T. W. & H. K. PORTER.

Foot-Rails for Carriages.

No. 143,031. Patented September 23, 1873.

FIG. 1

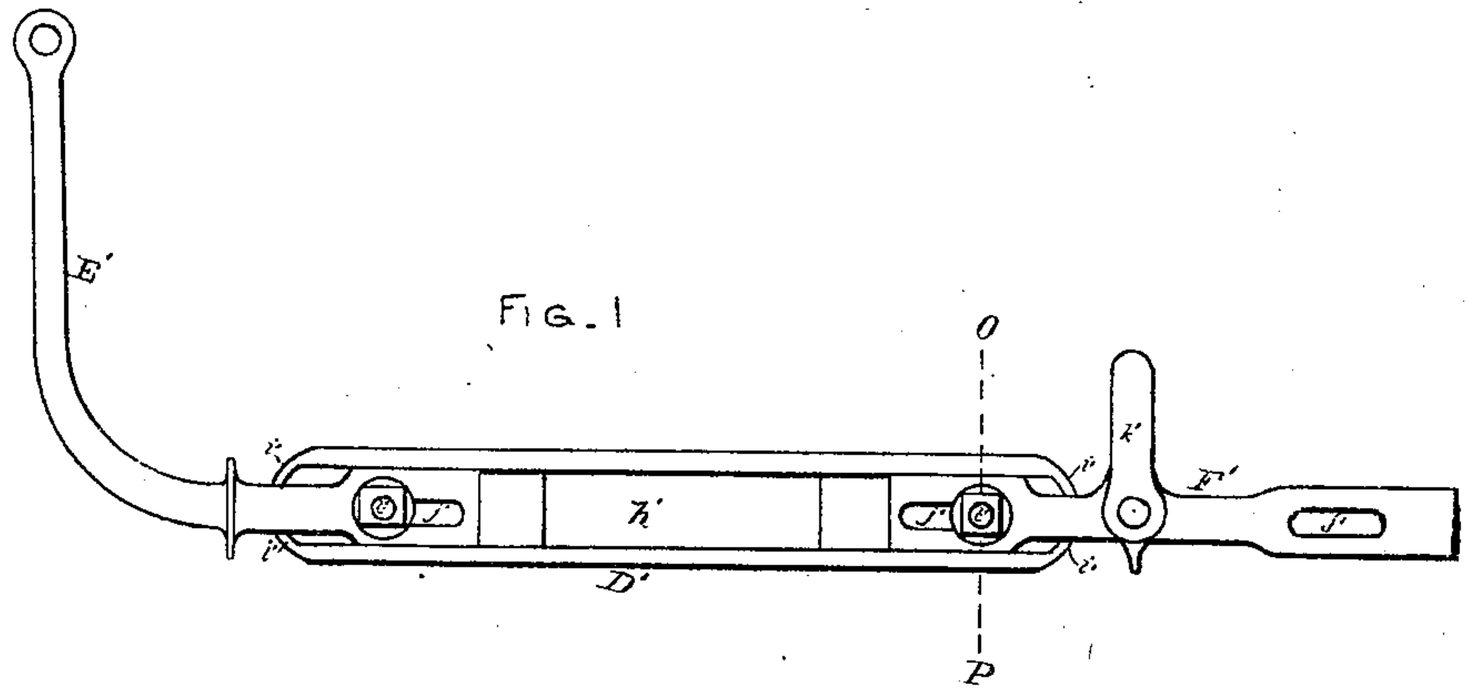

FIG. 3

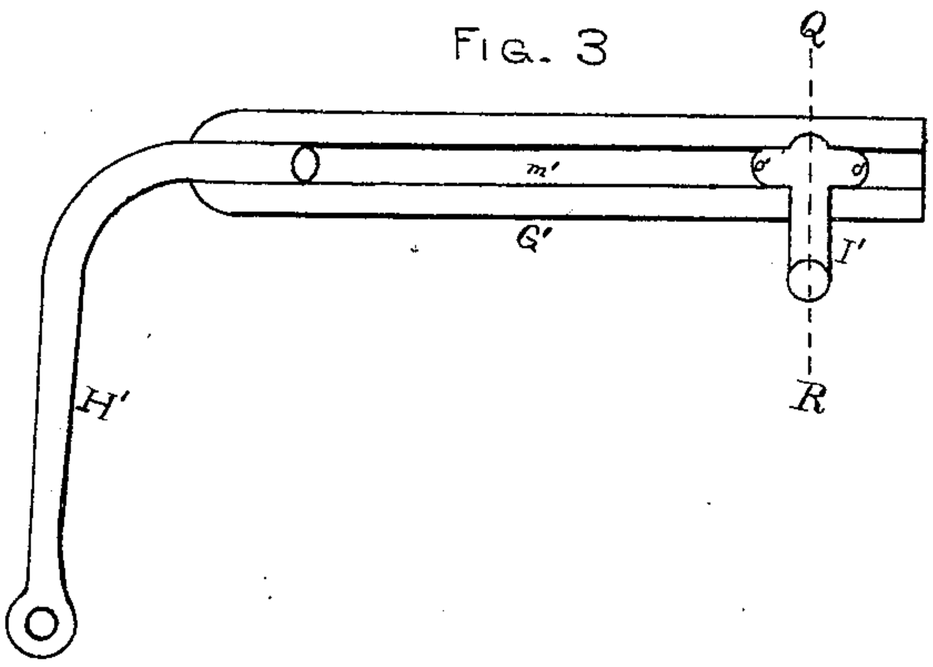

FIG. 4

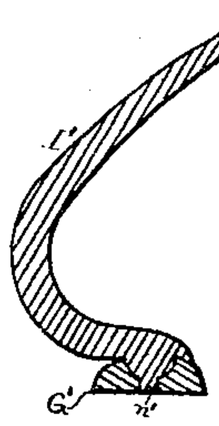

FIG. 2

WITNESSES.

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THOMAS W. PORTER AND HENRY K. PORTER, OF BOSTON, MASS.

IMPROVEMENT IN FOOT-RAILS FOR CARRIAGES.

Specification forming part of Letters Patent No. **143,031**, dated September 23, 1873; application filed June 30, 1873.

To all whom it may concern:

Be it known that we, THOMAS W. PORTER and HENRY K. PORTER, of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Carriage-Irons, of which the following is a specification:

This invention relates to improvements in foot-rails; and the invention consists in a foot-rail formed in sections, the foot-bars having formed in the back side thereof a longitudinal groove, while the brackets or end and center pieces are formed either with a slot, through which the bolt passes to unite the parts, so that the rail is adjustable in its length for convenience in fitting to vehicles of various widths, or the brackets are formed with pivots by which to unite them with the foot-pieces, by inserting the pivots in holes in such foot-pieces and riveting the parts together.

Figure 1 is an under-side view of the extension foot-rail. Fig. 2 is a vertical transverse section taken on line O P, Fig. 1. Fig. 3 is an under-side view of the riveted foot-rail. Fig. 4 is a vertical transverse section taken on line Q R, Fig. 3.

In Fig. 1, D′ is one of the foot-bars of the adjustable foot-rail. E′ is an end bracket, and F′ the center bracket. In these brackets are formed slots, as shown at *j′*, through which, as also through bars D′, the screw-bolts *l′* pass. By thus forming the bars with a groove, as shown in Fig. 2, and the brackets to slide therein, as also with an elongated slot, the parts of the rail are held in line, and are susceptible of extension and contraction for the purpose before stated. *i′ i′* is a curtain formed upon bar D′, and of the same height as the walls of the groove, and with a part cut away corresponding to the semi-cross section of the bracket, so as to curtain the groove in the bar and present a finished end. G′ is a part of the bar of the non-extensible foot-rail. It is formed with a semicircular groove, *m′*, in which the end bracket H′ fits, while two short projections, *o′ o′*, formed upon the center bracket I′, also fit the groove in the same manner. *n′*, Fig. 4, shows a pivot formed upon these brackets, which passes through a hole in bar G′, and, being riveted therein, unites them together. The bar D′, by reason of the necessity for the end curtains, is formed of cast metal; but bar G′ may be either formed of cast metal or rolled in long bars of wrought-iron, and then cut to required lengths, and at less expense than when formed of cast metal.

We claim as our invention—

1. A foot-rail bar formed with a longitudinal groove, *h′ m′*, substantially as and for the purpose described and shown.

2. A foot-rail bracket formed with a slot, *j′*, substantially as and for the purpose described and shown.

3. An adjustable foot-rail formed with groove *h′ m′* and slot *j′*, substantially as and for the purpose described and shown.

4. Foot-rail brackets formed with a riveting-pivot, *n′*, substantially as and for the purpose described and shown.

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