No. 658,389. Patented Sept. 25, 1900.

L. MORGAN.

ROLLING MILL SPRING APPLIANCE.

(Application filed July 22, 1899.)

(No Model.)

Fig. 1.

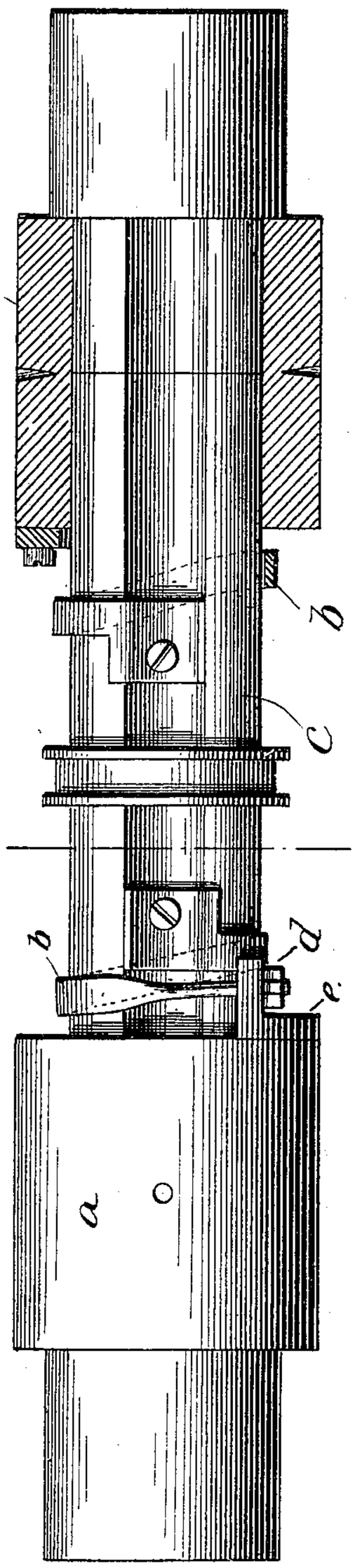


Fig. 3.

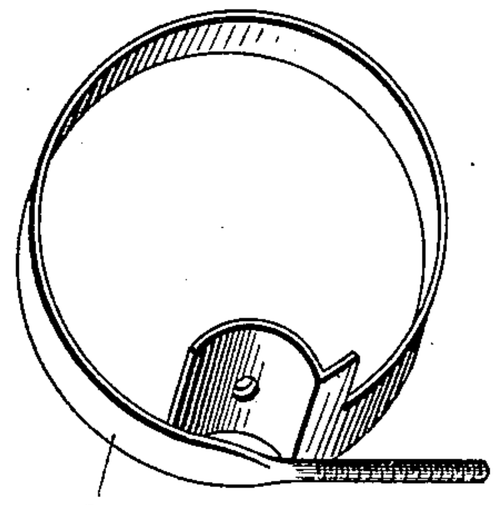
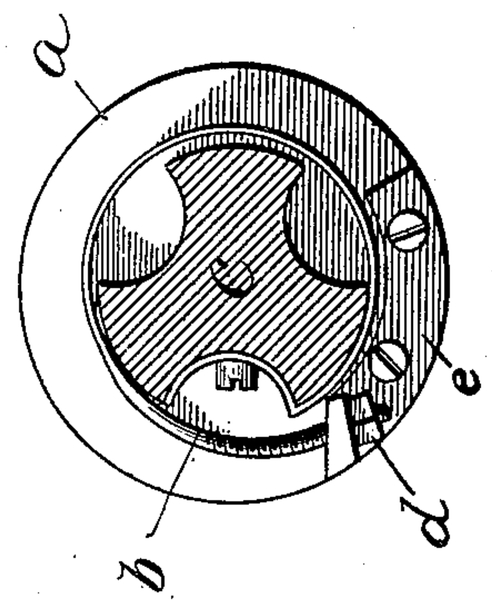


Fig. 2.



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LEWIS MORGAN, OF READING, PENNSYLVANIA.

ROLLING-MILL SPRING APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 658,389, dated September 25, 1900.

Application filed July 22, 1899. Serial No. 724,762. (No model.)

To all whom it may concern:

Be it known that I, LEWIS MORGAN, of Reading, Berks county, Pennsylvania, have invented an Improvement in Rolling-Mill Spring Appliances, of which the following is a specification.

My invention relates to the class of devices employed to connect continuous sets of rolls, so as to permit the driving of a series of sets placed in line by means of power applied to the shaft of one of the sets.

The object of my invention is to prevent the lost motion of the couplings due to wear, caused by the rotary play of the sectional parts of the train, to which end my invention consists in the improved method of applying band-springs to couplings, hereinafter described and claimed.

In the accompanying drawings, Figure 1 represents in longitudinal elevation a section of a roll-train embodying my improvements. Fig. 2 is a transverse section viewed from the right-hand side of box *a*, Fig. 1. Fig. 3 shows a view of the band-spring *b*, attached to boxes *a* and spindle *c*, Fig. 1.

In the accompanying drawings, *b b*, Fig. 1, represent band-springs, of iron or other metal, attached by one of their ends to spindle *c*, the other of their ends being connected to lug-plates *e*, fastened to sides of boxes *a*, the said springs being in reverse positions on boxes and spindle. On box *a*, Fig. 2, is fastened, by two set-screws, a lug-plate *e*, with a circular opening through the lug. One end of the spring *b*, which has an inverted-curve shape to fit the groove of spindle *c*, is fastened thereon by a set-screw. The other or thread end of spring passes through the circular opening of the lug-plate on the box, and the spring is firmly held and its tension regulated by the nut *d*. Fig. 3 shows the form of the band-spring.

As will be understood, the action of the springs by keeping in firm contact the working faces of the cores, grooves, and coupling-shaft in the direction of the rotation of such parts either forward or backward is constant.

I claim as my invention—

In a coupling for rolls, the combination of two coupling-boxes, adapted to be rigidly secured to the rolls, a spindle loosely mounted in said coupling-boxes, and having longitudinal grooves, a lug secured to each of said coupling-boxes and provided with an opening, and two springs, one end of each being attached to the spindle, and curved to fit into one of said grooves in the spindle, the other end of each spring, being threaded, and a nut on each of said threaded ends, for attaching the same to said lugs, substantially as set forth.

Reading, Pennsylvania, July 20, 1899.

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