

No. 885,783.

PATENTED APR. 28, 1908.

C. C. PALMER.
ROTARY COMPRESSOR.
APPLICATION FILED DEC. 15, 1906.

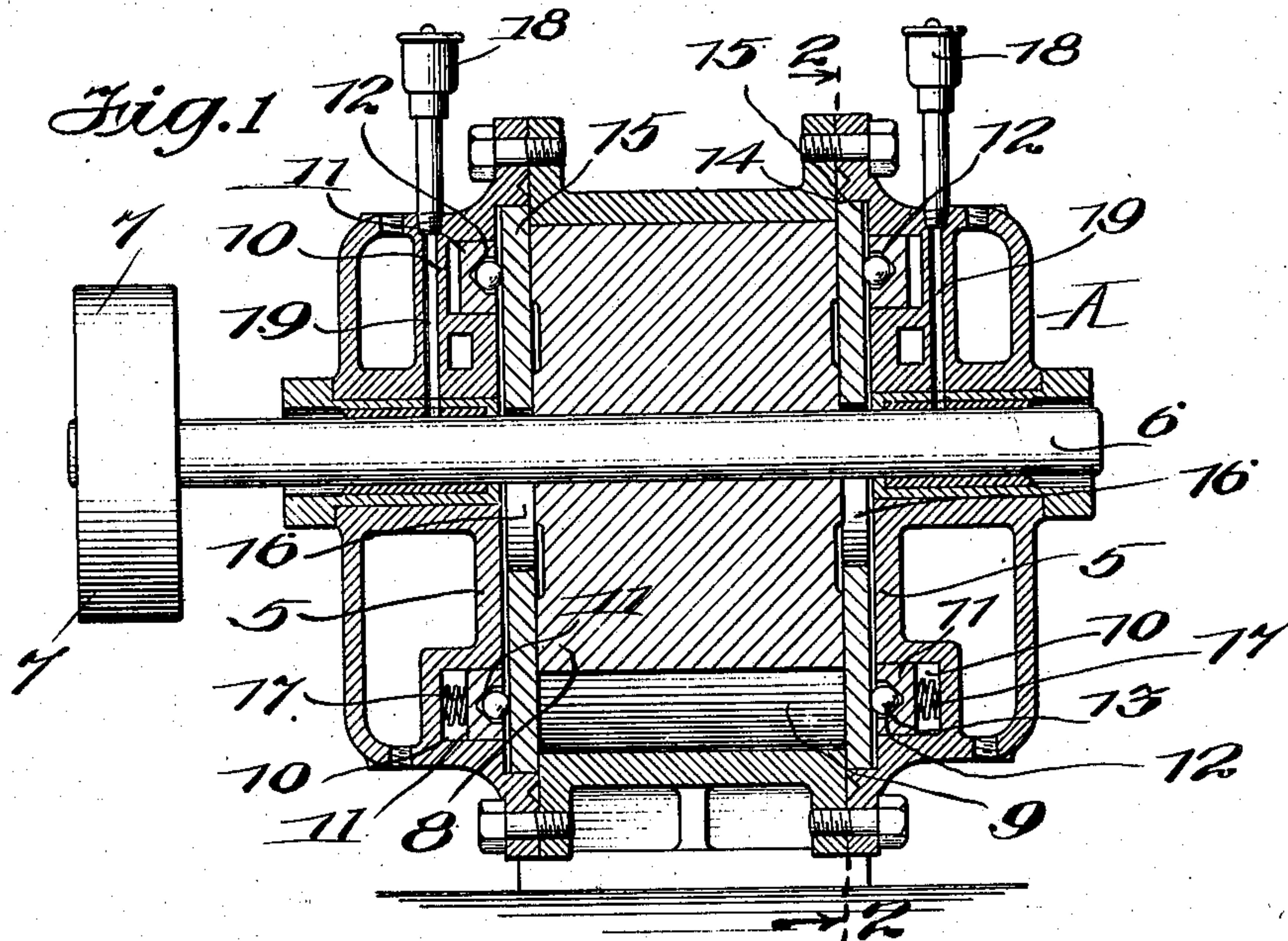
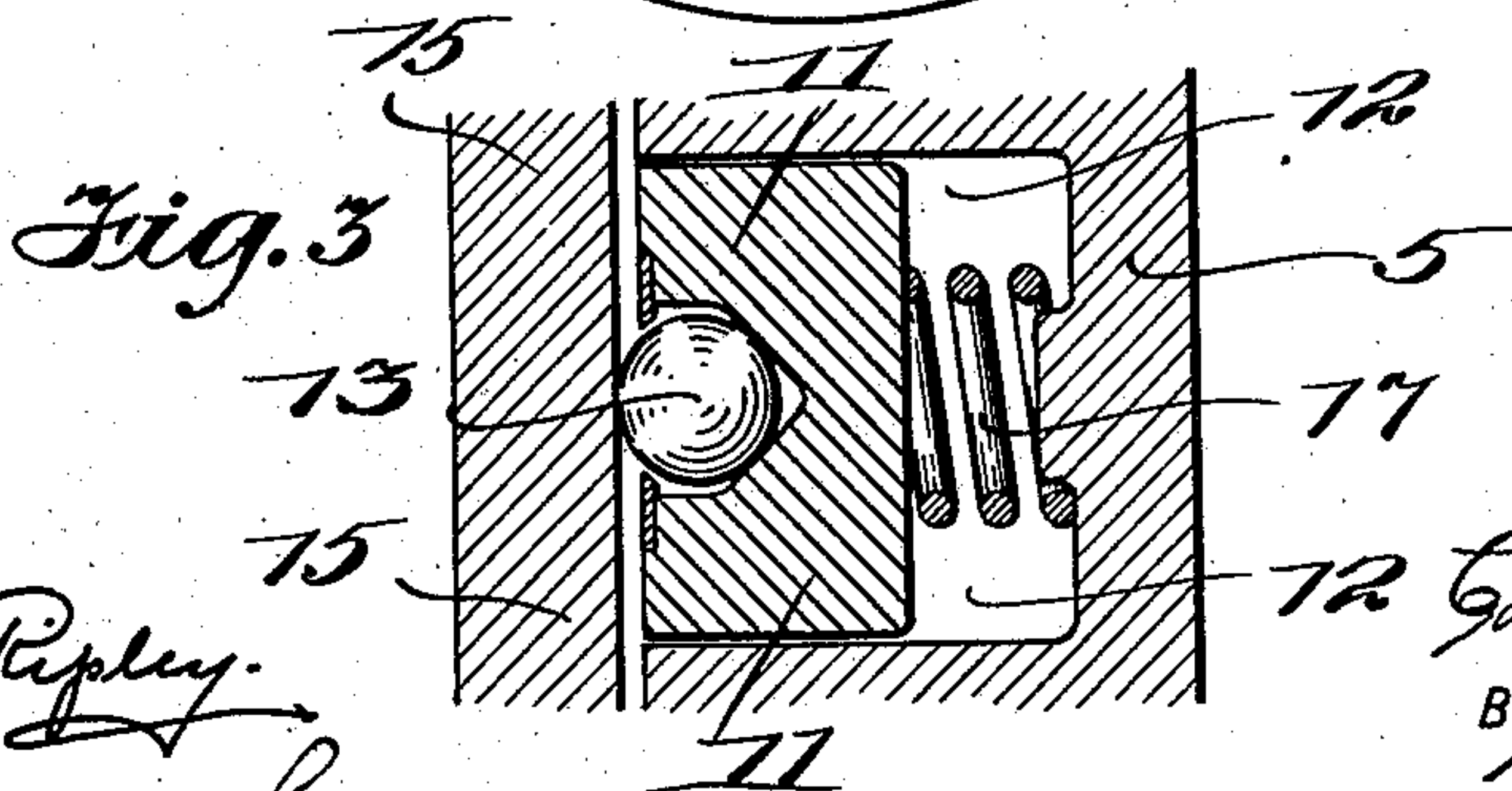
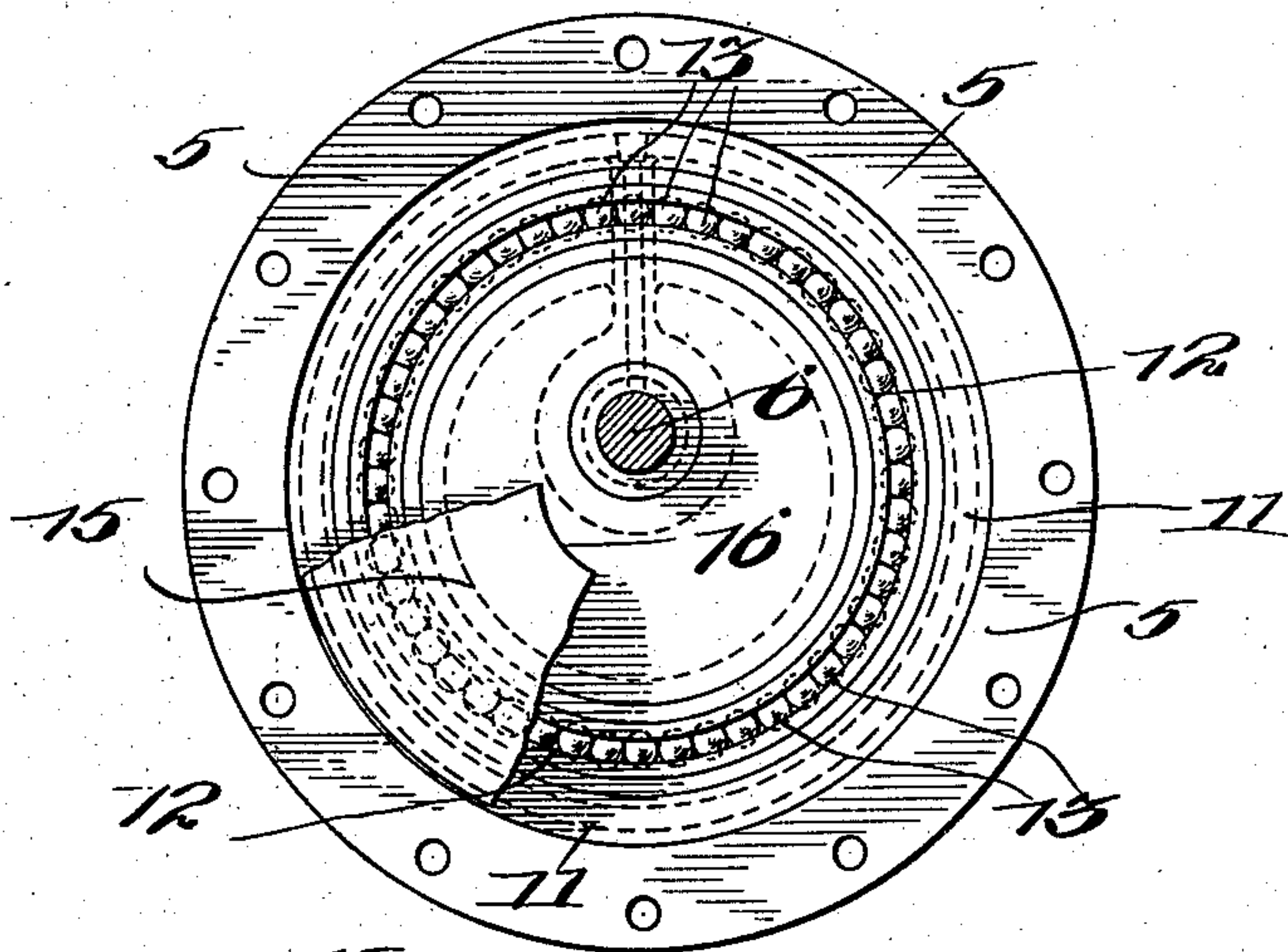


Fig. 2



WITNESSES
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UNITED STATES PATENT OFFICE.

CASSIUS CLAY PALMER, OF CRANFORD, NEW JERSEY.

ROTARY COMPRESSOR.

No. 885,783.

Specification of Letters Patent.

Patented April 28, 1908.

Application filed December 15, 1906. Serial No. 348,075.

To all whom it may concern:

Be it known that I, CASSIUS CLAY PALMER, a citizen of the United States, and a resident of Cranford, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Rotary Compressors, of which the following is a specification.

The present invention pertains to rotary engines and has particular application to a mechanism of the class described and commonly known as rotary compressors.

In the present instance it is my intention to provide means within the compressor for taking up and reducing the end thrust commonly occurring between the end of the rotor or drum and the head or adjacent end wall of the casing of the compressor, so that I provide a mechanism capable of attaining a high degree of efficiency.

The invention consists in the construction, combination and arrangement of parts set forth in and falling within the scope of the appended claims.

Referring now to the accompanying drawings wherein I have illustrated a preferred embodiment of my invention, Figure 1 is a vertical sectional view taken through the compressor embodying my improvements, the power shaft being shown in elevation; Fig. 2 is a detail view taken on the line 2—2 of Fig. 1, a portion of the abutment plate being broken away to show the location of the anti-friction means in the retainer; and Fig. 3 is a detailed sectional view showing a portion of the anti-friction retaining means with the anti-friction device therein.

Referring to the accompanying drawings in detail, A indicates the casing of the compressor embracing in its construction the head or end members 5, 5. Eccentrically mounted relative to the casing and extending therethrough is the power shaft 6 carrying the driving pulley 7 by means of which the shaft is driven. This power shaft, as is usual in engines of this type, carries a drum or rotor 8 revolving within the chamber 9 of the casing. In my improved construction each of the casing heads 5 is formed with an annular groove or way 10 receiving the ring member 11 having a ball race 12, formed therein, in which race are seated a number of suitable anti-friction ball bearings 13. Each head is also formed with a groove 14 for the reception of the abutment plate 15 having one face bearing against the anti-

friction bearings 13, while the other flat face thereof is in fractional contact with the adjacent face of the rotor or drum. These plates are preferably of a relatively greater diameter than the drum and have relatively large central openings 16 formed therein, so that such plate may revolve with the drum, the openings at the center being large to allow for the eccentric mounting of the rotor. In order to thrust the ball race or ring outward with a yielding pressure against its adjacent abutment plate, I provide a plurality of springs 17 arranged at suitable intervals around the groove 10 and bearing against the back of the ball ring to normally thrust the same outward, so that it will at all times contact with the yielding pressure of the adjacent face of the abutment plate. 18 indicates lubricating cups for supplying oil to the shaft bearings through the lubricating ducts 19. The compressor is, of course, provided with the usual inlet and outlet ports, or channels, for the fluid to be compressed.

It will be noted in this machine that when any end thrust is applied to the rotor or drum it will be communicated to the abutment plate revolving with such rotor and then it will be taken up by the yielding anti-friction devices heretofore described, so that an easy running machine results.

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

1. In a rotary compressor, the combination with the casing, a grooved head therefor the drum shaft and the drum, a ring member carrying anti-friction means located within the grooved head of the casing, an abutment plate separate from but adapted to revolve with the drum and to bear against the anti-friction means within the ring, and means for holding the ring carrying the anti-friction means in yielding engagement with the plate.

2. In a rotary compressor the combination with the casing, grooved heads therefor the drum shaft and the drum, of rings located within the grooved heads and adapted to retain anti-friction devices, a second groove formed in each head of the casing, an abutment plate separate from, but revolving with the drum and moving within said grooves, and springs for holding the retaining rings in yielding engagement with the abutment plates.

3. In a rotary compressor, the combination with the casing, a grooved head therefor,

the drum shaft and the drum, an anti-friction ring member located within the grooved head of the casing, an abutment plate separate from but adapted to revolve with the drum
5 and to bear against the anti-friction ring member, and means for holding the anti-friction ring member in yielding engagement with the plate.

10 4. In a rotary compressor the combination with the casing, grooved heads therefor, the drum shaft and the drum, of anti-friction ring members located within the grooved heads, a second groove formed in each head

of the casing, an abutment plate separate from, but revolving with the drum and moving within said groove, and springs for holding the anti-friction ring members in yielding engagement with the abutment plates. 15

In testimony whereof I have signed my name to this specification in the presence of
20 two subscribing witnesses.

CASSIUS CLAY PALMER.

Witnesses:

R. B. CAVANAGH,

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