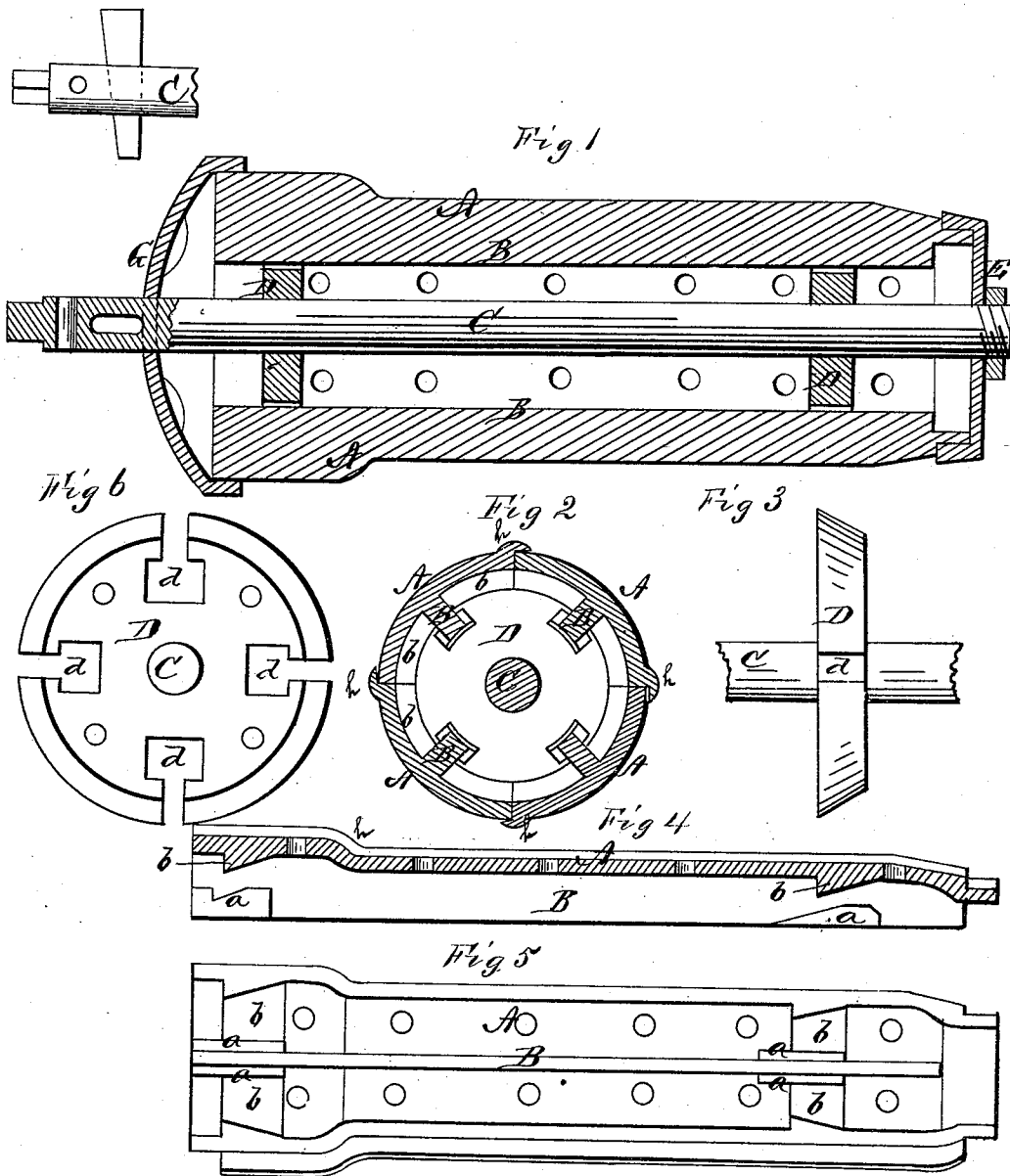


C. DOCKRAY.
Core-Barrels.

No. 167,075.

Patented Aug. 24, 1875.



Witnesses:
H. L. Curand
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per
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UNITED STATES PATENT OFFICE.

CHARLES DOCKRAY, OF ZANESVILLE, OHIO.

IMPROVEMENT IN CORE-BARRELS.

Specification forming part of Letters Patent No. **167,075**, dated August 24, 1875; application filed June 24, 1873.

To all whom it may concern:

Be it known that I, CHARLES DOCKRAY, of Zanesville, in the county of Muskingum and in the State of Ohio, have invented certain new and useful improvements in Core-Barrels; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a core-barrel, so that it can be reduced in diameter in order to facilitate the withdrawal from the casting, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal section of my core-barrel. Fig. 2 is a cross-section of the same. Fig. 3 is a side view of a part of the shaft, with one of the conical disks. Fig. 4 is a longitudinal section of one of the segments or staves of which the core-barrel is composed. Fig. 5 is an inside view of one of said segments; and Fig. 6 is an end view of the shaft, with the cones.

The shell of the core-barrel is made in four segments or staves, A A, each of which is on the inside provided with a longitudinal rib, B. This rib forms part of, and is attached to, the segment or stave. Upon each side of the central rib B are two or more inclines, *a a*, forming part of the rib, and used for drawing in the segments or staves. Corresponding with these inclines are two or more inverted cones, *b b*, cut in segments and attached to or forming part of the segments or staves A A. These inverted cones are used for the purpose of expanding said segments or staves. Through the barrel passes a central shaft, C, upon which are secured two or more conical disks, D D, provided with four T-shaped slots, *d d*, as shown in Fig. 6, for

the ribs B and inclines *a a* to pass through. The barrel is provided with a bottom cap, E, through the center of which the lower end of the shaft C passes. The upper end of the shaft also passes through the center of a cap, G, placed on top of the barrel. The shaft C is drawn upward when the conical disks D D, operating against the inverted cones *b b* on the inside of the barrel, will force the segments or staves A A outward, thus expanding the barrel. When it is expanded as far as desired a key is passed through a slot in the shaft C, immediately above the top cap G, and a nut screwed on the lower end of the shaft against the bottom cap E, thereby retaining the core-barrel in its proper size. When the barrel is to be contracted the key is taken out and the shaft C pressed downward, when the slots in the conical disks D D, acting against the inclines *a a*, will draw the segments or staves inward. Along one edge of each stave or segment A is attached a strip, *h*, to close the space between the adjoining staves, when the barrel is expanded.

I am aware that core-barrels, capable of being expanded and contracted, so as to dispense with the use of hay-bands or other similar material, have heretofore been used, and I therefore lay no broad claim to such invention.

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

The core-barrel herein described, consisting of the perforated staves A A, having the closing-strips *h h*, ribs B B, inclines *a a*, inverted cones *b b*, conical disks D D, having T-shaped slots *d d*, central shaft C, and caps E G, all constructed and arranged as described.

In testimony that I claim the foregoing I have hereunto set my hand this 30th day of May, 1873.

CHARLES DOCKRAY.

Witnesses:

JAS. S. PARKE,
S. B. MITCHELL.