

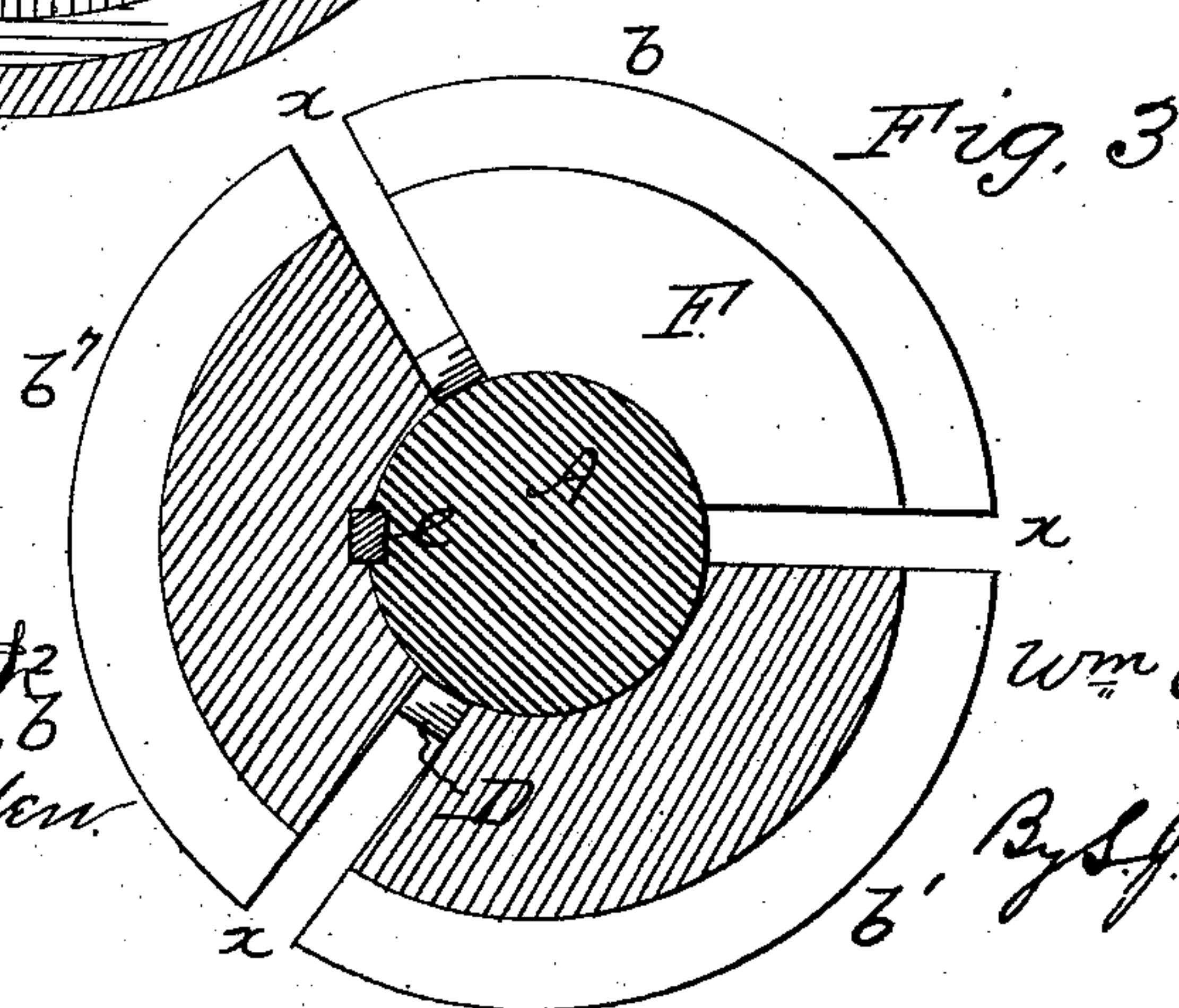
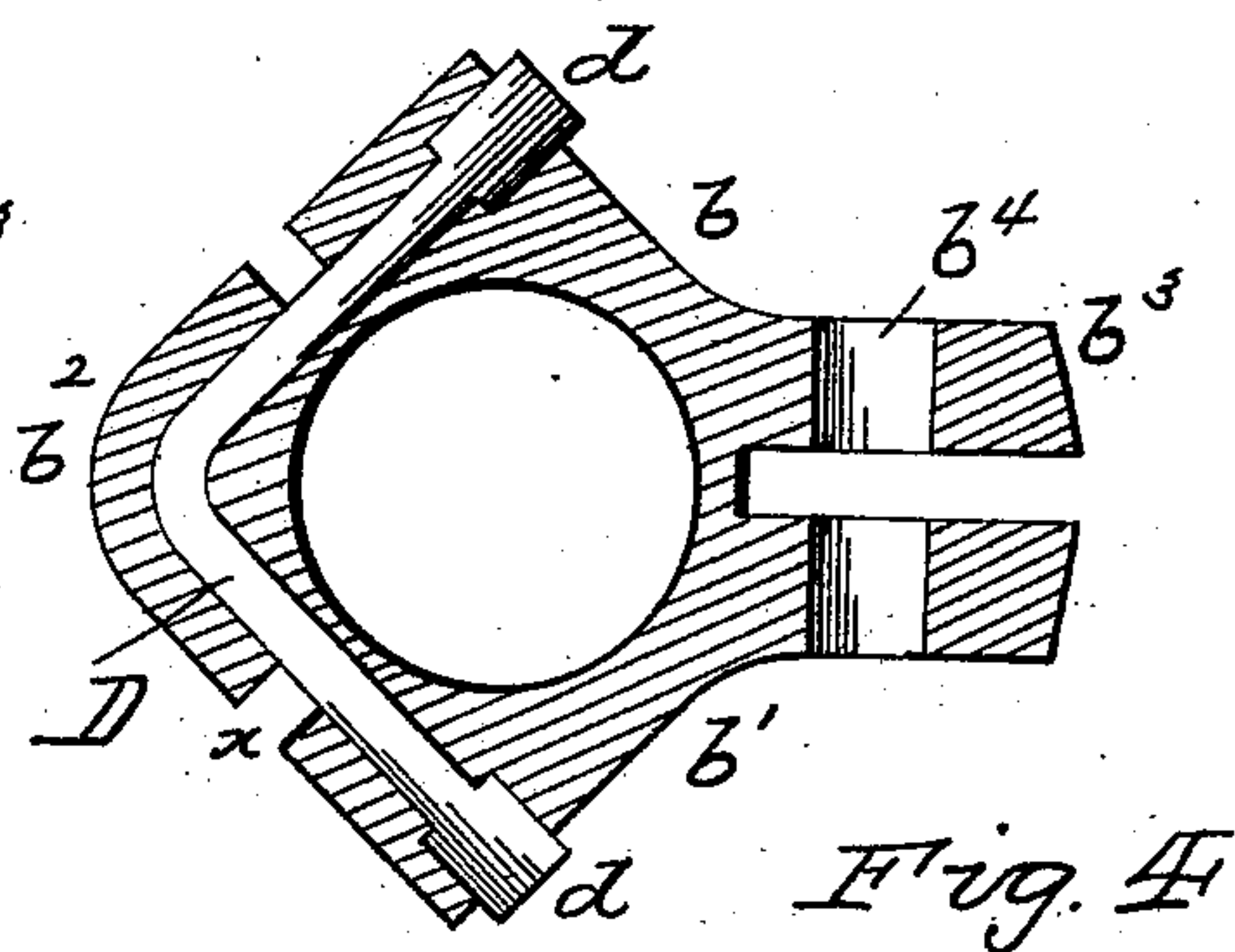
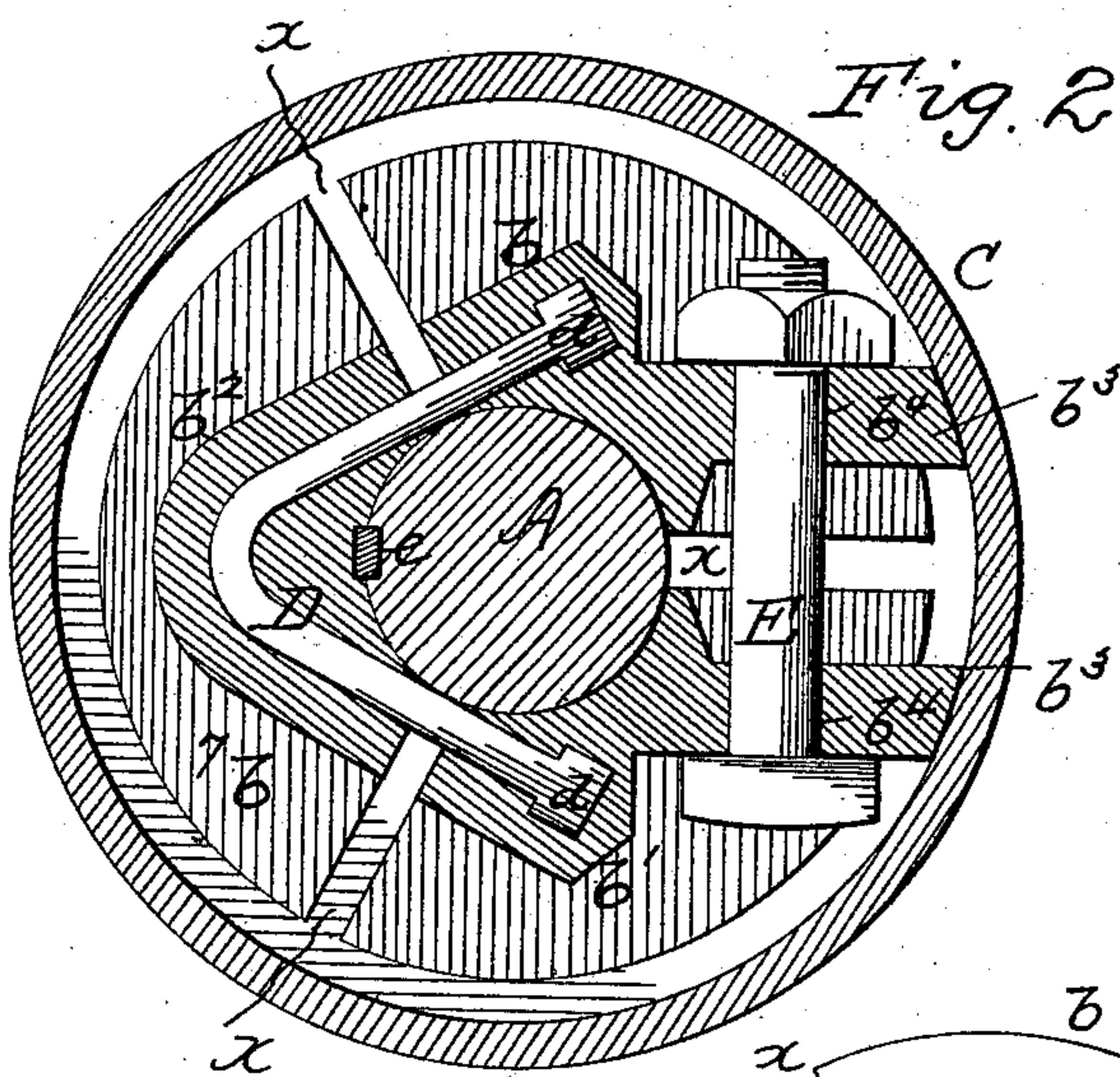
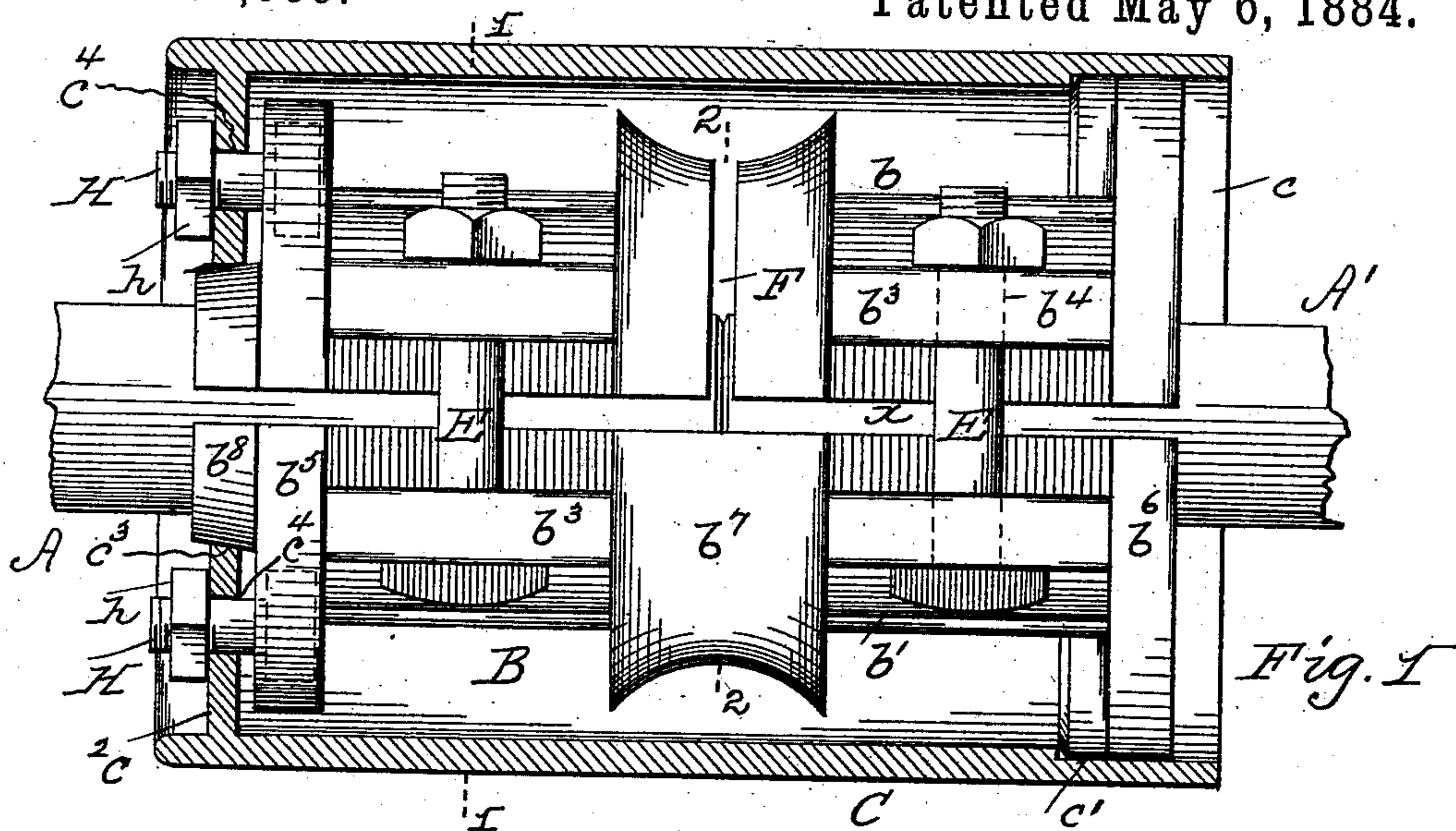
(No Model.)

W. C. CRANDELL, Jr.

SHAFT COUPLING.

No. 298,069.

Patented May 6, 1884.



WITNESSES:

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WILLIAM C. CRANDELL, JR., OF PHILADELPHIA, PENNSYLVANIA.

SHAFT-COUPLING.

SPECIFICATION forming part of Letters Patent No. 298,069, dated May 6, 1884.

Application filed August 27, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. CRANDELL, Jr., of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Shaft-Couplings, which improvement is fully set forth in the following specification and accompanying drawings.

Figure 1 is an elevation of the coupling and a longitudinal section of its casing. Fig. 2 is a transverse section on line 1 1, Fig. 1. Fig. 3 is a detail section on line 2 2, Fig. 1; and Fig. 4 is a transverse section of coupling with unequal sections, illustrating its appearance after being cast and before being finished.

My invention has relation to that form of shaft-couplings described and claimed in Letters Patent of the United States, dated July 21, 1868, and numbered 80,061, and has for its object to so improve the construction of the coupling-sections that they have a movement which compensates for possible differences in size of the coupled shafts, whereby a tight and powerful grip is obtained by the coupling-sections upon both shafts when they are of unequal size or diameter.

My invention has for its further object to make the couplings in three longitudinal sections instead of two, as heretofore, whereby the latter, when clamped, tend to centralize themselves around the coupled shafts to insure a tighter and more effective grip for the coupling.

My invention accordingly consists of a coupling composed of longitudinal sections connected by clamping-bolts, and by straps or bars of wrought-iron placed in position in the act of casting the coupling, and is provided with a partial transverse cut or slit; second, of a coupling composed of three longitudinal sections having clamping-bolts and U or V shaped bars or straps, which connect the sections together, and are inserted in the latter in the act of casting; and, third, of the specific construction of the coupling, its casing, and arrangement of the fastening-screws for said parts, as herein-after described and claimed.

In the drawings, A A' represent the ends of two shafts, B the coupling, and C its casing. The coupling B is composed of three segmental sections, b , b' , and b'' , divided longitudinally at x , and connected by U or V shaped bars or straps D, of wrought-iron or other metal, em-

bedded in the sections in the act of casting them. Said straps have enlarged or upset ends d , to maintain the sections in a fixed position thereon. The sections b b' are provided with lugs b^3 , through the openings b^4 of which pass the clamping screws or bolts E, and have enlarged ends b^5 b^6 and medium part b^7 . In the latter is formed a transverse slit or cut, F, which extends only partially around the coupling. The extent of said slit is determined by the number of sections composing the coupling. Thus, if three sections are used, then the slit or cut F may pass one-third the way around the coupling, as shown in Fig. 3; or, if it consists of two sections only, then the slit F extends half-way around, or, in either case, it is formed or cut in one of the sections only. While I deem such construction, as to extent and location of slit F, the more preferable one, yet I do not wish to be understood as limiting myself thereto, as it may be variously arranged and extended, as desired. The use of the slit or slot F permits the coupling to move or yield longitudinally as well as transversely, when clamped upon the adjoining ends of two shafts of unequal size, and thereby to secure a tight and powerful grip on both shaft ends, whereas, if said coupling is formed without partial transverse slit F, or as heretofore constructed, then only one of said shaft ends is firmly gripped by the coupling, while the other is either loose therein or very ineffectually coupled.

The advantage of using three sections instead of two for the coupling is that when it is clamped upon the shaft ends the three sections tend to centralize themselves around the shafts, and thereby obtain a more effectual grip for the coupling.

H represents bolts embedded in the end b^5 of the coupling when cast, which is also formed with an outside taper hub, b^8 , as shown in Fig. 1.

The casing C has an open end, c , with turned or otherwise formed shoulder c' , which rests against the end b^6 of the coupling, and a closed end, c^2 , with central tapered opening, c^3 , impinging upon the hub b^8 , and also has radial openings c^4 for the passage of the bolts H, the casing being held in position by the nuts h . The tapering hub b^8 serves to centralize the casing when it is placed upon the coupling, so that the former may be more readily turned or adjusted to cause its radial openings c^4 to register with

the screws H, and to support the casing while the nuts *h* are being wrenched.

The sections *b*, *b'*, and *b''* may be equal in cross-section, as shown in Fig. 2, or unequal, 5 as illustrated in Fig. 4.

If desired, a key, *e*, may be used, as shown in Figs. 2 and 3; but its employment is not essential.

When the casing is not desired, the bolts H 10 and hub *b''* are dispensed with.

What I claim is—

1. A shaft-coupler having longitudinal slots extending from the bore to the periphery of the coupling, and a partial transverse slit, F, 15 substantially as and for the purpose set forth.

2. A shaft-coupling composed of longitudinal sections united by straps or bars embedded in the coupling during the process of casting, and provided with clamping-screws and a partial transverse slit, substantially as shown and 20 described.

3. In combination with the coupling-sections *b* *b'* *b''*, parted at *x*, the V or U shaped bars or straps D, and clamping-screws E, substantially 25 as shown and described.

4. The coupling-sections *b*, *b'*, and *b''*, connecting-straps D, and clamping bolts or screws E, in combination with casing C, having tapered opening *c'*, seating on the tapered hub *b''*, formed on said sections, substantially as shown and 30 described.

5. The coupling B, composed of longitudinally-parted sections having connecting-straps D, clamping screws or bolts E, enlarged ends, and middle part in which is formed a partial transverse slit, substantially as shown and 35 described.

6. The coupling A, having end *b''*, with tapered hub *b''*, and embedded screws H, in combination with the casing C, having tapered opening *c'*, and radial apertures *c'*, and nuts *h*, substantially as shown and described. 40

7. A sectional clamp-coupling having partial transverse medium slit or slot, substantially as and for the purpose set forth.

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Witnesses:

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