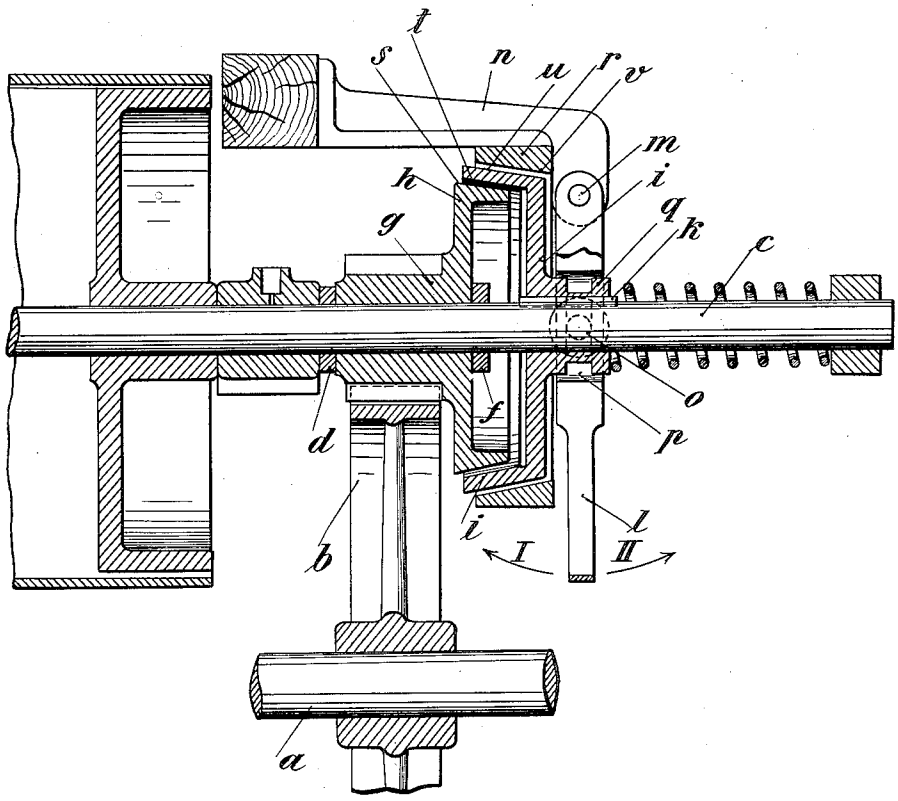
No. 845,079. PATENTED FEB. 26, 1907.

R. GRUSE.

COUPLING FOR CONNECTING A DRIVING MOTOR WITH A DRIVEN MACHINE.

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UNITED STATES PATENT OFFICE.

RUDOLF GRUSE, OF SCHNEIDEMÜHL, GERMANY.

COUPLING FOR CONNECTING A DRIVING-MOTOR WITH A DRIVEN MACHINE.

No. 845,079. Specification of Letters Patent. Patented Feb. 26, 1907.

Application filed July 3, 1906. Serial No. 324,548.

To all whom it may concern:

Be it known that I, RUDOLF GRUSE, manufacturer, a citizen of Prussia, and a subject of the King of Prussia, residing at Schneidemühl, Alte Bahnhofstrasse 29, in the Kingdom of Prussia and German Empire, have invented certain new and useful Improvements in Couplings for Connecting a Driving-Motor with a Driven Machine, of which the following is a full, clear, and exact description.

This invention relates to a coupling by means of which a working machine, first, which is connected with the motor by means of a belt-pulley or a tooth-wheel gear can be put in engagement, so that it is set in action by the motor, or, second, can be put out of engagement, so that the motor continues to rotate, the working machine, however, gradually ceasing to act and finally becoming stationary, but which, third, can be so put under brake action that the working machine which has been put out of engagement with the motor comes to a standstill immediately, as is necessary in the case of accidents to the working machine.

In the accompanying drawing, a coupling of the kind is illustrated in vertical section and in the uncoupled position.

The example selected is that of an agricultural machine—viz., a rotary or winding machine. In this case the shaft *a* of the motor engages, by means of a tooth-wheel *b*, with a tooth-wheel *g*, which is loosely seated on the drum-shaft *c* between the two adjusting-collars *d* and *f*. This tooth-wheel *g* may be replaced by a belt-pulley connected with the motor by means of a belt.

The tooth-wheel *g* carries a conically-turned clutch-ring *h*. Correspondingly to this a coupling-ring *i* is seated on the drum-shaft in such a manner that it participates in the movement of the shaft *c* through the medium of a key *k*, but can be moved to the right or to the left on the shaft. This movement is effected by an adjusting-lever *l*, which is seated on the machine-frame *n*, so that it can be swung out on the center *m*, and by means of a pin *o* engages in the groove *p*, formed in the sliding piece *q* of the coupling-ring *i*. The machine-frame, moreover, carries a fixed brake-ring *r*, the brake-surface of which corresponds to the coupling-ring.

When the coupling is in the position indicated in the drawing, the motor-shaft *a* rotates the tooth-wheel *g* through the medium of the tooth-wheel *b*. As this wheel, however, is loosely seated on the shaft *c*, the shaft is not influenced. Thus the working machine is out of engagement and the motor runs idly. If, however, the lever *l* is moved to the left, as indicated by the arrow I, the coupling-ring *i* is pushed over the clutch-ring *h*, and the clutch-surfaces *s* and *t* of the two parts come in contact with one another. The toothed wheel *g* is thus coupled with the drum-shaft *c*, so that the latter participates in the rotary motion of the motor-shaft *a* and the machine is driven. If the lever motion just described is effected slowly, the working machine is put gradually in engagement and the motor gradually put under strain. If, however, the lever *l* be moved to the right in the direction of the arrow I I, the shaft *c* is again uncoupled. The consequence is that the motor continues to work. The drum-shaft, however, rotates gradually more slowly and thus becomes stationary. If the lever *l* be moved still farther to the right in the direction of the arrow I I, the external brake-surface *u* of the coupling-ring engages with the brake-surface *v* of the brake-ring *r*, so that the coupling is at once firmly held, and the shaft *c* comes suddenly to a standstill.

As will be seen without further explanation, the coupling described above can be employed for all kinds of machines in which a starting, a disengaging, and a sudden stopping of the working machine is required. The coupling of the working machine with a motor may be effected either with a hand or a foot lever.

I claim—

In a device of the character described, the combination of a driving-shaft, a driving-wheel carried thereby, a driven shaft disposed parallel to said driving-shaft, a driven wheel loose on said driven shaft and engaged by said driving-wheel, a clutch member carried by said driven wheel, means carried by

the driven shaft for preventing movement of the driven wheel and said clutch member longitudinally of the driven shaft, a coupling-ring splined on the driven shaft and longitudinally movable thereon, said coupling-ring having two clutch-surfaces, a stationary brake-ring arranged adjacent to said coupling-ring, and means for moving the coupling-ring on the shaft to alternately engage said clutch member and said brake-ring.

In witness whereof I subscribe my signature in presence of two witnesses.

RUDOLF GRUSE.

Witnesses:

WOLDEMAR HAUPT,

HENRY HASPER.