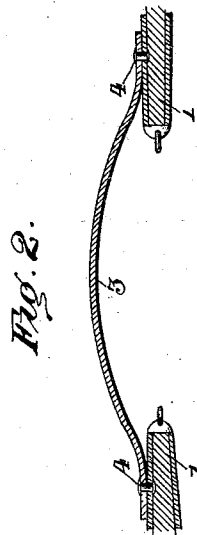
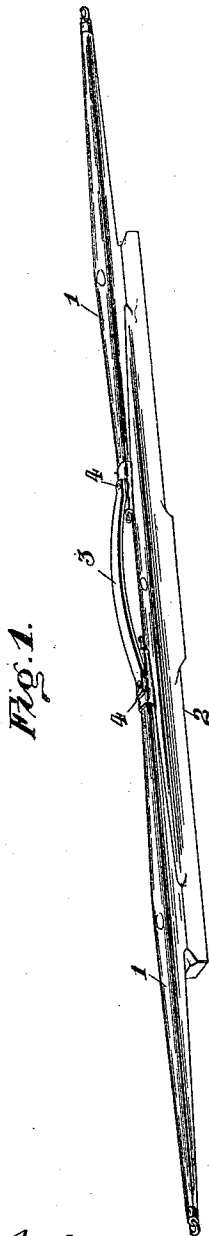


(No Model.)

A. C. MASSEY.
REIN GUARD.

No. 478,800.

Patented July 12, 1892.



Witnesses

J. M. Johnson
N. W. Riley

Inventor

Arthur C. Massey

By his Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

ARTHUR C. MASSEY, OF WOODVILLE, ASSIGNOR OF ONE-HALF TO LUMAN
N. SPENCER, OF GRAND RAPIDS, MICHIGAN.

REIN-GUARD.

SPECIFICATION forming part of Letters Patent No. 478,800, dated July 12, 1892.

Application filed February 6, 1892. Serial No. 420,521. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR C. MASSEY, a citizen of the United States, residing at Woodville, in the county of Newaygo and State of Michigan, have invented a new and useful Draft-Equalizer, of which the following is a specification.

The invention relates to improvements in draft-equalizers.

10 The object of the present invention is to provide a device for equalizing the draft on carriages, hacks, and other light vehicles, and to prevent the reins catching under the inner ends of the singletrees, and to prevent accidents occasioned by parts of harness breaking.

15 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

20 In the drawings, Figure 1 is a perspective view of a draft-equalizer constructed in accordance with this invention. Fig. 2 is a detail sectional view.

25 Like numerals of reference indicate like parts in both the figures of the drawings.

1 designates singletrees, which are pivoted in the usual manner to a doubletree 2 and which have their inner ends connected by a spring 3, adapted to hold the inner ends of the singletrees close together to equalize the draft.

The spring 3 is curved or arched and its ends are pivoted at 4 to the singletrees, which are provided with malleable casings or metal coverings to increase the strength of the singletrees at the points where the ends of the curved spring are secured to prevent the singletrees separating should any one of the traces or tugs break. By this construction, the singletrees being connected, no serious accident can result from one of the traces or tugs breaking, as the singletrees will not separate. The arched spring also prevents the reins getting beneath the inner ends of the singletrees and becoming caught or tangled.

What is claimed as new is—

The combination, with singletrees spaced apart and arranged in longitudinal alignment, of an upwardly-curved or arched spring having its ends overlapping the inner ends of the singletrees and permanently pivoted beyond the inner ends and to the upper sides of the same, whereby the singletrees are connected, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ARTHUR C. MASSEY.

Witnesses:

W. S. BREWER,
J. F. JESSUP.