(No Model.) 2 Sheets—Sheet 1.

J. B. PUGH.

AUTOMATIC CLUTCH COUPLER.

No. 342,038. Patented May 18, 1886.

Fig. 1.

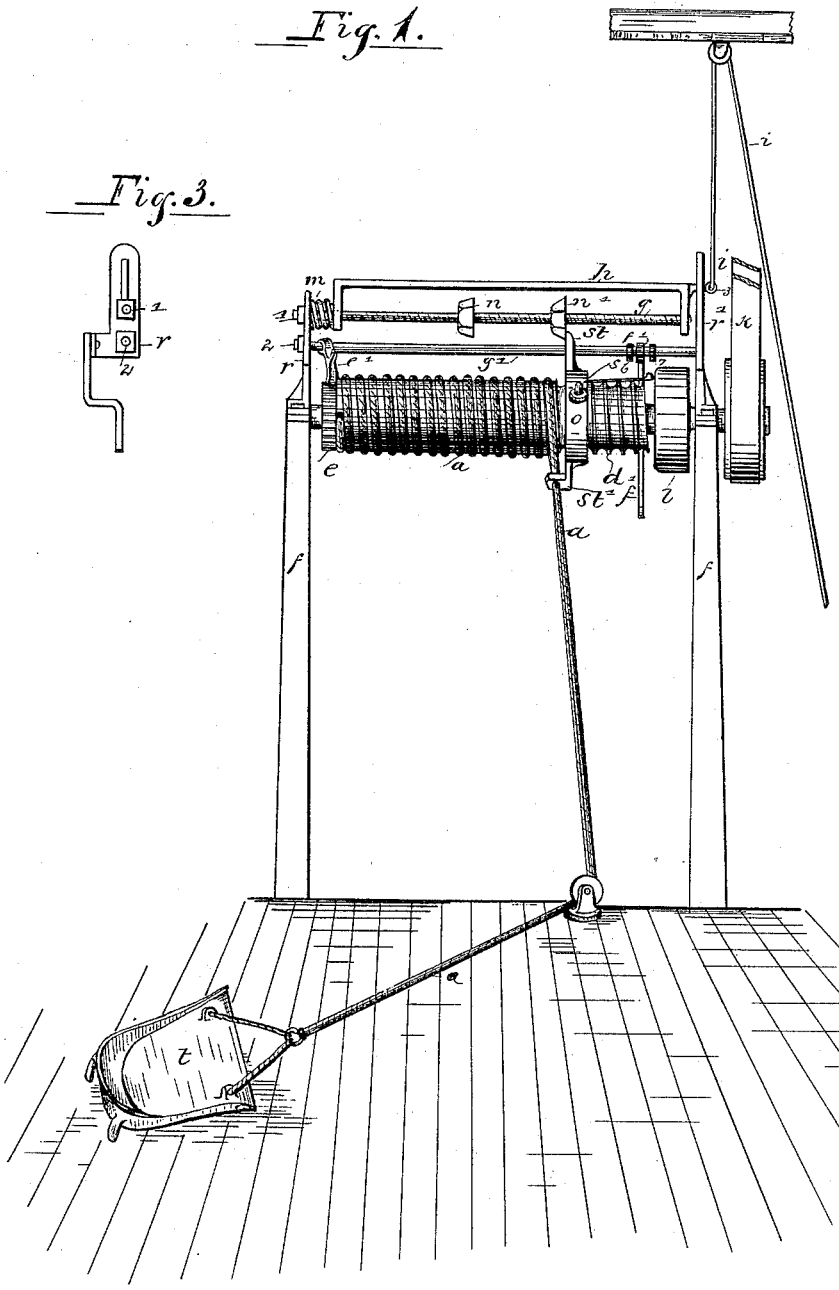


Fig. 3.

Fig. 4.

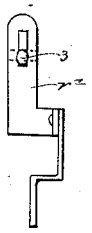
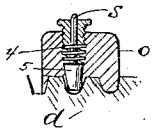


Fig. 2.



Witnesses
Jacob W. Loeper
H. G. Sturm.

Inventor
Jesse B. Pugh.
per
Lew Wallace
atty

(No Model.)

2 Sheets—Sheet 2.

J. B. PUGH.

AUTOMATIC CLUTCH COUPLER.

No. 342,038. Patented May 18, 1886.

Fig. 5.

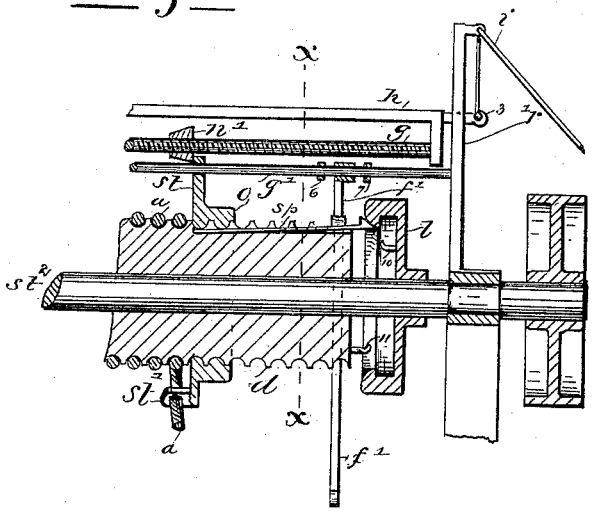
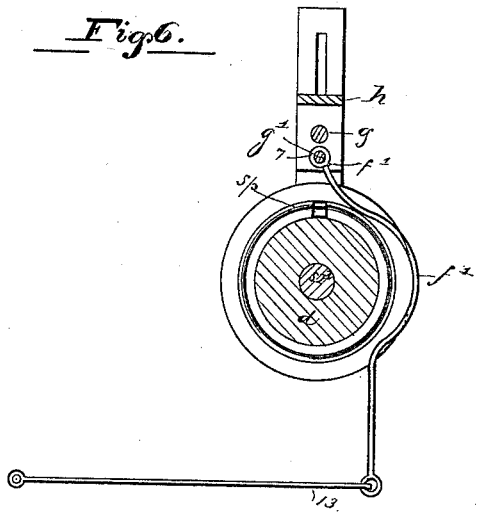


Fig. 6.



Witnesses
Jacob W. Loeper
H. Stacey

Inventor.
Jesse B. Pugh.
per Lew Wallace
atty

UNITED STATES PATENT OFFICE.

JESSE B. PUGH, OF INDIANAPOLIS, INDIANA.

AUTOMATIC CLUTCH-COUPLER.

SPECIFICATION forming part of Letters Patent No. 342,038, dated May 18, 1886.

Application filed September 10, 1885. Serial No. 176,749. (No model.)

To all whom it may concern:

Be it known that I, JESSE B. PUGH, of Indianapolis, in Marion county, in the State of Indiana, have invented a new and useful Improvement in Automatic Clutch-Couplers, which is fully shown and described in the following specification and the drawings thereto attached.

My purpose is to furnish a device which will automatically and at regulated intervals engage and disengage a pulley-shaft, and which can be used in pile-drivers, shoveling-machines, stamp-mills, hay-stackers, and similar machinery; and my invention consists of the improved arrangement and combination of parts hereinafter set forth and shown in the drawings, to which reference is hereby made.

In the drawings, Figure 1 represents a grain-shovel actuated by my device; Fig. 2, the set-screw for the guide; Figs. 3 and 4, the bearings for the stop-nut frame; Fig. 5, a sectional view of the coupler and parts operating the same, and Fig. 6 the lever for disengaging the clutch.

The same letters and numbers of reference designate the same parts.

The pulley-shaft st^2 is revolved in the supports $f\,f$ by the belt k, and has rigidly attached to it the hollow head l, which is constructed with an outwardly-beveled rim, to catch the spring sp, and with a lug, 10, to engage the drum-lug 11. The drum d, having a screw-surface to fit the inner thread of the guide o, revolves around and slips along the shaft st^2, and from it projects the lug 11, to engage the lug 10. The rod g', set in the supports $r\,r'$, passes through the projecting arm st, and thus holds the guide in position.

To prevent jars on account of irregularities in the drum and also to tighten the guide to retard its motion, I employ a screw, s, (shown in Fig. 2,) through the center of which plays a pin with a head, 5, held by the spring 4. The spring sp, attached to the drum, is set in a groove to fit it, has a catch for the rim of the head l, and is depressed by the thread of the guide o passing over it along the drum. The rope a is secured to and wound around the drum, and it is best to pass it through an eye, st', in the guide.

The frame h, supporting the thread-rod g, upon which are screwed the stop-nuts $n\,n'$, is supplied with a spring, m, to prevent jars, and is set in slots in the supports $r\,r'$, so that the nuts encounter the projecting arm st. By means of a rope, i, running over a pulley above, this frame may be raised or tilted in the slots, so as to permit the arm st to go under any one or more of the stop-nuts.

To disengage the coupler at any less than the interval for which it is set and to keep it disengaged without stopping the motion of the pulley, I use a lever, f', which is curved toward and around the drum, as shown in Fig. 6, and which is set on the guide-rod g', to play between the nuts 6 and 7. This lever can be used to depress the spring sp at any time, and thus to release the drum from the head, uncoupling the clutch.

A ratchet, c', attached to the guide-rod, may be used to hold the drum in any position.

In operation the shaft bearing the hollow head l is revolved continuously through the belt k by any of the well-known motors, and when uncoupled turns within the drum d, and the drum may be turned oppositely to the motion of the shaft st^2. The rope a can then be unwound, and the guide o will be carried along by the thread of drum until the projecting arm st encounters the stop-nut n or n'. When the guide is thus stopped, further pulling of the rope a forces the drum along the shaft st^2 against the head l, the spring sp catches the rim of the head, the lug 10 engages the lug 11, and the drum is thus coupled with and revolved by the head. By this motion the rope is rewound, and the guide is moved in the reverse direction until, depressing the spring sp, it pushes against the head l and liberates it from the drum. This operation may be repeated indefinitely.

In pile-drivers, stamp-mills, and similar machinery the rope a is unwound by the falling weight upon its end. The lever f' and ratchet c' are used as hereinbefore indicated.

Having thus described my invention and my method of using the same, what I claim as new, and desire to secure by Letters Patent, is—

1. An automatic clutch-coupler consisting of a screw-drum, d, having a lug, 11, a spring-catch, sp, a guide, o, with a projecting arm, st, a guide-rod, g', stop-nut n, a rimmed head, l,

secured to a pulley-shaft, and a lug, 10, substantially as and for the purpose described.

2. In an automatic clutch-coupler, the combination of the drum *d*, the guide *o*, and set-screw *s*, with pin and head 5 and the spring 4, substantially as and for the purpose described.

3. In an automatic clutch-coupler, the combination of the frame *h*, threaded rod *g*, nuts *n n'*, spring *m*, slotted supports *r r'*, and rope *i*, substantially as and for the purpose described.

4. In an automatic clutch-coupler, the combination of the guide *o*, screwed on the drum *d*, a guide-rod, *g'*, a stop-nut, *n*, a spring, *sp*, lugs 10 and 11, and rimmed head *l*, substantially as and for the purpose described.

JESSE B. PUGH.

Witnesses:
WM. WALLACE, Jr.,
BENJAMIN F. GOODHART.