

(No Model.)

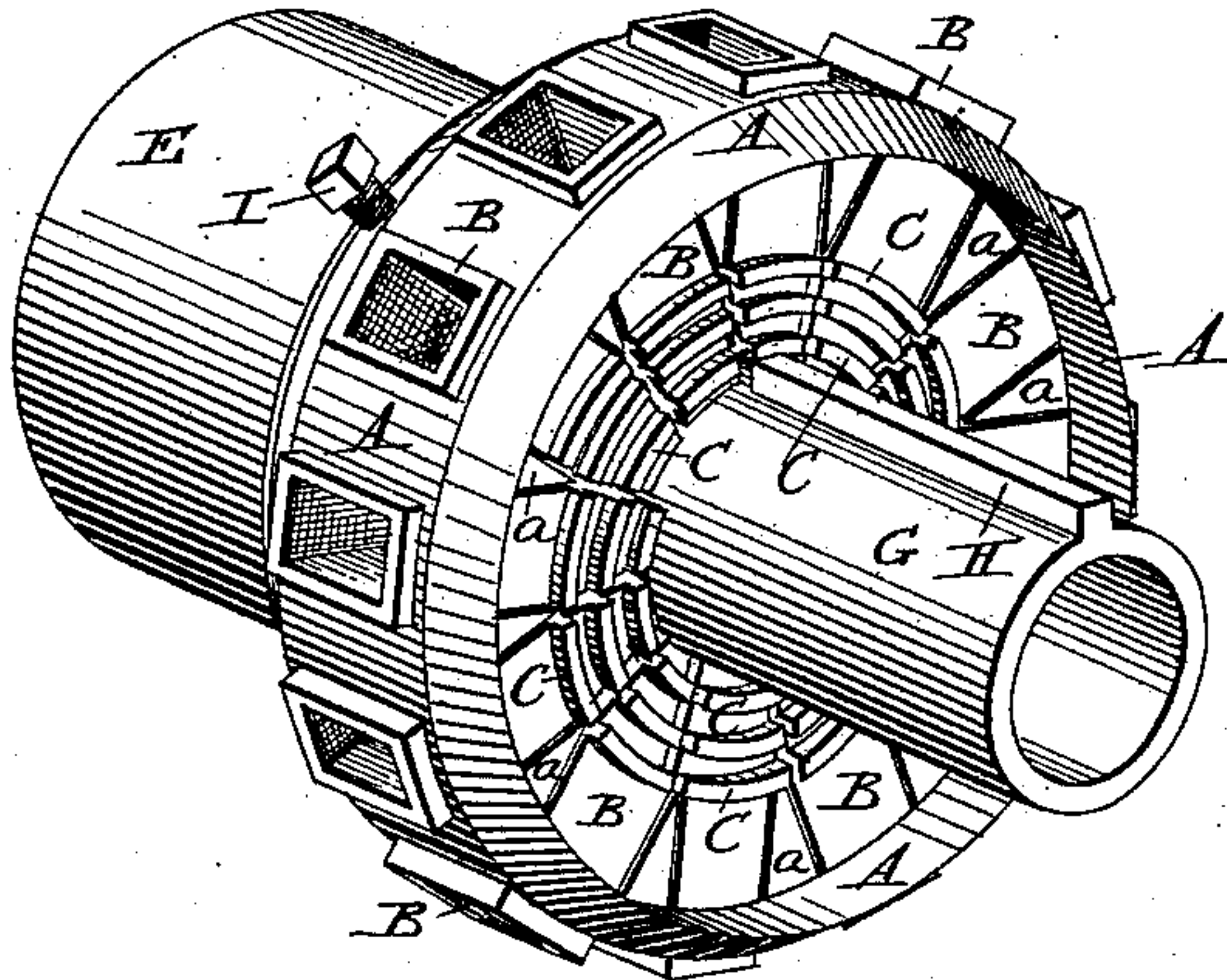
J. W. CRONAN.

HUB.

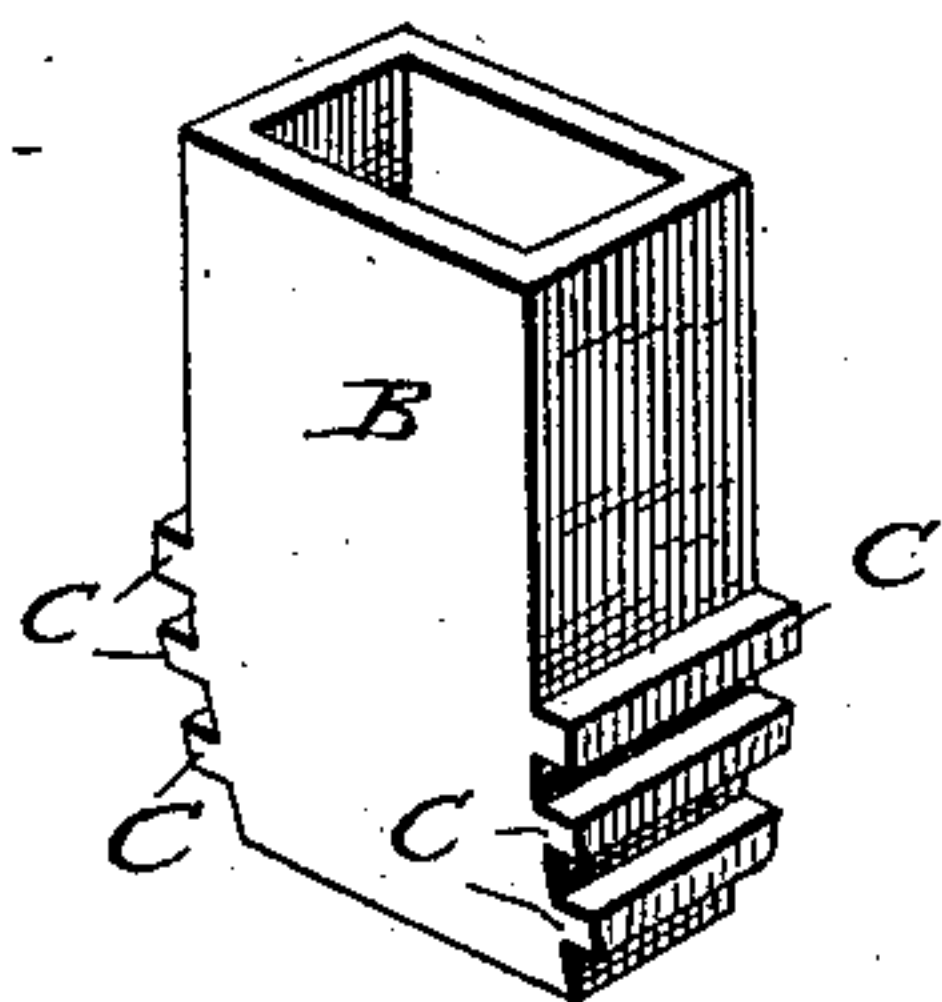
No. 365,367.

Patented June 28, 1887.

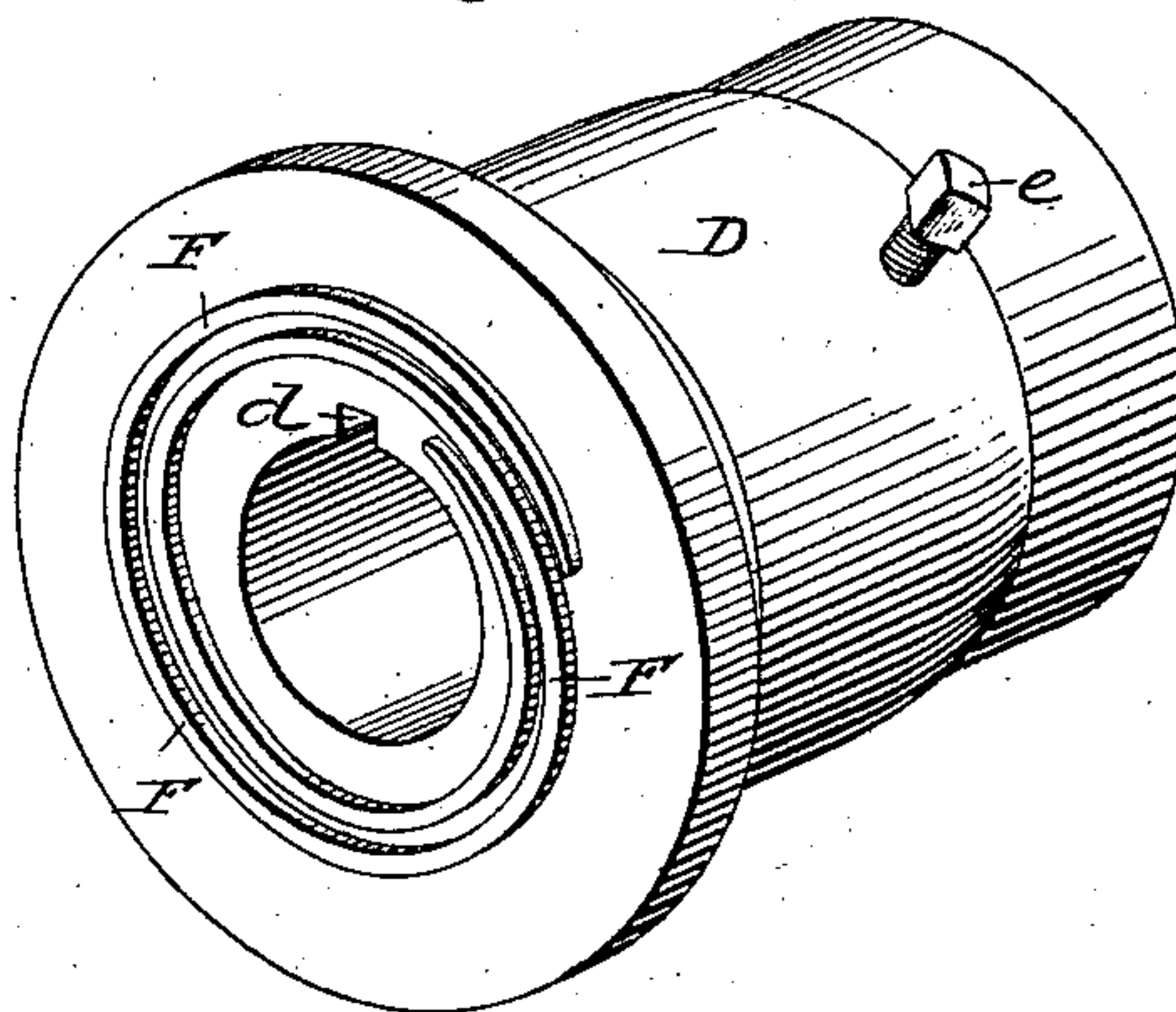
*Fig. 1.*



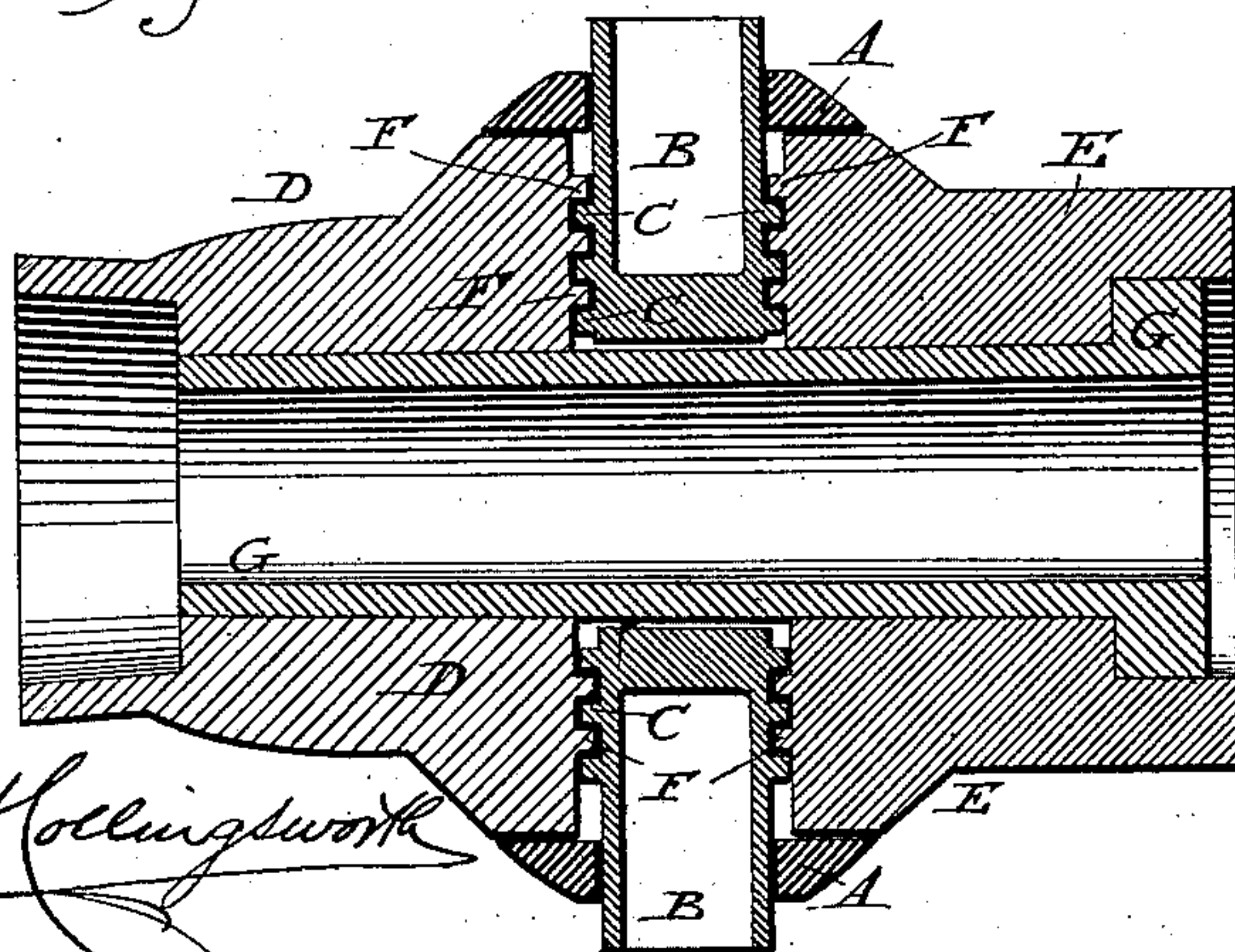
*Fig. 3.*



*Fig. 2.*



*Fig. 4.*



*Attest:*

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# UNITED STATES PATENT OFFICE.

JAMES W. CRONAN, OF TIPTONVILLE, TENNESSEE.

## HUB.

SPECIFICATION forming part of Letters Patent No. 365,367, dated June 28, 1887.

Application filed February 14, 1887. Serial No. 227,422. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES W. CRONAN, of Tiptonville, in the county of Lake and State of Tennessee, have invented certain Improve-  
5 ments in Hubs, of which the following is a specification.

This invention relates to that class of hubs in which means are provided for forcing the spokes outward to tighten the tire; and it consists in a central portion, in which are seated the spokes, either directly or in suitable sockets, and in end portions which are provided with spiral flanges engaging the spokes or the sockets, and extending into said central portion.  
15 tion.

Referring to the accompanying drawings, Figure 1 is a perspective view of the hub with one of the end portions removed. Fig. 2 is a perspective view of the removed end portion.  
20 Fig. 3 is a detailed perspective view of one of the spoke-sockets; Fig. 4, a longitudinal section of the hub.

Referring to the drawings, the central portion, A, consists of a ring with a series of perforations extending radially through it, and on its inner surface is provided with lugs *a*, projecting inwardly and alternating with the perforations, which latter receive the tenons of the spokes, or, as shown, sockets B. These  
30 sockets are provided on opposite sides with flanges C, which are so formed that when the sockets are all placed in the perforations in the ring a continuous spiral flange will be formed, as shown in Fig. 1. The wedge-shaped  
35 projections A engage the sides of the sockets, and prevent any lateral movement thereof. The flanges C are so arranged that the sockets may be moved longitudinally for a short distance, for the purpose hereinafter set forth.  
40 The ring A extends on each side of the lugs *a*, and receives the enlarged ends of end pieces, D and E, of the hub. The end pieces are each provided with a central longitudinal bore, and have on the face of the enlarged ends spiral  
45 flanges F, of similar pitch to the flanges C of the sockets B, so that when the said enlarged ends are inserted in the ring the flanges F will engage with the flanges C, for the purpose hereinafter set forth.

50 The hub is provided with a bushing, G, which extends into the bores of the end pieces, D and

E, and feathers H, at or near the ends of the bushing, enter recesses *d* in the said end pieces, so that the latter are fixed against rotation relative to the said bushing, and are further  
55 secured thereto by set-screws *e*, Fig. 2, in such manner that the end pieces may be removed from the bushing when desired.

When the parts of the hub are placed in the position shown in Fig. 4—that is to say, with  
60 the sockets inserted in the perforations in the ring A, the bushing central to the ends of the said sockets, and the end pieces, D and E, placed upon the said bushing and brought into conjunction with the said sockets, and with their  
65 enlarged ends in the ring A—if the said end pieces be rotated, the flanges F, engaging with the flanges C, will tend to force the sockets outward or inward, according to which way the end pieces may be turned.  
70

When a wheel is provided with a hub, as above described, and it is desirable to tighten the tire, the wheel may be held from rotation by any suitable means, and with a suitable tool the end pieces of the hub, together with  
75 the bushing, may be caused to rotate, which rotation will force the sockets outward from the bushing, and, forcing the spokes away from the hub, will expand the tire until the requisite degree of tension is obtained. The end pieces  
80 may then be fixed against the reverse rotation by any suitable means. The means I have shown consists of a set-screw, I, passing through the ring A and engaging with the enlarged portion of one of the end pieces.  
85

While I have described flanges and sockets in connection with the parts of the hub, I do not wish to be confined to the exact construction shown, as it is evident that instead of using two engaging flanges a flange and a  
90 groove may be used, and that the sockets may be dispensed with, and the tenons of the spokes flanged or grooved, as the case may be; also, it is evident that one of the end pieces may be formed integral with the ring A, or may have  
95 a smooth end face, and that the other end piece may be flanged or grooved, and will force the sockets of the spokes outward or inward, as hereinbefore described. It is also evident that a separate bushing may be dis-  
100 pensed with, and a continuation of one of the end pieces may form a suitable box for the hub,



on which the other end piece may turn, the ring in such construction being formed with or fixed to the end piece on which is formed the boxing. In such construction the feather H may also be dispensed with, and a set-screw or other means be employed for securing the movable end to the said box.

Having thus described my invention, what I claim is—

10 1. A hub consisting of a fixed portion for carrying spokes, and a rotatable portion having a spiral flange constructed to force the spokes radially in or out of their seats, substantially as and for the purpose described.

15 2. A hub consisting of a fixed portion carrying spoke-sockets and a rotatable portion with a spiral flange constructed to engage said sockets and force them radially inward and outward, as and for the purpose described.

20 3. In a hub, the combination of the spoke-carrying ring A, the bushing G, and rotatable end pieces entering said ring, and each provided with a spiral flange on its inner face, constructed to force the spokes inward or outward when the said end pieces are rotated, substantially as and for the purpose described.

25 4. The combination of the ring A, sockets

B, having flanges C on opposite faces, the bushing G, and the end pieces each having one end enlarged and entering the ring A, and provided with a spiral flange on the face of the enlarged portion, constructed to engage the flanges C of the sockets B, whereby the rotation of the said end pieces will force the sockets outward or inward.

35 5. The combination of the perforated ring A, having interior lugs, *a*, the sockets B, extending through said perforations, and provided on opposite sides with flanges C, the bushing G, and the end pieces each having an enlarged end with a spiral flange on the face thereof, adapted to engage with the flanges C on the sockets, whereby the rotation of the said end pieces will force the sockets outward or inward, substantially as and for the purpose set forth.

In testimony whereof I hereunto set my hand, this 22d day of January, 1887, in the presence of two attesting witnesses.

JAMES W. CRONAN.

Witnesses:

A. F. EASTWOOD,

E. H. FARROW.