G. BISSET, Jr.

Collapsible Core for Casting.

No. 199,179. Patented Jan. 15, 1878.

Fig. 1.

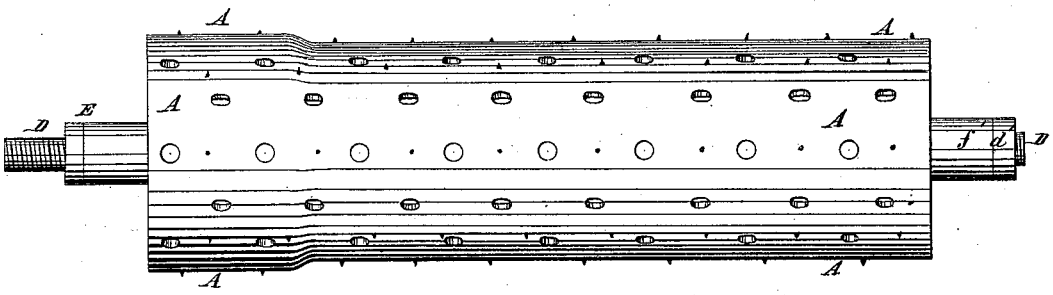


Fig. 2.

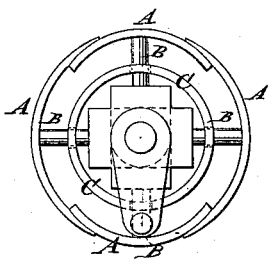


Fig. 4.

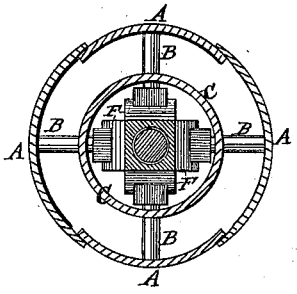
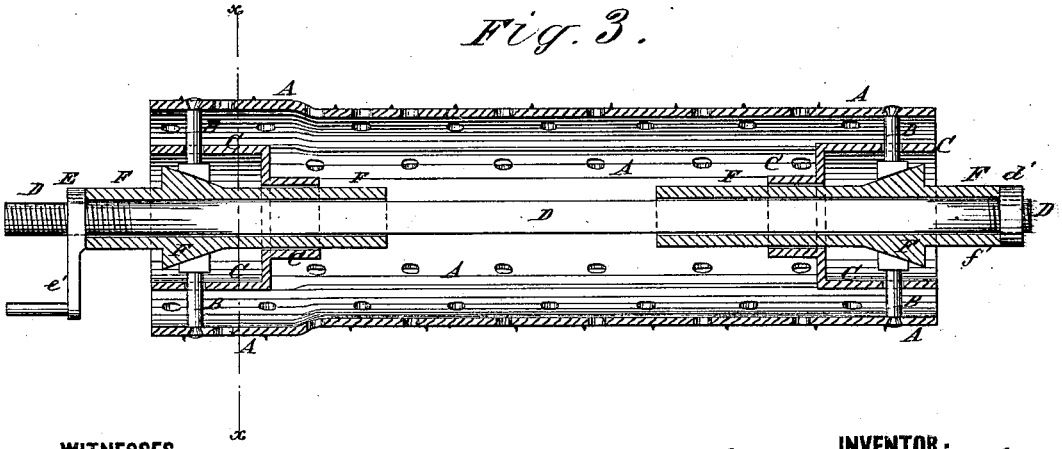


Fig. 3.



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GEORGE BISSET, JR., OF QUEBEC, PROVINCE OF QUEBEC, CANADA, ASSIGNOR TO HIMSELF AND WILLIAM H. KNIGHT, OF SAME PLACE.

IMPROVEMENT IN COLLAPSIBLE CORES FOR CASTING.

Specification forming part of Letters Patent No. **199,179**, dated January 15, 1878; application filed September 29, 1877.

To all whom it may concern:

Be it known that I, GEORGE BISSET, Jr., of Quebec, in the Province of Quebec and Dominion of Canada, have invented a new and useful Improvement in Contracting Core-Barrel, of which the following is a specification:

Figure 1 is a side view of my improved core-barrel. Fig. 2 is an end view of the same. Fig. 3 is a longitudinal section of the same. Fig. 4 is a cross-section, showing the relative position of parts when the sections of cylinder are expanded.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved core-barrel for use in casting water, gas, and other pipes rapidly, effectively, and economically; which will reduce the quantity of loam required to form the core to about one-third of the quantity heretofore necessary; which will avoid the use of hay, straw, or other intervening wrapper; which will greatly shorten the time required for the core to dry ready for use, and which will remove any liability of the core to burst, and of the casting to have holes occur in it through the use of staying-wires.

The invention will first be described in connection with the drawings, and then pointed out in the claims.

The shell of the core-barrel is formed of four cylindrical segments, A, constructed in pairs, and preferably of unequal size, the members of each pair being identical in contour, and directly opposite each other in position, with the edges of the larger pair overlapping the edges of the other pair.

To each end of each segment A is attached, by a nut flushed into a recess in its outer surface, by a screw-hole, or other suitable means, an adjusting-bolt, B.

The bolts B pass through slots or holes in an inner diaphragm, C, and have wedge or cone shaped heads, preferably the former, formed upon their inner ends.

The slots or holes in the diaphragms C may be square or round, preferably square, the parts of the bolts B working through them being of corresponding shape in their cross-section.

D is a shaft or spindle, which passes longitudinally and loosely through the diaphragms C, and has a nut or head, d', of any desired shape, attached removably to one end.

Upon the other end of the shaft D is formed a screw-thread to receive a nut, E, which is provided with an arm or handle, e', for convenience in turning it.

The portion of the shaft D intervening between the head and screw-thread is rectangular in cross-section, and has two hollow pyramidal or cone-shaped blocks, F, preferably the former, moving freely upon it.

In using the device, the nut E is screwed down upon the shaft D until it, or a washer placed beneath it, comes in contact with one of the adjusting-blocks F and presses it inward, the head of the said shaft D at the same time coming in contact with the other block F, and pressing it inward.

The simultaneous inward movement of the two blocks F brings their inclined surfaces in contact with the inclined heads of the bolts B, and presses them outward, extending the cylindrical segments to their utmost capacity, and forming a firm and unyielding bed for the loam, which may now be applied.

When the loam is dried, which, owing to the small quantity of loam used, and its being in direct contact with the core-barrel, requires but a very short time, the core is ready to be placed in the mold, and the required article cast.

As soon as the metal has had sufficient time to set, the nut E is turned back, releasing the blocks F, and allowing the barrel A to be compressed by the contraction of the casting.

In forming cores for pipes closed at one end, the nut d' is taken off, and the block F at that end removed and replaced by a block without the neck or journal f', so that the loam can be applied to the end of the core-barrel.

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

1. The combination of a core-cylinder in

sections that overlap at the side edges, bolts B with inclined heads, conical blocks F, and end-threaded shaft D, provided with nuts d' E, as shown and described.

2. The combination of the diaphragms C with the bolts B attached to the segments A, the pyramidal or conical blocks F, and the shaft D, substantially as herein shown and described.

GEORGE BISSET, JR.

Witnesses:
EDWARD MONTGOMERY,
THOMAS SMYTH.