

W. H. GILMAN.
LINKS FOR STEAM-ENGINES.

No. 179,106.

Patented June 27, 1876.

Fig. 1.

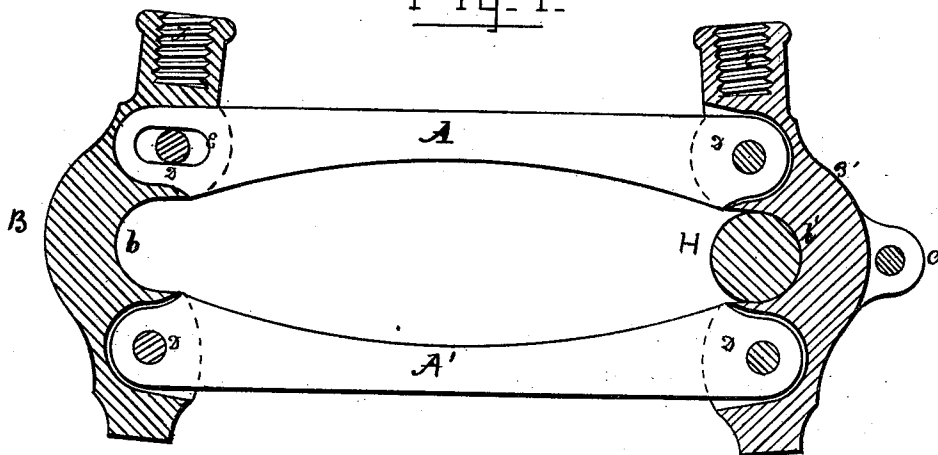
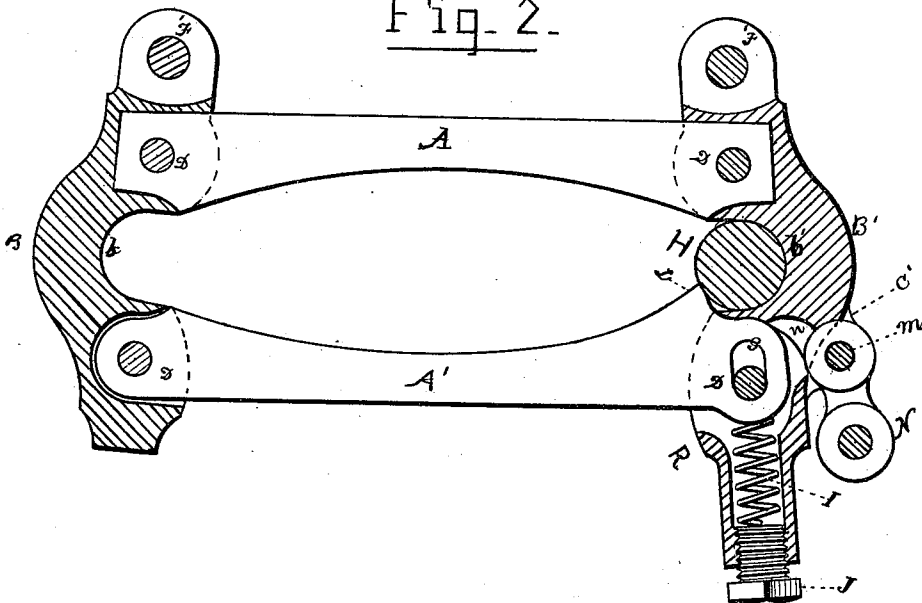


Fig. 2.



WITNESSES
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UNITED STATES PATENT OFFICE.

WILLIAM H. GILMAN, OF DONEGAL TOWNSHIP, BUTLER COUNTY, PA.

IMPROVEMENT IN LINKS FOR STEAM-ENGINES.

Specification forming part of Letters Patent No. **179,106**, dated June 27, 1876; application filed May 5, 1876.

To all whom it may concern:

Be it known that I, WILLIAM H. GILMAN, of Donegal township, in the county of Butler and State of Pennsylvania, have invented certain new and useful Improvements in Links for Steam-Engines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to links for steam-engines; and consists in the construction of a link out of two bars jointed into the end pieces of said link, said bars being hollowed out or spread apart in the center of the link, so as to permit the pin to pass freely from one end of the link to the other without obstruction, and when necessary to hold the pin in place at the end of the link one of said bars may be made loose with a shoulder upon it, so as to move out and in, being held in place by a spring behind it, so that when pulled back it disengages the pin and permits it to pass freely from one end of the link to the other, yet holding the pin firmly at the end of the link when necessary. The ends of the link are recessed so as to receive the pin and form a working bearing for said pin.

Figure 1 is a sectional view of one form of link cut through center of ends of link. Fig. 2 is a sectional view of link with one bar movable, showing spring and arrangement for reversing same.

A A' represent the connecting-bars in both figures, and B B' represent the ends connecting-bars so as to form the link. In Fig. 1 the link is constructed to screw directly onto the eccentric-rods, by having threads cut in the ends of the cross-pieces B B', as shown at F F'. The cross-pieces B B' are recessed at b b' to receive and form a suitable bearing for the pin H. There is also attached to one of the cross-pieces B' the lug C, arranged so as to attach a rope or other connection thereto, so as to reverse the engine while at a distance from it.

In reversing the engine, the link is raised up, the pin H passing freely between the arms

A A', and engaging the link at the points b or b', as desired, in order to permit the eccentric-rods to work freely.

The bars A A' are hinged into the end pieces B B' by means of pins D D D D, and in one of the arms A at one end the hole connecting the same is slotted at E, thereby permitting the link to move freely in all directions as required by the movements of the eccentric-rods.

In many cases engines have been already constructed having ears on the ends of the eccentric-rods, in which case we vary the construction of the link, as shown in Fig. 2. In this link the ends B B' are constructed with ears F F', so as to be attached to the eccentric-rods as ordinary links are. The bar A is firmly fixed in the cross-pieces B and B' by pins D D, so as not to permit any motion, as all the necessary motion is got at the ears F' F'. The bar A', however, is hinged in B at D, so as to move freely on the pins D, and the other end of the bar A' passes into a slot, K, in the cross-piece B', and is attached to the cross-piece B' by the pin D passing through the slotted hole G in the bar A', so the bar can move freely back and forth on the pin D. In this case the bar A' is constructed with a shoulder, L, which, when the bar A' is in place, engages the pin H, and holds it firmly in the recess b', the said bar A' being forced forward and held in position by the spring I, while the spring I may be tightened or loosened by means of screw J. There is also attached to the cross-piece B' an arm, N, moving freely upon the pin M. This arm N has, at its opposite end, a pawl or catch, n, which engages the bar A', and, by raising the arm N by means of a rope or other attachment thereto, forces A' back upon the pin D, so as to permit the pin H to pass freely to the opposite end of the link, and when the engine is again reversed the pin H acts as a wedge, and when passing from b to b' strikes the shoulder L, and forces the bar A' back until the pin H passes into its place, the recess b' in B', and then A' is forced back to its place by means of spring I, the shoulder L holding the pin H in place.

Having thus fully described the construction of my engine-link and the operation thereof,

what I claim, and desire to secure by Letters Patent, is as follows:

1. A link for a steam-engine, having two bars, A A', hollowed out on insides of same, so as to permit free passage of pin H attached to the cross or end pieces B B' by means of joints and pins D D D D, so that the cross-pieces B and B' shall move freely upon the pins D D D D, when constructed substantially as and for the purpose described.

2. A link for a steam-engine formed of two bars, A A', connected by cross-pieces B B', so as to form the link, one of which bars is made movable, and having a shoulder, L, on one end of such bar, when constructed as and for the purpose set forth.

3. A link for a steam-engine having one of the bars or sides of the link movable when constructed as and for the purpose set forth.

4. In combination with the cross-pieces B B', attached to the eccentric-rods of a steam-engine, the connecting-bars A A', the pin H, the lever N, and the spring I, and constructed substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WILLIAM H. GILMAN.

Witnesses:

JNO. K. HALLOCK,
L. H. HALL.