

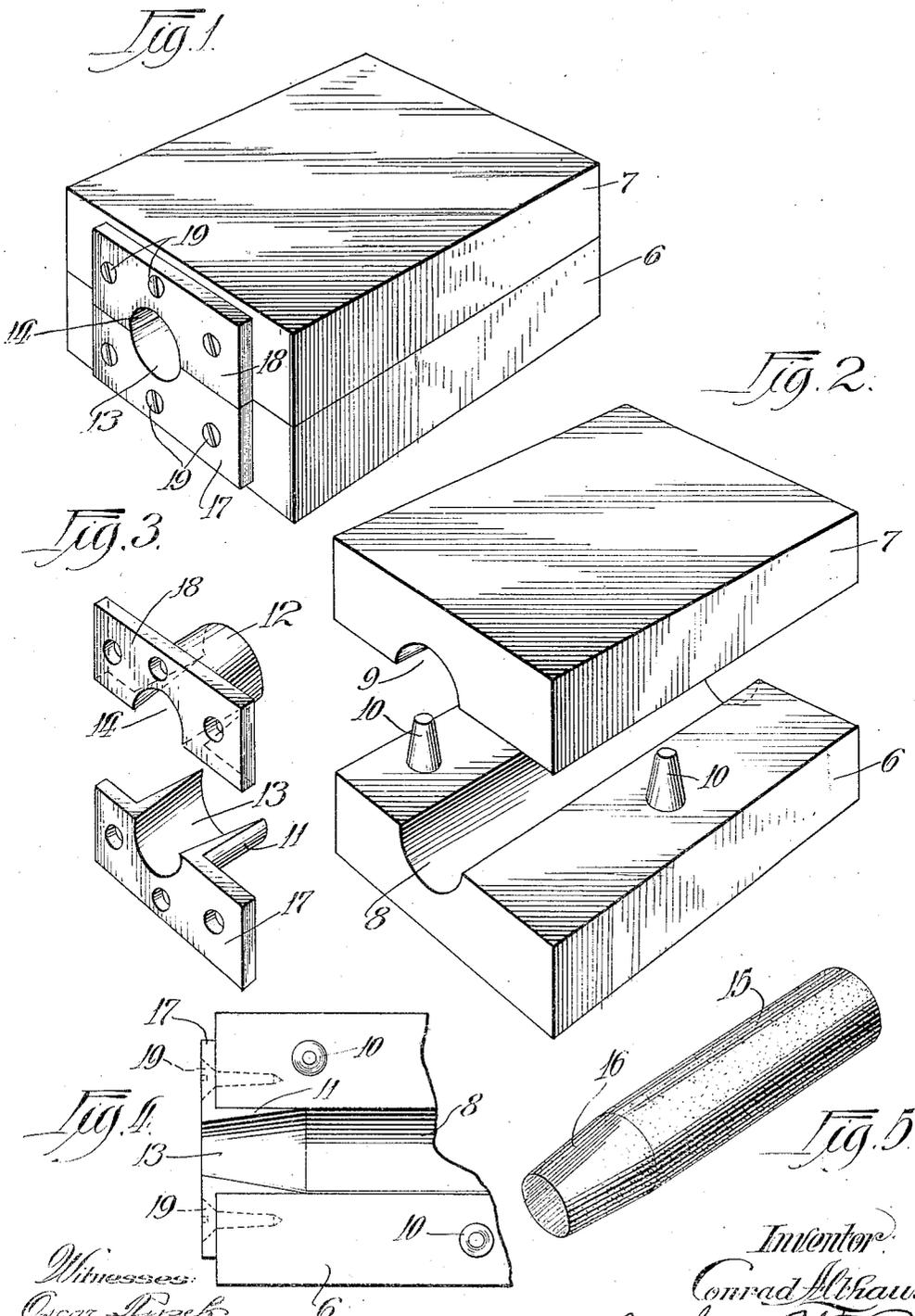
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CORE BOX

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CORE BOX

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This invention relates to core boxes, and has more particularly to do with the production of cores having tapered end portions.

In preparing molds for certain castings 5 having cavities or bores, it is necessary to provide the molds with cores. In some cases, the cores are usually of the same shape throughout their length, either cylindrical or otherwise, while in other cases it is necessary 10 to taper the end portions of the cores.

It is the production of tapered cores that more particularly concerns the present invention, the principal object of which is to produce cores practically and efficiently, in a 15 simple and economical manner. To this end the invention consists primarily in the provision of an attachment for the ordinary core box whereby the same box that is used for producing the usual plain cores may be readily 20 adapted for the production of tapered cores. The invention further consists in the parts and combinations and arrangements of parts as hereinafter described and set forth in the appended claims.

In the accompanying drawings, illustrating a practical adaptation of the invention,—

Fig. 1 is a perspective view of the assembled core box as equipped with the taper producing 25 attachments;

Fig. 2 is a perspective view showing the two core box sections separated and the taper producing attachment removed therefrom;

Fig. 3 is a perspective view of the taper producing attachment detached from the core 30 box and its two half sections separated;

Fig. 4 is a plan view of the end portion of one-half of the core box, with the corresponding half of the taper producing attachment applied thereto; and

Fig. 5 is a perspective view of a core as produced from the core box with the taper attachment applied.

Referring now to the drawings, wherein a core box is illustrated for producing a core 45 comprising a generally cylindrical body and tapered end portion, the numeral 6 designates the lower section, and 7 the upper section of the box, said sections being generally rectangular and having registering longitudinal 50 grooves 8 and 9, respectively, which pro-

duce a cylindrical bore when the two sections 6 and 7 are placed together. In accordance with the usual practice, one of the core box sections is provided with tapered dowel pins 10 which enter corresponding apertures provided therefor in the companion section. 55

Heretofore, when it was desired to taper the end portions of the cores it has been customary to cut off the end portions of the core box sections proper and attach thereto sections of corresponding dimensions but having the grooves corresponding to the grooves 60 8 and 9 tapered according to the degree of the taper it was desired to produce on the core. By this practice, in addition to difficulty 65 in attaching the core box extensions endwise to the main body members, and the cost of production incidental thereto, there is the further disadvantage of the excessive space required for storage purposes, as separate boxes 70 are required for producing plain cores and tapered cores of the same length. The present invention, therefore, overcomes the foregoing disadvantages in that the same core box members 6 and 7 may be used for producing 75 both plain cores and tapered cores. To this end a split bushing is provided, said bushing comprising the two half sections 11 and 12 which are semi-cylindrical externally and of the same diameter as the grooves 8 and 9 80 in the box sections 6 and 7, said bushing sections 11 and 12 being provided with tapered grooves 13 and 14, respectively, so that when said sections are assembled and inserted in the end of the core box the bore thereof is 85 conically restricted at one end.

The inner end of the bushing is preferably sharpened to a knife edge so as to avoid producing an abrupt shoulder at the base of the tapered end portion of the core, a core as thus 90 produced being illustrated in Fig. 6 and having the cylindrical body portion 15 and tapered end portion 16. Preferably, the outer end portions are flanged or attached to plates 17 and 18, respectively, which are apertured 65 for the reception of screws 19 whereby said plates may be detachably secured to the adjacent end portions of the core box sections 6 and 7. In this way the bushing may be applied to the box and removed therefrom, at 100

will, and said flanges or plates 17 and 18, in addition to affording a means of attachment and support for the bushing, serve as a protection for the ends of the box sections 6 and 7 and prevent mutilation thereof in the region of the grooves 8 and 9.

The bushing members 11 and 12, of course, are made of metal for strength and durability, while the box sections 6 and 7 may be made of wood in accordance with the customary practice, and while the box illustrated is for the production of cores of cylindrical body and conically tapered end portion, obviously, the box sections and bushing members may be made to produce cores of other shapes, and the device may be modified in other respects without in the least departing from the spirit and scope of the invention as defined by the appended claims. The invention, therefore, is not limited to the specific construction and arrangement shown in the accompanying drawings.

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

1. A core box comprising a body portion having a core forming opening therein to produce cores of a given formation, and a bushing insertable in the end portion of said core forming opening and being internally formed to correspondingly change the shape of the produced core.

2. A core box comprising mating sections provided with registering grooves in their meeting portions to produce an opening for forming a core of a given shape, and a split bushing insertable in the end portion of said core forming opening, said bushing comprising half sections conforming externally to the shape of the adjacent fitted portion of said core forming opening and being internally formed to correspondingly change the shape of the produced core.

3. A core box comprising a body portion having a core forming opening therethrough whereby to produce a core of given formation, and a supplemental bushing insertable in the end portion of said core forming opening whereby to change the end formation of the produced core, said bushing corresponding externally to the contour of the adjacent fitted portion of said core forming opening and being inwardly flared, the inner end portion of said bushing terminating with a sharp annular edge merging with the wall of said core forming opening without producing an abrupt shoulder.

4. A core box comprising mating half sections having registering grooves in their meeting sides producing a cylindrical core forming opening therethrough, and a bushing comprising two half sections respectively releasably attachable to the ends of said box sections and being insertable in said core forming opening, said bushing sections cor-

responding externally to the contour of the grooves in said box sections and being internally tapered and widening inwardly with sharp terminal edges merging with said grooves without producing abrupt shoulders.

5. The herein described core box comprising a cooperating pair of box sections proper, said box sections having registering grooves in their meeting faces to constitute the core forming opening, and a bushing removably insertable in the end of the core forming opening, said bushing comprising two half sections conforming externally to the contour of the grooves in said box sections proper, said bushing being internally tapered and widening inwardly with a sharp annular terminal edge and having flanged outer end portions detachably secured to the adjacent end portions of said box sections proper.

In testimony whereof I have signed my name to this specification.

CONRAD ALTHAUS.