

E. P. ROCHE.  
Fender for Vehicles.

No. 112,851.

Patented Mar. 21, 1871.

Fig. 1.

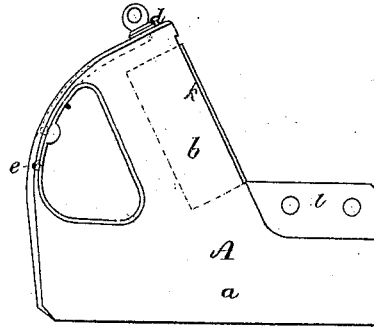


Fig. 2.

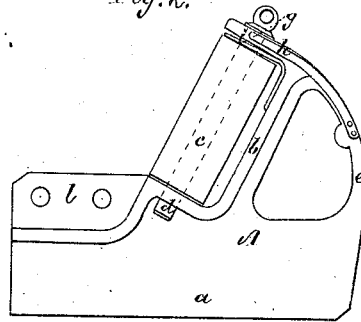


Fig. 3.

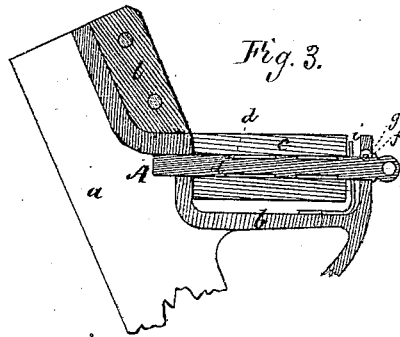


Fig. 4.



Witnesses.

H. Saunders.

Edward Griffith

Edward P. Roche, Jr., D.

by his Attorney.

Frederick Curtis.

# United States Patent Office.

EDWARD P. ROCHE, OF BATH, MAINE.

Letters Patent No. 112,851, dated March 21, 1871.

## IMPROVEMENT IN "CHAFE-IRONS" FOR WHEELED VEHICLES.

The Schedule referred to in these Letters Patent and making part of the same.

*To all to whom these presents shall come:*

Be it known that I, EDWARD P. ROCHE, of Bath, in the county of Sagadahoc and State of Maine, have made an invention of certain new and useful Improvements in "Chafe-Irons," so called, for Wheeled Vehicles; and do hereby declare the following to be a full, clear, and exact description of such invention, due reference being had to the accompanying drawing making part of this specification, and in which—

Figure 1 is a plan view;

Figure 2, an under-side view; and

Figures 3 and 4, vertical sections of a chafe-iron containing my improvements.

This invention relates to certain detailed improvements in the construction of chafe or rub-irons, as they are termed, and which are applied to the sides of wheeled vehicles in such manner that the abrasion and friction due to the contact of the wheel therewith is greatly lessened and liability of overturning the vehicle obviated; and

These improvements consist—

First, in the employment of a bearing-surface of chilled iron or hardened steel, which is fixed to the main body of the brace or support of the device, and alongside of its anti-friction roller, the same being so disposed as to receive the strain and abrasion of the tire of the wheel should such tire, for any reason, pass beyond the roller and impinge against this portion of the brace.

Secondly, these improvements will be found to consist in combining with the roller of a chafe-iron a combined scraper and shield, whereby the tendency of dirt to attach itself to such roller is greatly lessened, and the dirt thus attempting to cling is scraped off from the same, thus obviating a present and great objection to the employment of revolving chafe-irons, which results from their constant liability to become clogged and stopped by dirt, or rapidly worn out by the dust and gravel, which has free access to all parts of them.

Thirdly, these improvements consist in the employment of a spring-catch for retaining in proper place the spindle or pin upon which the roller revolves, this spring-catch further serving the purpose of deadening or preventing rattle or noise of the said spindle within its bearings.

The drawing accompanying and making part of this specification, and which illustrates this invention, represents, at A, the main body or frame of a chafe-iron, so called, the flat rectangular portion *a* of which is to be screwed or bolted to the side rail or other convenient part of the vehicle, such body or frame being composed of cast or wrought-iron or other metal.

Putting outward from and making part of the por-

tion *a* of the body A is a sloping offset or bearing, *b*, the under side of this offset being cavernous or concave in order to partially surround the anti-friction roller, which is shown at *c*.

This roller *c* is mounted upon a pin, *d*, passing through it, and whose opposite ends are stepped in the offset *b*, this pin *d* being of sufficient strength to support the roller *c* under all thrusts and labor to which it may be subjected.

The pin *d* is formed with one or more shallow grooves or depressions, *a'*, to contain lubricating material, for purposes before stated; and I would remark that in some instances it may be found desirable to carry the grooves *a'* spirally about the circumference of the pin, in order to weaken it less than in the first-mentioned instance.

The offset *b* is united with the portion *a* by means of an integral-curved arm or brace, *e*, such arm serving to receive and deflect from the offset the spokes of the wheel should the felly of such wheel, by accident or from other causes, pass by the extreme outer end of such offset.

Were it not for the deflector or wheel-guard *e*, serious accidents might occur, as with the best of care the wheel may occasionally slip from off the roller and thus permit the spokes to strike against the offset *b* or the supporting-frame of the roller.

The said guard *e* is a very valuable feature in these improvements, and without it or its equivalent a chafe-iron is comparatively valueless.

The pin *d* has a narrow groove or notch, *f*, formed upon it near its outer end, while fitting into this groove or notch is a stud or catch, *g*, which makes part of a spring-catch, *h*, applied to the under side of the curved brace *e*, the spring-catch thus formed serving, by entering the notch *f*, to securely hold the pin in place and yet permit of its speedy removal for purposes of lubrication or otherwise.

The spring-catch *g*, as before stated, also serves to deaden unpleasant noise of the pin in its bearings, which, but for some analogous means of prevention, would occur in many instances.

In order to prevent a like rattle of the roller *c*, I dispose a spring, *i*, between its outer end and that of the offset *b*.

The scooping out of the under side of the offset *b*, as shown in fig. 4 of the accompanying drawing, leaves a sharp, thin edge or covering, *k*, for the roller *c*, this covering serving the purpose, as before stated, not only of preventing access to the roller and its bearings of dust or other foreign matter, but of scraping from the periphery of such roll any dirt which would otherwise cling to and clog its movements and rapidly wear out both pin and roller.

To the under side of the outer edge of the flat portion or support *a* of the frame *A* I affix a block, *l*, of chilled iron or hardened steel, which serves to resist for a long time the wear consequent upon the abrasion and friction of the wheel-tire should the latter at occasional intervals impinge against it.

*Claims.*

I claim—

1. The combination, with the main frame or support *A*, of the chilled iron or hardened-steel bearing or block *l*, for purposes stated.

2. The combination, with the frame and roller of a chafe-iron, of the combined shield and scraper *k*, under the arrangement and operating as hereinbefore explained.

3. The spring-catch *g*, herein described, in combination with the offset *b* and pin *d*, for the purposes stated.

4. The general construction and arrangement of a chafe-iron for wheeled vehicles, composed of the main frame *a b e*, with its hardened bearing *l*, the roller *c*, and the spring-catch *g*, the whole being in manner and for the purpose as hereinbefore explained.

5. The employment of the spring *i* in the locality and for the purpose explained.

6. The general frame or body of the chafe-iron, as composed of the rectangular portion *a*, the offset *b*, and the curved deflector or wheel-guard *e*, when such component parts are cast or produced in one homogeneous piece of metal, as explained and exhibited.

EDWD. P. ROCHE.

Witnesses :

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EDW. GRIFFITH.