

No. 659,679.

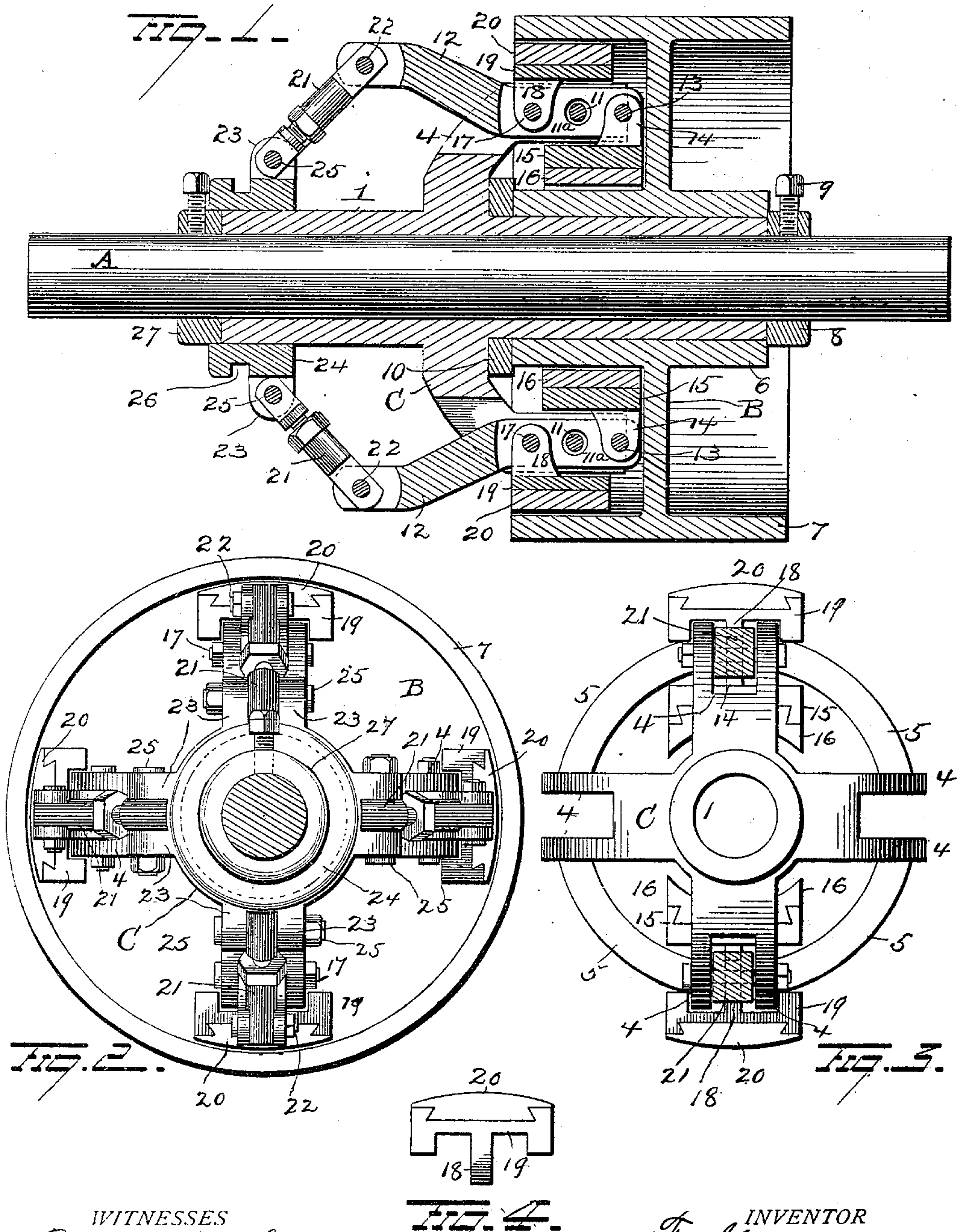
Patented Oct. 16, 1900.

F. KONLEY.

CLUTCH.

(Application filed May 16, 1900.)

(No Model.)



WITNESSES
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FRANK KONLEY, OF ST. MARY'S, OHIO.

CLUTCH.

SPECIFICATION forming part of Letters Patent No. 659,679, dated October 16, 1900.

Application filed May 16, 1900. Serial No. 16,907. (No model.)

To all whom it may concern:

Be it known that I, FRANK KONLEY, a resident of St. Mary's, in the county of Auglaize and State of Ohio, have invented certain new and useful Improvements in Clutches; and I 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.

My invention relates to an improved friction-clutch, the object of the invention being to provide a pulley with improved mechanism for frictionally engaging both the rim and hub of the same to lock it to the shaft.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in section, illustrating my improvements. Fig. 2 is a view in section, taken at right angles to Fig. 1; and Figs. 3 and 4 are views of details of construction.

A represents a shaft on which is secured a sleeve 1. The sleeve 1 is provided between its ends with a series of pairs of curved parallel arms 4, connected by segments 5, all of which form a frame C for supporting my improved clutch mechanism. A pulley B is mounted on the sleeve 1 and is made with an elongated hub 6, disposed inside the frame C and whose rim 7 partially surrounds or incloses said frame. A collar 8 is secured on shaft A by means of set-screw 9 to prevent displacement of the pulley, and a ring or washer 10 is disposed between the end of hub 6 and frame C to hold the pulley in proper position on the sleeve 1 and to a certain extent relieve frictional contact which would otherwise occur.

Each pair of parallel arms 4, heretofore referred to, are made near their free ends with alining holes for the passage of a bolt 11, which passes through a hole 11^a, of appreciably larger diameter than the bolt, in a bifurcated lever 12. In the extreme forward end of the lever 12 is pivotally secured, by means of a pin 13, a lug 14 on a shoe 15, dovetailed on its inner face to secure a concave bearing-block 16 (preferably of wood) in place, which latter is adapted to engage the

hub of the pulley, as will be more fully hereinafter explained. Another pivot-pin 17 is secured in the bifurcated end of each lever 12, in rear of the hole 11^a therein, and pivotally secures a lug 18 on a shoe 19, having a dovetailed outer face in which a convex bearing-block 20 is secured and adapted to be moved into frictional engagement with the inner face of the rim of the pulley, as will more fully hereinafter appear.

The extreme rear ends of the levers 12 are bifurcated, and a series of toggle-links 21 are pivotally connected at one end thereto by means of bolts 22 and the other ends of said links pivotally secured between parallel lugs 23 on a sliding collar 24 by means of bolts 25, said sliding collar made with a peripheral groove 26 for the reception of any suitable operating mechanism (not shown) for moving the same on the sleeve, and a collar 27 is secured on shaft A to limit the movement of collar 24.

The operation of my improvement is as follows: When the parts are in the position shown in Fig. 1, the pulley will be free to turn independent of the shaft, and when it is desired to lock the pulley and shaft together it is simply necessary to move the collar 24 forward, which operation will, owing to the toggle-links 21, move the rear ends of the levers 12 outward and their forward ends inward toward the shaft, and thus force the shoes 15 against the hub and the shoes 19 against the rim of the pulley with sufficient frictional contact to lock the pulley and shaft together, and when the collar is moved rearward both series of shoes will be pulled away from contact with the pulley and permit the turning of the latter independent of the shaft.

It will be seen that owing to the fact that the holes 11^a in the levers 12 are made appreciably larger than the diameter of the bolts 11 the lever and shoes will be given sufficient play to permit both series of shoes to engage the pulley with their entire bearing-surface instead of exerting a greater pressure on one end than the other, as would be the case if the levers and shoes had no play.

Various slight changes might be resorted to in the general form and arrangement of the several parts described without departing from the spirit and scope of my invention,

and hence I would have it understood that I do not wish to limit myself to the precise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

10 1. A clutch comprising a frame to be secured on a shaft and a pulley to run loose on said shaft, a lever pivotally connected to said frame and carrying two shoes, and means connected with said lever for operating it positively in both directions.

15 2. A friction-clutch comprising a frame to be secured on a shaft and a pulley to run loose thereon, a lever pivotally supported by said frame, two shoes connected to said lever and means connected directly with the lever for forcing one of said shoes in engagement with the hub of the pulley and the other in engagement with the rim thereof and for positively withdrawing said shoes simultaneously.

25 3. In a friction-clutch, the combination with a shaft and a pulley loosely mounted thereon and having an elongated hub and rim, of a frame secured to said shaft, levers pivotally supported by said frame, two shoes pivotally connected to each lever, one adapted to engage the rim and the other the hub of the pulley, a sliding collar on said shaft and links connecting one end of said levers with the collar, so that when the collar is

35 moved it will simultaneously operate all of said levers and positively apply and release the shoes.

4. In a clutch, the combination with a frame to be secured to a shaft, of a series of levers pivotally attached to said frame, each lever 40 being bifurcated where it is pivotally supported, oppositely-disposed shoes having lugs pivotally mounted in said bifurcated portion of the lever at respective sides of the pivotal support thereof and means for operating all 45 of said levers simultaneously to force one half of the series of shoes against the rim of a pulley and force the other half of said series of shoes against the hub of said pulley.

5. In a friction-clutch, the combination 50 with a shaft and a pulley loose thereon, of parallel arms secured to said shaft and having alining holes for the passage of a bolt, a lever having a hole therein for the passage of the bolt of appreciably-larger diameter than 55 the diameter of the bolt, shoes disposed on opposite sides of the lever and pivotally connected thereto, and equidistant from the hole therein, one of said shoes adapted to engage the hub of the pulley and the other the rim, 60 and means for operating said lever.

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

FRANK KONLEY.

Witnesses:

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