B. F. WELLS.
WAGON-SEAT SPRING.

No. 189,160. Patented April 3, 1877.

Fig: 1

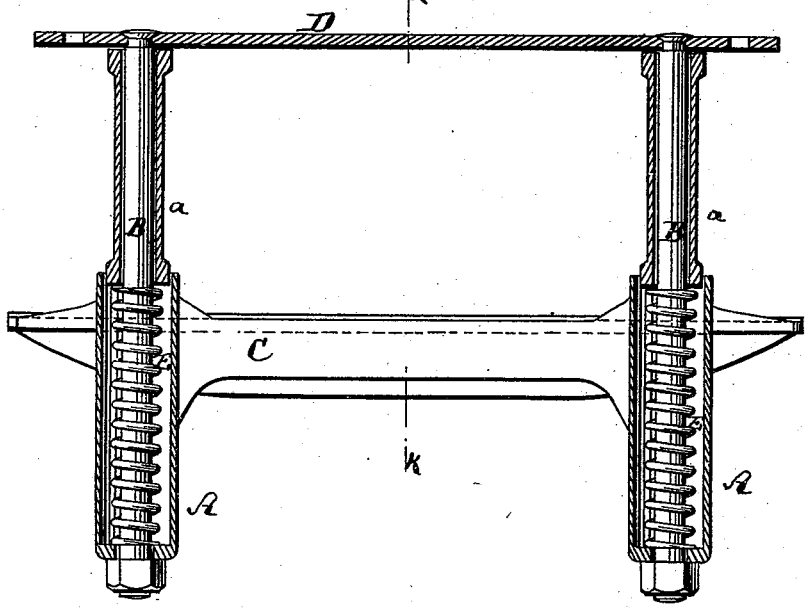


Fig: 2

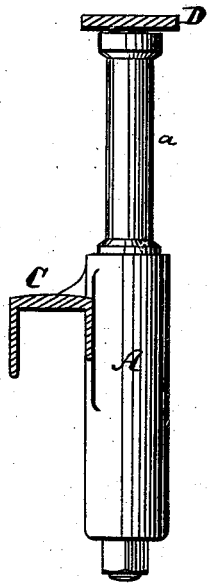
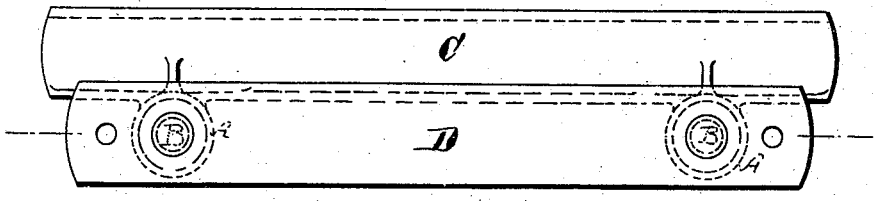


Fig: 3



Witnesses:

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Ernest L. Webb.

Inventor

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by his attorney

A. V. Briesen

UNITED STATES PATENT OFFICE.

BENJAMIN F. WELLS, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN WAGON-SEAT SPRINGS.

Specification forming part of Letters Patent No. **189,160**, dated April 3, 1877; application filed September 23, 1876.

To all whom it may concern:

Be it known that I, BENJAMIN F. WELLS, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Spring-Support for Wagon-Seats, of which the following is a specification:

Figure 1 is a longitudinal vertical section of my improved spring-support for wagon-seats. Fig. 2 is a vertical transverse section thereof on the line K K, Fig. 1. Fig. 3 is a top view of the same.

Similar letters of reference indicate corresponding parts in all the figures.

This invention has for its object to improve the wagon-seat support of the kind described in the Letters Patent No. 167,388, and such of analogous construction; and consists in the application of reversible tubular and loose heads to the vertical guide-pins of the seat-support, by which arrangement important advantages are secured.

In the drawing, the letter A represents a tubular guide-thimble; B, a guide-pin; C, the bracket or frame with which the thimble is connected, and D the bracket or frame with which the guide-pin is connected. E is the spring placed within the thimble around the pin B, and bearing against a head, *a*, formed on said pin.

The head *a* was heretofore rigidly affixed to the pin B, and when worn at the end by the spring it became useless, and rendered the pin B and plate D equally useless.

Now, my invention consists in making such head loose on the pin B, in form of a tube, so that the loose head may be reversed, or a different head used on the same pin. To effect this I make the head *a* of tubular form, so that it may be slipped upon the pin B, such pin being made of equal diameter throughout. The spring E will crowd and retain the head against the plate D. The head *a* is reversible, and should be reduced in diameter at its middle, and provided with enlarged ends, as shown. This construction reduces the friction-surface within the thimble A, and diminishes the weight of the head *a*, yet leaves it reversible. The head may, however, be made of different shape, if desired.

The principal advantages obtained by this construction of the head *a* are, first, that if, in course of time, the upper end of spring E should work a groove into the lower end of the head *a*, or if, by friction, the diameter of such part of the head is reduced, it is simply necessary to reverse the head, as the upper portion will have remained unaffected; or, if both ends of the head are worn, it may be entirely removed and a new head substituted. So, also, I am, by the use of the removable head, enabled to use heads of different length on the same pins, and adapt the device to different springs, or interpose washers between the upper end of the head and the plate D, if the seat is to be raised.

I claim as my invention—

The reversible tubular head *a* herein described, applied loosely to and combined with the pin B of a wagon-seat spring, substantially as and for the purpose specified

BENJAMIN F. WELLS.

Witnesses:

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