

No. 627,797.

Patented June 27, 1899.

R. BÖTTCHER.
FRICTION COUPLING.

(Application filed Aug. 31, 1898.)

(No Model.)

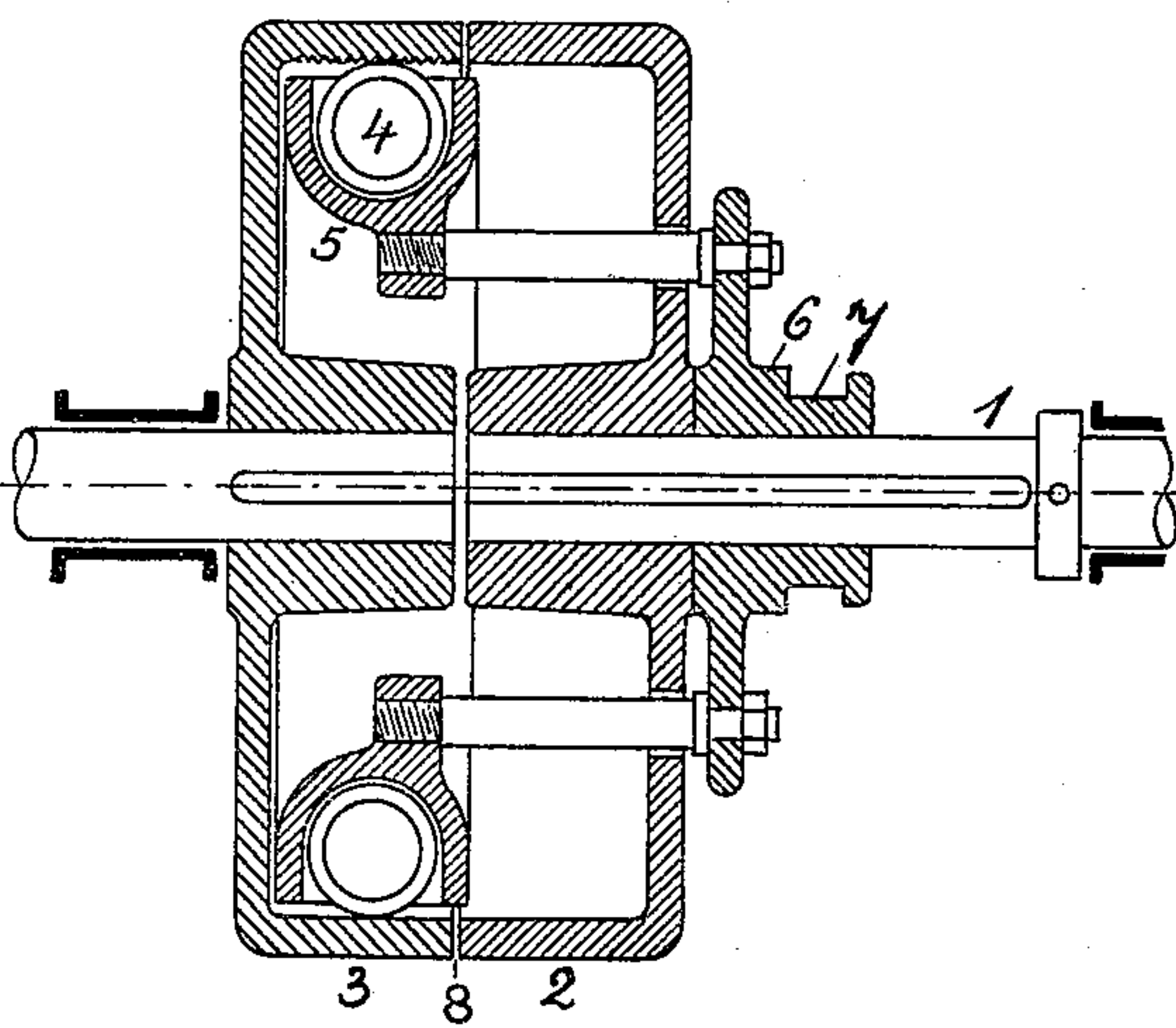


Fig. 1.

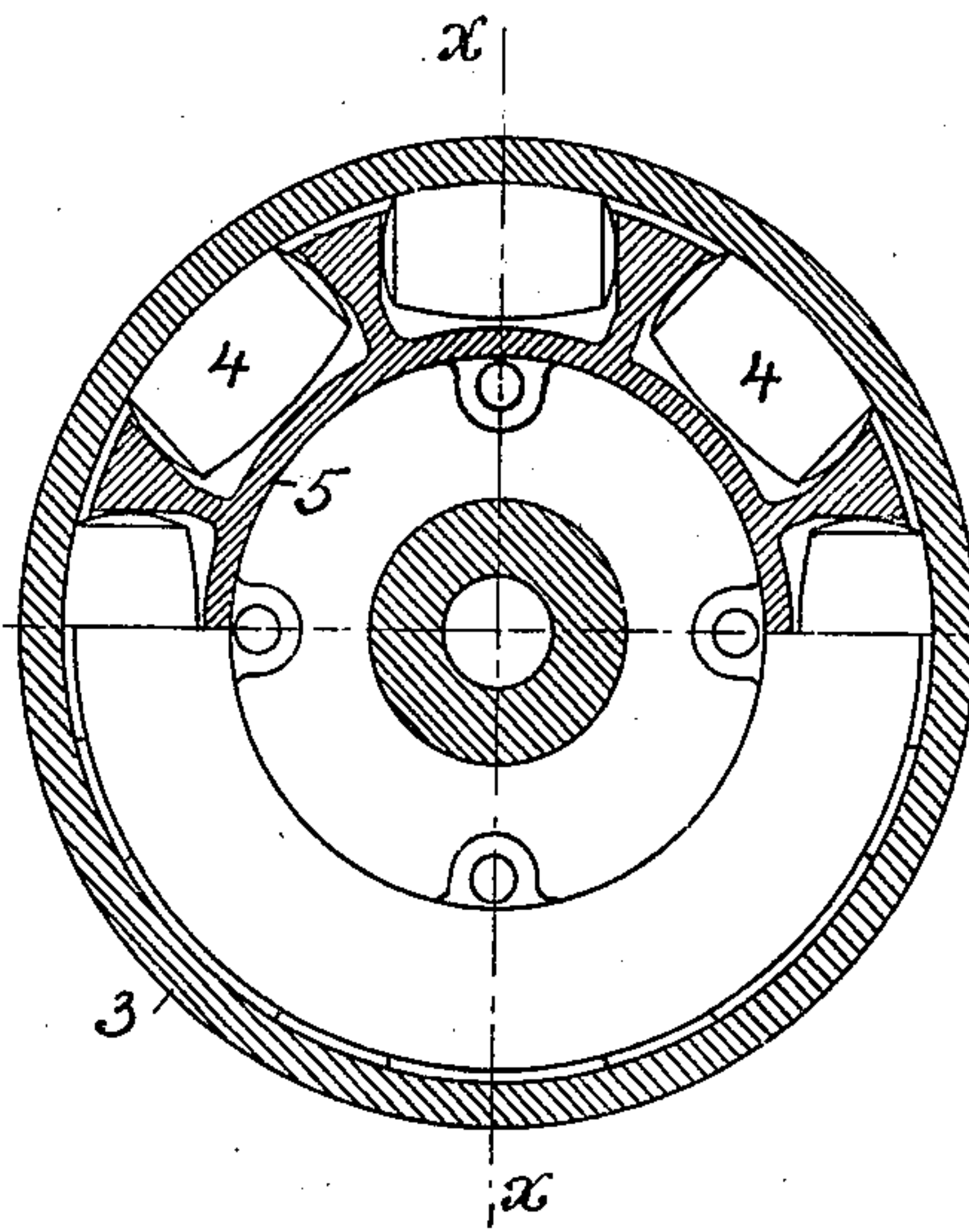


Fig. 2.

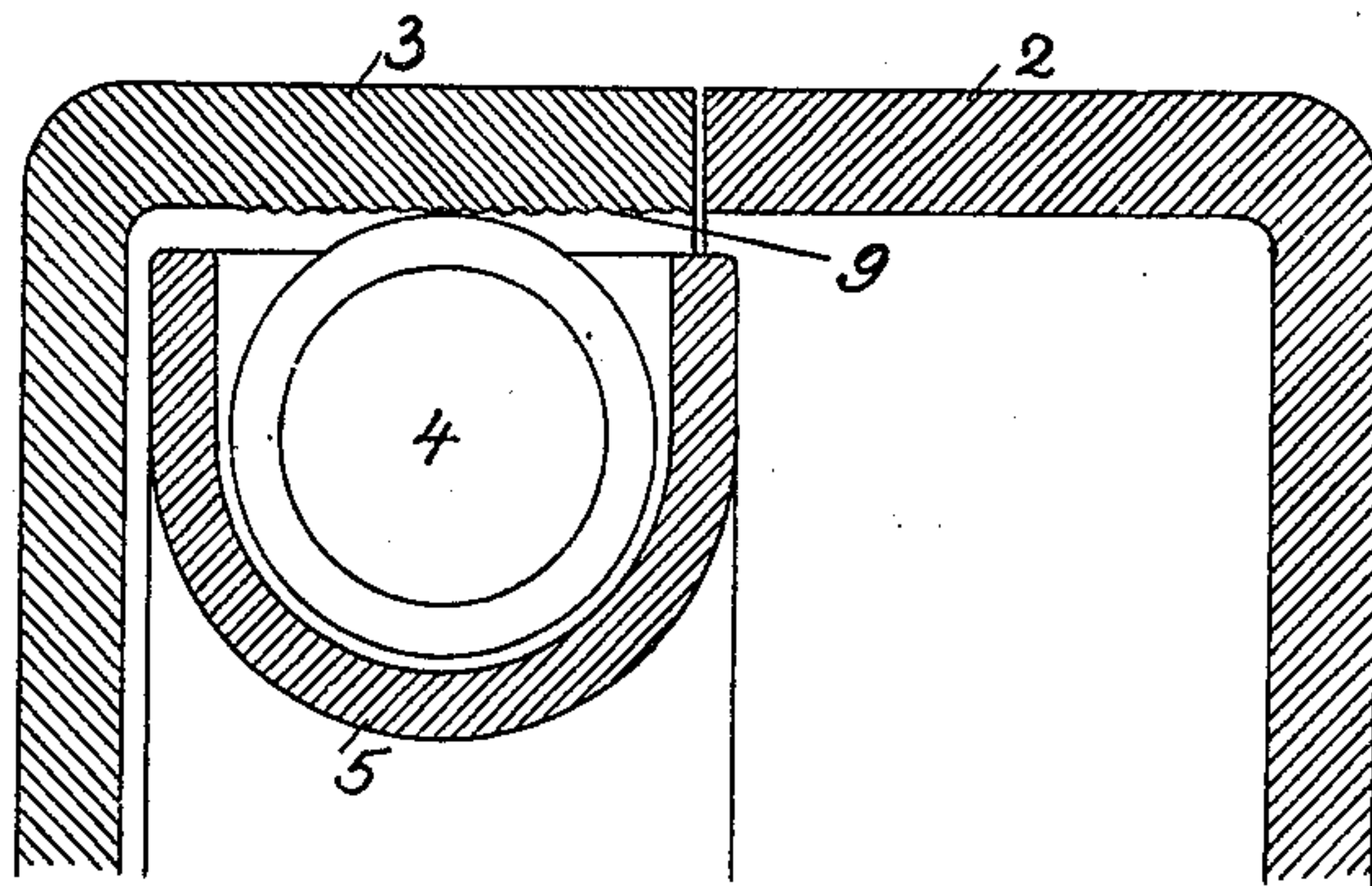


Fig. 3.

Witnesses
E. F. Mearns
H. F. Keating

Inventor.
Rudolf Böttcher
By his atty
Charles J. Kintner

UNITED STATES PATENT OFFICE.

RUDOLF BÖTTCHER, OF NUREMBERG, GERMANY.

FRICTION-COUPLING.

SPECIFICATION forming part of Letters Patent No. 627,797, dated June 27, 1899.

Application filed August 31, 1898. Serial No. 689,964. (No model.)

To all whom it may concern:

Be it known that I, RUDOLF BÖTTCHER, mechanical engineer, a subject of the German Emperor, residing at Nuremberg, in the Kingdom of Bavaria, German Empire, have invented a new and useful Improvement in Friction-Couplings, of which the following is a specification.

My invention relates to improvements in friction-couplings adapted to be actuated by centrifugal force; and it has for its object the provision of means whereby coupling may be effected between rapidly-running lines of shafting.

The invention will be fully understood by referring to the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view of my novel form of coupling and two adjoining lines of shafting adapted to be connected thereby, said sectional view being taken on the line $x x$, Fig. 2, which is a transverse sectional view of Fig. 1, a part of the clutching-wheel and the coupling-weights being shown in elevational view. Fig. 3 is an enlarged sectional view of a part of the adjoining coupling-boxes and the clutch-supporting wheel 5, one of the clutch-weights being shown in end elevational view.

Referring now to the drawings in detail, 1 illustrates two lines of shafting adjacent to each other, adapted to be joined together by my novel form of coupling.

2 and 3 illustrate similar cylindrical coupling-boxes connected to the adjacent line of shafting.

5 represents a clutch-supporting wheel provided at its exterior surface with grooved cells or chambers adapted to support a series of drum-like clutching-weights 4 4, one in each cell or chamber, said clutching-wheel being secured by a series of arms to a sliding ring 6, adapted to be moved longitudinally back and forth upon the shaft 1, 7 being a groove in one end of the sliding ring 6, adapted to receive the forked end of a clutch-operating lever of well-known form.

The operation of my novel form of clutch mechanism is as follows: Suppose the right-

hand line of shafting 1 to be rotating at great speed and the sliding ring 6 with the clutch-supporting wheel 5 to be in their extreme right-hand positions. During this condition of affairs the clutching-weights 4 are all held by the clutch-supporting wheel 5 within the cylindrical coupling-box 2 and by reason of centrifugal action are drawn out against the inner face of said box. To couple the two lines of shafting, therefore, it is only necessary to move the sliding ring 6 to the left, by which action the clutch-supporting wheel 5 is thrust into the left-hand cylindrical coupling-box 3, as shown in Fig. 1, and during this action the clutching-weights 4 are caused to rotate about their axes, but at the same time exercise a clutching influence between the inner surface of the left-hand cylindrical box 3 and the ends of their respective supporting cells or chambers, thereby imparting motion to the second line of shafting.

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

1. A friction-coupling consisting of two cylindrical coupling-boxes attached to adjoining lines of shafting and a movable clutch-supporting wheel attached to one of said boxes and carrying clutching-weights adapted, when moved into the second cylindrical coupling-box, to effect a clutching action between said parts by centrifugal force, substantially as described.

2. A friction-coupling consisting of two hollow cylindrical coupling-boxes attached to adjoining lines of shafting, in combination with a clutch-supporting wheel adjustably secured within said cylindrical coupling-boxes and carrying a series of clutching-weights located in cells and chambers in the outer surface of said wheel and adapted, when rotated, to effect a clutching action between said parts by reason of centrifugal force, substantially as described.

3. A friction-coupling consisting of two hollow cylindrical coupling-boxes attached to adjoining lines of shafting, in combination with a clutch-supporting wheel sustained by a series of arms and a supporting-ring adapt-

ed to slide upon one of the lines of shafting,
said clutch-supporting wheel being provided
with a series of cells or chambers and a cor-
responding series of drum-like clutching-
5 weights, one for each cell or chamber, all of
said parts being adapted to act substantially
as and for the purpose described.

Signed at Nuremberg, in the Kingdom of
Bavaria, German Empire, this 26th day of
July, A. D. 1898.

RUDOLF BÖTTCHER.

Witnesses:

ALOIS GOBANT,
OSCAR BOCK.