

H. F. EVERS.
 FRICTION CLUTCH.
 APPLICATION FILED APR. 13, 1912.

1,050,207.

Patented Jan. 14, 1913.

FIG. 2.

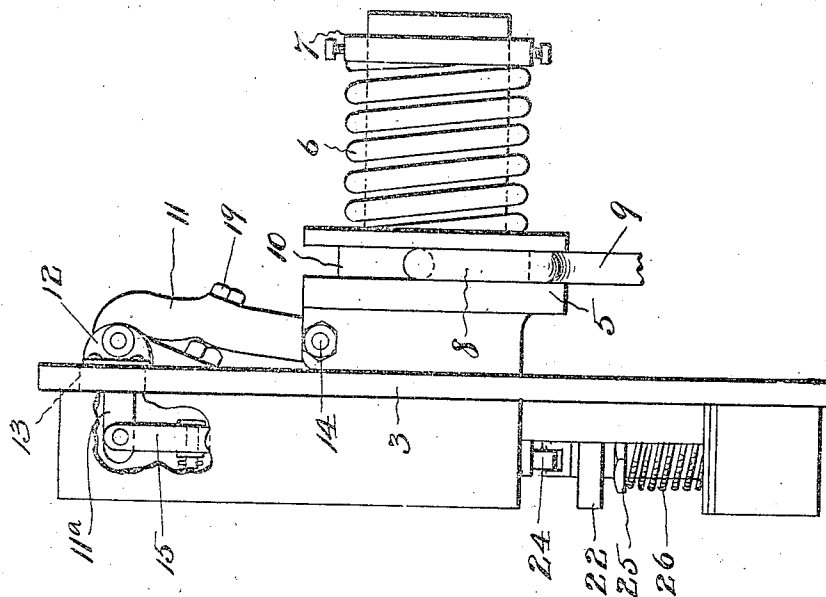
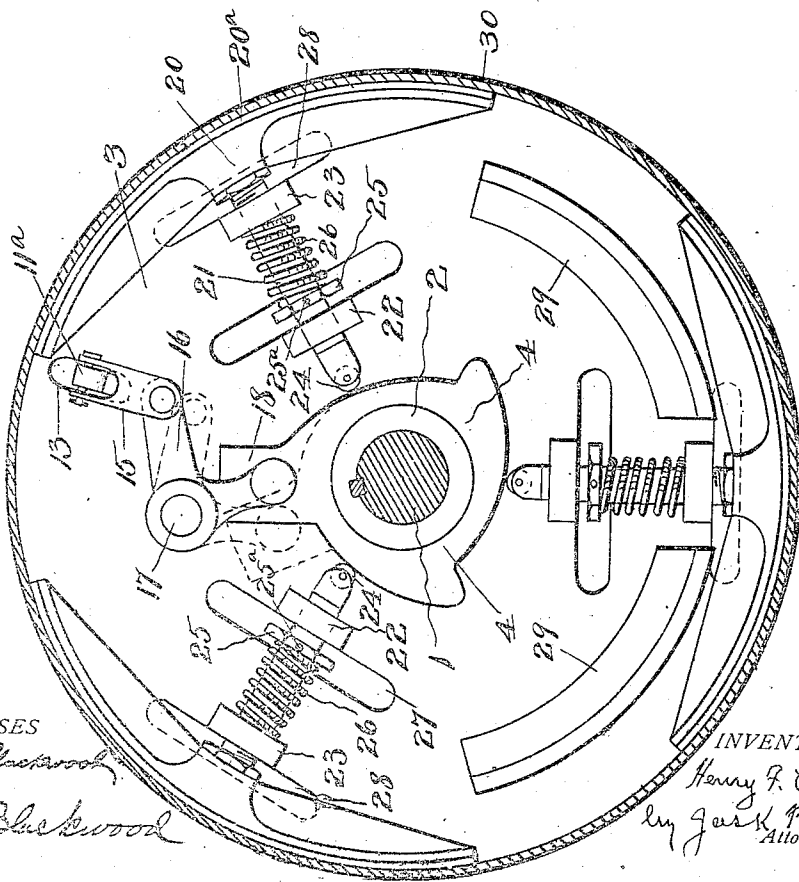


FIG. 1.



WITNESSES
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UNITED STATES PATENT OFFICE.

HENRY F. EVERS, OF CLYDE, OHIO, ASSIGNOR OF ONE-HALF TO EMANUEL M. CRAWFORD, OF CLYDE, OHIO.

FRICTION-CLUTCH.

1,050,207.

Specification of Letters Patent.

Patented Jan. 14, 1913.

Application filed April 13, 1912. Serial No. 690,596.

To all whom it may concern:

Be it known that I, HENRY F. EVERS, a citizen of the United States, and a resident of Clyde, in the county of Sandusky and State of Ohio, have invented certain new and useful Improvements in Friction-Clutches, of which the following is a specification.

My invention relates to friction-clutches for coupling the motor to the transmission gearing of a motor vehicle and having especial reference to the patent granted to me under date of April 11, 1911, No. 988,987, the subject matter of the present application has for its object the improvement of the invention covered by the patent referred to by making the action of the cam for moving the clutch-shoes positive when moving the shoes into either a clutching or unclutching position.

My invention will be described in detail hereinafter, and illustrated in the accompanying drawings, in which—

Figure 1 is a front view of the clutch-plate, showing the flange on the friction-disk in section; and Fig. 2, a side view of the clutch-plate, showing the parts partly broken away.

In the drawings similar reference characters will be used to designate corresponding parts in the several views.

1 indicates the shaft on which is keyed the sleeve 2, having the circular plate or disk 3 secured to or formed integral therewith and a cam 4 rotatably mounted thereon.

5 indicates a sleeve slidably mounted on sleeve 2 and held normally in engagement with plate 3 by means of spring 6, engaging said sleeve 5, and collar 7, secured to sleeve 2.

8 indicates the bifurcated end of lever 9 that engages the circumferential groove 10 in sleeve 5.

A lever 11 is fulcrumed on ears 12, one of which is shown in Fig. 2, and has one end 11^a extending through opening 13 in plate 3, while its other end is pivotally secured to pivot-pin 14 in sleeve 5, said lever being formed with a slot (not shown) to prevent binding of the lever and sleeve in moving the sleeve to operate the lever, as hereinafter stated. Pivotally secured to the end 11^a of lever 11 is a link 15 which has its

other end pivotally secured to one arm of bell-crank lever 16, fulcrumed on stud-shaft 17 on plate 3, while its other arm pivotally engages arm 18 on cam 4.

It will be understood from the construction thus far described that when the sleeve 5 is moved away from plate 3 by operating lever 9 the cam 4 will be rotated in one direction, while by releasing the lever 9 the spring 6 will move the sleeve 5 toward the plate and the cam will be rotated in the opposite direction.

19 indicates a screw for limiting the movement of the lever 11 toward the plate 3.

20 indicates the clutch-shoes having rods 21 secured thereto that are slidably mounted in bearings 22 and 23 on plate 3 and provided with rollers 24 on their inner ends that engage the periphery of cam 4. Rods 21 have adjusting-nuts 25 mounted thereon and secured thereto by means of set-screws 25^a, and 26 indicates coil-springs engaging said nuts 25 and bearings 23.

27 indicates slots in plate 3 to permit adjustment of nuts 25, and 28 other slots in said plate adjacent to the inner edges of shoes 20.

29 indicates balance-weights on the plate.

Shoes 20 may or may not have their bearing-surfaces provided with fibrous or other frictional material to add to the efficiency of the clutching mechanism, this material being indicated at 20^a.

30 indicates the flange on the friction-drum.

When the sleeve 5 is pulled away from plate 3, as hereinbefore stated, the cam 4 is rotated so that the narrower faces of the cams are presented to the rollers 24, and the springs 26 force shoes 20 from engagement with flange 30. When pressure on lever 9 is released spring 6 forces sleeve 5 back toward the plate 3, rotating cam 4 in the opposite direction, and the shoes 20 are forced into engagement with the flange 30.

Having thus described my invention, what I claim is—

In a friction-clutch, a shaft, a sleeve mounted on the shaft and having a plate thereon and provided with a friction-surface, a cam revolvably mounted on the sleeve, friction shoes adapted to be actuated by said

cam, a bell-crank lever pivotally secured to the plate and engaging the cam, another lever mounted on the plate, a link connecting the two levers aforesaid, and means to actuate the last-mentioned lever, substantially as shown and described.

In witness whereof, I have hereunto set

my hand in presence of two subscribing witnesses.

HENRY F. EVERS.

Witnesses:

LA MAR JONES,
HOMER METZGAR.