

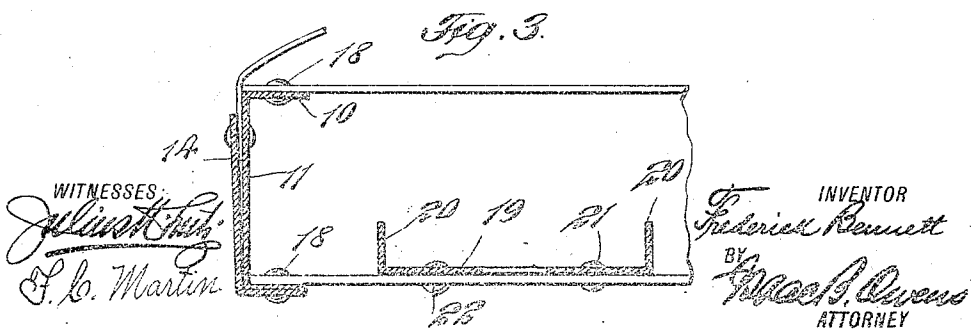
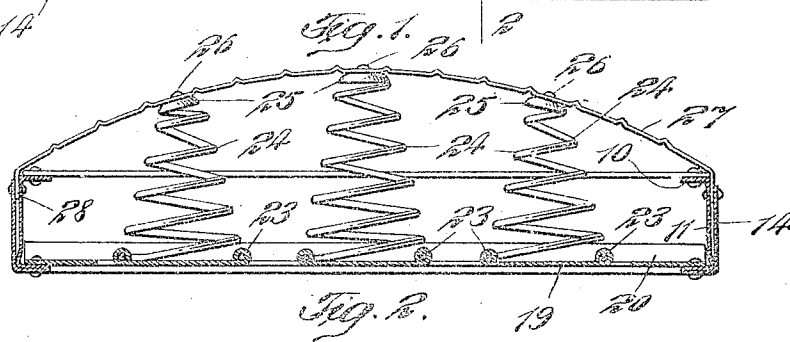
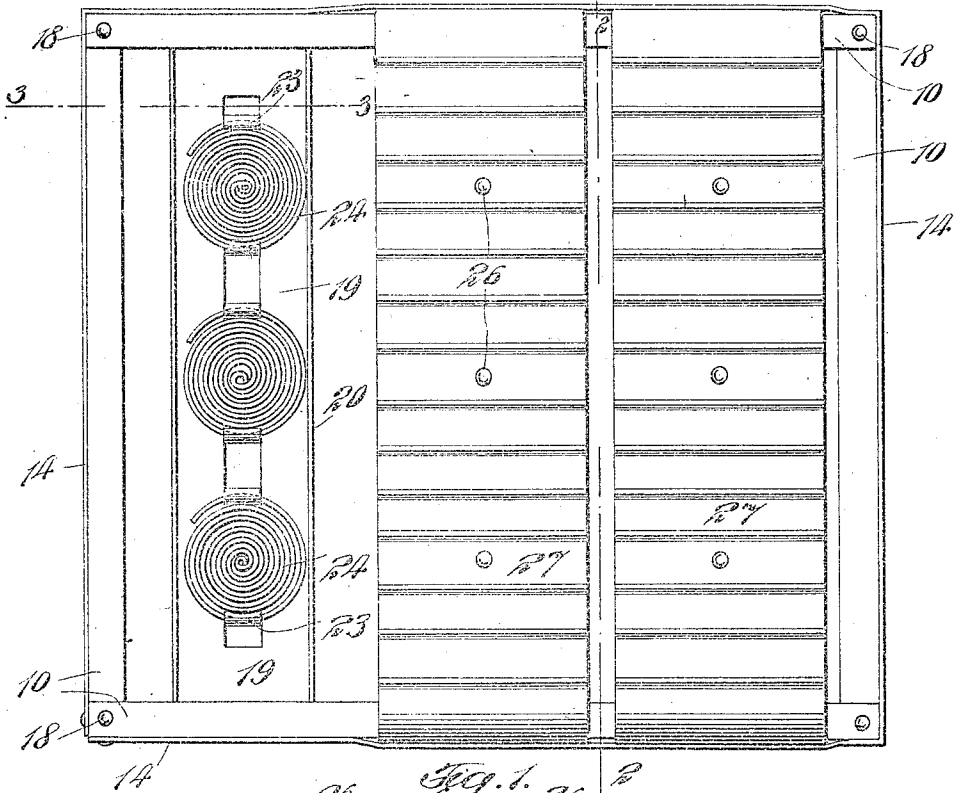
F. BENNETT.
CUSHION.

APPLICATION FILED MAR. 17, 1910.

Patented Apr. 22, 1913

1,059,704.

2 SHEETS—SHEET 1.



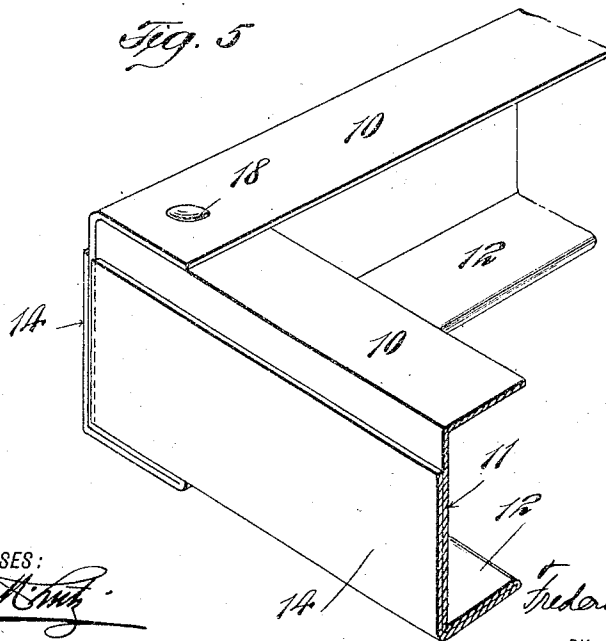
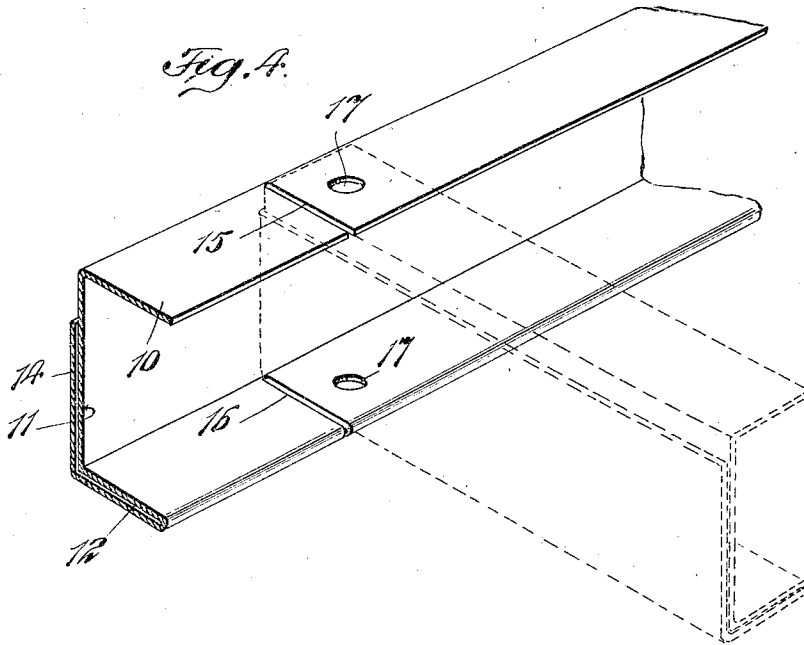
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2 SHEETS—SHEET 2.

1,059,704.



WITNESSES:

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INVENTOR

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UNITED STATES PATENT OFFICE.

FREDERICK BENNETT, OF RAVENSWOOD, NEW YORK, ASSIGNOR TO WALKER AND BENNETT MANUFACTURING COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

CUSHION.

1,059,704.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed March 17, 1910. Serial No. 550,016.

To all whom it may concern:

Be it known that I, FREDERICK BENNETT, of Ravenswood, county of Queens, State of New York, have invented certain new and useful Improvements in Cushions, of which the following is a full, clear, and exact specification, such as will enable others skilled in the art to which it appertains to make and use the same.

- 10 My invention relates to a cushion intended particularly for seats in cars and other public places and to that type of cushions in which a frame carries a number of springs over which flexible steel or iron sheets are arranged furnishing a flexible support for the covering of woven ratan or such other material as may be employed to cover the cushions.

- 20 The leading purpose of my invention is to construct such a cushion wholly of metal and in such a way that it will be cheap to manufacture and yet strong and light, and furnishing ample resiliency.

- 25 My invention involves other features of importance, all of which will be fully set forth hereinafter and particularly pointed out in the claims.

Reference is had to the accompanying drawings, which represent, as an example, 30 the preferred embodiment of my invention.

- Figure 1 is a plan view of the cushion with one of the flexible strips removed; Fig. 2 is a section on the line 2-2 of Fig. 1; Fig. 3 is a section on the line 3-3 of Fig. 3; 35 Fig. 4 is a detail perspective showing by broken lines the manner in which the frame is bent; and Fig. 5 is a detailed perspective showing the manner in which the ends of the metal strip are joined and fastened to each other also to form the frame.

- 40 The frame of the cushion is generally constructed square or rectangular and is made up in a peculiar manner of a sheet metal strip. This strip is folded or bent longitudinally to produce, a top flange 10, a vertical main web 11, a bottom flange 12 and a secondary vertical web 14. These parts are all formed of an integral sheet of metal by making the requisite folds therein. The webs 11 45 and 14 lie against each other and the flange 12 has a double thickness produced by bending the metal upon itself as shown in the drawings, and particularly in Fig. 4. This produces an extremely rigid structural form, 55 having the strength of channel or U-iron

reinforce by the double webs 11 and 14, which double webs serve a further function as will fully appear hereinafter.

The frame strip is formed in this manner, first in a straight length and is then bent 60 into square, rectangular or other form and its ends are abutted together and suitably fastened. To accomplish this, the flanges 10 and 12 of the frame strip at the points where the bends are to be formed are cut or slit 65 as indicated at 15 and 16 in Fig. 4, leaving the webs 11 and 14 intact. The webs 11 and 14 are then bent as indicated by the broken lines in Fig. 4 and the slit ends of the flanges 10 and 12 are caused to over-lap each 70 other. These over-lapping ends are then riveted together as indicated at 17, producing, it will be seen, an extremely rigid and strong corner. The extreme ends of the frame strip will then be abutted together at 75 right-angles to each other with the extremities of the flanges 10 and 12 overlapping. These over-lapping flanges are then riveted together as indicated at 18 in Fig. 5 permanently joining the ends of the frame strip 80 and making a rigid connection at this point. This construction of the frame, it will be perceived, results in an extremely rigid structure, sustained against vertical compression 85 strains by the webs 11 and 14 and against horizontal compression strains and all tendency to work and give or collapse by the flanges 10 and 12, which being riveted in the manner described have all the strength and rigidity of a solid casting. Further, my improved construction allows the frame to be 90 made of extremely light material, so that its weight will be little and the cost for labor and materials correspondingly low.

Extending against the frame and resting 95 on the bottom flange 12 thereof are spring supports 19. These spring supports are constructed of metal sheets with their edges turned up to form flanges 20 which strengthen the supports; and the ends of the 100 supports are firmly riveted to the flanges 12 as indicated at 22. Said spring supports have tongues 23 struck up from them and these are adapted to be bent over the bottom convolution of the spiral springs 24. As 105 here shown there are three spring supports 19 and three springs for each support. Said springs taper upward and are seated on the supports between the flanges 20. By means of the tongues 23, the springs are readily se- 110

cured and by a method which is cheap and effective.

At their upper ends the springs engage buttons 25 and these are fastened by rivets 26 to the flexible cushion strips 27. Of these strips there is one for each row of springs 24 and said strips are preferably transversely corrugated to give them flexibility, and also to furnish bearings for the ratan or other covering of the cushion. The resilient cushion strips 27 are thus supported by springs and the combined elasticity of such parts amply produce the necessary yield or give to the cushion. The cushion strips 27 extend across the top of the frame from one side to the other thereof parallel with the spring supports 19 and the ends of the cushion strips are bent downward as indicated at 28 and introduced between the upper edges of the webs 11 and 14. These ends 28 are then riveted by fastenings which pass through said ends and through both of the webs. To prevent the upper edge of the web 14 from projecting outward, owing to the insertion of the ends of the strips 27 and thus preventing a sharp edge, said web is shortened as the drawings show, the upper edge lying below the upper extremity of the web 11. It will therefore be seen that by providing the frame of the cushion with the double webs, I not only greatly increase the strength of the frame, but I provide a most secure and convenient means for holding the ends of the cushion strips. In short, the entire structure is made up of light sheet metal, which furnishes ample strength and at the same time enables the cushion to be constructed very readily and with little expense for both time and labor. All of the parts are bound firmly together by the connecting rivets and all of them constitute a rigid unit, having greater lightness, strength and cheapness than any cushion heretofore known.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States, is:

1. A cushion, the frame whereof is constructed of a single piece of sheet metal bent longitudinally to produce a channel or U-iron cross-sectional form, the web being vertical and the lower flange having a double thickness formed by bending the metal upon

itself and such metal extending from the base of the lower flange upward along the said web to form a secondary or auxiliary web, springs, means for supporting them on the frame and a cushion element extending over the springs.

2. A cushion, the frame whereof is constructed of a single piece of sheet metal bent longitudinally to produce a channel or U-iron cross-sectional form, the web being vertical and the lower flange having a double thickness formed by bending the metal upon itself, and such metal extending from the base of the lower flange upward along the said web to form a secondary or auxiliary web, springs, means for supporting them on the frame and a cushion element extending over the springs, said cushion element consisting in a strip, the ends of which are extended into the space between the first-named and secondary webs of the frame and fastened thereto.

3. A cushion, comprising a frame having vertical walls and inwardly-extending flanges constructed of a single piece of sheet metal, the lower flanges and vertical walls being reinforced by bending the metal back and upward upon itself, spring-supports seated upon the lower flanges, springs secured upon the supports, and a cushion element supported upon said springs and secured between the double vertical walls of the frame.

4. A cushion having a frame formed of sheet metal folded longitudinally to produce a channel with a vertical web and horizontal extending flanges, the metal forming one of said flanges being bent back upon itself to form said flange of double thickness and both of said flanges being cut transversely at a plurality of points at which points the web is bent to form the corners of the frame, causing the adjacent portions of the flanges to overlap one another, and means for securing together said overlapped portions.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK BENNETT.

Witnesses:

ISAAC B. OWENS,
F. C. MARTIN.