

No. 668,475.

Patented Feb. 19, 1901.

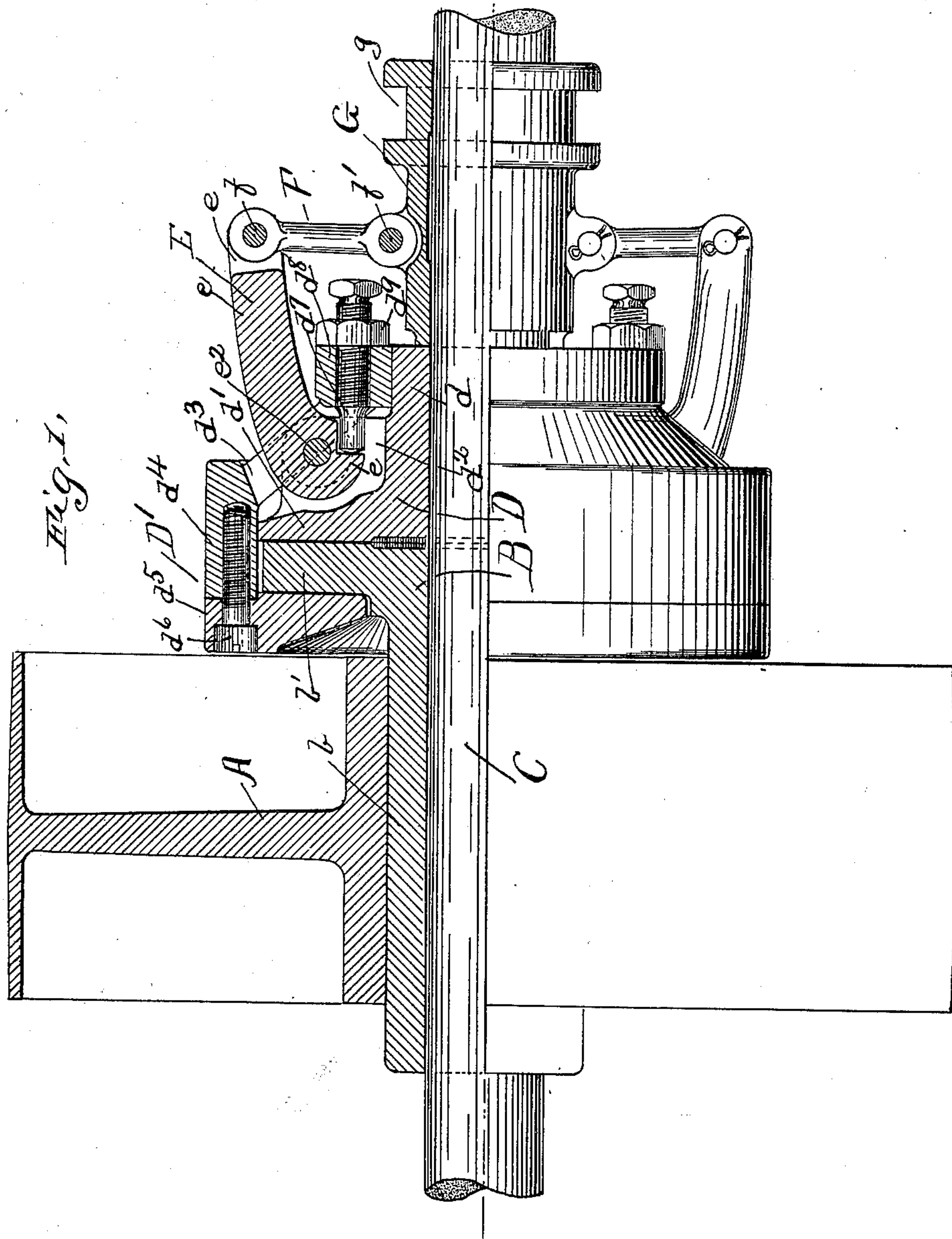
B. C. BALL & W. H. CORBETT.

FRICITION CLUTCH.

(No Model.)

(Application filed Apr. 28, 1900.)

2 Sheets—Sheet 1.



WITNESSES:

R. F. Sanga  
N. M. Lindon

INVENTORS:

Bert C. Ball  
and  
William H. Corbett  
BY  
N. C. Lind  
ATTORNEY

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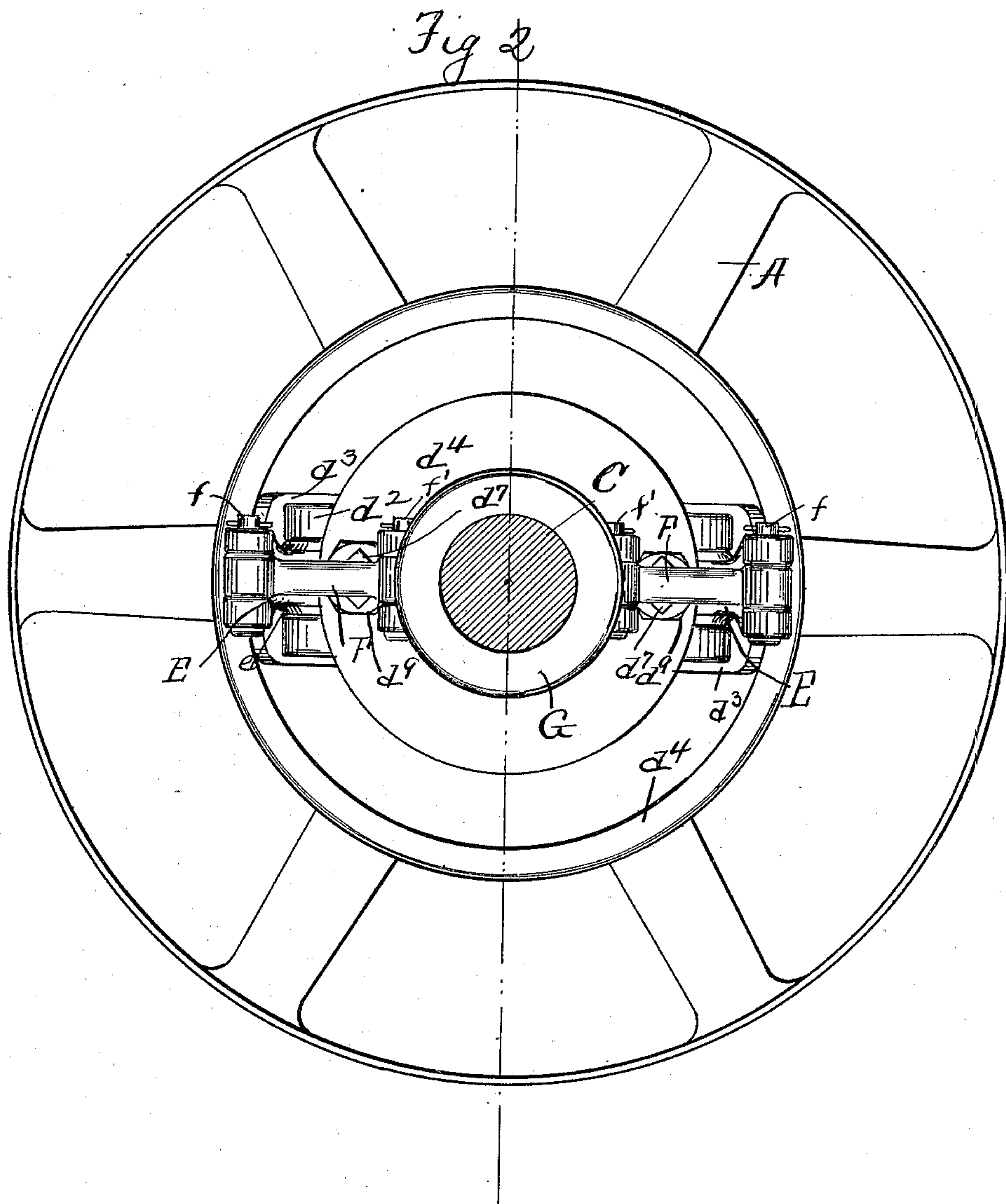
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Witnesses  
R. F. Lanza  
Justin A. Bloem

Inventors:  
B. C. Ball and William H. Corbett  
By their Attorneys H. C. Lenz



# UNITED STATES PATENT OFFICE.

BERT C. BALL AND WILLIAM H. CORBETT, OF NEW YORK, N. Y.

## FRICITION-CLUTCH.

SPECIFICATION forming part of Letters Patent No. 668,475, dated February 19, 1901.

Application filed April 28, 1900. Serial No. 14,744. (No model.)

*To all whom it may concern:*

Be it known that we, BERT C. BALL and WILLIAM H. CORBETT, citizens of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Friction-Clutches; and we do 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 appertains to make and use the same.

This invention relates to friction-clutches; and it consists in certain improvements in the construction thereof, as will be hereinafter fully described, and pointed out in the claims.

The invention is illustrated in the accompanying drawings, as follows:

Figure 1 shows a side view, partly in elevation and partly in section. Fig. 2 shows an elevation of the clutch.

In the drawings, A marks the drive-pulley. This is secured to the hub *b* of the driving element B. The driving element comprises the hub, as stated, and the friction-flange *b'* and is journaled on the shaft C which is to be driven. The driven element of the clutch comprises two main parts D and D' on each side of the flange *b'*. The part D is secured to the shaft C by any of the ordinary means. This part comprises the hub *d* and the friction-shoe *d'*. Extending from the part D of the driven element are the lugs or ears *d<sup>2</sup>*, between which the levers E are pivoted. The part D' of the driven element is formed of the web *d<sup>4</sup>* and shoe *d<sup>5</sup>*. These are secured together by the screw *d<sup>6</sup>*. The lugs *d<sup>2</sup>* extend through the openings *d<sup>3</sup>* in the web *d<sup>4</sup>* and lock the part D' with the part D. The web D' is provided with the ring *d<sup>8</sup>*, which fits on the hub *d* of the part D. Extending through this ring are the adjusting-screws *d<sup>7</sup>*. The jam-nut *d<sup>9</sup>* is arranged to lock this adjusting-screw in place.

The levers E are pivoted on a pin *e<sup>2</sup>*, which is secured in the ears *d<sup>2</sup>*. The lever E forms a bell-crank with the arms *e* and *e'*. The arm *e'* is arranged to operate upon the adjusting-screw *d<sup>7</sup>*. The outer ends of the lever E are provided with the crotch *e<sup>3</sup>*, in which is pivoted the link F by means of the pin *f*. The inner ends of the links F are pivoted to a sliding collar G by means of the pin *f'*. The

collar G has the groove *g'*, into which the shift mechanism may be arranged, as is usual.

The operation of the device is as follows: The parts in the position shown are those taken by them when the clutch is set. When it is desired to release the clutch, the sliding collar G is moved outwardly. This draws the outer ends of the lever E toward the shaft C, and as this moves the inner ends of the levers away from the screws *d<sup>7</sup>* it releases the clutch. By moving the sliding collar G back to the position shown the clutch is set.

The limit of movement of the sliding sleeve G toward the clutch is such as to bring the pins *f'* a little beyond a position which would make the links extend at right angles to the shaft. By this arrangement the pressure tends to hold the sliding sleeve G in the position which sets the clutch. As the clutch wears the adjusting-screws may be moved to take up the wear.

It is obvious that the shaft may be made the driving element and the hub the driven element without changing the mechanism, and where the driving and driven elements are used in the claims it is to be understood that their operation may be reversed.

What we claim as new is—

1. In a friction-clutch, the combination of a driving element comprising the flange, *b'*; a driven element comprising a flange, *d'*, web, *d<sup>4</sup>*, shoe, *d<sup>5</sup>*, secured to the web, and the adjusting-screw, *d<sup>7</sup>*, also secured to the web; and a setting mechanism comprising the bell-crank lever, E, pivoted on the flange, *d'*, and arranged to operate against the adjusting-screw, *d<sup>7</sup>*.

2. In a friction-clutch, the combination of the driving element comprising the flange, *b'*; a driven element comprising a flange, *d'*, web, *d<sup>4</sup>*, shoe, *d<sup>5</sup>*, secured to said web, and the set-screw, *d<sup>7</sup>*, also secured to said web; and a setting mechanism comprising the bell-crank lever, E, pivoted on the flange, *d'*, and having its inner arm arranged to operate against the adjusting-screw, *d<sup>7</sup>*; the links, F, connecting said lever with the sliding sleeve, G, in the relation described.

3. In a friction-clutch, the combination of the driving element, B, comprising the hub and a flange, *b'*; the driven element comprising the parts, D and D', arranged on oppo-

site sides of the flange,  $b'$ , and to be brought into engagement therewith the part,  $D'$ , being composed of the web,  $d^4$  and shoe,  $d^5$ , secured to the web, said web having the opening,  $d^3$ , therethrough, and the part,  $D$ , being  
5 composed of the flange,  $d'$ , and these having the ears,  $d^2$ , extending therefrom into the opening,  $d^3$ , in position to lock the parts,  $D'$  and  $D$ , together for rotation; the driven ele-  
10 ment also comprising the set-screw,  $d^7$ , arranged in the web,  $d^4$ ; and a setting mechanism comprising the bell-crank lever,  $E$ , having the arms,  $e$  and  $e'$ , pivoted between the

lugs,  $d^2$ , with the arm,  $e'$ , arranged to operate upon the adjusting-screw,  $d^7$ , the links,  $F$ , connecting the ends of the lever with the sliding collar,  $G$ , and the sliding collar,  $G$ , arranged with a limit of movement as described.

In testimony whereof we affix our signatures in presence of two witnesses.

BERT C. BALL.

WM. H. CORBETT.

Witnesses:

CHAS. J. McDERMOTT,

CHAS. L. THATCHER.