

No. 614,958.

Patented Nov. 29, 1898.

T. KEENAN.
CORE BAR.

(Application filed Apr. 8, 1898.)

(No Model.)

Fig. 1.

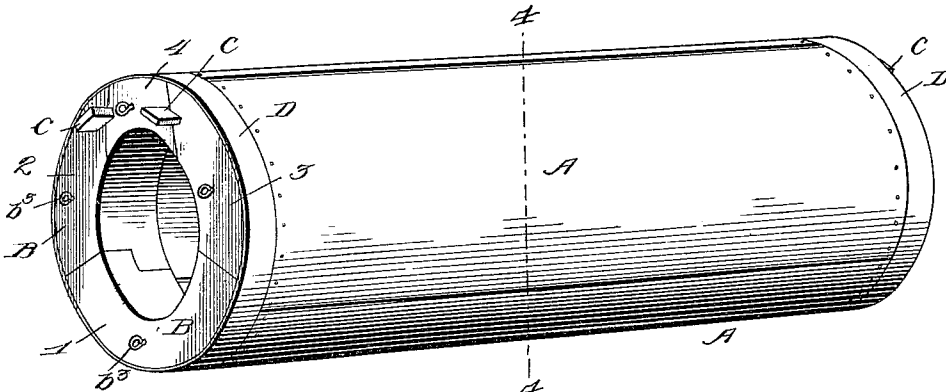


Fig. 2.

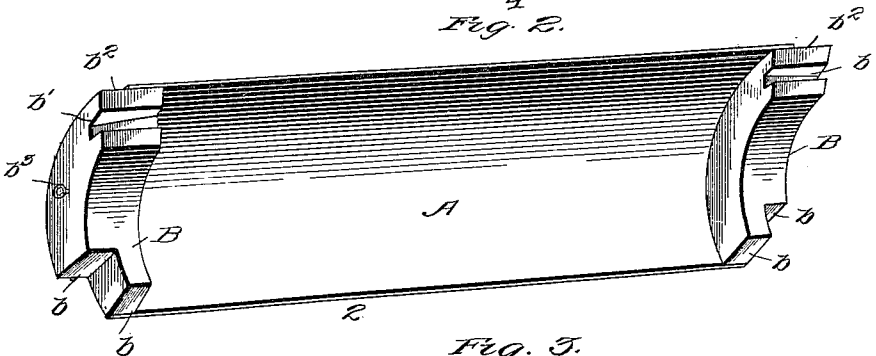


Fig. 3.

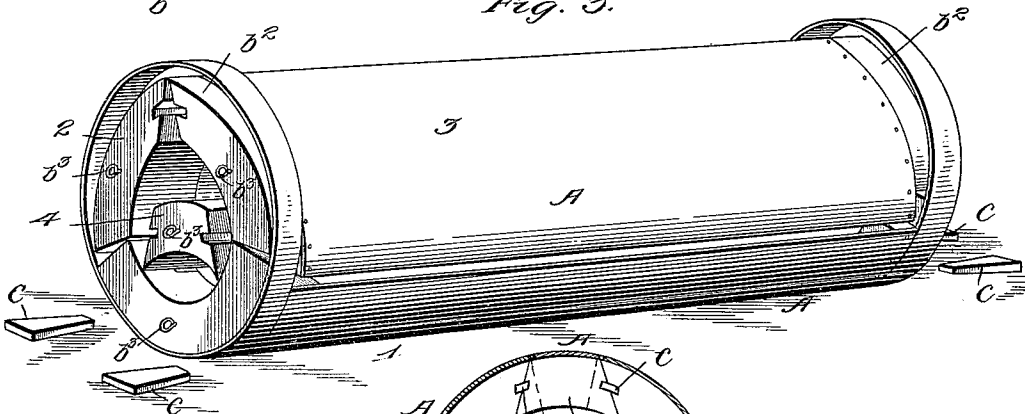
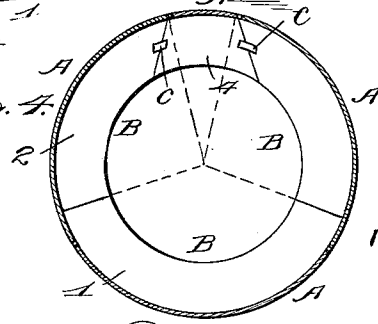


Fig. 4.



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CORE-BAR.

SPECIFICATION forming part of Letters Patent No. 614,958, dated November 29, 1898.

Application filed April 8, 1898. Serial No. 676,966. (No model.)

To all whom it may concern:

Be it known that I, THOMAS KEENAN, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Core-Bars; 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to core-bars for casting tubular articles, such as cylinders, pipes, and the like; and its object is to provide for the quick and easy removal of the core after the article has cooled.

When solid cores are used, it requires a great deal of labor to dig them out, especially if the casting is a large one. Many kinds of collapsible core-bars have been proposed; but so far as I am aware they contain various expensive mechanical devices for expanding and contracting them, and either for this reason or some other they are not in general use.

My invention is extremely simple, is not costly to make, has no moving parts to get clogged with dirt and worn out by the grit, is readily understood by an unskilled workman, is durable in surface, can be quickly set up, and as quickly collapsed when it is to be removed.

In the accompanying drawings, Figure 1 is a perspective view of my core-bar. Fig. 2 shows one section thereof. Fig. 3 shows the bar collapsed. Fig. 4 is a cross-section on line 4 4, Fig. 1.

The core-bar consists of a cylindrical shell composed of sections or segments placed edge to edge and expanded tightly inside of retaining-hooks, preferably by means of keys or wedges driven between the abutting edges of two or more sections. In the drawings I have shown four sections; but the number may be varied to suit the size of the core or the convenience of the molder. Each section has a segmental cylindrically-curved body portion A, with a heavy internal flange B at each end, which may be attached to the body or made

integral with it, as will be readily understood. Section 1 has a rabbet at each end of the flanges, the faces of the rabbet being radial. Sections 2 and 3 have corresponding and co-operating rabbets *b* at one end of their flanges, the other end being faced off oblique to a radial line, as clearly shown in Fig. 4. Section 4 is preferably narrower than the others, and its flanges are cut to fit snugly between the oblique ends of the flanges on sections 2 and 3. In the abutting ends of the flanges on sections 2, 3, and 4 are cut longitudinal keyways *b'*, those in section 4 being arranged to register with those in the other sections when section 4 is in place. Keys or wedges *C* are fitted to said keyways and when driven in force the sections 2 and 3 away from the section 4, thereby expanding the core-bar to its full size. The expansion is limited by hoops *D*, one at each end of the bar, fitting around the assembled sections and preferably received in rabbets *b''*, so that they may lie flush with the outer surface of the bar.

In operation the bar is set up on end in its expanded condition, and the core is molded upon it. After the casting has cooled sufficiently the keys are knocked out, allowing section 4 to be moved inwardly and then lifted out. The other sections can then be swung inward and removed. In heavy work rings or eyes *b'''* may be provided for the attachment of hoisting apparatus to lift the sections out of the mold.

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

1. A collapsible core-bar, consisting of segmental sections of thin material, having thick internal flanges extending across each end of the sections and abutting at their ends some on a radial line and others on an oblique line, and keys entering keyways cut lengthwise in the abutting faces of two or more of said flanges, substantially as described.

2. A collapsible core-bar, consisting of segmental sections having internal flanges abutting at their ends, the joints between some of said flanges being radial and others being oblique to a radial line, and keys entering said non-radial joints, substantially as described.

3. A collapsible core-bar, consisting of seg-

mental sections having internal flanges abutting at their ends, some of the joints being rabbeted and others not, and keys entering registering keyways cut in the non-rabbeted joints, substantially as described.

5 4. A collapsible core-bar, consisting of segmental sections having body portions A, internal flanges B having rabbets b ; oblique

faces, keyways b' and rabbets b^2 , keys C and hoops D, substantially as described. to

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

THOMAS KEENAN.

Witnesses:

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