(No Model.)

H. HOLLAND.

HUB RUNNER.

No. 344,579. Patented June 29, 1886.

Fig. 1.

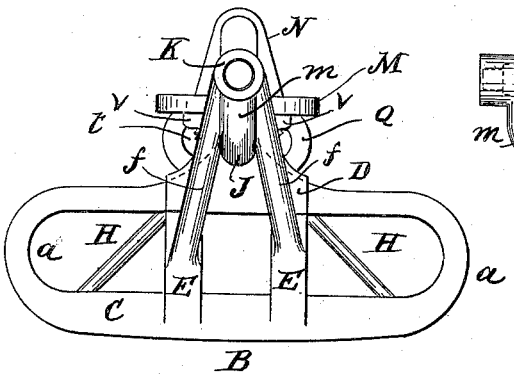


Fig. 2.

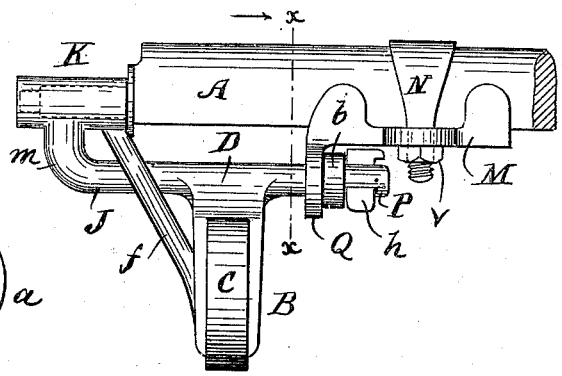


Fig. 3.

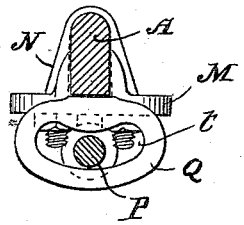


Fig. 4.

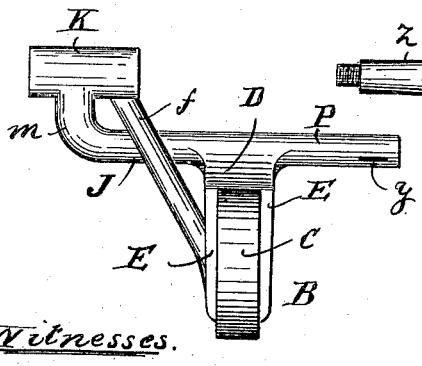
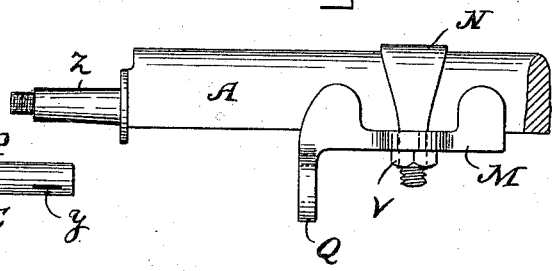


Fig. 5.



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UNITED STATES PATENT OFFICE.

HAROLD HOLLAND, OF LYNN, MASSACHUSETTS.

HUB-RUNNER.

SPECIFICATION forming part of Letters Patent No. 344,579, dated June 29, 1886.

Application filed April 9, 1886. Serial No. 198,329. (No model.)

To all whom it may concern:

Be it known that I, HAROLD HOLLAND, of Lynn, in the county of Essex, State of Massachusetts, have invented a certain new and useful Improvement in Hub-Runners, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation representing my improved runner and its clip detached from the axle; Fig. 2, an elevation of the same, represented as attached to the axle; Fig. 3, a vertical longitudinal section taken on the line *x x* in Fig. 2; Fig. 4, an end elevation of the runner, represented as detached from the axle and clip; and Fig. 5, a side elevation representing the axle provided with the clip, but without the runner.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

My invention relates to that class of runners which are designed for converting wheeled vehicles into sleighs, being sometimes called "hub-runners;" and it consists in the novel construction and arrangement of parts hereinafter fully set forth and claimed, the object being to produce a more effective and desirable article of this character than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation.

In the drawings, A represents the axle of the carriage, and B the runner. The framework of the runner proper consists, principally, of the shoe C, bar D, standards E E, and braces H H, the shoes being turned upwardly at each end and united to the bar D, to enable the runner to be run in either direction, as desired. An outwardly-projecting horizontally-arranged arm, J, is disposed centrally at the top of the runner, said arm being firmly secured to the bar D, and having its outer end curved upwardly, as shown at *m*.

Mounted on the turned-up end of the arm J, and arranged horizontally at right angles to the bar D, there is a hub, K, for receiving the bearing portion *z* of the axle A, the hub being preferably of such length that when the axle is inserted it will not protrude from the hub, or its bearing portion entirely covered, thus enabling the outer end of the box or axle hole in the hub to be closed by a screw cap or plug, if desired. If preferred, however, the hub may be made shorter than the bearing portion of the axle, and the axle provided with a nut at its outer end, in the usual manner.

Projecting outwardly and upwardly from each of the standards E there is a brace, *f*, said braces converging at their upper ends, and being adapted to assist in supporting the hub K. A clip, M, is secured to the under side of the axle A by an ordinary clamp, N, and nuts *v*, said clip having at its outer end a downwardly-projecting flange or lip, Q, provided with a curved slot, *t*. A horizontally-arranged stud, P, projects inwardly from the bar D immediately opposite the bar J, said stud being adapted to work in the slot *t* of the flange Q, and provided at its inner end with a slot, *y*, key *h*, and washer *b*, the washer being omitted, if desired.

In the use of my improvement, the wheel of the carriage (not shown) having been removed from the axle A, the bearing portion *z* of said axle is inserted in the hub K, and the stud P in the slot *t* of the flange Q, the runner being then secured to the axle by the key *h*. But one runner and a portion of one axle only are shown; but it will be understood, of course, that each axle of the carriage is to be provided with a runner at either end in substantially the same manner as described.

By mounting the hub K at the end of the arm J, the runner proper, C, is carried inwardly beneath the axle, thereby enabling said runner to follow the ordinary sleigh-track of the road, which it would not do if disposed immediately beneath said hub, sleighs being usually much narrower than wheeled vehicles. The slot in the flange Q permits the stud P to swing through the arc of a circle corresponding with said slot, thereby enabling the runner to oscillate on the axle and ride over or surmount obstacles in the road, while at the same time the hub is prevented from entirely revolving on the axle.

The clip M is designed to be permanently attached to the axle to adapt the same for ready use with the runner.

I do not confine myself to securing the stud P in the flange Q by means of the key *h*, as a nut or any other suitable means may be employed. Neither do I confine myself to mounting the hub K outside of the shoe C, although I deem the same preferable, nor to turning the shoe C upward at both ends of the runner.

Having thus explained my invention, what I claim is—

1. In a device for mounting a carriage or wheeled vehicle on runners, an axle and a clip secured to the under side thereof, said clip having a downwardly-projecting flange at its outer end provided with a slot, said slot being curved on an arc of a circle around the center of the axle, in combination with a runner having a projection adapted to enter said slot, and means for securing said runner in position, substantially as described.

2. In a device for mounting a carriage or wheeled vehicle on runners, an axle and a clip secured to the under side thereof, said clip having a downwardly-projecting flange at its outer end provided with a slot, said slot being curved on an arc of a circle around the center of the axle, in combination with a runner having a hub fitting over the bearing portion of the axle, a transversely-perforated stud within said slot, and a key within the perforation in said stud, substantially as described.

3. The hub-runner herein described, the same comprising the shoe C, a transverse bar, J, across the upper part thereof, a hub, K, at the outer end of said bar, means at the inner end for securing the runner in position, and the inclined braces *f*, connecting said runner and the inner end of said hub, substantially as set forth.

4. The hub-runner herein described, the same comprising the shoe C, a bar, D, above and parallel with said shoe, and to which the ends of the shoe are connected, upright standards E, connecting said shoe and bar intermediately between the ends thereof, a transverse bar, J, across said bar D, a hub, K, at the outer end of said bar J, means at the inner end for securing the runner in position, and the inclined braces *f*, connecting said standards and the inner end of said hub, substantially as set forth.

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