Aug. 6, 1935. A. M. BANK 2,010,578

CHAIR BOTTOM

Filed Feb. 3, 1934

Fig. 1

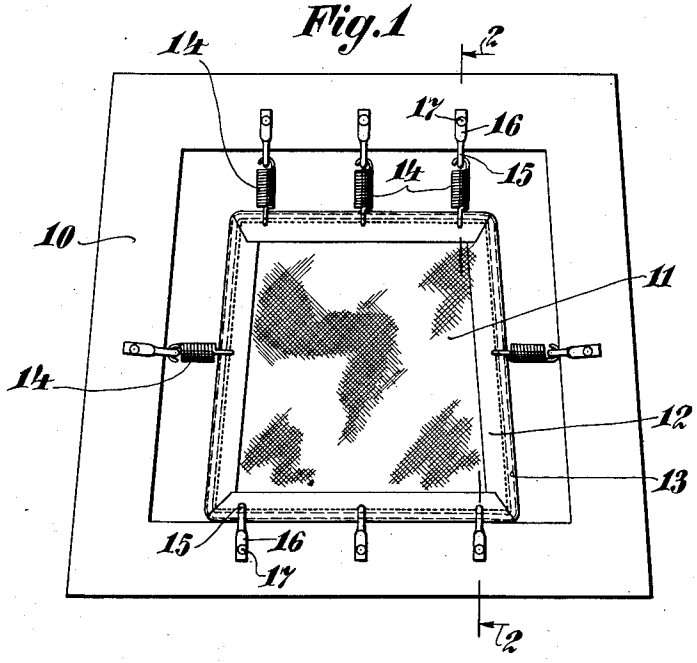


Fig. 2

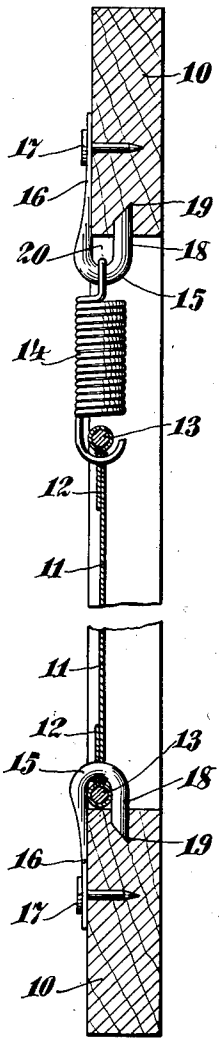


Fig. 3

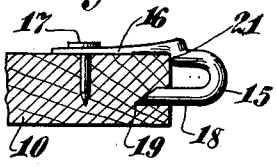


Fig. 4

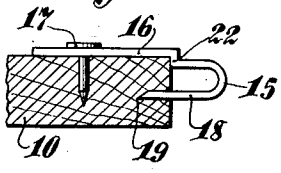
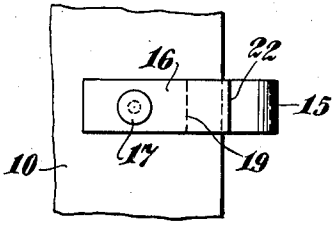


Fig. 5



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Patented Aug. 6, 1935 2,010,578

UNITED STATES PATENT OFFICE

2,010,578

CHAIR BOTTOM

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Application February 3, 1934, Serial No. 709,582

2 Claims. (Cl. 155—179)

The present invention relates to chair bottoms and embodies, more specifically, an improved chair bottom construction wherein the bottom member of the chair is secured to the bottom frame by means of helical springs in a new and improved manner. It is now common practice to construct chair bottoms of elements including a frame and a bottom member secured within the frame by means of helical springs which are suitably attached to the bottom member and frame. The bottom member preferably consists of a fabric which may be formed with a hem or fold within which a metallic bead or reinforcing member is provided. The bottom member is secured within the frame by helical springs which engage the bead or reinforcing member at the periphery of the bottom member and which are secured to the frame at their other ends in a suitable fashion.

It is with the securing means between the frame and the adjacent ends of the helical springs that the present invention is concerned and an object of the invention is to provide an improved chair bottom construction wherein the securing means between the bottom member and the frame is of such character as to facilitate the assembly of the elements.

A further object of the invention is to provide a construction of the above character wherein the securing means is so constructed as to be readily and inexpensively manufactured.

A further object of the invention is to provide a construction of the above character wherein the securing means is so constructed as to present comparatively little surface projecting above the plane of the bottom frame.

A further object of the invention is to provide a securing means of the above character which is adapted to be secured to the frame in such fashion that the stresses transmitted between the bottom member and frame are applied to the frame over a relatively extended bearing surface, thus greatly strengthening the connection.

A further object of the invention is to provide a securing mechanism of such character that the means for securing the helical spring to the frame may be readily applied to the frame, preferably by driving, the construction being such as to limit the extent to which the member may be driven into the frame and thus insure a uniform position of the securing member, as well as increase the effective bearing surface between the same and the frame.

Further objects of the invention will be readily apparent as it is described in further detail in connection with the accompanying drawing, wherein—

Figure 1 is a plan view of a chair bottom construction in accordance with the present invention.

Figure 2 is a view in section, taken on the broken line 2—2 of Figure 1, and looking in the direction of the arrows.

Figure 3 is a detail view in section, taken through a chair frame, and showing a modified form of securing member.

Figure 4 is a view similar to Figure 3, showing a further modified form of the invention.

Figure 5 is a segmental plan view showing the device of Figure 4.

With reference to Figures 1 and 2, a chair frame is shown at 10 and is adapted to receive within the same a bottom member 11, which may be of fabric and provided with a peripheral fold or pleat 12, within which a bead or reinforcing member 13 is received.

The bottom member 11 may be secured to the frame 10 by means of helical springs 14 and the front of the bottom member may be hingedly connected to the inner side of the front of the frame 10, as shown in Figures 1 and 2.

In order that the bottom member may be conveniently and effectively secured to the frame member, brackets 15 are provided. These brackets are formed with a relatively elongated arm 16, which may be apertured and secured to the top surface of the frame 10 by means of a nail or other device 17. It is preferred that the arm 16 be formed in such fashion that it will not project unnecessarily far above the top surface of the frame 10. Accordingly, when the bracket is formed of round stock, as shown in Figures 1 and 2, the arm 16 is flattened.

The bracket 15 is formed with a shorter arm 18 which is parallel to arm 16 and has a sharpened edge 19 which is adapted to be driven into the frame 10 from the inner side thereof. It is preferred that the taper of the sharpened portion slope away from the longer arm toward the end thereof, whereby when the shorter arm is driven into the frame, the taper pulls the longer arm against the upper surface of the frame to form an effective bearing surface thereagainst. The arm 18 is driven into the frame sufficiently far to form an effective anchorage and provide an eye 20, which is adapted to receive an end of an adjacent helical spring or the bead or reinforcing member 13.

As will be observed in Figure 2, the bracket or securing means 15, when properly positioned,

secures the bottom member 11 within and to the frame 10 in such manner that the bottom member lies wholly flush with or below the top surface of the frame 10. In this fashion the brackets and helical springs lie substantially flush with the top surface of the frame and do not constitute serious projections which, in time, destroy the serviceability of the chair. By means of the bracket formation, the bottom member is hingedly secured to the frame at the front thereof and thus permits free action of the bottom member, as constrained by the helical springs. By anchoring both ends of the bracket in the manner described, the stresses to which the bracket is subjected are distributed not only over an extended bearing surface upon the top of the frame 10, but are applied to the frame at the anchorage formed by the shorter arm 18.

A further advantage of the connection above described lies in the fact that the eye 20 is in a vertical plane, being defined by the inner curved surface of the bracket 15. Inasmuch as this curved surface is engaged by the adjacent curved surface formed upon the ends of the helical springs, and the bead or reinforcing member 13, the resulting contact between such relatively movable members provides a bearing surface over an extended curved line and thus tends to prevent bodily movement of the members with respect to each other. The result of the foregoing is that objectionable noises and rattle are eliminated.

In the construction shown in Figure 3, the bracket is formed of rounded stock, as illustrated in Figures 1 and 2, with the longer arm 16 flattened and an offset 21 formed therein to limit the extent to which the bracket may be driven into the frame. Not only does this offset limit such motion and provide eyes of uniform size regardless of the force with which the brackets are driven into the frame, but the offset portion further provides an additional fulcrum and bearing surface to transmit some of the stresses to the frame member and thus relieve the tension in adjacent portions of the bracket. Providing the offset further facilitates the effective counter-sinking of the springs and bottom member within the chair frame with the resulting advantages attendant thereto.

In the construction shown in Figures 4 and 5, the bracket is formed of flat stock and provided with the long and short arms 16 and 18, described in connection with the constructions shown in Figures 1, 2 and 3. The short arm 18 is also provided with the sharpened edge 19 to facilitate driving the same into the frame, and an offset 22 is formed therein, corresponding in character and function to the offset 21 which is formed in the bracket construction shown in Figure 3.

From the foregoing, it will be seen that the present invention provides an improved chair bottom construction having connecting means between the bottom member and frame including helical springs, the elements being effectively counter-sunk with respect to the top surface of the frame. Moreover, the connecting members or brackets may be conveniently and effectively secured to the frame by driving the same thereinto inasmuch as the arms thereof are substantially parallel and close together, the structure being such as to apply the stresses to the frame over an extended bearing surface, the brackets being anchored to the frame at a plurality of points to insure a strong and serviceable connection. The invention is further characterized by the provision of a connecting member which insures a uniform and desired eye size within which the ends of the helical springs may be secured, or within which the bead of the bottom member may be hinged. The resulting structure is such that no rattle or noise is produced by relative movement between the parts, and the structure is such as to be readily manufactured and assembled.

While the invention has been described with specific reference to the accompanying drawing, it is not to be limited, save as defined in the appended claims.

I claim as my invention:

1. As an article of manufacture adapted for use with frames, a bracket for securing bottom members to frames comprising an arm adapted to be secured to the upper surface of a frame by means entering the frame at right angles to the direction of pull exerted thereon, an arm adapted to be imbedded in the inner side of the frame and forming an eye with the first arm, the inner surface of the eye being curved in a vertical plane, and an offset in the first arm adapted to engage the corner of the frame, the end of the second arm being spaced from the offset and sharpened to facilitate driving the same into the frame.

2. As an article of manufacture, a bracket for securing bottom members to frames comprising an arm adapted to be secured to the upper surface of a frame, an arm adapted to be imbedded in the inner side of the frame and forming an eye with the first arm, the inner surface of the eye being curved in a vertical plane and an offset in the first arm adapted to engage the corner of the frame, the end of the second arm being spaced from the offset and sharpened to taper away from the first arm and toward the end thereof to facilitate driving the same into the frame whereby the first arm is forced against a frame when the second arm is driven thereinto.

ALBERT M. BANK.