No. 610,841. Patented Sept. 13, 1898.

J. F. BOHLER.

BOLSTER SPRING.

(Application filed Feb. 8, 1898.)

(No Model.)

Fig. 1.

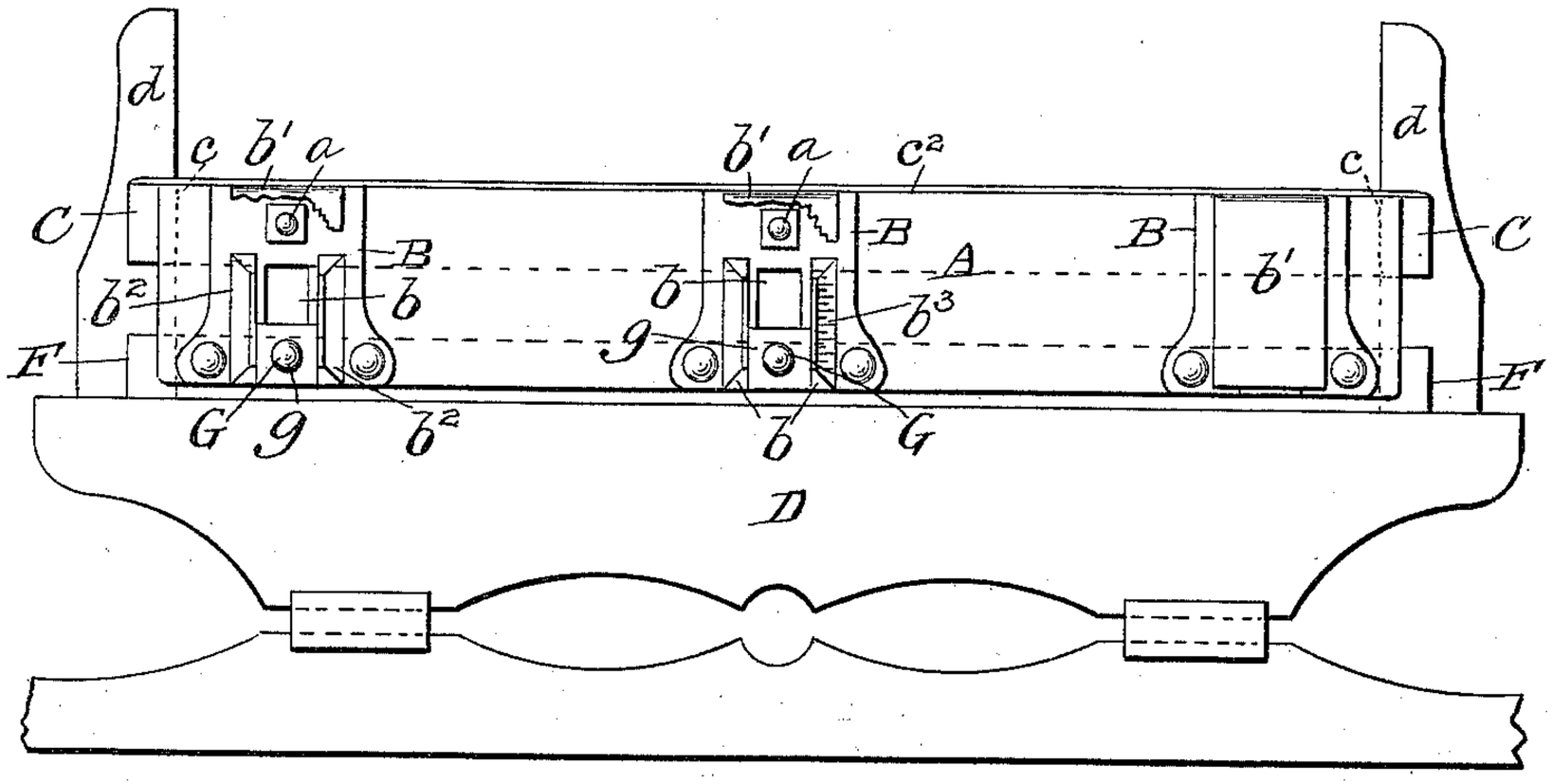


Fig. 2.

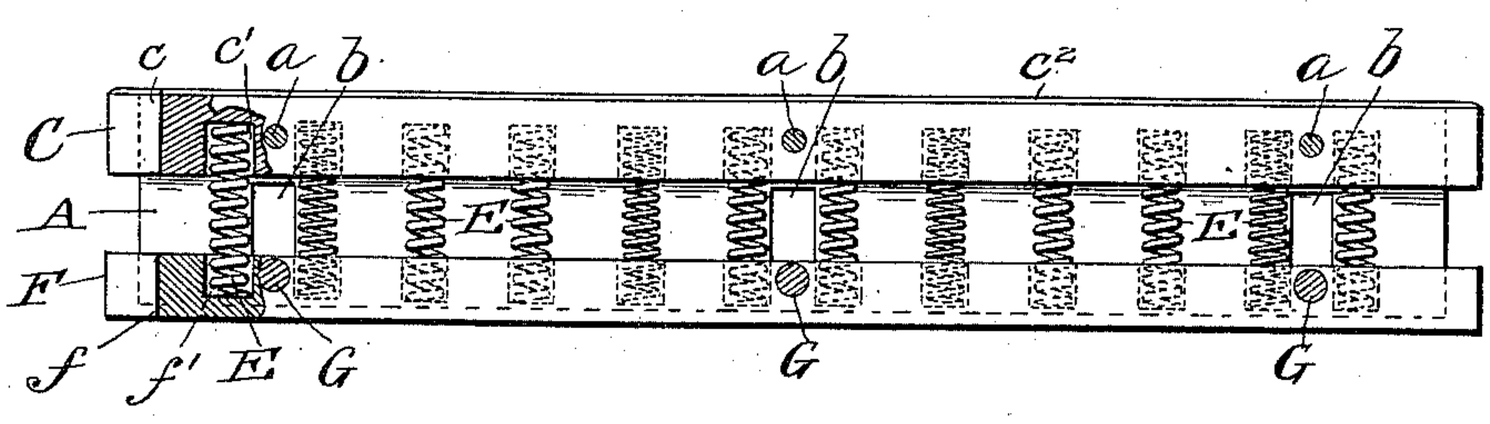
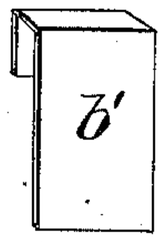


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN F. BOHLER, OF PANDORA, OHIO.

BOLSTER-SPRING.

SPECIFICATION forming part of Letters Patent No. 610,841, dated September 13, 1898.

Application filed February 8, 1898. Serial No. 669,514. (No model.)

To all whom it may concern:

Be it known I, JOHN F. BOHLER, a citizen of the United States, residing at Pandora, in the county of Putnam and State of Ohio, have invented certain new and useful Improvements in Bolster-Springs, of which the following is a specification.

My invention relates to improvements in bolster-springs, and has for one of its objects to provide shields against the constant wear of the bolt-heads sliding up and down the slots, said shields provided with guides for such bolt-heads.

Another object of my invention is to provide a more accurate and constant measure of weight in connection with such bolster-spring.

Another object of my invention is to provide means of compensating the strain upon the individual springs and so lengthen their life and usefulness.

Another object of my invention is to provide means of protecting the springs and interior of the bolster-spring case from dust, dirt, and wet entering through said slots.

These objects I accomplish in the manner and by the means hereinafter more fully described in detail, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which like reference-letters indicate like parts in all the figures.

Figure 1 is a side elevation of my invention in place on a bolster. Fig. 2 is a side elevation of same with side plate removed. Fig. 3 is a perspective view of one of the slot-covers.

My invention consists in substituting for the side plates in my bolster-spring for which Patent No. 239,082 was issued to me March 22, 1881, continuous plates A, of suitable material, preferably iron, and securing to each of said plates A shields B, of suitable material, preferably cast or malleable iron. The shields B are provided with slots *b* and are fixed on the plates A so that the slots *b* register with the slots in the plates A, these shields B being secured by means of rivets in the two lower corners and by the bolts *a*, which secure said plates A to the upper bar C of the bolster-spring. Between the upper end of said shields B and plates A is caught the top of flaps *b'*, of suitable material, preferably canvas or tin of suitable width and length to bend down and cover said slots *b*. Each shield B has on each side of the slot *b* and extending the length of said slot *b* a guide or shoulder b^2. On one guide or shoulder b^2 of the shield B, midway the plate A, is a graduated scale b^3, which will indicate the weight placed on said springs. The bar C has at each end a recess *c*, made to receive the standard *d*, rising from the end of the bolster D, and on its under side at intervals throughout its length two rows of sockets *c'* to receive the upper end of the coiled springs E. Covering the top of said bar C and properly secured thereto by screws or otherwise is a plate c^2, of suitable material, preferably sheet-iron. The plates A and the shields B are secured to said bar C in any suitable manner, preferably by bolts *a* passing through said plates A, shields B, and bar C and secured by nuts tightly screwed on their ends after the ends of the flaps *b'* have been inserted between the tops of the shields B and the plates A. The lower bar F has likewise a recess *f* at each end to receive the standard *d*, rising from the bolster D, and on its upper side sockets *f'*, adapted to register with the sockets *c'* in the bar C and to receive the lower end of the coiled springs E. Bolts G, after passing through the slots *b* in the shields B on one plate A, pass through or are otherwise secured to said bar F and then pass through the slots *b* in the shields B on the other plate A, nuts *g* being then secured on the ends of said bolts G. Before the bolts G are put in place coiled springs E of different size and length of wire and of different strength are placed between the bars C and F, their ends resting in the sockets *c'* and *f'*. Said springs E are arranged so as to furnish compensation for the strain on any one spring, and thus lengthen the life and usefulness of the whole. In the drawings the springs E are arranged with strong ones at each end, then one made of thinner longer wire, then two strong ones, another of thinner longer wire, and in the center two strong ones.

The operation of my invention is as follows: The spring is placed on the bolster D, the standards *d* in the recesses *c* and *f*, and the wagon-box placed on the top plate c^2. When the load is placed in the wagon or there is a

jolt or jar, the springs E will be compressed, causing the ends of the bolts G to move upward in the slots *b*, their heads and the nuts *g* moving between the guides b^2.

My improvement over the original invention consists in closing the openings originally left in the side plates and closing the slots *b* by the flaps *b'*, thus in a great measure shutting out the dust, dirt, and wet from the interior, and thereby protecting the springs E from rust and deterioration.

It further consists in strengthening the side plates A at the slots by affixing the shields B, which lengthen the life of the device, make it work easier, since those points are more rigid, and by means of the guides b^2 prevent the bolts G working loose, since the heads of the bolts G and the nuts *g* are prevented from turning.

A further improvement is putting the graduated scale b^3 on the middle shield B, so as to give a more accurate result, and another is the varying size and strength of the springs E, which prevent uniformity of strain, and therefore of damage.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a bolster-spring consisting of upper and lower bars with springs between, plates secured to the upper bar on either side and bolts secured to the lower bar and slidably arranged in slots in said plates, shields provided with slots adapted to register with the slots in said plates, said shields being firmly attached to said plates, substantially as shown and described.

2. In a bolster-spring consisting of upper and lower bars with springs between, plates secured to the upper bar on either side, bolts secured to the lower bar and slidably arranged in slots in said plates and shields attached to said plates, flaps of canvas secured between the tops of said shields and said plates, said flaps being of proper length and width to cover the slots in the shields, substantially as shown and described.

3. In a bolster-spring consisting of upper and lower bars with springs between, plates secured to the upper bar on either side and bolts secured to the lower bar and slidably arranged in slots in said plates, guides on either side of the said slots, said guides adapted to direct the head of the bolt, or nut, and prevent its turning, substantially as shown and described.

4. In a bolster-spring consisting of upper and lower bars with springs between, plates secured to the upper bar on either side and bolts secured to the lower bar and slidably arranged in slots in said plates, shields, provided with slots adapted to register with the slots in said plates, said shields having on either side said slots guides raised on the surfaces of the shields adapted to receive and direct the head of the bolt, or the nut, and prevent their turning, and said shields being firmly secured to said plates, substantially as shown and described.

5. In a bolster-spring consisting of upper and lower bars with springs between, plates secured to the upper bar on either side and bolts secured to the lower bar and slidably arranged in slots in said plates, shields provided with slots and guides secured to said plates, flaps secured between the tops of said shields and said plates, a graduated scale on the guide on one side the slot in the shield midway one of said plates, said scale adapted to measure the weight placed on said spring and coiled springs of varying size, elasticity and strength, arranged alternately, substantially as shown and described.

6. In a bolster-spring consisting of upper and lower bars with springs between, plates secured to the upper bar on either side and bolts secured to the lower bar and slidably arranged in slots in said plates, shields having slots adapted to register with the slots in said plates, said shields being securely attached to said plates, and flaps adapted to cover said slots, said flaps having their upper ends caught between the tops of said shields and said plates, substantially as shown and described.

In testimony whereof I hereto affix my signature in the presence of two witnesses.

JOHN F. BOHLER.

Witnesses:
ALBERT BURRY,
JOHN J. WELTY.