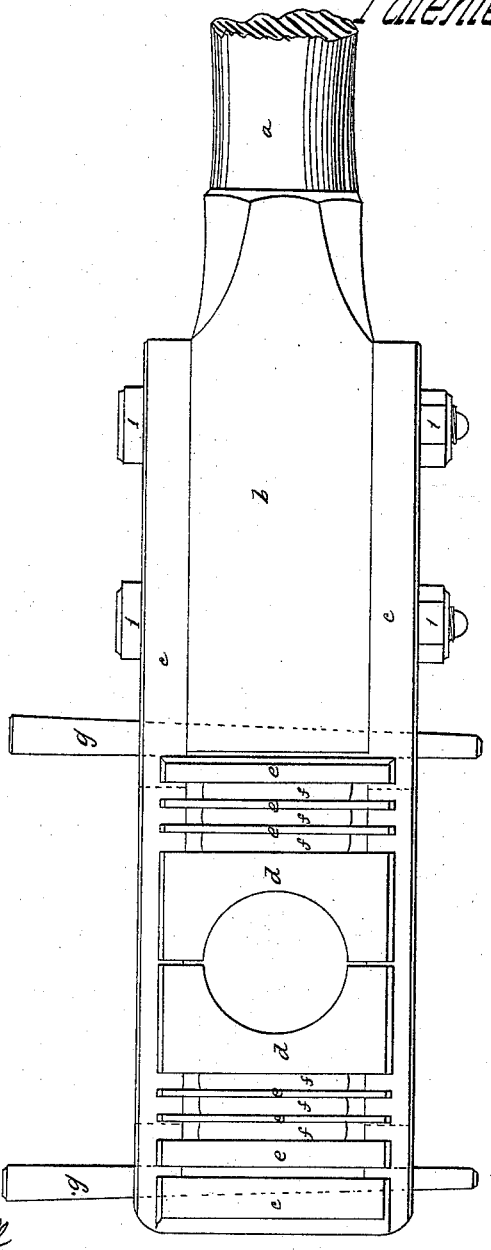
L. Bissell,

Pitman Coupling.

No. 7,357. Patented May 14, 1850.



Witnesses

W. Sewell

Samuel W. Sewell

Inventor

Leo Bissell

UNITED STATES PATENT OFFICE.

LEVI BISSELL, OF NEW YORK, N. Y.

IMPROVEMENT IN CONNECTING-RODS OF STEAM-ENGINES AND OTHER MACHINERY.

Specification forming part of Letters Patent No. **7,357**, dated May 14, 1850.

To all whom it may concern:

Be it known that I, LEVI BISSELL, of the city and State of New York, machinist, have invented and made certain new and useful improvements in fitting the joints that connect the parts of steam-engines, by which improvements a degree of elasticity is communicated to the joints that will frequently prevent breakage of the parts wherein it is employed, such elasticity being obtained by the insertion of prepared india-rubber or other fit elastic fabric in the parts subject to alternating strain in a manner, for which I seek Letters Patent of the United States; and that the said improvements, and the mode of constructing and using the same, and the effects produced thereby are fully and substantially set forth and shown in the following description, and in the drawing annexed to and making part of this specification of my said improvements, wherein the single figure shown may represent one end of a connecting-rod or pitman, or of a side rod, or one end of any other part that is connected by a joint to form any moving part in a steam-engine for stationary, marine, or locomotive uses, or a joint in any other machinery.

In this figure, *a* is the body of the rod; *b*, the stock of the rod; *c*, the sling or strap; and 1 1 are the strap-bolts, and *d* the journal-box or coupling-brasses. All these are or may be made in any convenient and usual manner, except that the sling is to be made an extra length for the purpose of receiving the follower-plates *e e e*, having projections on the ends to keep them in the slings, and the plates of india-rubber or other similar properly-prepared material *f f f* next on each side of the box *d*, and so interposed that a plate of metal is next each key, *g*, and a plate of the elastic material between each two plates *e*, the slots in the straps *c* for the keys *g* being long, as shown by dotted lines, so as to allow of a wider key being entered if more compression is needed; or a screw may be entered at the end in place of one key *g*.

The operation is that the journal *d* and plates *e* will slide in the strap *c* as the force compresses the material either way, the elasticity of the india-rubber on the other side keeping the box close to the journal. The elastic material may be all placed on either side, if required.

Any two parts that come together in a steam-engine, or in any other machinery that is subject to an alternate pull and thrust, may be provided with a like elastic material to relieve the shocks caused by accidental checks or impediments, so that the severity of any impediment will be lessened and the machinery be allowed to recover the proper position and movement without breaking, which is now frequently caused by the rigidity of the metallic parts not yielding in the slightest degree, and such breakage may often be prevented by the operation of an almost imperceptible degree of elasticity in the joints of the parts that are broken in such circumstances as this invention is intended to provide for. In this connection it may be proper to notice that steel springs may be applied in place of india-rubber, but not with the same advantages as to space occupied or efficacy in action. Therefore the application of steel or metal springs to these uses is herein wholly disclaimed.

I do not claim to have invented any of the parts herein described, as they are all well known and in use for other purposes; but

I do claim as new and of my own invention and desire to secure by Letters Patent of the United States—

The application of prepared india-rubber or of any similarly effective elastic substance in the parts forming the joints of connecting-rods of steam-engines and other machinery for the purposes of preventing jars and breakage of the parts when a reciprocating motion is changed to a rotary, substantially in the manner described and shown.

In witness whereof I have hereunto subscribed my name this 26th day of January, 1850.

LEVI BISSELL.

Witnesses:

WM. SERRELL,

LEMUEL W. SERRELL.