

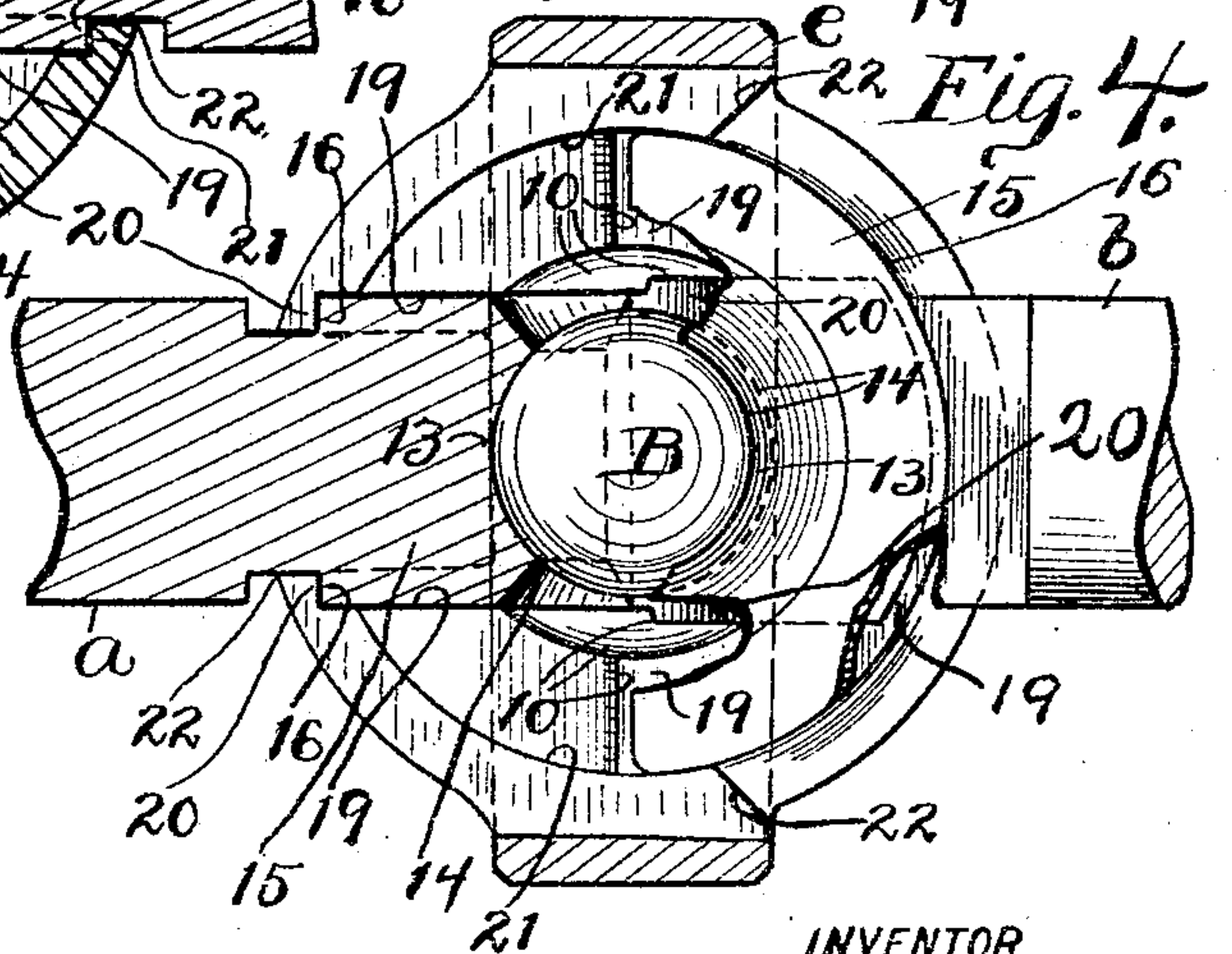
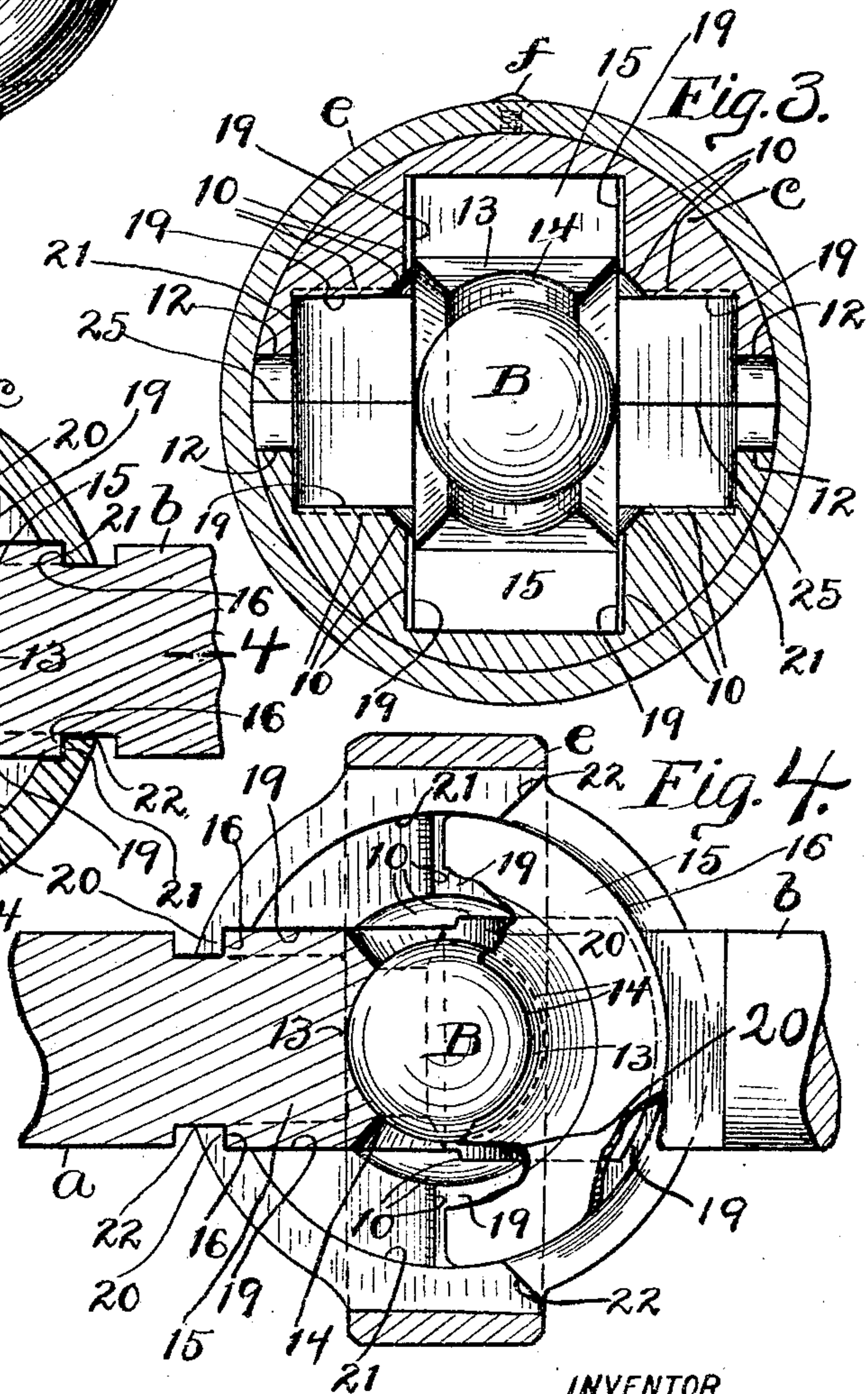
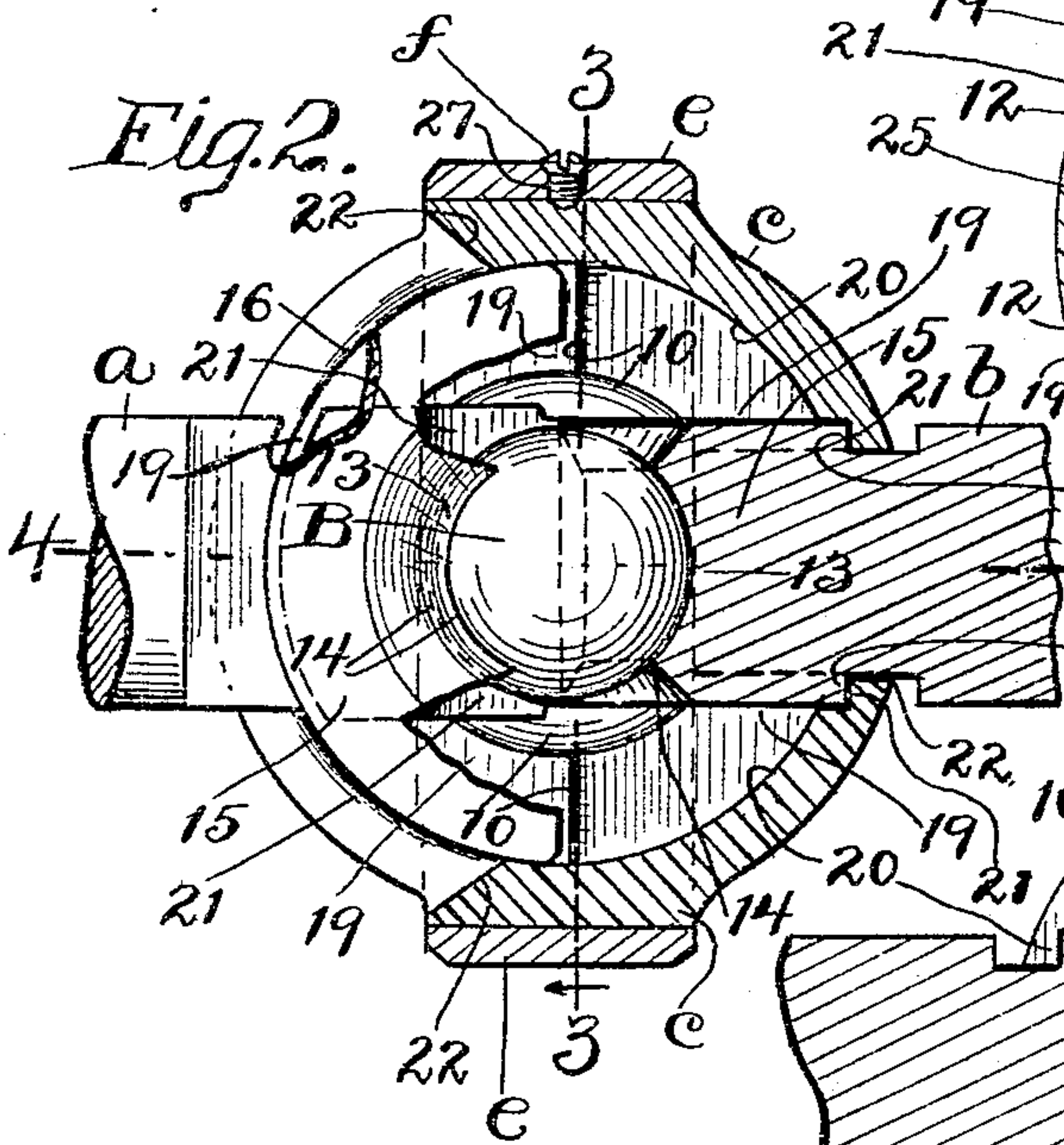
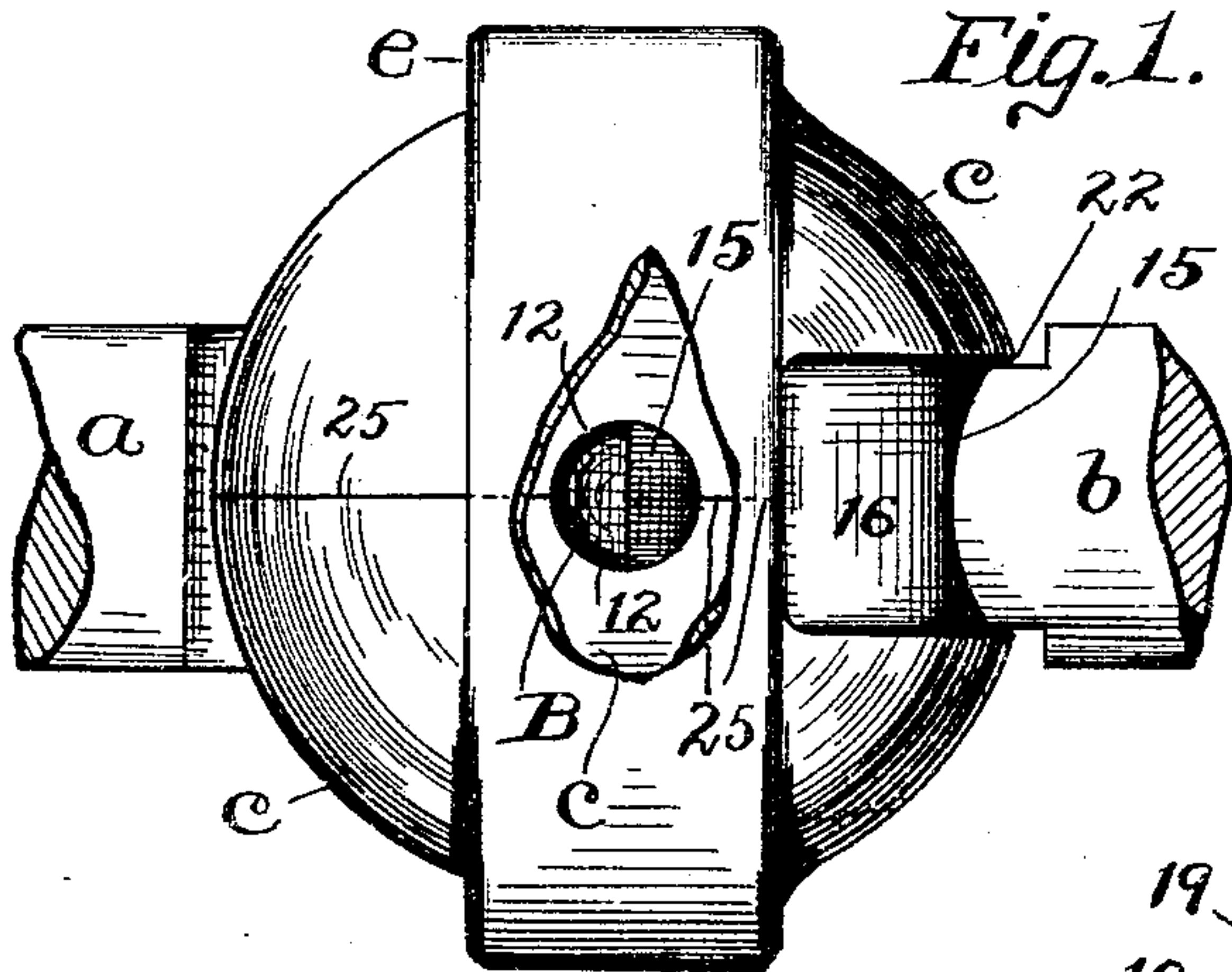
No. 765,897.

PATENTED JULY 26, 1904.

I. LEHMAN.
SHAFT COUPLING.

APPLICATION FILED MAR. 21, 1904.

NO MODEL.



WITNESSES:

Daniel E. Daly.
Victor C. Lynch.

INVENTOR

Isador Lehman
BY
Synch Dorer
his ATTORNEYS

UNITED STATES PATENT OFFICE.

ISADOR LEHMAN, OF CLEVELAND, OHIO.

SHAFT-COUPLING.

SPECIFICATION forming part of Letters Patent No. 765,897, dated July 26, 1904.

Application filed March 21, 1904. Serial No. 199,203. (No model.)

To all whom it may concern:

Be it known that I, ISADOR LEHMAN, a citizen of the United States of America, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Shaft-Couplings; and I hereby 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 pertains to make and use the same.

This invention relates to improvements in shaft-couplings suitable for use in coupling two shaft-sections together and in effecting the transmission of power from one to the other of the said shaft-sections and accommodating the arrangement of the said shaft-sections at an angle to each other without interfering with the operative connection formed between the said shaft-sections by the said coupling.

This invention pertains more especially to improvements on the shaft-coupling embodied and disclosed in United States Letters Patent Nos. 676,194 and 705,366, granted to me June 11, 1901, and July 22, 1902, respectively.

The object of this invention is to simplify the construction of a shaft-coupling of the character indicated, to reduce the friction between the parts of the coupling to a minimum, and to enlarge the lubricant-receiving space and improve the lubrication of the coupling.

With this object in view this invention consists in certain features of construction and combinations of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side view of a shaft-coupling embodying my invention. Fig. 2 is a side elevation largely in central longitudinal section. Fig. 3 is a transverse section on line 3 3, Fig. 2, looking in the direction indicated by the arrow. Fig. 4 is a side elevation, largely in central longitudinal section, on line 4 4, Fig. 2.

Portions are broken away in Figs. 1, 2, and 4 to more clearly show certain features of construction.

Referring to the drawings, *a* and *b* designate two shaft-sections coupled together by a

shaft-coupling embodying my invention. The shaft-sections *a* and *b* are provided at their adjacent ends with a curved head 15, which participates in the formation of the coupling and is arranged concentrically of the center of the coupling.

My improved coupling comprises a shell or casing *c*, into which the adjacent or head-forming ends of the two shaft-sections extend. The shell *c* is suitably chambered to receive the heads 15 of the shaft-sections. The chamber of the shell *c* has two walls 20 and 21, arranged in planes at right angles to each other and extending concentrically of the center of the said shell. The shell *c* is slotted, as at 22, longitudinally of each of the said walls 20 and 21 centrally between the ends of the said walls. The shaft-section *a* extends through the slot 22 in the wall 20, and the shaft-section *b* extends through the slot 22 in the wall 21. Each shaft-section has its head 15 provided with a shoulder 16, engaging the slotted wall through which the said shaft-section extends. Consequently the shell *c* has bearing upon the shoulders 16 of the shaft-sections at opposite sides of the slots 22. Each shaft-section head 15 extends preferably about one-half of the distance around the center of the shell *c* and is provided with a cavity or recess 14, arranged within the inner end or edge of the said head. The wall 13 of the said recess or cavity 14 curves and extends concentrically of a ball B in two planes arranged at a right angle to each other, which ball fits snugly but loosely within the cavities or recesses 14 of the heads 15 of both shaft-sections *a* and *b*. By this construction simplicity is attained and the operation and lubrication of the shaft-coupling is improved. Also any movement or adjustment of the shaft-sections circumferentially of the ball B is not only accommodated, but an adjustment of the shaft-sections at various angles to each other is also accommodated. It will be observed also that both shaft-sections correspond exactly in construction and are interchangeable. The slots 22, through which the shaft-sections extend, are arranged concentrically of the center of the shell *c* and extend a distance equal to about one-third or somewhat less than one-half the

of the wall and has two internal shoulders 19 and 19 extending along each of the said walls at opposite sides, respectively, of the slot in the wall and only a short distance beyond the
 5 ends of the said slot; means for holding the sections of the shell or casing together, and two shaft-sections extending through the slot 22 in the different aforesaid walls, respectively, and provided, respectively, with a head
 10 contained within the aforesaid shell between the shoulders at the sides of the wall through which the respective shaft-section extends, which head extends concentrically of the center of the said shell, and a ball arranged be-
 15 tween and affording bearing to the said heads.

4. The combination, of a casing or shell having two internal walls 20 and 21 arranged in different planes, respectively, at right angles to each other and extending partially around
 20 the center of the said shell, which shell is provided, centrally widthwise of each of the said walls, with a slot 22 extending longitudinally of the wall and has two internal shoulders 19 and 19 extending along each of the said walls
 25 at opposite sides, respectively, of the slot in the wall; means for holding the sections of the shell or casing together, and two shaft-sections extending through the slot 22 in the different aforesaid walls, respectively, and pro-
 30 vided, respectively, with a head contained within the aforesaid shell between the shoulders at the sides of the wall through which the respective shaft-section extends, which head extends concentrically of the center of
 35 the said shell, and a ball arranged between and affording bearing to the said heads, and the said shell being cut away interiorly at the ends of the aforesaid shoulders, as at 10, to

increase the lubricant-receiving capacity of the shell. 40

5. The combination, with two shaft-sections *a* and *b* having their adjacent ends provided with heads and a bearing between and for the heads of a casing or shell *c* embracing and having bearing upon the said heads and es-
 45 tablishing operative connection between the said shaft-sections and composed of two halves or sections, and a ring tightly embracing the said shell-sections and the said shell-sections being provided, in their opposing edges or
 50 surfaces with registering holes communicating with the interior chamber of the shell and covered, at their outer ends, by the aforesaid ring.

6. The combination, with two shaft-sections 55 *a* and *b* having their adjacent ends provided with heads and a bearing between and for the heads, of a casing or shell *c* embracing and having bearing upon the said heads and es-
 60 tablishing operative connection between the said shaft-sections and composed of two halves or sections, and a ring embracing and securing together the said shell-sections, and the latter being provided, in their opposing edges
 65 or surfaces, with registering semicircular holes communicating, at one end, with the interior chamber of the shell, and closed at the other end, by the aforesaid ring.

In testimony whereof I sign the foregoing specification, in the presence of two witnesses, 70 this 16th day of March, 1904.

ISADOR LEHMAN.

Witnesses:

C. H. DORER,
 G. M. HAYES.