

J. L. POST.

DEVICE FOR PREVENTING BACK LASH IN MACHINERY.

No. 112,736.

Patented Mar. 14, 1871.

Fig1.

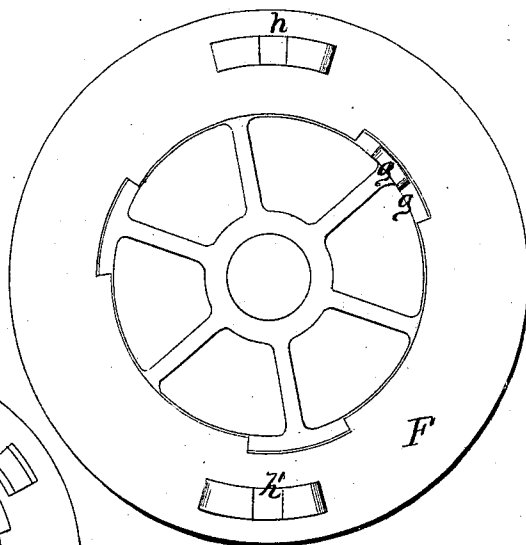


Fig.4.

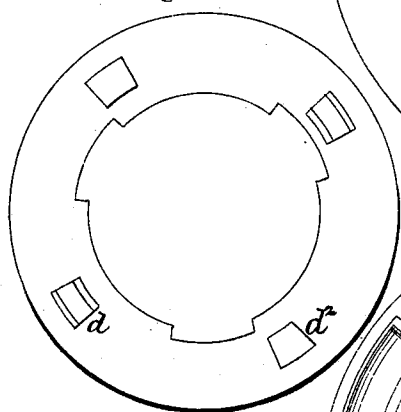


Fig.2.

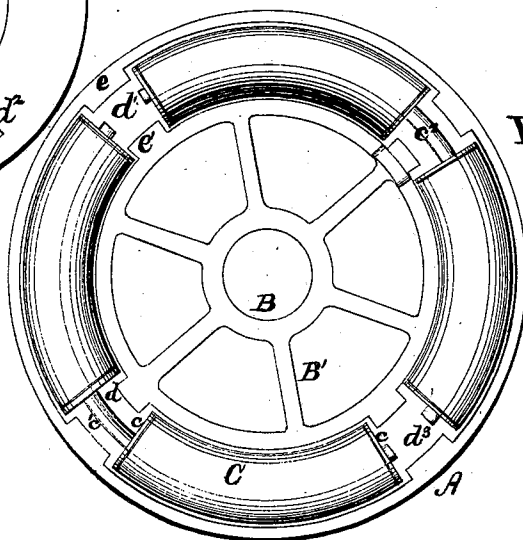
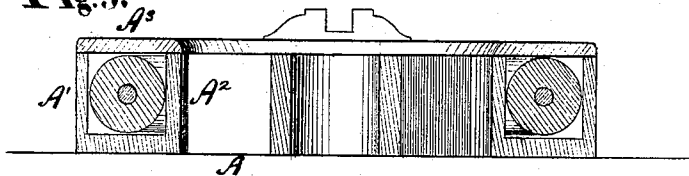


Fig.3.



Witnesses.

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JOHN L. POST, OF ASHLEY, ILLINOIS.

Letters Patent No. 112,736, dated March 14, 1871.

IMPROVEMENT IN DEVICES FOR PREVENTING BACK-LASH IN MACHINERY.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN L. POST, of Ashley, in the county of Washington and State of Illinois, have invented a new and valuable Improvement in Mode of Preventing Back-Lash; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a top view of the driving-plate;

Figure 2 is a top view of the spring-case with the driving-plate removed;

Figure 3 is a central vertical section; and

Figure 4 is a bottom view of the driving-plate.

This invention relates to improvements in the means of regulating the motion of machinery driven by steam or other power; and

It consists in an improved device for that purpose, hereinafter described, the object being the production of a contrivance that will prevent the jerking motion of the engine from being communicated to the gearing, and thus effectually guard against back-lash.

Referring to the accompanying drawing—

A represents a wheel having two lateral flanges, A¹ and A², rim A³, hub B, and spokes B'.

The flanges A¹ and A² project from the outer and inner edges, respectively, of the rim A³, and thus form a circular channel for the reception of the elastic springs C.

The springs may be made of India rubber or any other elastic substance in the form of a hollow cylinder, and placed in the channel at intervals, as shown, four springs being sufficient for ordinary use.

The springs should be somewhat smaller than the channel, to admit of a slight motion and the necessary compression.

The ends of the springs are protected by annular washers, c, preferably a little larger in circumference than the springs.

A circular rod, c', passes through the springs and the washers, and serves as a guide for them and the presser-lugs d, hereinafter mentioned.

The springs and washers are so placed at intervals, as aforesaid, as to leave spaces, d', for the admission of the presser-lugs, and portions, c'', of the rod exposed, as guides for them.

Projections or abutments, e and e', are formed on the flanges, as shown, so as to be opposite to each other in the spaces d', and serve as a rest or seat for the washers and springs when under pressure.

The ring-plate F rests upon the edges of the flanges, and covers the springs and closes the channel.

On the under side of the ring-plate are the lugs d, which are grooved at their lower ends so as to fit over the guide-rod c'.

Or, if the spaces d' are sufficient, and the rod c is not continuous, some of the lugs or projections, or the alternate ones, by making the ends of the rods correspond, may be made without grooved ends, to serve merely as supports, as shown at d² and d³.

Recesses are formed in the inner edge of the ring-plate F at intervals, as shown at g, into which projects the lugs g', formed on the edge of the inner flange A².

These recesses permit a circular motion of the ring, limited by the length of the recesses and the lugs or stops.

On the outside of the ring-plate are grooved projections, h and h', to receive the arms of the pinions, and to which a suitable attachment may be made, so as to keep the parts in proper working position.

The number of projections or abutments, e and e', and the number of lugs d and d', will depend upon the number of springs C that are used.

When four springs are used, as shown, which will be sufficient for ordinary use, the projections and lugs will be correspondingly limited, as is also shown.

By the action of this device the reaction in machinery, produced by irregularities of velocity when the moving power is not uniform, is very effectually prevented, which, it is believed, is a desideratum not heretofore attained.

Furthermore, this contrivance is simple in construction as well as substantial and durable, and it will operate as well backward as forward, and it is adapted to be used on any shaft or spindle where such a device is required.

I claim as my invention—

1. The combination of the wheel A, having flanges A¹ and A², with projections e and e', and stops g', springs C, rod c', washer c, ring-plate F, having lugs d and d', recesses g, and projections h and h', all constructed and arranged as and for the purposes set forth.

2. The wheel A, having a channel or chamber for the reception of springs and projections for the support of the springs, all substantially as shown and specified, and for the purposes set forth.

3. The combination of the springs C, washers c, and rod c', all constructed and arranged substantially as and for the purposes set forth.

4. The ring-plate F, having recesses g, and projections d and d', and grooved projections h and h', all substantially as specified and shown, and for the purposes set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JNO. L. POST.

Witnesses:

W. D. LEVEY,
P. W. NICHOLS.