No. 845,786. PATENTED MAR. 5, 1907.

B. F. HOBERT.

DEVICE FOR FORMING AND HOLDING SAND CORES.

APPLICATION FILED SEPT. 19, 1906.

FIG. 1

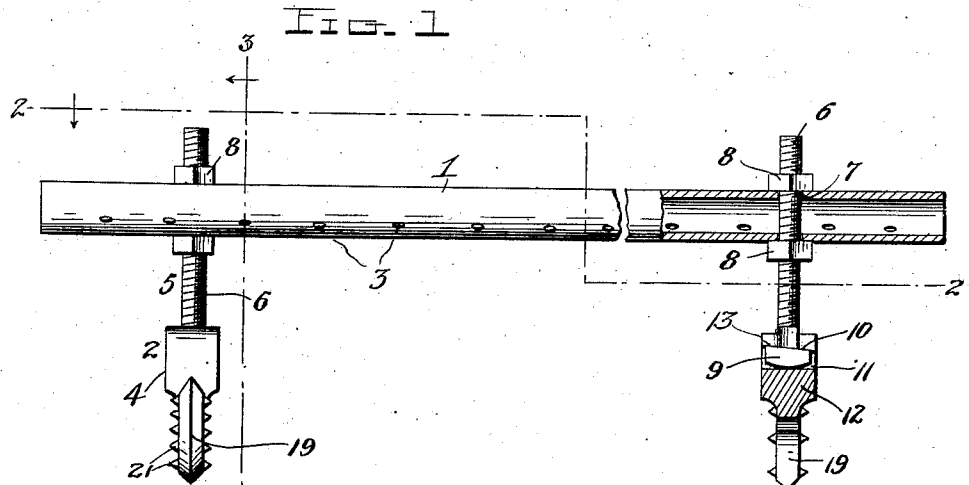


FIG. 2

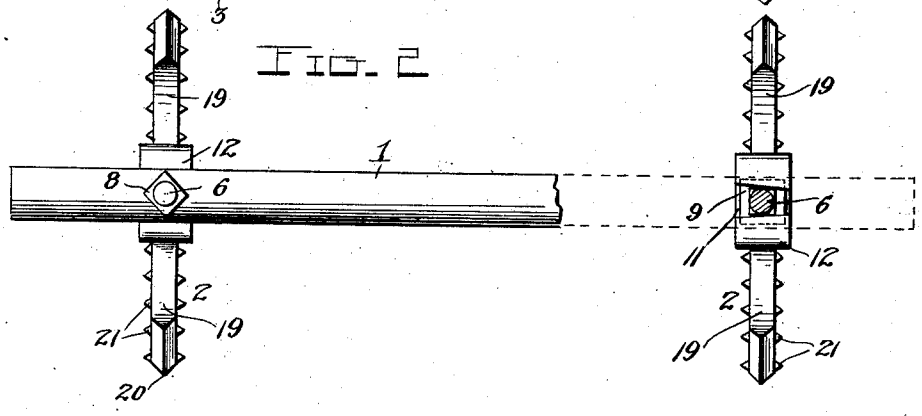


FIG. 3

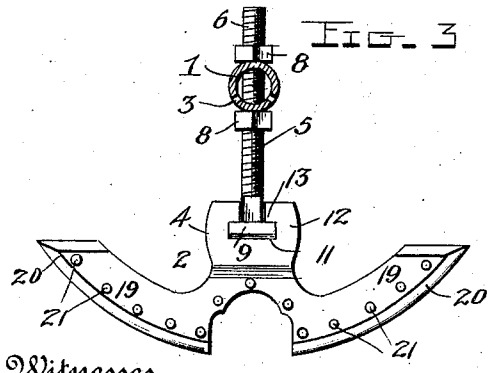
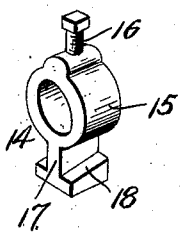


FIG. 4



Witnesses

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UNITED STATES PATENT OFFICE.

BENJIMAN FRANKLIN HOBERT, OF WATERTOWN, NEW YORK, ASSIGNOR OF ONE-HALF TO THOMAS F. HOBERT, OF WATERTOWN, NEW YORK.

DEVICE FOR FORMING AND HOLDING SAND CORES.

No. 845,786. Specification of Letters Patent. Patented March 5, 1907.

Application filed September 19, 1906. Serial No. 335,267.

To all whom it may concern:

Be it known that I, BENJIMAN FRANKLIN HOBERT, a citizen of the United States, residing at Watertown, in the county of Jefferson and State of New York, have invented certain new and useful Improvements in Devices for Forming and Holding Sand Cores in Molds, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in devices for forming cores of sand or the like and holding them in molds.

The object of the invention is to provide a device of this character which will be simple and inexpensive in construction and adapted for a variety of uses.

With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a view, partly in elevation and partly in section, of my improved core holding or supporting device. Fig. 2 is a horizontal sectional view taken on the plane indicated by the line 2 2 in Fig. 1. Fig. 3 is a vertical transvere sectional view taken on the plane indicated by the line 3 3 in Fig. 1. Fig. 4 is a perspective view of a hanger which may be substituted for the screw-bolt shown in the previous figures.

In the practice of my invention I provide a hollow bar 1, upon which may be adjustably mounted any number of supports 2 for holding the sand which forms the core. The bar 1 is here shown as a section of a cylindrical or tubular pipe, and it is provided at suitable points with vent openings or apertures 3, which permit of the escape of the gases through the open ends of said bar. Each of the supports 2 consists of a body or head 4 and a hanger 5, by means of which it is adjustably connected to the bar 1. In Figs. 1 and 3, inclusive, of the drawings the hanger 5 is shown in the form of a screw-bolt, the threaded end of which is adapted to be passed through transverse alining openings 7, formed in the bar 1, as shown in Fig. 1. Nuts 8 are arranged upon the threaded end of the hanger-bolt 6 to engage the opposite sides of the bar 1, and thereby permit the hanger-bolt to be adjusted transversely or radially. One end of the hanger-bolt 8 is formed with a rectangular head 9, the inner face of which is beveled transversely, as shown at 10, so that said head is in the form of a wedge. The wedge-shaped head 9 is adapted to fit in a similar-shaped transverse opening 11, formed in the enlarged central portion 12 of the body or head 4 of the support 2. The opening 11 is of inverted-T shape in cross-section, and it forms in the top of the enlarged central portion 12 overhanging ribs or projections 13, which have their bottom faces beveled or tapered to receive the face 10 of the bolt-head 9.

Instead of employing the hanger-bolts 6 I may substitute therefor hangers 14, such as shown in Fig. 4. This hanger has a cylindrical portion 15, through which the bar 1 is adapted to be passed, and it may be adjustably secured at any point upon said bar by a set-screw 16. A rib or projection 17 is formed upon the cylindrical portion 15 and is provided at its lower end with a wedge-shape head 18, which is similar to the bolt-head 9 and adapted to enter the opening 11 in the support-body 4.

While the support-body 4 may be of any desired form and construction that will support the sand of which the core is composed, I preferably make the same as shown in Fig. 3. This body 4 has projecting from the lower end of its enlarged central portion 12 two segmental-shape wings 19, which have beveled edges 20, and a plurality of tapered pins or studs 21, projecting outwardly from their opposite or side faces. These pins or studs 21 assist in holding the sand of the core together and upon the supports 4.

In the use of the invention it will be understood that two or more of the supporting devices 2 are arranged upon the bar 1, and the sand of the core is molded around the invention, the ends of the bar 1 projecting beyond the ends of the molded core. After the core has been molded upon the device it is supported upon the flask of the mold by means of the projecting ends of the bars 1. The cope or top portion of the mold is then placed upon the flask and the article is molded in the usual manner. The device is particularly adapted for use in making hollow castings of cylindrical or other form having contracted end openings, since after the casting has hardened and has been removed from the cope and flask of the mold the sand

core and the parts of the invention above described may be readily removed from the article or casting. This is done by first loosening and removing the sand which forms the core and then separating the support-bodies 4 from the wedge-shaped portions of the hangers 5. After this is done the bar 1 and its attached hangers may be readily removed from the casting through its reduced or contracted open end, and the bodies 4 may then be removed, as will be readily understood.

While I have shown and described the preferred embodiment of the invention and one use to which it may be applied, it will be understood that I do not wish to be limited to the precise showing herein set forth.

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

1. A core-supporting device comprising a hollow bar having vent-openings and an open end, sand-supporting bodies, means for supporting said bodies from said bar and adjusting them radially with respect thereto.

2. A core-supporting device comprising a hollow bar having an open end and formed with vent-openings and with transverse alining openings, screw-bolts having their threaded ends passed through said transverse alining openings, nuts upon said screw-bolts on opposite sides of said bar whereby said bolts may be adjusted radially, and sand-holding bodies detachably connected to the outer ends of said screw-bolts, substantially as shown and described.

3. A core-supporting device comprising a hollow bar having open ends and formed with vent-openings and transverse alining openings, screw-bolts having their threaded ends passed through said transverse alining openings, the heads of said bolts being wedge shape, nuts upon said screw-bolts on opposite sides of said bar, and sand-holding bodies formed with wedge-shape openings to receive the heads of said bolts, substantially as shown and described.

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

BENJIMAN FRANKLIN HOBERT.

Witnesses:
NATHANIEL F. BREEN,
NELLIE M. RYAN.