

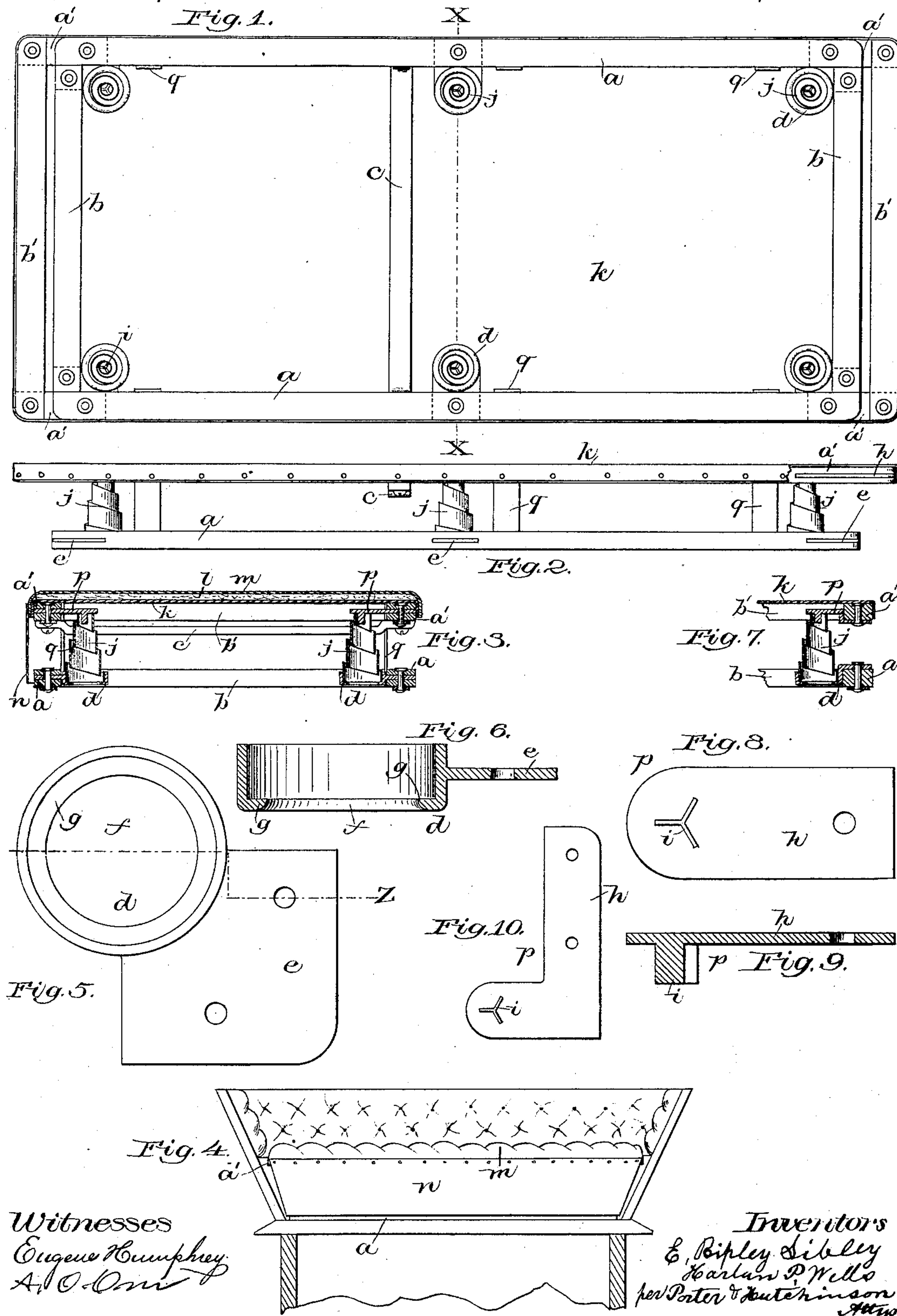
(No Model.)

E. R. SIBLEY & H. P. WELLS.

VENTILATED SPRING CUSHION FOR VEHICLES AND FURNITURE.

No. 333,557.

Patented Jan. 5, 1886.



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UNITED STATES PATENT OFFICE.

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VENTILATED SPRING-CUSHION FOR VEHICLES AND FURNITURE.

SPECIFICATION forming part of Letters Patent No. 333,557, dated January 5, 1886.

Application filed January 16, 1885. Serial No. 153,056. (No model.)

To all whom it may concern:

Be it known that we, E. RIPLEY SIBLEY and HARLAN P. WELLS, of Salisbury, in the county of Essex and State of Massachusetts, have
5 invented a new and useful Improvement in Ventilated Spring-Cushions for Vehicles and Furniture, which will, in connection with the accompanying drawings, be hereinafter fully described, and specifically defined in the ap-
10 pended claims.

This invention has for its object the production of a cushion for vehicles, furniture, and analogous uses, which shall be perfectly ventilated, and while flexible and yielding, yet
15 permanently retaining its form and elasticity; and it will, in connection with the accompanying drawings, be hereinafter fully described and claimed.

In said drawings, Figure 1 is an inverted
20 or under side plan view of a carriage-seat cushion embodying our invention. Fig. 2 is a front edge elevation of the same, shown as in its normal position. Fig. 3 is a central transverse vertical section, taken as on line *x*,
25 Figs. 1 and 2, and as looking to the left therein, the parts beyond said line being shown in elevation. Fig. 4 represents the cushion as in position for use in a carriage-seat. Fig. 5 is a detached plan view of one of the spring-
30 supporting sockets. Fig. 6 is a vertical section through said sockets taken as on offset line *Z*, Fig. 5. Fig. 7 is a vertical section, and viewed as from the left therein, and showing a modification in the spring-supporting irons. Fig. 8 is an under side plan view of one of the
35 upper supports of the springs at the center of the frame. Fig. 9 is a longitudinal vertical section through the same. Fig. 10 is a view similar to Fig. 8, but showing corner spring-
40 support.

In said views, *a a* represent the side bars of the lower frame, they being united at their ends with end bars, *b b*, thus forming a rectangular lower frame. Two side bars, *a' a'*, some-
45 what longer than bars *a*, are at their ends united with end bars, *b' b'*, thus forming a second or upper rectangular frame. Said bars *a* and *b* are at the respective corners of the lower frame secured together by means of
50 flanges *e* of the spring-sockets *d*, Fig. 5, which are inserted in slots or kerfs cut in said bars,

as shown in Figs. 2, 3, and by rivets that secure the several parts together. Said spring-sockets are formed with a circular vertical wall, having an internal flange, *g*, inside
55 which is a circular opening, *f*, for escape of water, which, when employed in open vehicles, might fall therein, the base of the volute springs *j* being, as shown, seated inside said circular wall and resting on said flange *g*, as
60 shown in Figs. 3 and 7. Said bars *a'* and *b'* are at the respective corners of the upper frame secured together by the flanges *h* of the top supports, *p*, of said springs, these flanges being
65 inserted and secured in slots or kerfs cut in said bars, in the same manner as are flanges *e* of sockets *d*, as above described. Upon the under side of said spring-supports *p* is formed
70 a "feather," *i*, to enter the axial opening in the top end of springs *j* and secure the same in position. When said spring-sockets *d* and
75 stays *p* are employed for springs, other than at the corners of the frame, the securing-flange is formed straight—that is, without an angle—as shown at *h*, Fig. 8, as it is only se-
80 cured to the side bar. The frames being thus secured at their respective angles, the volute springs *j* are seated in sockets *d* of the lower frame, and the feathers *i* of supports *p* of the
85 upper frame being seated in the axial passage in the springs, the two frames are then in proper relation, as shown in Figs. 1, 2, 3; and to so secure them the stay-straps *q*, of
90 leather, canvas, or other yielding material, are secured to the bars of the upper and lower frames, to slightly compress the springs, in order that when not in use the parts shall not
95 be disconnected. When thus assembled, a strong canvas covering, *k*, tightly stretched, is secured at its edges to the bars *a' b'* of the upper frame, to cover the same, and over this
100 may be laid the elastic filling *l*, of curled hair or other material, which is covered by cloth or leather *m*, and if employed in a vehicle a front curtain, *n*, is secured to the upper bar, *a'*, as shown. If the cushion be short, only the springs at the corners will be requisite; but for carriage seats of usual size a pair of intermediate springs, as shown in Figs. 1, 2, are necessary, the size of the cushion and
105 strength of the springs determining the number of the latter which should be employed.

Instead of inserting the flanges *e h* of the spring-supports in the bars, as shown, the same may be arranged as shown in Fig. 7, where flange *e* is above and flange *h* below the rails, yet without materially diminishing the scope of vertical play of the springs.

To prevent drawing together of bars *a'* by the action of canvas *k*, when weighted, a bar, *c*, is secured to said bars, and between them it is "dropped" to allow yielding of the cushion without contact with said bar.

In said drawings we have shown our cushion as adapted to a carriage-seat; but it may be with equal facility adapted to all kinds of upholstered furniture, and by reason of the unobstructed air-space between the upper and lower frames it is cool, cleanly, and well ventilated.

We are well aware of United States Letters Patent No. 179,257, dated June 27, 1876, and No. 94,179, dated August 31, 1869, and we claim nothing shown, described, or claimed therein, our invention differing therefrom in that while said earlier patent has an upper and lower frame with connecting flexible stays and a cushion, yet its springs are of the class termed "grasshopper" springs, while in the latter patent there are no vertical flexible stays, and the volute springs are steadied by rigid rods, which, when the springs are compressed, must project in the same degree beyond one or both of the frames.

We claim as our invention—

1. The combination of the upper and lower

frames, the spring-seating cup-like supports *d*, secured to the lower frame, the spring-steadying plates *p*, secured to the upper frame and formed with plate *h* and projection *i*, to enter the top of the spring, the volute springs *j*, and flexible stays *q*, all substantially as specified.

2. The combination of the upper and lower frames formed with bars *a b* and *a' b'*, respectively, the spring base-sockets *d*, and supports *p*, respectively secured to said frames, volute springs *j*, yielding stays *q*, covering *k*, and an overlying cushion, all substantially as specified.

3. The combination, with the volute springs and supporting-frame, of the metallic spring base-supports formed with flange *e*, adapted to secure together the side and end bars of the frame, and with a vertical circular rim to receive the base of the spring, a bottom, *g*, to support the spring, and an opening, *f*, for the escape of water therefrom, all substantially as specified.

4. The combination, with the volute springs and frame, of spring stay-plates *p*, formed with wing *h*, to be secured to the bars of the frame, and with projection *i*, to enter the axial passage in the spring to steady the same, substantially as specified.

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