(No Model.)

C. B. SCHULTZ.

CLUTCH.

No. 593,313. Patented Nov. 9, 1897.

Fig. I

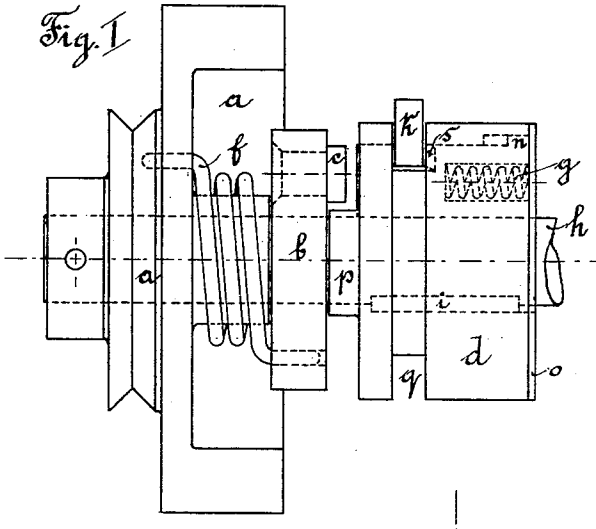
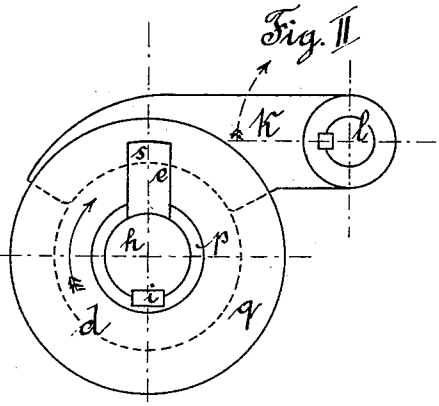


Fig. II



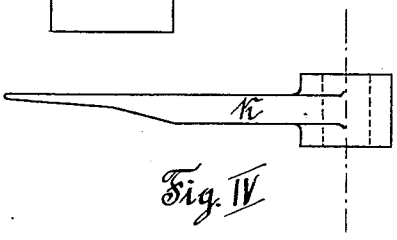


Fig. IV

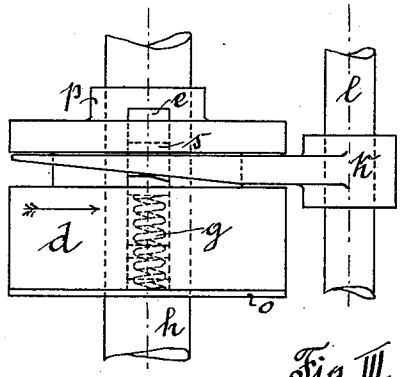


Fig. III

Witnesses:

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UNITED STATES PATENT OFFICE.

CLARENCE B. SCHULTZ, OF CHARLOTTENBURG, GERMANY.

CLUTCH.

SPECIFICATION forming part of Letters Patent No. 593,313, dated November 9, 1897.

Application filed June 22, 1896. Serial No. 596,563. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE B. SCHULTZ, a citizen of the United States, residing at Charlottenburg, in the Province of Brandenburg and Kingdom of Prussia, Germany, 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.

With some small machines it is essential to have a clutch by which the motion is introduced and interrupted quickly with the least possible shock and by which the machine stops at a given point after one or more revolutions. These objects are attained by the mechanism illustrated in the accompanying drawings.

Figure I shows the clutch uncoupled. Part *a* revolves by any given power loosely on shaft *h*, which is connected with the machinery to be driven. Part *b*, also turning loosely on shaft *h*, is carried along by spiral spring *f* of proper size. Part *b* bears the catch *c*. When coupling—*i. e.*, when catch *c* suddenly meets resistance—spring *f* is strained until equilibrium is reached. Part *b* is the only one which does not touch the machine elastically and is therefore made of so little weight that the unavoidable shock is reduced to a hardly perceptible minimum. Part *d* is fastened to the shaft *h* by key *i*. By collar *p* part *b* is held at the proper distance from *d*. Latch *k* by a slight turn of shaft *l*, Figs. II and III, can be raised out of groove *q* of part *d* and be placed back again. Latch *k* has a wedge-like shape with equal, Fig. III, or with increasing or step-like pitch, Fig. IV, so that when part *d* turns in the direction of the arrow the latch *k* is pushed into a suitable notch *s* of bolt *e*. Bolt *e*, sliding on the slanting part of latch *k*, will be drawn from catch *c* and into part *d*. As soon as latch *k* is raised spring *g* will push bolt *e* forward again. When latch *k* is placed in the groove, spring *g* acts like a brake, because the side face of notch *s* will be pressed by spring *g* against the slanting face of latch *k*. At uniform speed the shafts *h* will stop always in the same position without any shock.

In certain machinery where foot-power is used and the speed varies considerably it has been found advantageous to first pull bolt *e* from catch *c* by a comparatively slight slanting of latch *k*, and then let bolt *e* slide along a slant, increased gradually or in steps, in order to check the machine within a small range.

Bolt *e* is a flat bar sliding in part *d*. In order to reduce the speed of striking catch *c* to a minimum, bolt *e* slides right on the shaft *h*. By nose *n* the stroke of bolt *c* is limited. Spring *g* rests against plate *o*, which is fastened to part *d*.

I am aware that prior to my invention a clutch has been made in which a round bolt located at some distance from the shaft has been operated by a wedge-like device.

What I claim as my invention is—

1. A clutch consisting of two loose members having a spiral-spring connection, one of said members being of much less weight than the other member and provided with a catch, a fast member having a peripheral groove and provided with a collar and carrying a longitudinally-spring-pressed bolt having a notch therein, and a latch having a wedge-shaped nose riding in said groove and adapted to be engaged by said bolt, said bolt engaging said catch and moving on the slanting portion of said latch and on the shaft to which said fast member is connected.

2. A clutch consisting of the loose member *a*, the loose member *b* of less weight than said member *a*, and provided with the catch *c*, the coiled spring *f* connecting said members *a* and *b*, the fast member *d* having the peripheral groove *g*, the collar *p* between said parts *b* and *d*, the wedge-shaped latch *k* with nose riding in said groove, and the bolt *e* sliding on the shaft on which said member *d* is keyed, and the inclined portion of said latch and engaging said catch.

In testimony whereof I have hereunto signed my name in the presence of two witnesses.

CLARENCE B. SCHULTZ.

Witnesses:
C. H. S. SCHULTZ,
W. HAUPT.