

E. B. HORNE.

CORE BOX.

APPLICATION FILED MAY 5, 1908.

904,697.

Patented Nov. 24, 1908.

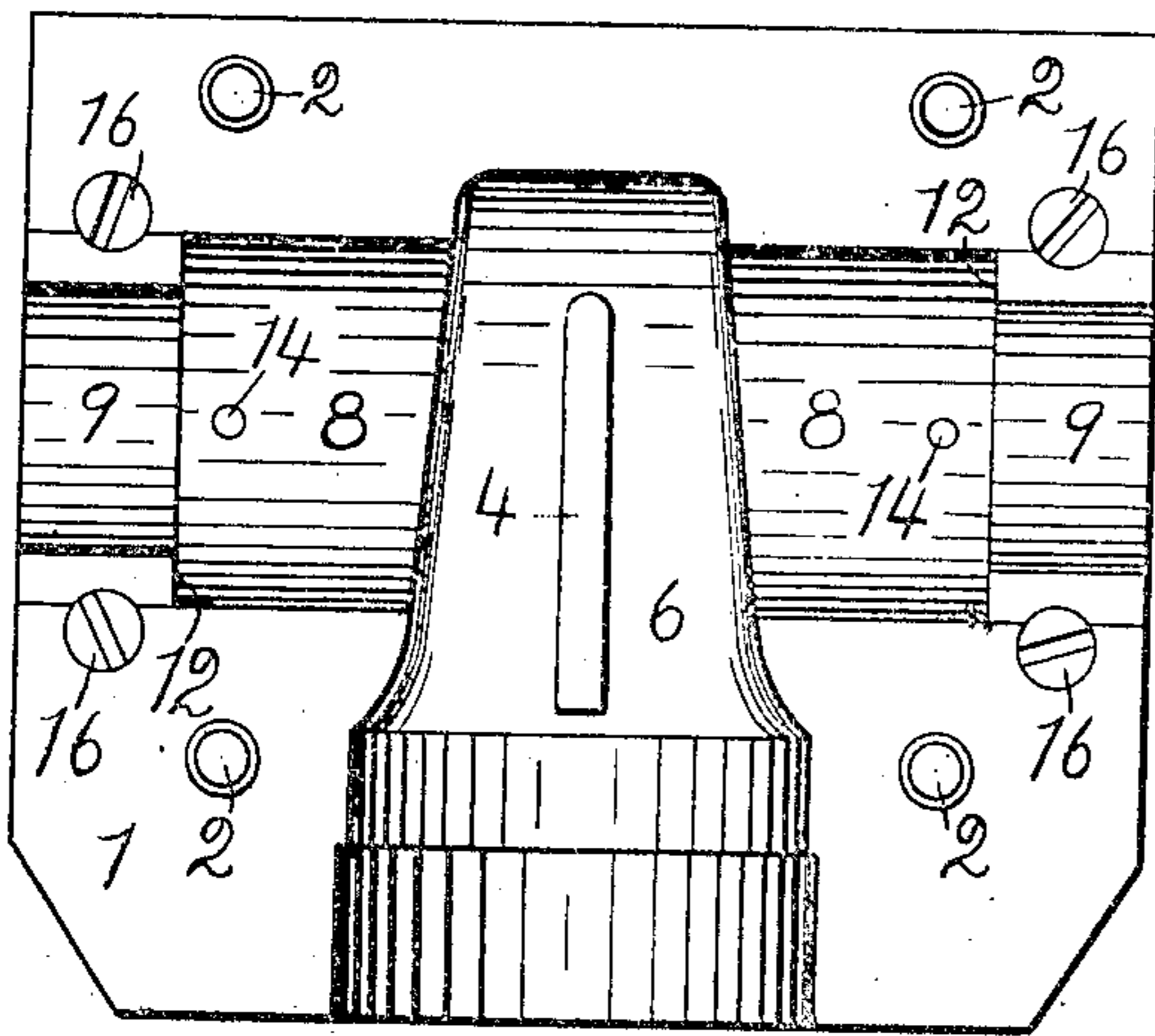


FIG. 1.

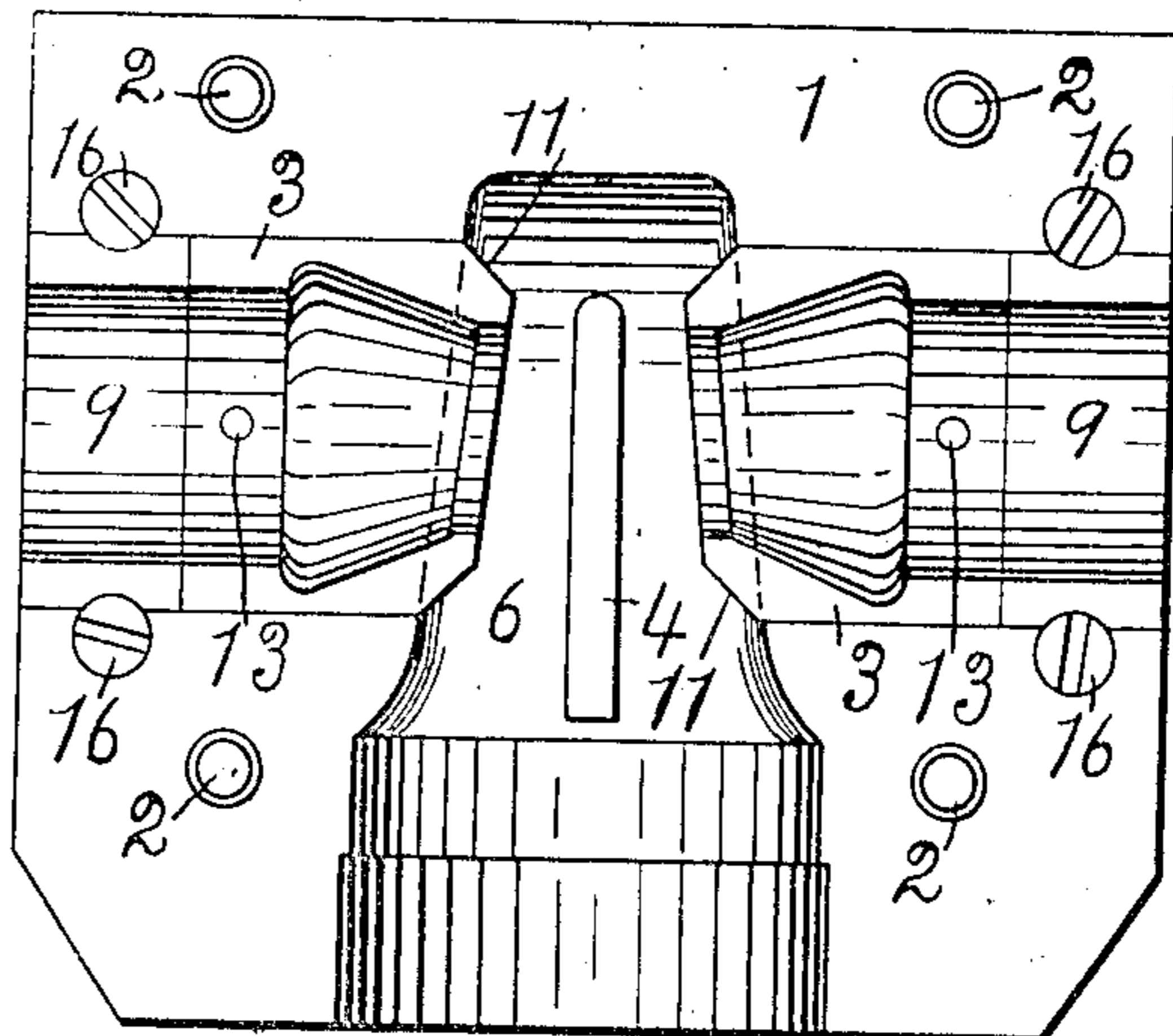


FIG. 2.

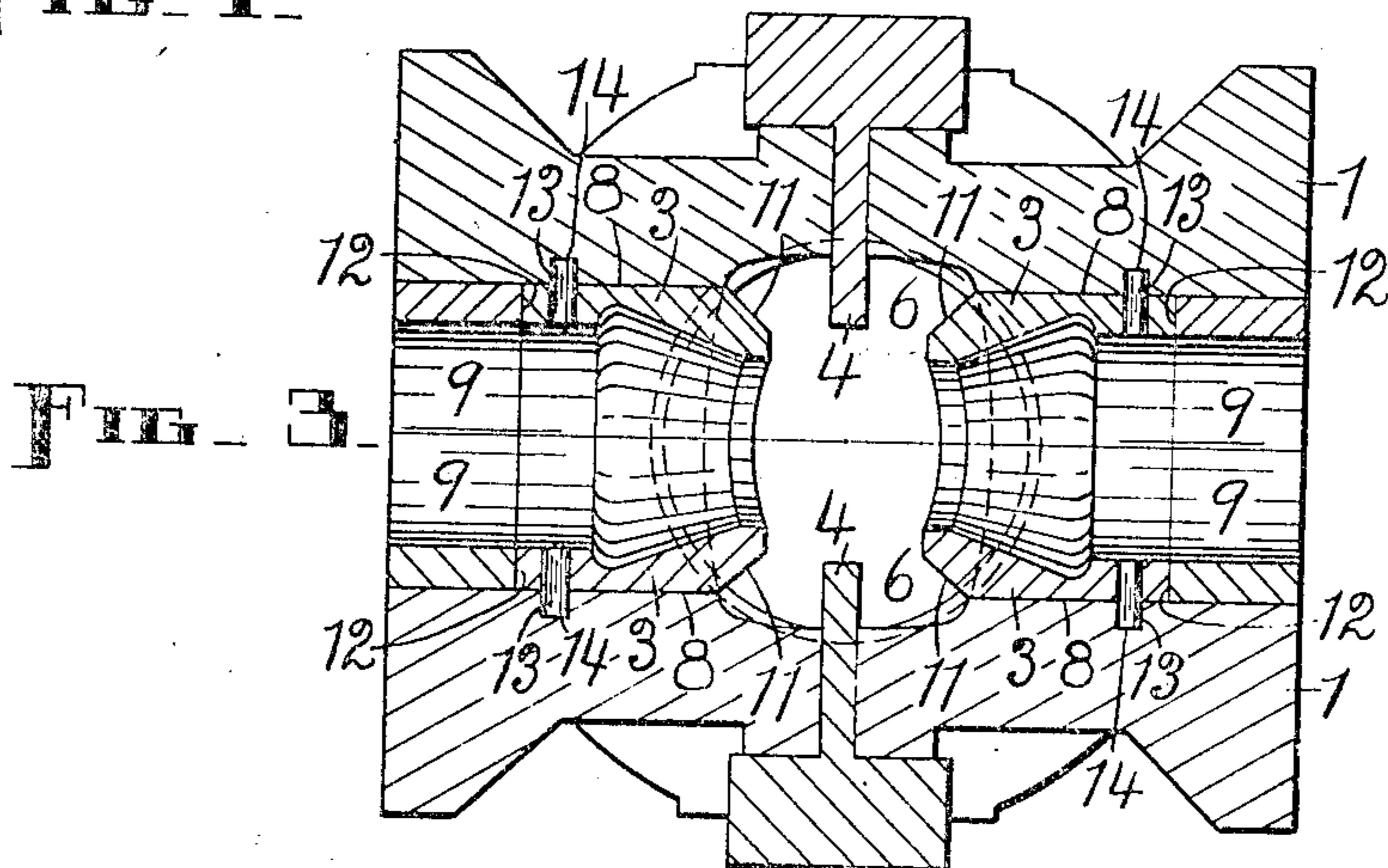


FIG. 3.

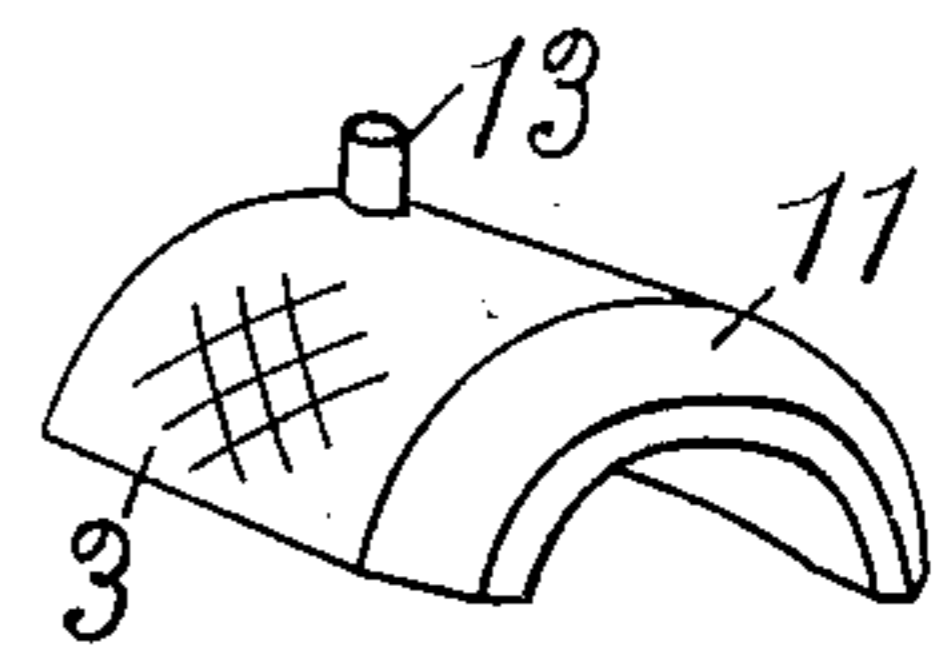
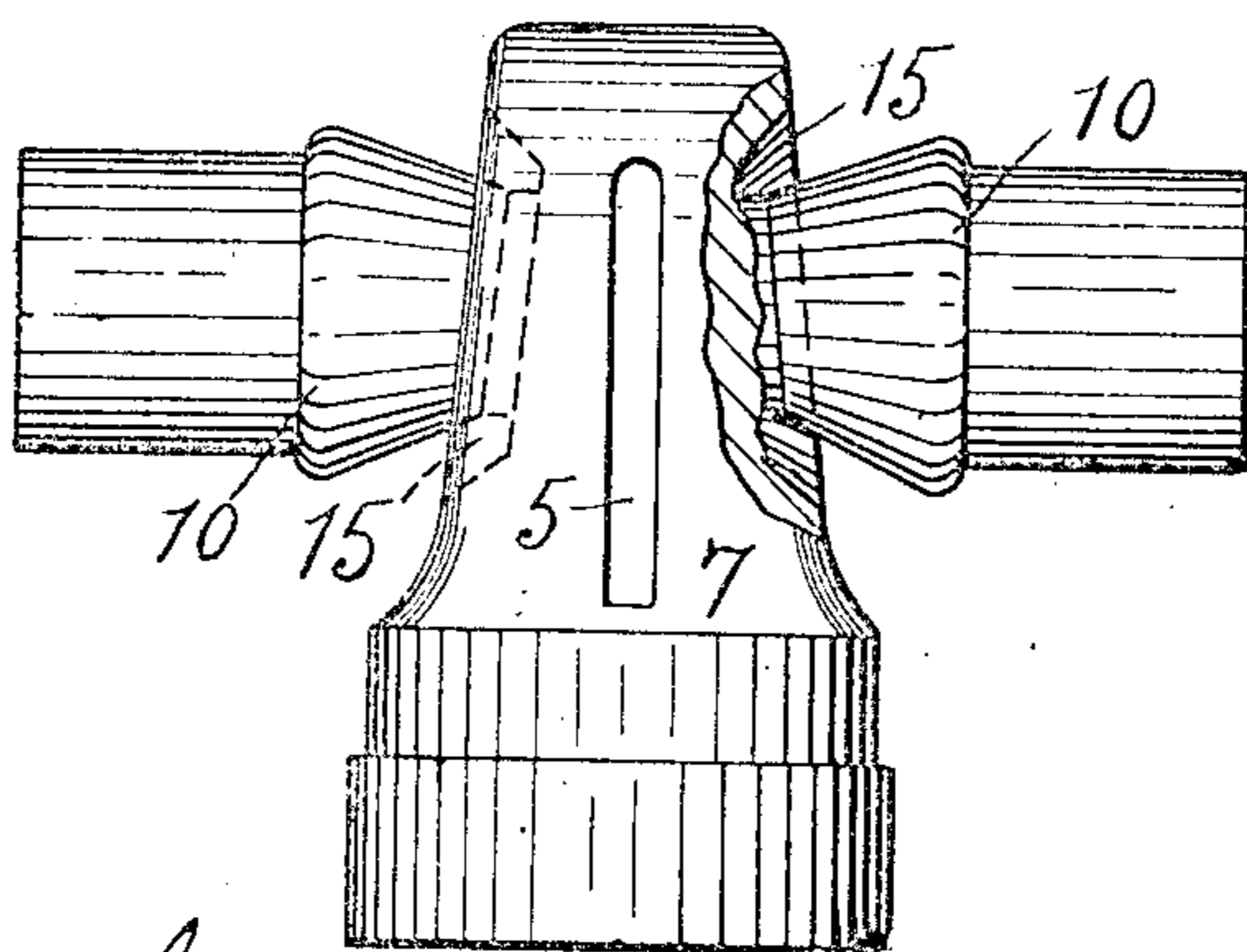


FIG. 4.

WITNESSES:

A. C. Fairbanks.
J. M. Sterne

FIG. 5.

INVENTOR.

Emil B. Horne,
BY

Webster & Co.,
ATTORNEYS

UNITED STATES PATENT OFFICE.

EMIL B. HORNE, OF INDIAN ORCHARD, MASSACHUSETTS.

CORE-BOX.

No. 904,697.

Specification of Letters Patent.

Patented Nov. 24, 1908.

Application filed May 5, 1908. Serial No. 430,997.

To all whom it may concern:

Be it known that I, EMIL B. HORNE, a citizen of the United States of America, residing at Indian Orchard, in the county of Hampden and State of Massachusetts, have invented a new and useful Core-Box, of which the following is a specification.

My invention relates to improvements in devices used in making cores for valve-cases and other objects in which junction unions between branch members are located in recesses, and consists of a two-part core-box having seats therein, and shells adapted to be placed in such seats and there retained in security while the core is being rammed, and to separate easily from the core-box at the time said core is drawn, all as hereinafter set forth.

The object of my invention is to provide means for producing a one-piece core in place of what has heretofore and from necessity been made up of three pieces, thus effecting a saving in time, labor, and expense, and insuring a stronger and better core than can be molded with the old core-box.

A further object is to afford convenient and efficient means for recessing cores.

I attain these objects by the means illustrated in the accompanying drawings, in which—

Figure 1 is an interior view of one of the core-box sections without the shells; Fig. 2, a similar view showing the shells in position; Fig. 3, a central longitudinal section through the core-box in its entirety; Fig. 4, a perspective view of one of the core-box shells, and Fig. 5, a side elevation partially broken away of a core which has been molded in said core-box.

Similar figures refer to similar parts throughout the several views.

The core-box herein illustrated is for valve-case cores having their passages at right-angles to each other, but it is obvious that the invention might be modified, without departing from the principle thereof, so that different styles of cores and cores for other purposes even could be produced.

I am aware that core-boxes provided with detachable or separable fragments or parts have been made before, and do not, therefore, seek to cover such a device broadly.

Referring to the drawings, it will be observed that a core-box is there shown which consists of two halves or sections 1 which are exactly alike excepting that one section

is provided on its face with steady-pins or dowels 2 while the other has holes in its face to receive said dowels, and of four shells 3, two in each box section. The dowels and the holes therefor are old, so also are the draw-pieces 4—4 in the sides of the section 1 which form the slots in the sides of the core, one of which slots is shown at 5 in Fig. 5.

Each section 1 is hollowed out at 6 to form the main or body part 7 of the core, and at 8—8 and 9—9 to receive the shells 3 and form the arms 10—10, including the core-print portions, of said core. The concavity in each shell 3 is constricted at the inner end and flares in the central part to conform to the outline of one-half of the major portion of one of the arms 10, and the convex portion of the major part of said shell agrees with that of the sunken portion 8 in the box section 1 which is designed to receive the shell. This shell has a tapered nose 11 at one end which projects over the inner end of the sunken portion 8 which forms the seat for said shell into the space 6, when said shell is in place with the opposite end thereof against a shoulder 12 at the outer end of such seat. The shoulder 12 and a pin 13 on the convex side of the shell serve to hold the latter against endwise movement when on its seat with said pin in a hole 14 in said seat. The positions of the pin 13 and hole 14 may be interchanged if desired. The overhanging nose 11 forms one-half of an annular recess 15 in one side of the core from the center of which recess one of the arms 10 springs.

In the present instance the sunken portions 9 at the outer ends of the sections 1 consist of semi-annular pieces which are held in place by screws 16, and it is these pieces that constitute the shoulders 12.

In practice the four shells 3 are arranged properly in their seats 8 and the two sections 1 are brought together and clamped in the usual manner. The mold now being ready for the sand out of which the core is to be made, said sand is introduced into said mold and rammed through the three open ends of the core-box. The protruding terminals 11 of each pair of contiguous shells 3 produce the annular recess 15 in the corresponding side of the core as already explained, and at the same time permit the arm 10 to form a junction with the body 7 in this recess. After being made the core is sepa-

rated from the core-box, upon unclamping the sections 1 and withdrawing the draw-pieces 4, by laying said core-box on one side and first removing the upper section, which comes away without the two shells 3 that were contained therein and which are now left on the core in the lower section, next taking off said shell, and finally lifting the core from said lower section, the lower shells 3 usually remaining therein at this time. As many cores can thus be made as is necessary.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. As an improved article of manufacture, a core box comprising separable hollow sections provided with separable shells which extend beyond the confines of certain of the recessed portions of said sections, said shells being flaring with constricted inner ends in the interior.

2. As an improved article of manufacture, a core-box comprising separable hollow sections provided with separable semi-circular shells which flare and have constricted inner ends inside and extend beyond the confines of certain of the recessed portions of such sections.

3. The combination, in a core-box, with separable sections having seats therein, of shells adapted to fit such seats and to extend inwardly beyond the same, such inwardly-extending portions being externally tapered toward the axial center and inner ends of said shells.

4. The combination, in a core-box, with separable sections having seats therein with shoulders at their outer ends, of shells arranged to fit said seats with the outer ends of said shells abutting said shoulders and the inner terminals of said shells extending beyond the inner ends of said seats, the interior of such shells being flaring with constricted inner ends, and said inwardly-extending portions of the shells being exte-

riorly tapered toward the axial center and inner ends.

5. The combination, in a core-box, with separable sections having seats therein, of shells made flaring with constricted inner ends in the interior and arranged to fit said seats and to extend inwardly beyond the same, the inwardly-extending parts of the shells being exteriorly tapered toward the axial center and inner ends, and means to hold said shells against endwise movement.

6. The combination, in a core-box, with separable sections having seats therein, of shells made flaring with constricted inner ends in the interior and adapted to fit said seats and to extend inwardly beyond the same, the inwardly-extending parts of the shells being exteriorly tapered toward the axial center and inner ends, and pins arranged to hold said shells against endwise movement.

7. The combination, in a core-box, with separable sections having seats therein with removable shoulders at their outer ends, of shells arranged to fit said seats with the outer ends of said shells abutting said shoulders and the inner terminals of said shells extending beyond the inner ends of said seats, and pins arranged to prevent the shells from moving toward the center of said sections.

8. The combination, with a core-box section having a seat and a recess deeper than said seat therein, of a shell made flaring with a constricted inner end in the interior and arranged to fit such seat and to project over the inner end thereof into said recess, the projecting part of said shell having a smaller exterior diameter at its free end than elsewhere.

EMIL B. HORNE.

Witnesses:

F. A. CUTTER,
A. C. FAIRBANKS.