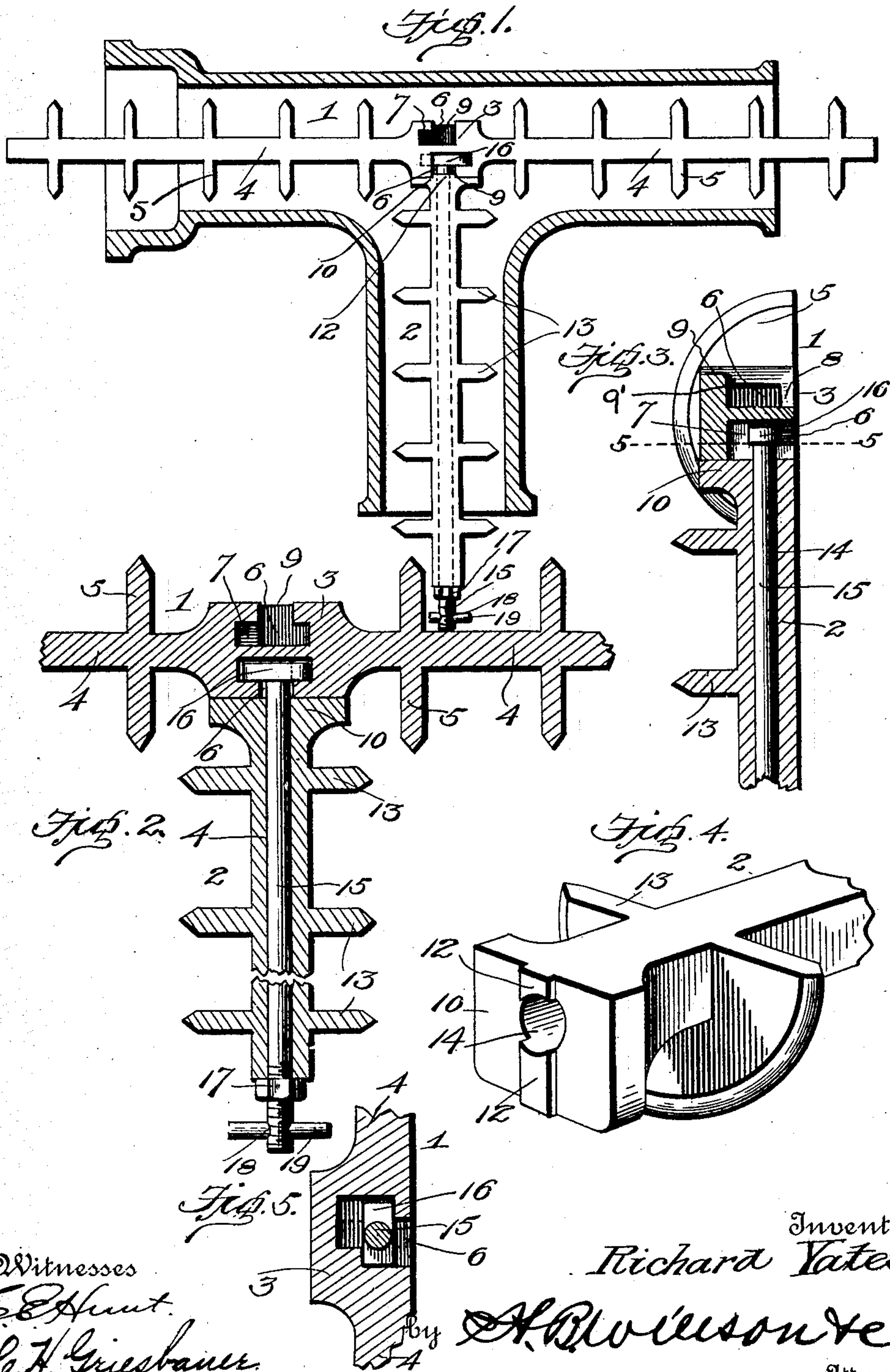


No. 860,510.

PATENTED JULY 16, 1907.

R. YATES.  
CORE ARBOR.  
APPLICATION FILED APR. 19, 1906.



Witnesses  
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# UNITED STATES PATENT OFFICE.

RICHARD YATES, OF LYNCHBURG, VIRGINIA.

## CORE-ARBOR.

No. 860,510.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed April 19, 1906. Serial No. 312,689.

*To all whom it may concern:*

Be it known that I, RICHARD YATES, a citizen of the United States, residing at Lynchburg, in the county of Campbell and State of Virginia, have invented certain new and useful Improvements in Green-Sand-Core Arbors for Pipe-Molds; and I do 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.

10 This invention relates to improvements in green sand core arbor for pipe molds.

The object of the invention is to provide a core arbor of this character which may be readily separated and removed from the pipe or other molded article, means  
15 being provided whereby the sections of the core may be securely clamped together during the molding process.

With the above and other objects in view, the invention consists of certain novel features of construction,  
20 combination and arrangement of parts, as will be hereinafter described and claimed.

In the accompanying drawings:—Figure 1 is a longitudinal sectional view of a cast iron pipe fitting or joint, showing the arrangement of the core arbor therein;  
25 Fig. 2 is a longitudinal sectional view of the core arbor removed; Fig. 3 is a similar view, taken on a plane at right angles to Fig. 2; Fig. 4 is a perspective view of the connecting end of the branch section of the core; and Fig. 5 is a detail sectional view through one side of the  
30 head of the main core section on the line 5—5 of Fig. 3.

Referring more particularly to the drawings, 1 denotes the main section of the core and 2 the branch section thereof. The main section consists of an enlargement or head 3 from which extends arms 4 having  
35 arranged thereon and spaced apart radially disposed semi-cylindrical disks 5, preferably formed integral with said arms. In the opposite sides of the head 3 are formed recesses 6 extending longitudinally of the core, in each of which are arranged stops 7 and 8, the  
40 stop 8 being disposed in one end of the recess at the bottom thereof, and the stop 7 in the other end of said recess at the top thereof. The outer walls of the head 3 are cut out at points between the stops 7 and 8 to form open slots 9 and the bottom wall of each recess 6 is  
45 grooved on its outer edge or face below the slot 9 to form in connection with the slot 9 a key-way 9' for a purpose hereinafter described.

The branch section 2 of the core comprises a head 10 having on its outer end a lug or key 12 adapted to fit  
50 into one or the other of the slots 9 and the key-way 9' formed in the opposite sides of the head 3 on the main section. This branch section 2 is provided with a series of spaced radially disposed disks 13 which together with the disks 5 on the main section serve to  
55 hold the green sand firmly on the core. The branch section 2 is also provided with a longitudinally dis-

posed bore 14 through which extends a bolt 15 the inner end of which is provided with a T-shaped head 16 adapted to enter one of the recesses 6 through one of the open slots 9 and to be turned in said recess until its  
60 opposite ends become engaged with the locking stops 7 and 8 disposed in said recess in which position the head of the bolt will lie across the slot 9 and be held in such position. The outer end of the bolt 15 is threaded and on said threaded end is adapted to be screwed a  
65 clamping nut 17 which when screwed up against the outer end of the branch section will securely hold the parts in position with the T-shaped head across the slot 9. Near the outer end of the bolt is formed a transversely disposed aperture 18 which lies in the  
70 direction of the length of the head so that the position of the head in the recess 6 will be indicated by said aperture. The aperture 18 is also adapted to receive a cross pin 19 by which the turning of the bolt is facilitated to place the bolt head in locking or unlocking  
75 position. After the nut is unscrewed the separation of the branch and main sections may be readily accomplished by turning the bolt 9 until its head is in perpendicular position, when it may be withdrawn through the slot 9. The branch arbor may then be  
80 withdrawn from the branch of the molded pipe joint or fitting and the main core section withdrawn from the main portion of the fitting.

The stops 7 and 8 serve to hold the bolt head in horizontal or transverse position across the slot 9 while  
85 the nut is being screwed up, the lower face of one end of the head being then engaged by the lower stop 8 and the upper face of the other end being engaged by the top stop 7 at the other end of the recess and the bolt is held securely against turning towards the right. When  
90 the nut is being unscrewed the bolt may be turned a partial rotation towards the left until the head thereof is in alinement with the slot 9 in which position it is held by the stops 7 and 8, one side of one end being engaged by the inner face of stop 8 and the other side  
95 at the other end being engaged by the inner face of stop 7.

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

1. The combination of a main core section having a recess therein, a branch section, a headed bolt carried by said branch section, the head of said bolt being adapted to enter said recess, and stops arranged at opposite ends of said recess for limiting the movement of the bolt head to a partial turn in either direction. 100 105

2. The combination of a main core section having a recess therein, a branch core section, a headed bolt carried by said branch section, the head of said bolt being adapted to enter said recess, and stops arranged at diagonally opposite corners of said recess for limiting the movement of the bolt head to a partial turn in either direction. 110

3. The combination of a main core section having a recess to form a bolt head chamber, a stop arranged at one end of said recess near the bottom thereof, another stop



arranged at the other end of said recess near its top, the outer wall of said recess having an open slot formed therein, a branch arbor having a bolt loosely mounted therein, said bolt having a T-head adapted to enter the recess in the main arbor through its open slot, means for turning said bolt to cause its head to engage said stops, and means for holding said bolt head in locked engagement with said stops.

4. A core arbor comprising a main section having recesses and open slots formed in its opposite sides, with grooves below said slots, a branch section having a longitudinally disposed bore, a key formed on one end of said branch section to engage the slots and grooves in one side of said main section and holds said section against turning, a bolt arranged in said branch section and having a T-head adapted to be turned in one of said recesses, means to limit the movement of said head in said recess, and a clamping nut adapted to be screwed onto the threaded outer end of the bolt to hold said head in engagement with said limiting means.

5. A core arbor comprising a main section having recesses and registering slots and grooves formed in its opposite sides, a branch section having a longitudinally disposed bore, a key formed on one end of said branch section to engage the slot and groove in one side of said main section, a bolt disposed in the bore of said branch section, a T-head on said bolt to turn in said recess, stops formed in said recesses to limit the turning movement of said head therein in both directions, a clamping nut on said bolt, the other end of said bolt having a transverse aperture extending in the same direction as the T-head on the other end of the bolt, and a pin inserted through said aperture to facilitate the turning of the bolt and to indicate the position of the head in the recess.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

RICHARD YATES.

Witnesses:

EARNEST W. MAYHEW,  
JOHN L. JACOBS.