S. B. CONOVER.

Wagon-Seat.

No. 167,388. Patented Sept. 7, 1875.

Fig: 1

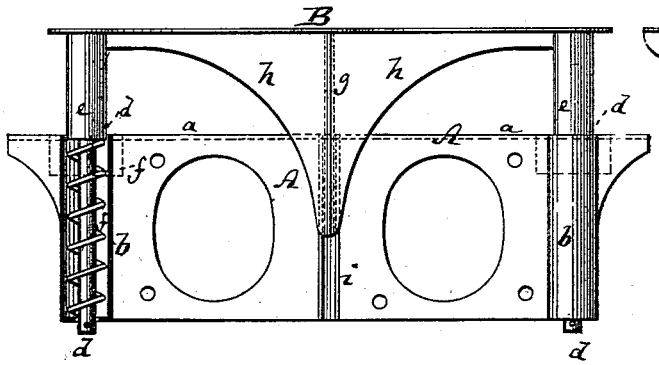


Fig: 2

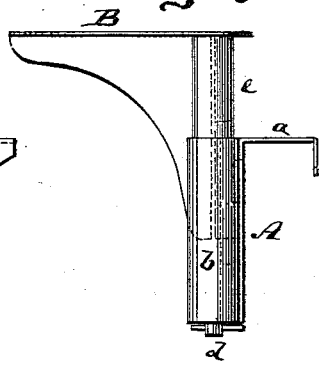
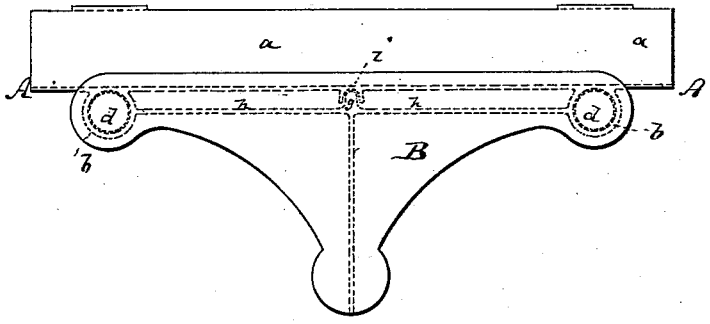


Fig: 3



Witnesses:

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UNITED STATES PATENT OFFICE.

STEPHEN B. CONOVER, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN WAGON-SEATS.

Specification forming part of Letters Patent No. **167,388**, dated September 7, 1875; application filed August 13, 1875.

To all whom it may concern:

Be it known that STEPHEN B. CONOVER, of Jersey city, in the county of Hudson and State of New Jersey, have invented a new and Improved Spring-Support for Wagon-Seats, of which the following is a specification:

Figure 1 is an inner face view, partly in section, of my improved spring-support for wagon-seats. Fig. 2 is a side view of the same; and Fig. 3 a top view of the same.

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

The object of this invention is to produce a spring-support for wagon-seats, which can be cheaply gotten up, and which will nevertheless be perfect in all its parts and in its operation.

As heretofore constructed the spring-supports were of two kinds, the first and oldest being adapted to elliptic springs, and the later styles to vertical spiral springs. The elliptic springs are not desirable on ordinary wood wagons, because they are liable to cause a jerking and violent motion of the seat, since they are not guarded against side or end motion. For the spiral springs, complicated and costly connections have heretofore invariably been used. Such spiral springs were always applied singly at each end of the seat.

Now, my invention consists, first, in constructing the supporting-frame with two vertical tubes that are partly closed at the bottom, and in combining therewith two vertical pins, having shoulders at their upper parts, which pins are cast in one piece with the plate to which the seat is fastened. My invention also consists in applying a guide-rib to the upper plate, and in forming a groove for the reception thereof on the face of the supporting-frame.

In the accompanying drawing, the letter A is a vertical plate, which is made with screw-holes, or with a top flange, *a*, or otherwise so constructed that it can be readily fastened to the side of a wagon. This plate is made in one piece, with two vertical tubes, *b*, which are open at their upper ends, but partly closed at their lower ends, as indicated in Fig. 1. The plate A, made in one piece with the tubes *b b*, I term the supporting-frame of the spring-support, because it is fastened to the wagon-body, and serves to support the other parts of the seat. B is a top plate, to which the end of the seat is fastened. This plate is made in one piece, or otherwise intimately connected with two vertical pins, *d d*, which are as far apart as the tubes *b b*, and which enter said tubes, as shown. Each pin *d* has an enlarged upper part or head, *e*. Into each tube *b* is placed a spiral spring, *f*, which embraces the smaller lower part of the pin *d*, and is lengthwise confined between the partly-closed lower end of the tube and the head *e* of the pin. The lowermost end of the pin *d* has a shoulder or other enlargement, whereby it is prevented from being raised entirely out of the tubes *b*.

By the construction or devices, as heretofore described, I am enabled to produce a seat-support much less expensive than those heretofore produced or devised, and one which, by having two guide-tubes, pins, and springs will have a much steadier motion, and require much lighter springs, than the ordinary spring-supports now in use. For relieving the pins *d* and tubes *b* of all unnecessary friction, I have formed a vertical guide-rib, *g*, on a pendent back plate, *h*, of the plate B, and have made the plate A with a vertical groove, *i*, into which the rib *g* enters, as shown more particularly by dotted lines in Fig. 3. By this rod and grooved guide the vertical motion of the plate B and seat is insured, and the actual working parts of the spring-support *b*, *d*, and *f* are relieved from all unnecessary strain.

It is evident that instead of forming the rib *g* on the plate B it may as well be formed on the plate A, in which case the groove *i* is formed on B, the effect being equal.

I claim as my invention—

1. The combination of the supporting-frame A, which is made in one piece with the two parallel tubes *b b* that are partly closed at

the bottom, with the top plate B made in one piece with the two pendent pins *d d*, having enlarged heads *e e*, and with the springs *f f*, all combined to operate substantially as herein shown and described.

2. The combination of the guide-rib *g* and guide-groove *i*, with the plate B, having the pins *d d*, and with the frame A, having the tubes *b b*, substantially as specified.

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