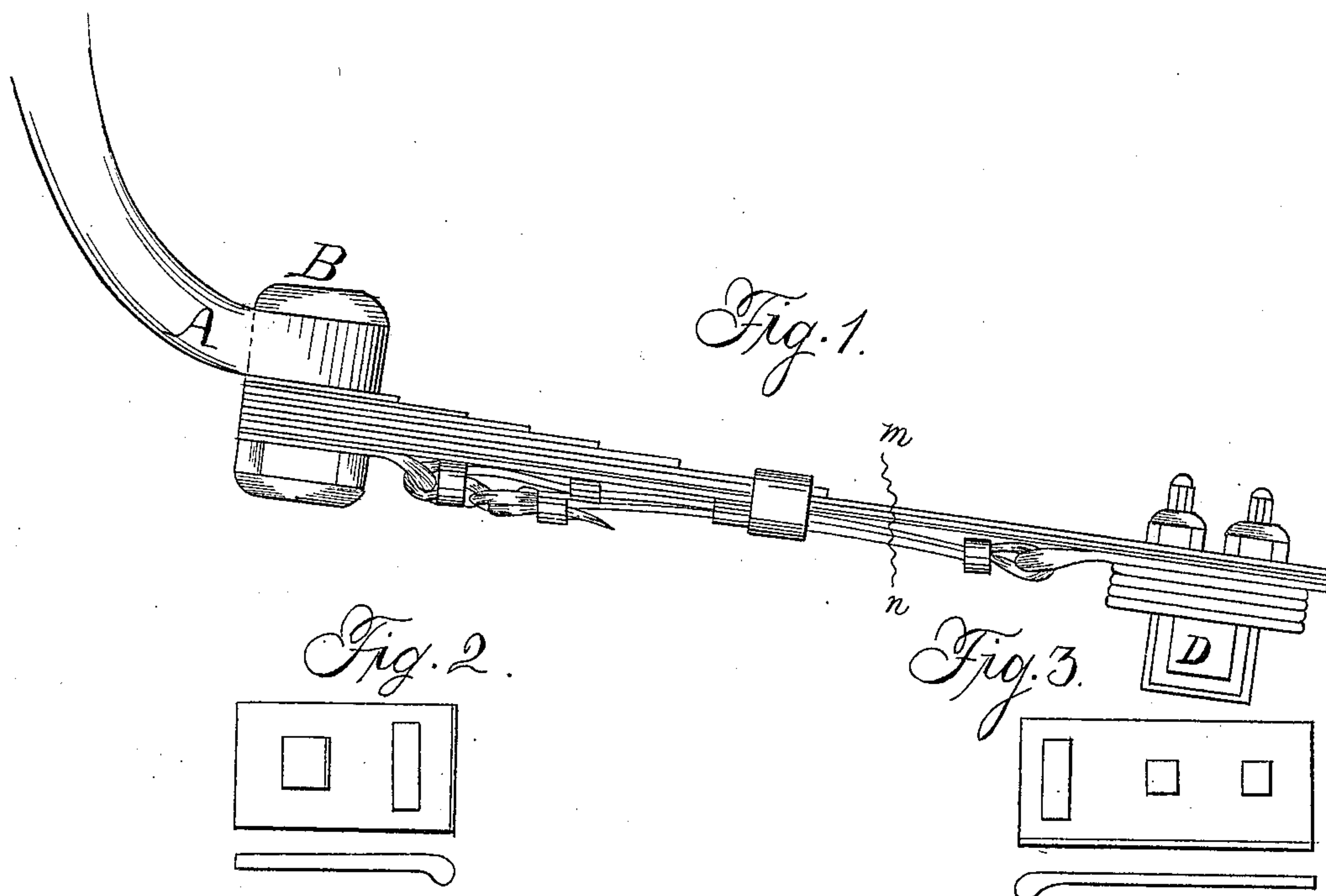


T. WINANS.
Carriage-Spring.

No. 19,396.

Patented Feb 16, 1858.



UNITED STATES PATENT OFFICE.

THOMAS WINANS, OF BALTIMORE, MARYLAND.

CARRIAGE-SPRING GUARD.

Specification of Letters Patent No. 19,396, dated February 16, 1858.

To all whom it may concern:

Be it known that I, THOMAS WINANS, of the city of Baltimore, in the State of Maryland, have invented a new and useful Improvement in Carriage-Springs, and that the following is a full, true, and exact description thereof.

In the specification of a patent granted to me on the 19th day of January, 1856, for a new and useful improvement in the construction of the class of wagons, known as buggy wagons I describe very fully side pieces connecting the fore and hind axles, and composed of bent bars and springs. These springs are formed of plates of unusually thin steel, I call them half springs because each spring is not unlike the half of the upper part of the common elliptic spring divided transversely at the center. The thick ends of the half springs, the shorter leaves uppermost, are bolted to the ends of the bent bars, and the thin ends are fastened to the hind axle and the bolster over the front axle, respectively. To insure sufficient strength I have heretofore made the half springs with three leaves of equal length at bottom, and this when the steel is properly tempered, I have found to be sufficiently strong. But a flaw in the steel, an injudicious tempering of the plates, a violent blow, might cause the longest leaves of the spring to break, when the load would come down, and injurious consequences ensue, a result which in the ordinary buggy, would be, in a great degree obviated by the perch. To guard against all accidents from these causes, I have invented the improvement called by me a spring-guard, which I now desire to patent, and which consists in placing a strap of leather, or a chain or metal plate distinct from the spring plates, under the spring which, were the spring to break, would still be strong enough to support the weight upon it, and prevent injury or damage. The strap or chain or plate is fastened to the end of

the bent bar, at one end and to the axle or bolster as the case may be at the other.

In the accompanying drawing Figure 1 represents a half spring showing its attachment to the bent bar at A and the hind axle at D. Fig. 2 shows a piece of iron the width of the spring, say three inches, with two holes in it, one of which receives the bolt B by which it is made fast to the thick end of the spring, and the other hole is for the leather strap. Fig. 3 represents a smaller piece of iron which is made fast to the thin end of the spring above the axle by the bolts passing through the small holes there represented, the larger hole being for the strap. These two pieces of iron being fastened to the spring as here described, a strap of $2\frac{1}{2}$ inches wide is passed through the holes left for it, and hauled tight as shown in Fig. 1. Should the half spring break now, say at M, N, for instance, it would fall upon the strap, and be supported thereby, until the carriage could be stopped. If need be smaller straps or other fastenings, may be buckled around the half spring and safety guard, so as to prevent the spring, in breaking from slipping sideways off the strap. Where a chain of any description is used, it may be fastened to the irons under the ends of the spring in any convenient mode. In neither case whether leather strap or chains or metal plates are used would the elasticity of the springs be interfered with.

What I claim as new and desire to secure by Letters Patent is—

The combination of the spring with a guard arranged in relation to the spring, the body and the bolster or axle of the carriage, substantially as herein set forth.

THOS. WINANS.

In presence of—

WM. H. FINLAY,
OSMUN LATROBE.