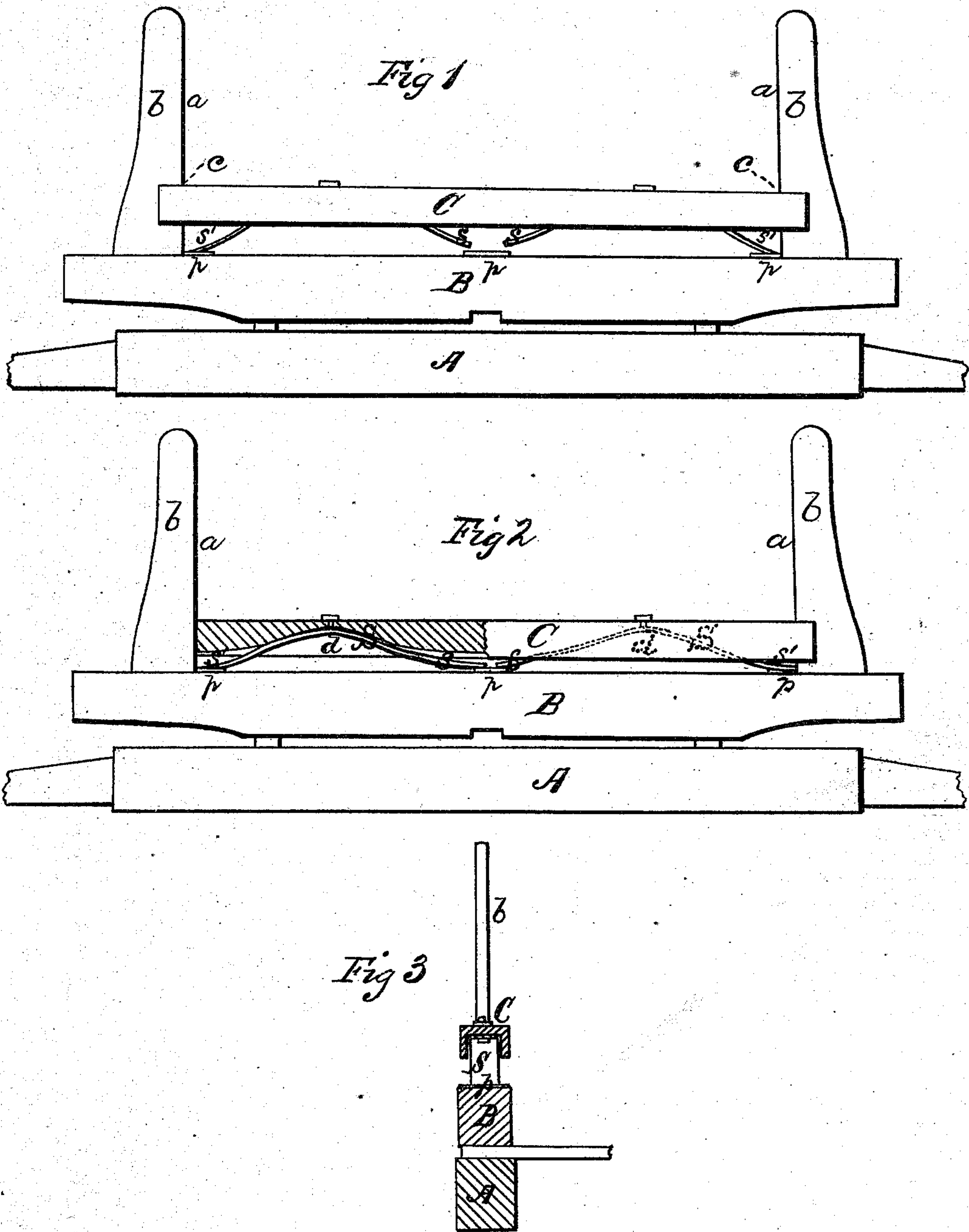


H. BUCK.
Spring-Bolsters for Vehicles.

No. 158,621.

Patented Jan. 12, 1875.



WITNESSES

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HENRY BUCK, OF POLO, ILLINOIS.

IMPROVEMENT IN SPRING-BOLSTERS FOR VEHICLES.

Specification forming part of Letters Patent No. **158,621**, dated January 12, 1875; application filed November 14, 1874.

To all whom it may concern:

Be it known that I, HENRY BUCK, of Polo, in the county of Ogle and State of Illinois, have invented a new and valuable Improvement in Spring-Bolsters; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a front elevation of my spring-bolster. Fig. 2 is a front elevation of the same, with section showing spring. Fig. 3 is a transverse sectional view of the same.

This invention has relation to spring-bolsters for vehicles, wherein the said springs are attached to a detachable bar, and bear against the bolster; and the nature of the invention consists in curved springs rigidly secured within a deep recess of the said detachable bar, whereby the wagon-body is raised but little above the bolster at the same time that an efficient spring-action is obtained. It also consists in curved springs, rigidly secured within such a recess, the inner arms of which are shorter than their outer arms, whereby the weight of a light load will be first received by the outer arms of the said springs, and, when increased, by the inner arms thereof, thereby increasing or diminishing their strength or power of resistance to downward pressure in accordance to the weight of the load, and obtaining under all circumstances an easy, comfortable, springing action therefor, as will be hereinafter more fully explained.

In the annexed drawings, A designates the axle of an ordinary farm-wagon, in connection with which I propose to show the application and general construction of my improved bolster-spring, and B is a bolster applied thereon in the usual well-known manner. This bolster is provided at each end with an upright stake or standard, *b*, the inner sides or faces *a* of which are vertical to the horizontal plane of the bolster, as shown in Fig. 1. C designates a detachable bar, which is applied upon the bolster B between the standards *b*, and is guided to move up and down in a horizontal plane by means of notches *c* cut into each of

its ends, within which the standards *b* are received. The lower surface of this detachable bar has two curved recesses, *d*, at each side of the center of its length, which are adapted to receive within them a curved metallic spring, S, which is rigidly held in place by means of a suitable bolt. The recesses *d* are continuous, and are designed to receive within them the whole of the springs S, so that when a wagon is very heavily loaded the bar C may be forced into close contact with the bolster, thereby lowering the wagon-body and lessening the chances of upsetting on an uneven road.

By an examination of Fig. 1 it will be readily seen that the inner arms *s* of the springs are shorter than the outer arms *s'* thereof, and that consequently when the bar C is put in position the ends only of the outer arms *s'* will bear against the bolster; hence, when a light load is in the wagon-body the spring-action will first be obtained from the arms *s'*, that of the inner arms being in reserve, and only brought into play when the resistance of the outer arms has been sufficiently overcome to bring the ends of the inner arms down upon the bolster. In this manner I have avoided the extremes of making the springs too rigid for a light load, and too flexible for a heavy one, bringing a re-enforcing-spring to bear when the resistance or action of the longer arm *s'* has been overcome, thereby securing at all times and under any circumstances a perfectly easy and effective spring-action.

With a view to preventing undue wear of the upper surface of the bolsters by the ends of the springs S, I have interposed metallic plates *p* between them, as shown in Fig. 1, the said plates being rigidly secured in any suitable manner to the bolster at that point against which the springs bear.

I am aware that a spring-bar carrying a concave curved plate and open guide has heretofore been employed in connection with a compound elliptic spring, formed of leaves, and a bolster provided with end guides and supports, and I therefore lay no claim to such invention.

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

1. The combination, with the detachable bar

C and the bolster, B, of the curved metallic springs S, substantially as specified.

2. The combination, with the bolster B, of the detachable bar C, having springs S, with short re-enforcing arms s and primary arms s', rigidly secured into the recesses d of the said bar, substantially as and for the purpose set forth.

3. The combination of the bar C, having recessed springs S of the bolster B, having plates p, substantially as specified.

4. The combination with the bar C, having notches c and curved springs S, of the guiding-standards b of bolster B, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

HENRY BUCK.

Witnesses:

ISAAC GRIM,

HENRY APLINGTON.