(No Model.)

W. C. WRIGHT.

CLUTCH.

No. 455,978. Patented July 14, 1891.

Fig. 1.

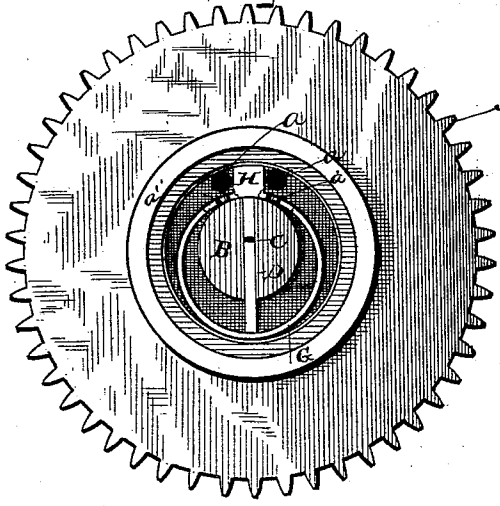


Fig. 2.

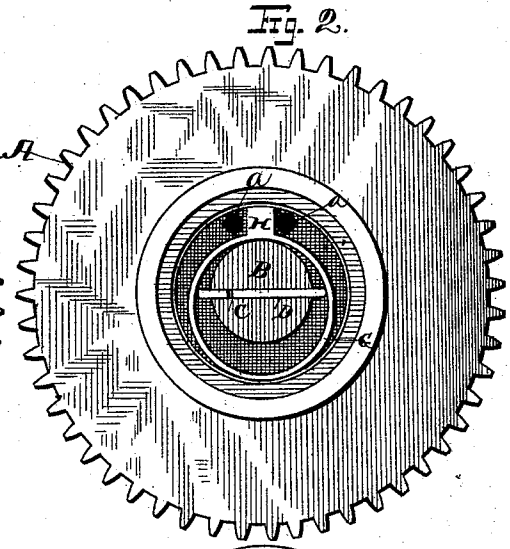


Fig. 3.

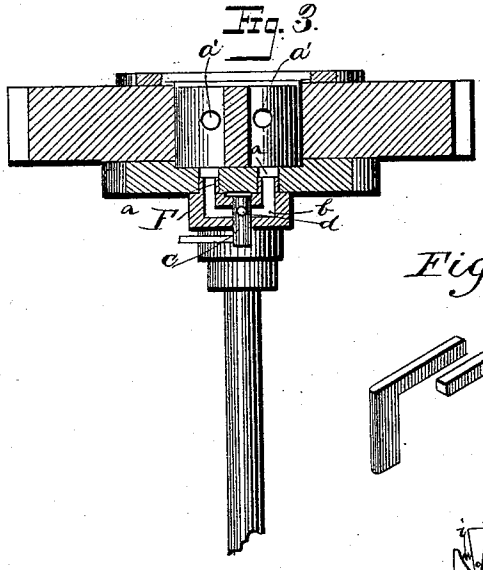


Fig. 4.

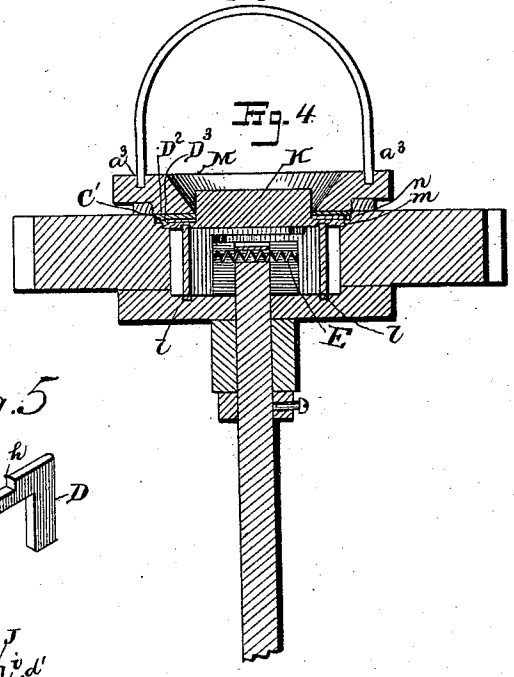


Fig. 5

Fig. 6



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UNITED STATES PATENT OFFICE.

WALTER C. WRIGHT, OF PHILADELPHIA, PENNSYLVANIA.

CLUTCH.

SPECIFICATION forming part of Letters Patent No. 455,978, dated July 14, 1891.

Application filed December 15, 1890. Serial No. 374,730. (No model.)

To all whom it may concern:

Be it known that I, WALTER C. WRIGHT, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Clutches, of which the following is so full, clear, and exact a description as will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan view of a clutch, showing my improvement. Fig. 2 is a similar view showing the paddle in another position. Figs. 3 and 4 are longitudinal vertical sections of the same. Fig. 5 is a detail view of the split paddle. Fig. 6 is a detail view of the pivoted end section of the paddle.

The object of my improvement is to provide a device by the use of which the best results may be obtained with the least expense of mechanical force; and the invention consists in the details of construction and the combination of parts, as will be hereinafter fully described, and particularly pointed out in the claims at the end of the specification.

In the accompanying drawings, A designates a toothed wheel which is suitably connected with the machinery in any well-known manner. The wheel A is perforated centrally, and the shaft B extends through this perforation, and within the slot C in the shaft B is placed the split paddle D, which is made in sections, as shown in detail in Fig. 5, which sections are kept normally away from each other by a coiled spring E, the ends of which abut against the sections of the paddle on opposite sides, and the resiliency of which serves to keep them away from each other. To one side of the line of the shaft B is an offset F, into which open two ports *a a*, from one to the other of which is a passage-way *b* and between which is a cock *c*, having an opening *d*.

In the opening in the wheel A is rigidly secured an eccentric ring G, which is provided with a stop H, located between the ports *a a*. This ring has two ports *a' a'* extending through the ring on opposite sides of the stop H, through which ports as well as the ports *a a* and the passage-way *b* and the opening *d* in the cock *c* passes the fluid as the device is operated.

The two sections of the bifurcated paddle D overlap each other, as shown in detail in Fig. 5, and one of the sections has a shoulder *h*, which is formed by recessing, as is also clearly shown in Fig. 5.

In order to form a more perfect contact between the paddle and the inner periphery of the eccentric ring G, I provide a pivotal section J at the end of the paddle D, said pivotal section located within a recess *d'* in the end of the paddle and provided on opposite sides with a cushioning, which for the sake of illustration I have shown as springs *i i*. Thus it will be observed that the pivotal section J, the outer contour of which is curved to correspond with the inner periphery of the eccentric ring G, will always be in perfect contact with the periphery of the eccentric ring G, thus preventing as far as possible any leak. The lower edge of the eccentric ring G may be correspondingly strengthened by providing a similar rectangular recess or groove *l* in the bottom of the opening in the wheel A, as is clearly shown in Fig. 4.

The outer periphery of the cap K is re-enforced and strengthened at its base by a shoulder *m*, and slightly above the shoulder *m* and somewhat beyond it away from the center is a second shoulder *n*, between which and the central projecting portion of the cap K is located a packing-ring C' and above which is placed the metallic ring D^2, on the lower face of which and in a position directly above the joint between the outer edge of the base of the cap K and the shoulder *n* is provided a projecting rib D^3, forming a perfectly-tight joint when the ring M is screwed down, holding all of the parts together, as is clearly shown in Fig. 4. The ring M is provided with openings a^3 a^3 in the usual manner to receive and accommodate a wrench.

From the foregoing it will be readily observed and understood that the split paddle will always adjust itself to form a perfect contact with the inner periphery of the eccentric ring G. The ring itself will be strengthened all around both of its edges by extending into the grooves provided for that purpose at both edges, thus securing great strength. The packing at the joints is also

perfect, and the leak and consequent waste are therefore reduced to a minimum. The pivotal section J on the end of the paddle will also insure perfect contact between the paddle and the eccentric ring G, and the springs each side of it will keep it normally in a proper position.

I do not wish to be understood as limiting myself to the exact details of construction as shown, as they may be changed and mechanical equivalents substituted therefor without departing from the spirit of my invention.

Having described the objects, uses, and advantages of my invention, what I believe to be new and desire to secure by Letters Patent, and therefore claim, is—

1. In a device of the character described, the combination, with the shaft and operating mechanism, of the paddle, the eccentric ring provided with a stop, and the pivotal section at the end of the paddle, as set forth.

2. In a device of the character described, the combination, with the shaft and operating mechanism, of the paddle, the eccentric ring, and the pivotal section at the end of the paddle and located in a recess at the end thereof, as set forth.

3. In a device of the character described, the combination, with the shaft and operating mechanism, of the paddle, the eccentric ring, and the pivotal section located in a recess in the end of the paddle and having curved outer face to correspond with the inner periphery of the eccentric ring, as set forth.

4. In a device of the character described, the combination, with the shaft and the operating mechanism, of the paddle, the eccentric ring, the pivotal section pivoted in a recess in the end of the paddle, and the cushions in said recess upon opposite sides of the pivotal section, as set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

WALTER C. WRIGHT.

Witnesses:
G. M. HATHAWAY,
SARA E. WELLS.