

J. W. MEAD.
Device for Changing Speed.

No. 168,912.

Patented Oct. 19, 1875.

Fig: 1.

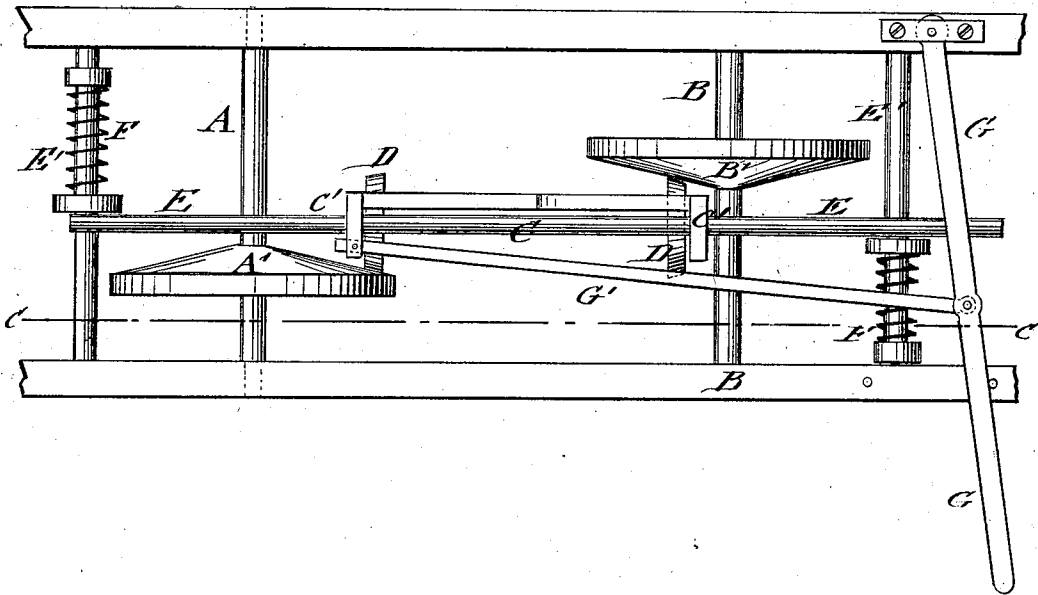
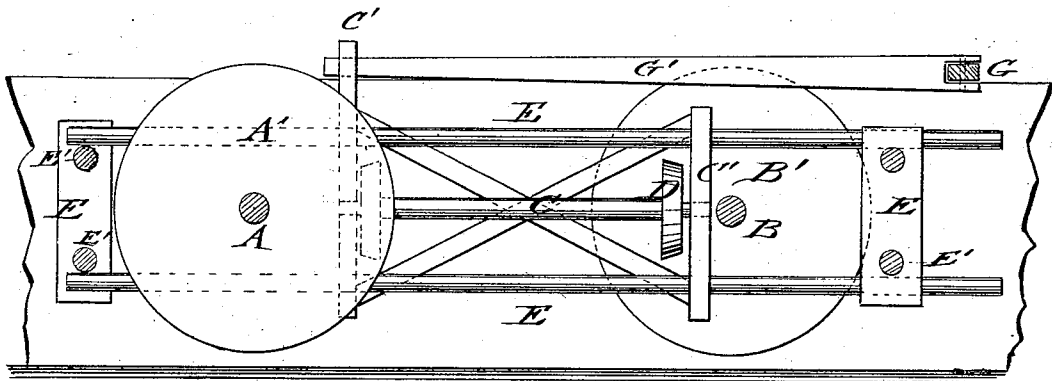


Fig: 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOSEPH W. MEAD, OF DUPONT, INDIANA.

IMPROVEMENT IN DEVICES FOR CHANGING SPEED.

Specification forming part of Letters Patent No. **168,912**, dated October 19, 1875; application filed August 28, 1875.

To all whom it may concern:

Be it known that I, JOSEPH W. MEAD, of Dupont, in the county of Jefferson and State of Indiana, have invented a new and Improved Device for Changing Speed of Shafts, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a top view, and Fig. 2 a vertical longitudinal section, of my device for changing the speed of shafts, taken on lines *c c*, Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention relates to an improved device for changing the speed of shafts in place of the cone-pulleys and belts now in use; and it consists of a conically-faced disk of the driving-shaft that transmits the power by conical friction-wheels to a similar conically-faced disk of the shaft to be driven, the shaft of the friction-wheels being hung to boxes of a sliding and spring-acted frame, and the wheels adjusted by suitable lever mechanism.

In the drawing, A represents the driving-shaft, and B the shaft which is to be run at variable speed, as required. Both the driving-shaft A and the shaft B are provided with conically-faced disks A and B', that are connected by a longitudinal shaft, C, with conical friction-wheels D. The circumference of the friction-wheels corresponds to the flat conical faces of the shaft-disks, and remains in full contact with the same, transmitting the power from the driving-shaft to shaft B. The connecting-shaft C is hung to boxes C', which are made to slide either on a spring-acted longitudinal frame, E, or are affixed to the frame and moved therewith, as shown in the draw-

ing. The longitudinal frame E slides on lateral rods E', and is acted upon by suitable springs F, that press the conical friction-wheels firmly on the disks, to preserve the contact therewith. A lateral lever, G, is connected by a lever-rod, G', with the journal-box of the connecting-shaft, or with the longitudinal frame E, to produce the adjustment in longitudinal direction of the transmitting friction-wheels in the disks, and thereby a change of speed, according to the position of the same thereon. When the friction-wheel at one end of the connecting-shaft is near the center of the driving-disk the friction-wheel at the other end is near the circumference of the disk to be driven, and revolves the same at very slow speed, the speed being increased the nearer one friction-wheel is to the circumference of the driving-disk, and the other to the center of the disk to be driven. The speed is thus regulated in an instant by setting the lever, which construction is particularly adapted for saw-mills, as the sawyer can change the speed at any time without leaving his position.

I am aware that it is not broadly new to change speed by means of a friction-wheel moved by a lever from one conical disk on drive-shaft to another on driven shaft; but

What I claim is—

The combination, with drive-shaft A and driven shaft B, having cone-disks A' B', of a corresponding double-disked shaft, C, supported in spring-held slide-bearings, as and for the purpose specified.

JOSEPH W. MEAD.

Witnesses:

WM. D. HOUGHTON,
T. T. WALKER.