(No Model.)

S. FETTER.

PINCH BAR.

No. 354,778. Patented Dec. 21, 1886.

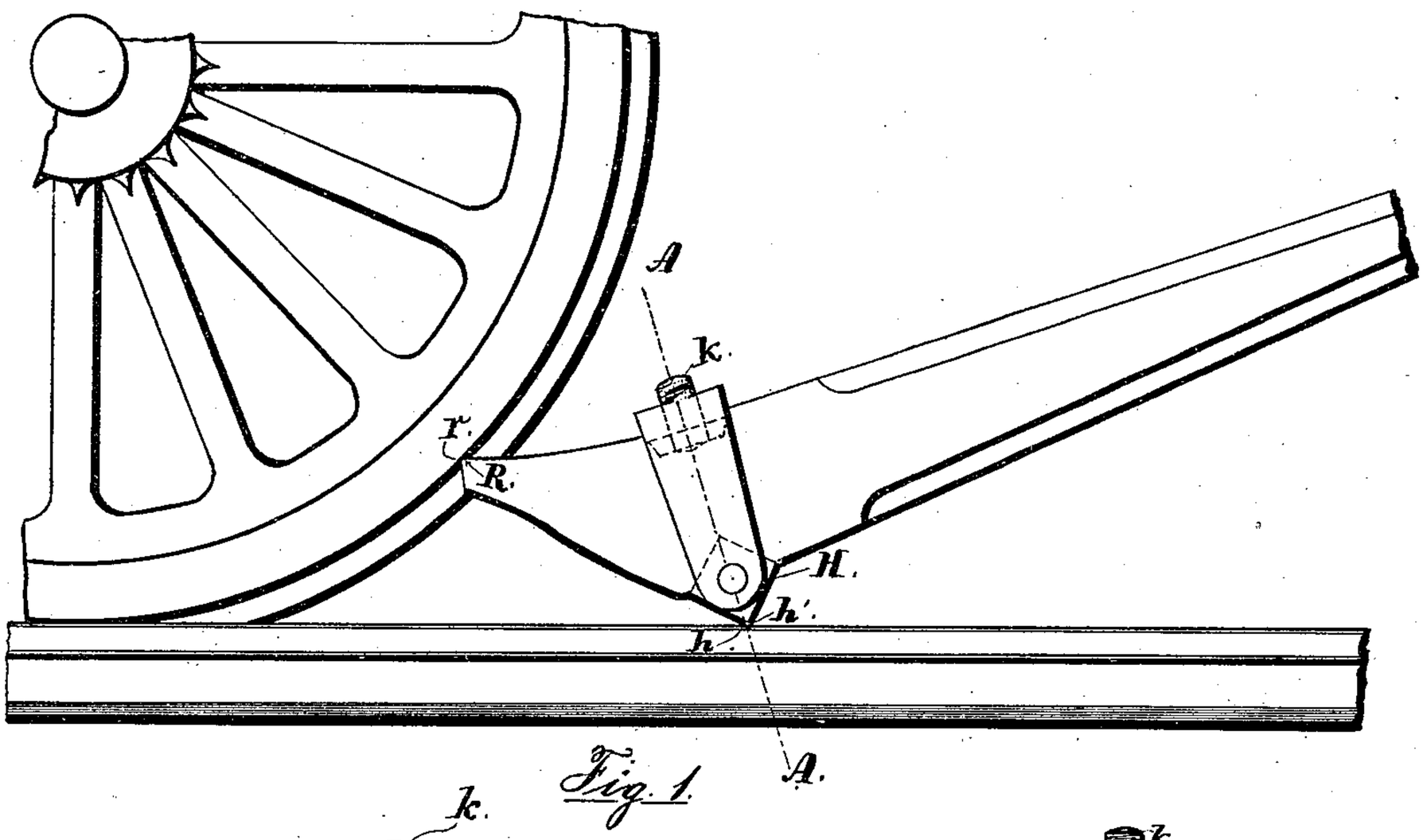
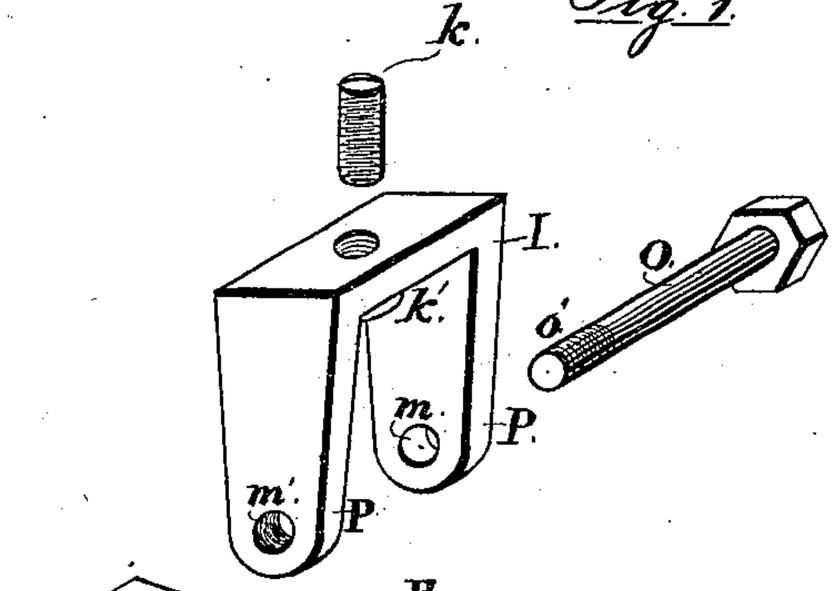


Fig. 1.



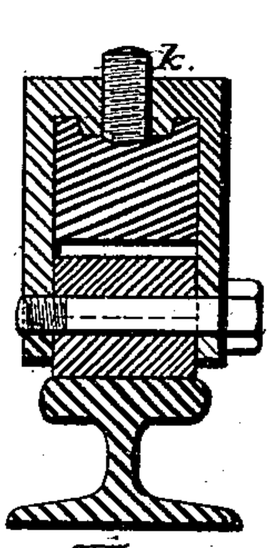


Fig. 2.

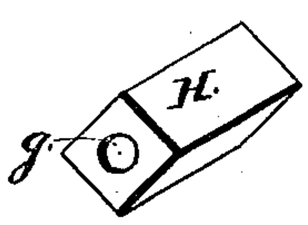


Fig. 3.

WITNESSES:
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UNITED STATES PATENT OFFICE.

SAMUEL FETTER, OF EPHRATA, PENNSYLVANIA.

PINCH-BAR.

SPECIFICATION forming part of Letters Patent No. 354,778, dated December 21, 1886.

Application filed July 22, 1886. Serial No. 208,815. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL FETTER, a citizen of the United States, residing at Ephrata, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Pinch-Bars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Pinch-bars as now used for shifting cars and other purposes have given such dissatisfaction from their tendency to slip when their point and heel become smooth that a want has long been felt by those requiring the use of the same for a bar whose tendency to slip shall be diminished as much as possible. Such being the case, the object of my invention is to furnish a pinch-bar which shall have a heel-point that can easily be kept in the proper condition to do its work with the least tendency to slip. These objects I attain by the mechanism illustrated in the accompanying drawings, similar letters referring to similar parts throughout the several views.

Figure 1 is a side elevation of the working parts of the bar when in use. Fig. 2 is a sectional end elevation through the line A A of Fig. 1; Fig. 3, a perspective view of Fig. 1 with the parts detached, so as to show their construction.

In Fig. 3 the body of the bar B has across its bottom a V-shaped slot, C. At the upper part of the angular side of this slot is a recessed groove, D. Across the top of the bar B is a square recess, E. In the center of the bottom of the recess E is a round socket, F. In this figure H is a piece of square steel with a round bolt-hole, *g*, in the center of its ends through its entire length. This length should be the width of the bar it is to be used on, but may be longer or shorter without interfering with the working of the appliance.

The yoke or strap I, with the set-screw *k* through its top and through the boss *k'* on its under side, has two bolt-holes, *m m'*, through the lower part of its sides. In these holes fits the bolt O, the hole *m* being the size of the body of the bolt O, and *m'* being tapped to fit the thread on the bolt O at *o'*.

To put the machine in condition for use, the square hardened steel heel-piece H is placed in the V-shaped slot C across the bottom of the body of the bar B. When the sides of the slot C are in contact with the sides of the heel-piece H, which they are intended to fit, it will be seen that the object of the recess-groove D is to prevent any portion of the bar B coming in contact with the corner of the heel-piece H, which projects up into it. The yoke or strap I is then slipped into the recess E across the top of the bar B, the lugs P P of the yoke I coming down on the outside of the bar B until the holes *m m'* through these lugs come even with the hole *g* through the length of the square steel piece H. The bolt O is then slipped through the hole *m*, continuing on through the heel-piece H, and the thread on its end *o'* screwed into the hole *m'* in the lug P. When in this position the boss *k'* is on the under side of the top of the yoke I, which is placed there to lengthen the thread where the screw *k* goes through. This boss fits in the circular recess F, this action drawing the yoke I in an upward direction from the top of the bar B, and as the yoke I is held fast to the heel-piece H by means of the bolt O, this screwing-process draws the heel-piece H hard against the sides of the V-shaped recess C, which holds the same in a firm and rigid manner.

The object in making the heel-piece H square is that, when one corner is worn rounding by constant use, by loosening the screw *k* in yoke I the bolt O may be removed and the heel-piece H taken from its socket and turned so as to present one of its corners not heretofore used.

The hardened steel-piece H, while being easy to remove from the bar B, not only gives the use of its four corners while in its perfect state, but as the wear has a rounding tendency all in one direction, by simply turning the heel-piece H end for end it may be used to advantage four times again before it will be necessary to remove it to be ground or replaced by a new one.

The reduction in the size of the heel-piece H by the grinding process does not interfere with its fitting the bar B, as the screw *k* in the top of the yoke I would take up all lost motion.

The reason it is necessary to have the boss *k'* on the under side of the yoke I to strengthen

the screw-thread is that the top of the yoke I should project as little as possible above the sides of the slot E across the top of the bar B, which, if it projected too high, would prevent the bar from going under the wheel properly.

In Fig. 1 the bar is shown in practical operation, the point *h'* of the heel-piece H in contact with the rail at *h*, and the point R of the bar in contact with the rim of the wheel *r*. In sectional end elevation, Fig. 2, through the line A A, Fig. 1, is shown the position of the various parts when in contact with the rail.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of bar B, the steel piece H, yoke I, bolt O, and screw *k*, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL FETTER.

Witnesses:
WM. J. YINGLE,
J. S. BITNER.