



# UNITED STATES PATENT OFFICE.

CONRAD H. MATTHIESSEN, OF ODELL, ILLINOIS.

## IMPROVEMENT IN CENTER-DRAFT SIDE THILLS.

Specification forming part of Letters Patent No. 188,927, dated March 27, 1877; application filed January 29, 1877.

*To all whom it may concern:*

Be it known that I, CONRAD H. MATTHIESSEN, of Odell, in the county of Livingston and State of Illinois, have invented a new and useful Improvement in Center-Draft Side Thill, of which the following is a specification:

The figure represents the running-gear of a wagon, to which my improvement has been applied.

The object of this invention is to construct wagons provided with side thills in such a way that there may be no side draft, and which, at the same time, shall be simple in construction.

The invention consists in the combination of the lever, the wire rope, the keeper, the pulley, the wire rope or rod, and the spring, with the side thill, the whiffletree, and the running-gear of a wagon, as hereinafter fully described.

A are the fore wheels. B are the rear wheels. C is the fore axle. D is the rear axle. E is the head-block, and F is the reach. G is the side thill, the forward end of which is bent into U form, to pass around the breast of the horse. The rear end of the thill G is attached to the middle part of the bar H, the end parts of which are bent back and their ends are connected with the fore axle C by thill-couplings.

The thill G is strengthened by a brace, I, the forward end of which is attached to the thill G, and its rear end is attached to the bar H at its bend or angle. To the bar H, near the rear end of the brace I, is pivoted the end of a lever, J, which is curved near its

pivoted end to carry it to the front of the said bar H. The lever J passes through a long keeper, K, attached to thill G, and to its other end is pivoted the whiffletree L. To the pivot of the whiffletree L, or to a clevis attached to said pivot, is attached the forward end of a wire rope, M, which passes through a keeper, N, attached to the head-block E. The rear end of the wire rope M is attached to a pulley, O, which is pivoted to the rear part of the reach F. With the pulley O at the other side of its pivot is connected the rear end of a wire rope or rod, P, the other end of which is attached to the fore axle C. The keeper N should be covered with rubber or leather, to prevent wear and noise. Q is a spring attached to the end of the lever J, and which passes through the rear part of the keeper K, to hold the end of the lever J forward to prevent the wire rope M from sagging when not under strain.

The effect of the arrangement is to take the draft from the rear axle, the pole being merely used for holdback and steerage purposes. The vehicle is thus made to run more steady, with better guidance, and less side draft.

What I claim as new is—

1. The single-tree L, pivoted to lever J and flexibly connected by mechanism M O P with the front axle, as and for the purpose described.

2. The spring Q, combined with lever J, to take up slack in rope M, as set forth.

CONRAD H. MATTHIESSEN.

Witnesses:

M. E. WRIGHT,  
A. P. WRIGHT.