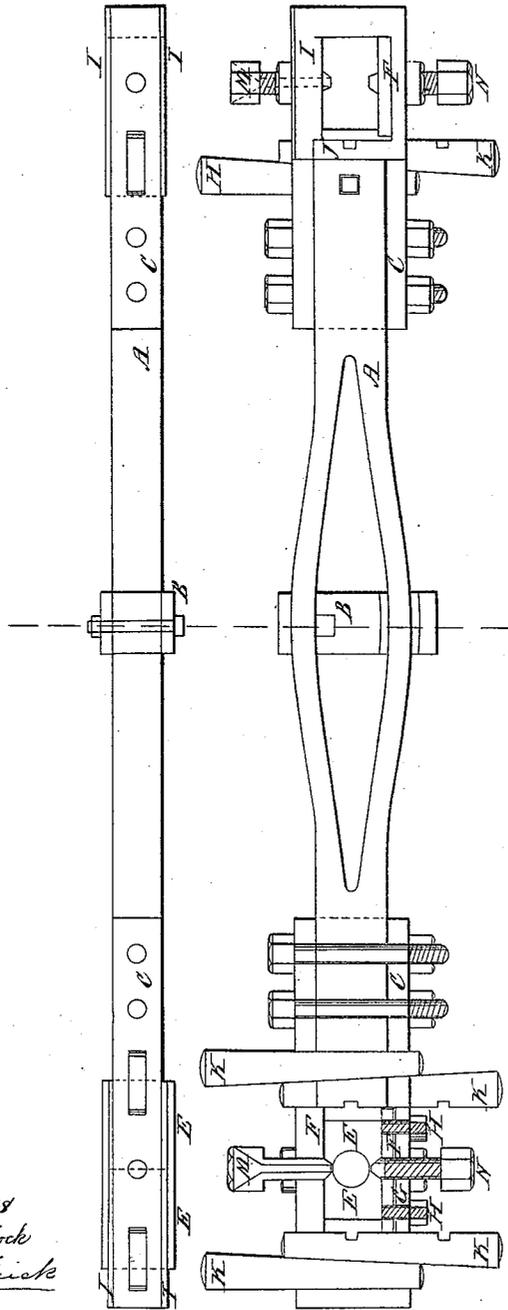


*D. Pollock,*  
*Connecting Rod.*

*N<sup>o</sup> 33,902.*

*Patented Dec. 10, 1861.*



*Witnesses*  
*John R. Pollock*  
*William Frick*

*Inventor*  
*Daniel Pollock.*

# UNITED STATES PATENT OFFICE.

DAVID POLLOCK, OF LANCASTER, PENNSYLVANIA.

## IMPROVEMENT IN CONNECTING-RODS FOR LOCOMOTIVES.

Specification forming part of Letters Patent No. **33,902**, dated December 10, 1861.

*To all whom it may concern:*

Be it known that I, DAVID POLLOCK, of Lancaster, in the county of Lancaster and State of Pennsylvania, have invented a certain new and useful Improvement in Connecting-Rods, Straps, and Fixtures for Locomotive Steam-Engines and other Purposes; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, forming a part of the specification.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction, as follows, to wit:

This invention consists in certain provisions in the connecting-rod, straps, and fixtures for locomotive steam-engines and other purposes, for a more perfect durability and to compensate for the wear of the different parts.

Similar letters of reference indicate corresponding parts in both figures.

A A represent a connecting-rod, made flexible by being formed of two or more bars or rods of iron united at or near the ends and widening or diverging apart toward the center or middle of the rod; or I form the rod of a like number of bars united and widened at or near the ends, and diverging or closing inwardly toward the center or the middle of the rod; or the shape can vary in any other form for the purpose of attaining flexibility or spring in the length of the rod by means of the longitudinal pressure on the rod, making it longer or shorter.

To adjust or regulate a given amount of flexibility or spring in the rod, the yoke or stops B B, or their equivalents, are used. One or more of said stops are fastened to one of the parts or bars of the rod at or near the center, for the purpose of holding the yoke in its place, the other bars or bar of the rod to pass free through a sufficient opening in the yoke or stops to admit of and adjust the required expansion and contraction of the parts, thus lengthening or shortening the rod for the purpose of equalizing and adjusting the pressure on the axles, journals, boxes, and other parts; or the expansion and contraction of the bars or parts may be regulated by having holes in said parts or bars with a bolt or bolts passing through the holes confining said parts or bars to any degree of flexibility or spring. The connecting-rod may be formed of any

number of bars, as above described, or of one piece of metal divided longitudinally into any number of parts, commencing near the ends and diverging the parts toward the center or middle of the rod, thus making it of any desirable form to attain the purposes above described.

C C are straps attached to the rod in the usual way, containing the boxes E E. Said straps have a raised or increased inner projecting surface at that part of the strap where the boxes come in contact with the said strap, one or both of which inner projecting surfaces, as shown at F F, are made adjustable or movable. The strap is recessed or made plain on one or both of its inner sides, into which the inner projecting surface or plate is fitted, as shown at G G. In case of wear of the straps or boxes, the inner projecting adjustable plate is moved out or closed against the boxes and a thin piece of packing inserted between the strap and plate. The plate and packing are secured in place and made adjustable by the screws or pins H H. I I are the raised or thickened outer edges or sides of the strap where the boxes come in contact with the strap.

J shows the raised or thickened projections on the sides at the end of the rod, which correspond with the projections on the sides of the strap. These projections are for the purpose of giving sufficient metal in case of wear, so that they may be dressed, faced, or straightened without altering or affecting that part of the strap or rod which does not come in contact with the boxes.

K K are keys to be used one on either side for adjusting the boxes in place of one single key, as generally used. Said keys are reversed—one inserted from the upper and the other from the under or lower side of the strap—thereby effecting twice the adjustment or movement of the boxes that one single key would effect inserted in the ordinary way, and thus obviating the necessity of using additional packing-plates for accomplishing a farther movement of the boxes, as when only one key is used. These keys may be used either with or without the notches, said notches being for the purpose of receiving corresponding projections on the boxes, plates, or gibs, for securing the keys more effectually in their places. The oil-cups M M are made with conical points projecting through the strap for the purpose of adjusting and confu-

ing the boxes apart and permanently in their seats by screwing or otherwise forcing the conical points between the boxes.

N N are conical-pointed screws to effect a like purpose on the boxes.

I am aware of connecting-rods having been made of bars or rods diverging or widening from the ends to the center and supported or braced with heads for the purpose of making a light and stiff rod.

I am also aware of parallel bars having been used to constitute a rod for the purpose of stiffening and bracing.

I am also aware of brace-rods attached at or near the ends of connecting-rods and diverging or widening from the ends to the center, and being braced at the center or middle of the rod for the purpose of giving additional strength and stiffness.

I am aware of straps for containing the boxes being made with an outer projection or increased thickness on top and bottom, or outer surfaces at that part of the strap through which the bolts or fastenings are applied for securing the strap to the rod, said increased thickness being for the purpose of compensating for slots or holes in that part of the strap.

I am also aware of increased inner projecting surfaces on the inside of the strap, said projections being permanently fixed or immovable.

I am also aware of a single key with one or more gibs having been used, these gibs being made with a corresponding reversed incline to the key, and being stationary with project-

ing heads for the purpose of grasping and securing the strap to the rod.

I am aware of a gib having been used within the strap in conjunction with a key, said key having a corresponding reversed slope or incline.

I am aware of set-screws having been used on the outer surfaces of boxes for the purpose of moving them to the journal. These I do not claim.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A metal rod, when made flexible and combined with a yoke or stops for the purpose of regulating it to any degree of flexibility or tension, substantially as and for the purpose set forth.

2. A strap with adjustable or movable inner projecting plate, when combined with a metallic rod and boxes, as and for the purpose specified.

3. The raised or widened outer edges or sides of the strap, in combination with the metal rod and boxes, in the manner shown and described.

4. Corresponding projections on the sides at the end of the rod, in combination with a strap, as shown.

5. The reversed keys, when combined with the metal rod, strap, and boxes, as set forth.

6. The adjusting conical-pointed set-screws and cup, for the purpose set forth.

DAVID POLLOCK.

Witnesses:

JOHN R. POLLOCK,  
W. FRICK.