M. G. COLLINS.

Pinch-Bar.

No. 163,153. Patented May 11, 1875.

Fig 1.

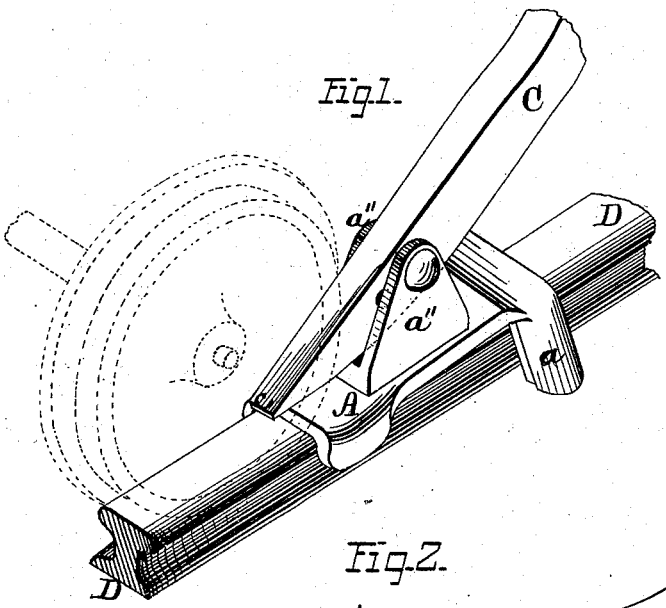


Fig 2.

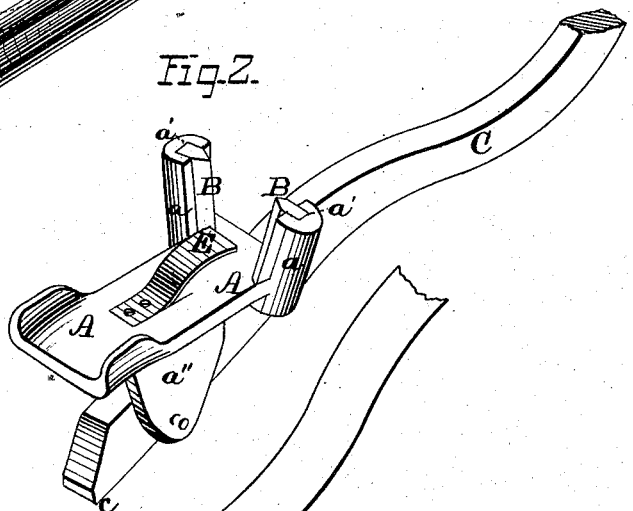
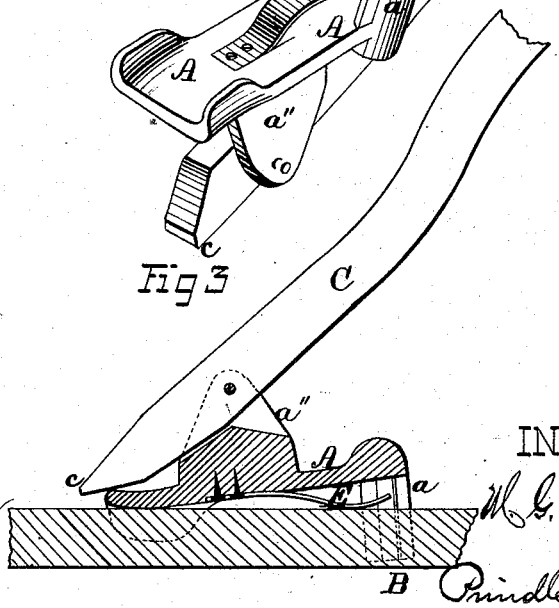


Fig 3



WITNESSES:

Jas. E. Hutchinson

John R. Young

INVENTOR.

M. G. Collins, by

Prindle and Lay his Attys

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

M. GRIER COLLINS, OF WILMINGTON, DELAWARE, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO JAMES C. PICKELS AND WILLIAM P. SMITH, OF SAME PLACE.

IMPROVEMENT IN PINCH-BARS.

Specification forming part of Letters Patent No. **163,153**, dated May 11, 1875; application filed April 1, 1875.

To all whom it may concern:

Be it known that I, M. GRIER COLLINS, of Wilmington, in the county of New Castle and in the State of Delaware, have invented certain new and useful Improvements in Pinch-Bars; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a perspective view of my improved bar as arranged for use. Fig. 2 is a like view of the lower side of the same, and Fig. 3 is a vertical longitudinal section through the center of the bearing-plate.

Letters of like name and kind refer to like parts in each of the figures.

My invention is an improvement upon a similar device for which Letters Patent No. 76,421 were issued April 7, 1868, to J. Douglass; and it consists in the fulcrum-plate, constructed in one piece from cast metal, and in the form substantially as and for the purpose hereinafter shown.

In the Douglass device the fulcrum-plate is composed of several pieces of wrought metal combined by welding or screws. Its engaging-bits are formed of one piece of metal, and attached to or upon its rear end by means of screws, which are liable to become detached and lost, while said bits are difficult to sharpen and expensive to replace, the whole being cumbersome, weak, and not durable.

To obviate these difficulties, I construct my fulcrum-plate A in one piece from cast-steel, in the form shown in Figs. 1 and 3, and provide within the inner face of each of two lugs, *a* and *a*, that extend downward and outward from its rear end and sides, a vertical groove, *a'*, which receives and contains a correspondingly-shaped steel bit, B. The inner portion of each bit B is beveled, so as to form a sharp edge, which rakes rearward, and, when the fulcrum-plate is upon a track, engages with the side of the rail-head, and prevents the movement of said plate in a backward direction.

Being cast in one piece, the plate A has only the necessary dimensions at each point to afford the required strength, and, consequently, possesses no superfluous weight, beside which said part is more cheaply produced than would be possible if made up of several parts.

From the upper side of the plate A two lugs or ears, *a''* and *a''*, extend upward in parallel lines, and between the same is pivoted a pinch-bar, C, which has the usual form, and has its front end about upon a line with the corresponding end of said plate. The front end, at the upper side of the bar C, being provided with a sharp corner, *c*, in the usual manner, the device is ready for use, as follows:

The fulcrum-plate is placed upon or astride of a rail, D, with its forward end against the tread of the wheel to be operated upon, the pinch-bar being raised to the position shown in Fig. 1, when, by depressing the rear end of said bar, its front end will engage with and move said wheel forward. When a wheel has been moved to the limit of the motion of the pinch-bar the latter is raised, and its fulcrum-plate advanced until its forward end is again in contact with said wheel, when the operation described is repeated.

In order that the bits B and B may be automatically freed from engagement with the track a spring, E, is secured at one end to or upon the lower side of the plate A, and, extending rearward and downward, has its free end upon a line with said bits. The strength of the spring E is sufficient to prevent the weight of the device from bringing the bits B and B into engagement with the track; but whenever any downward pressure is exerted upon the pinch-bar said spring will yield and permit such engagement, and whenever such downward pressure is removed will raise said fulcrum-plate and release said bits.

When necessary to sharpen or renew the bits B and B, they are readily withdrawn longitudinally from within their grooves, and, when thus detached, may be applied to any ordinary grindstone.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

The fulcrum-plate A, provided with the lugs *a* and *a*, grooves *a'* and *a'*, ears *a''* and *a''*, and formed in one piece from cast-steel, substantially as and for the purpose shown.

In testimony that I claim the foregoing I have hereunto set my hand this 31st day of March, 1875.

M. GRIER COLLINS.

Witnesses:

GEO. S. PRINDLE,

WILLIAM FITCH.