

(Model.)

H. S. HALE.

SEAT.

No. 259,533.

Patented June 13, 1882.

Fig. 1

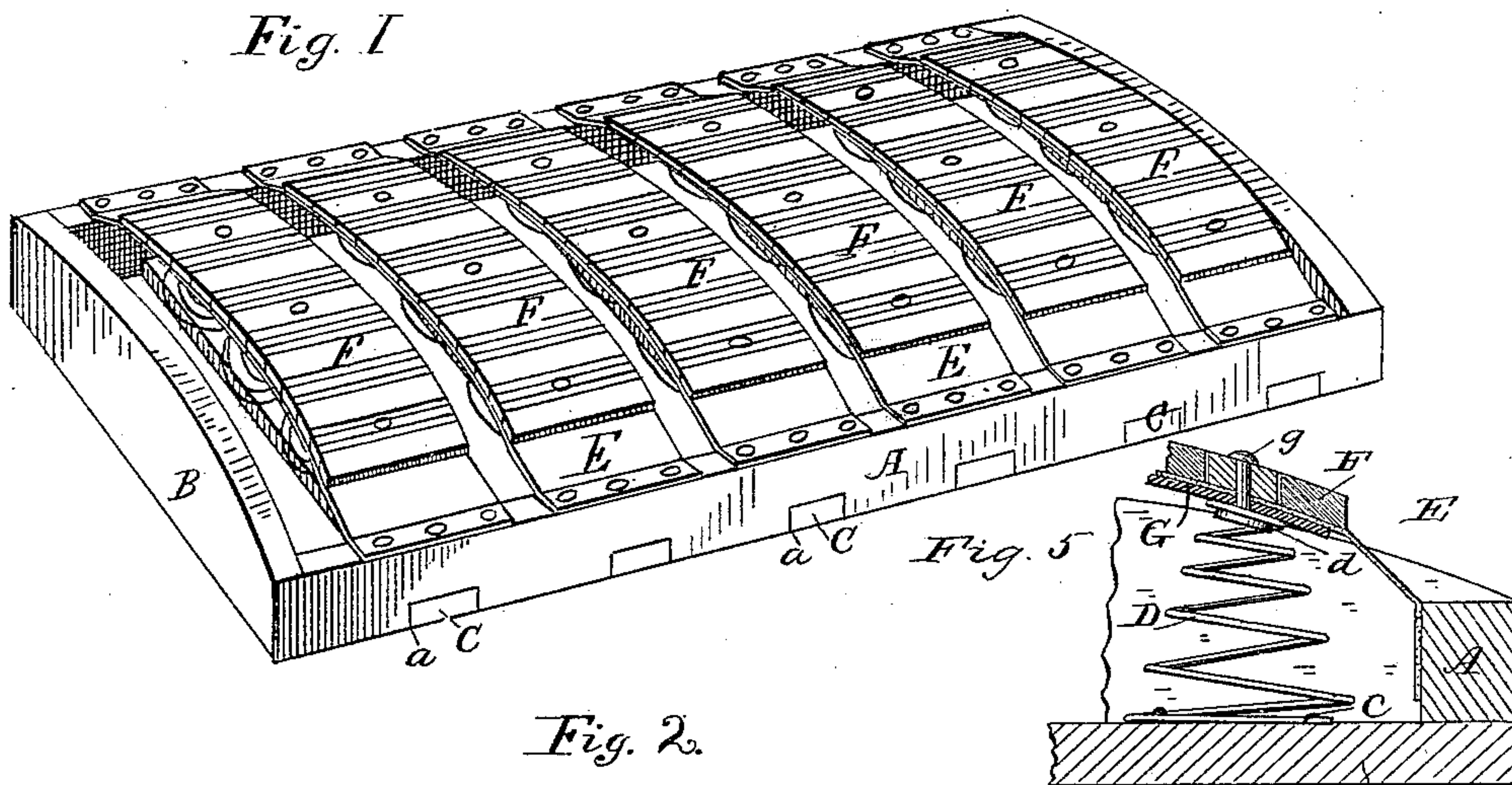


Fig. 2.

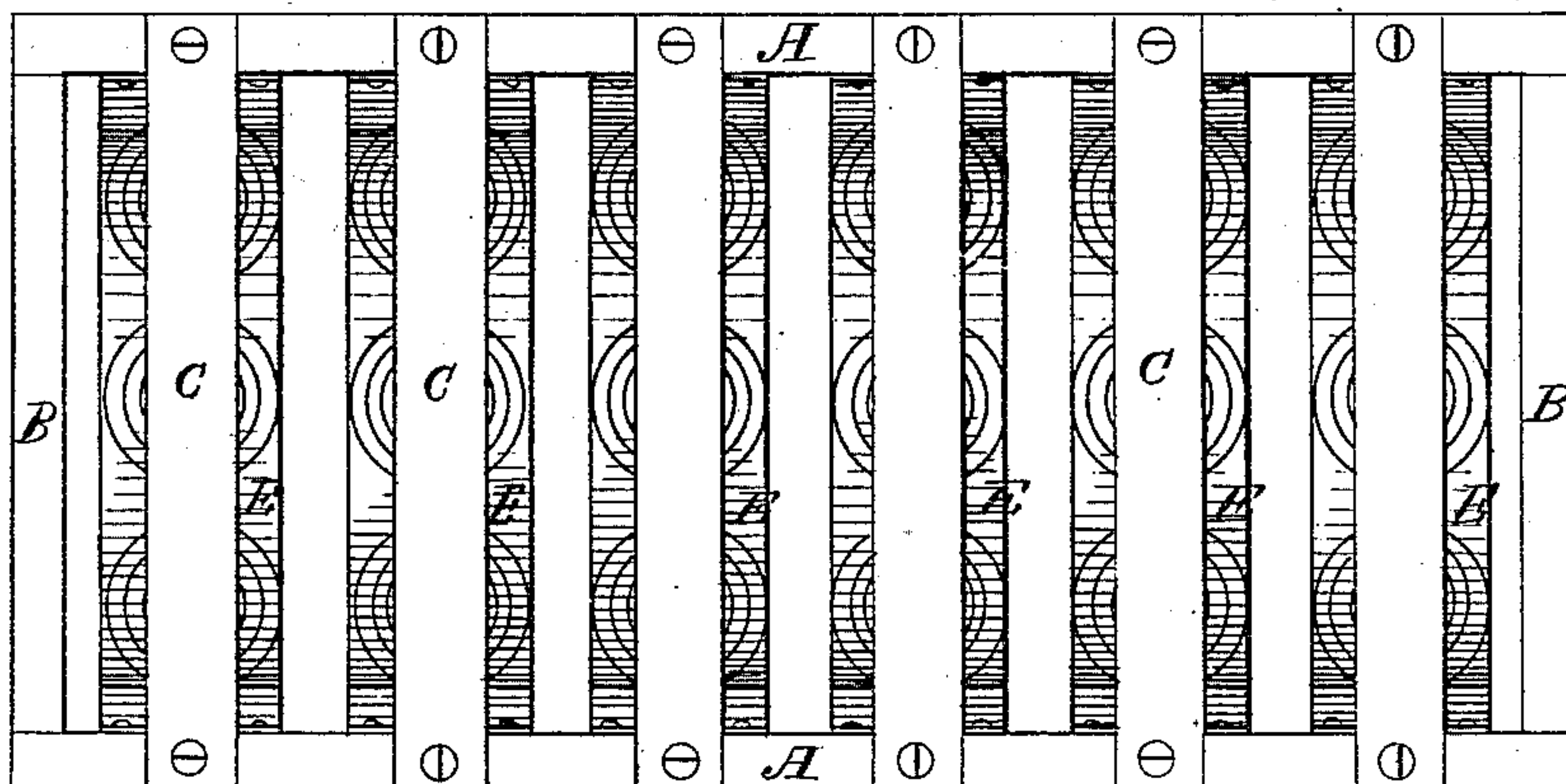


Fig. 3.

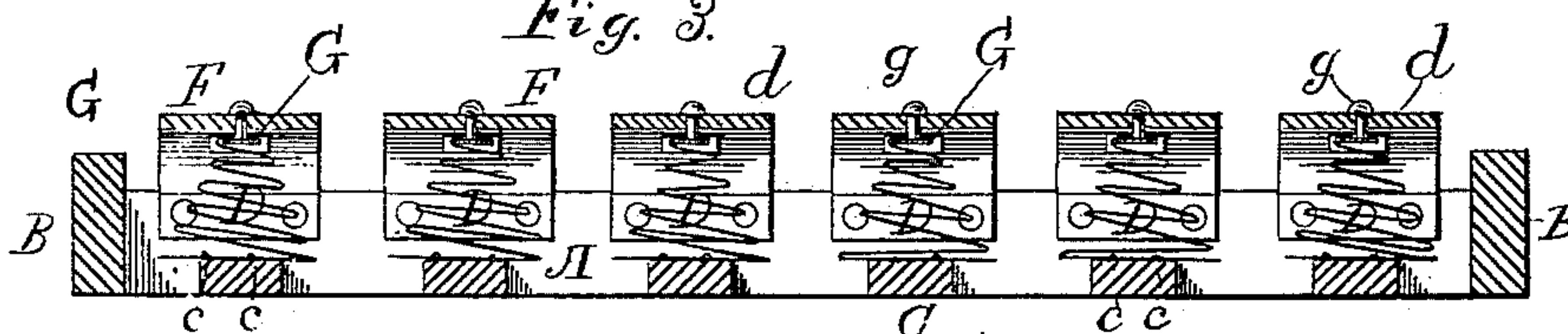
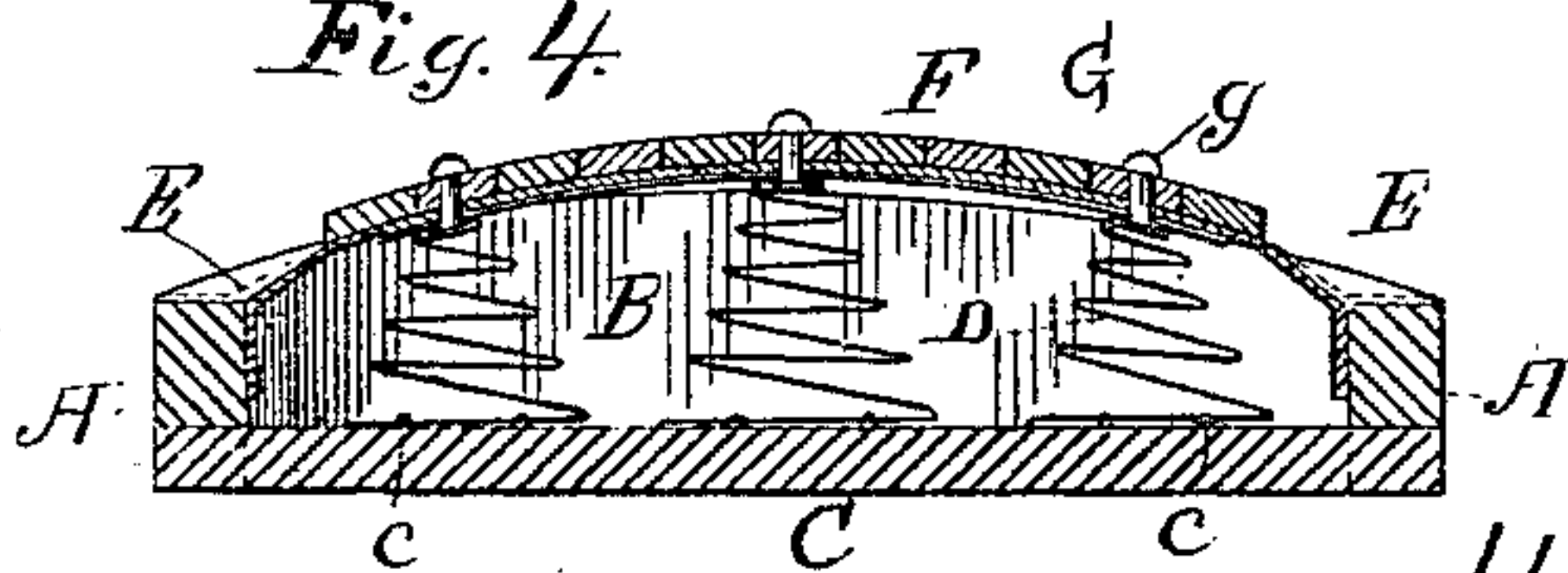


Fig. 4.



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SEAT.

SPECIFICATION forming part of Letters Patent No. 259,533, dated June 13, 1882.

Application filed January 3, 1882. (Model.)

To all whom it may concern:

Be it known that I, HENRY S. HALE, a citizen of the United States of America, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Seats; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective view of my improved seat. Fig. 2 is a bottom view. Fig. 3 is a longitudinal section; and Fig. 4 is a transverse section, showing also slight modifications. Fig. 5 is an enlarged view, showing a portion of the transverse section.

In the drawings, A A are the side rails, having mortises *a a* in their lower edges. B B are the end rails. These parts form a substantially rectangular frame.

C C are cross-bars, having their ends seated in the mortises *a a*, and secured firmly in place by screws or otherwise.

D D are the springs, preferably three for each of the cross-bars, the lower convolution of each of the springs being secured to its respective cross-bar by means of staples *e*, there being a cord or its equivalent interposed between the springs and the cross-bars, as is customary in seats of this general character.

E F G are flexible bands attached at their ends to the side rails, each band extending over the tops of three springs, the bands being arranged upon lines substantially parallel with the cross-bars C. Each of these bands is composed of three members—to wit, a flexible strap, E, preferably a woven fabric, the thin metallic strip G, preferably somewhat elastic, as well as flexible, arranged below a flexible strip, and transverse slats F, preferably of wood, arranged above the flexible strip and secured thereto by means of a suitable adhesive material. These wooden slats are placed in contact, and the several series of them extend across the seat. In applying these bands their ends may be either tacked to the inner faces of the side rails or secured thereto by

an adhesive material, as shown in full lines, Fig. 4; or, when preferred, the ends of these bands may be attached to the upper faces of the side rails, as indicated in dotted lines, same figure, and in full lines, Fig. 1. The springs D are attached to the bands by means of washers *d d* and rivets *g g*, whose heads are sunk into the slats F so as to be substantially even with their upper faces.

From an examination of the drawings and the above description it will be readily understood that the elastic plates or strips G G serve to support the transverse slats against downward thrust because of their extending over three of the springs D D, while at the same time their elasticity permits the central slats of each series to yield readily to the desired extent, and they also serve to support the fabric against the strain to which it is subjected. These metal plates also assist in keeping all the slats which are attached to one of the fabric bands in a substantially parallel plane, when, for instance, a person sits upon the adjacent ends of two series of slats, and thus save the woven fabric from the undue strain to which it would otherwise be subjected. Gluing the bars or slats to the cloth assists in preserving it (the cloth) from being torn by the corners of the metal plates, which would otherwise be likely to occur unless the slats and fabric were inverted in their position, which would be undesirable for some reasons.

I am aware that use has heretofore been made of several transverse rows of springs and a flexible fabric situated above all of the rows of springs and slats extending the full length of the frame above the springs, such construction being shown in my patent for bed-bottoms, No. 160,185, dated February 23, 1875; but the devices there shown are not of such nature as to provide a seat with several independent sections which can be pressed downward or rocked laterally independently of each other. To produce a seat of the character at which I aim, these characteristics are necessary. Moreover, I secure the several independent sections at their ends to the main frame in a manner not shown in said patent—viz., by extending the flexible woven fabric beyond the spring-sections and carrying them downward and securing them detachably to the main frame.

When preferred, the flexible fabric bands may be attached to the inner faces of the side pieces, A A, whereby the removal of any one of the bands and its attached slats and springs will be facilitated, as the tacks employed for securing the ends of the bands to the side pieces may be easily removed; or, if the ends of the bands are glued to the side pieces, the fabric may be cut near the upper edges of the side bars; or when these bands are secured to the upper edges of the side rails, and it is desired to remove one of them and replace it, the fabric may be cut and new material replaced and secured by having its ends glued or tacked to the inner faces of the side rails, as indicated in Fig. 4, without disturbing the upholstery.

The riveting of the springs to the slats and metal plates can be easily accomplished by turning the cross-bars C at a slight angle to the position in which they were shown in the drawings.

The unperforated slats above the metallic spring-band are prevented from lateral or vertical displacement relatively to the spring-band, and are securely held in proper position upon it.

It will also be seen that each of the cross-bars, with its attached springs, flexible fabric, transverse slats, and metal plate, constitutes a removable section adapted to be detached and replaced without disturbing either of the other sections or the upholstery, thus facilitating the repair of the seat in case of breakage of one of the springs or failure of any of the other parts thereof. This feature is very desirable, from the fact that these removable sections are interchangeable, and may therefore be manufactured and sold separately, whereby the user of the seat is enabled to replace broken or worn-out portions at very slight cost.

By arranging the wooden slats F as shown—that is, in a continuous series across the seat—a wooden surface is formed which, though substantially continuous, and therefore effective in preventing the wear and strain to the fabric below, is nevertheless flexible. The slats of one series across the seat are entirely disengaged longitudinally from the slats of the adjacent series. Therefore these slats do not interfere with the yielding of any series of springs, the several series of the springs being entirely independent of each other.

In the construction of seats and bed-bottoms heretofore it has been customary to tie together the several transverse series of springs by means of wooden strips extended longitudinally. The object which I aim at in the construction of the seats of the character shown cannot be as well attained by connecting the series by longitudinal bars. Therefore, although retaining the slats for the advantages pertaining to them, I obviate the lessening of the elasticity of the springs which results from tying several series together.

I do not claim herein any of the patentable

features which I have shown or described except those specifically set forth in the claims hereof, preferring to claim all other patentable features in another application which I have filed.

What I claim is—

1. In a seat having a main frame, the combination of the following elements, viz: several independent spring-sections arranged transversely across the seat, several flexible bands of fibrous fabric respectively extended entirely across the top of the spring-sections and supported independently of each other, and wooden slats arranged in several independent transverse rows, which are respectively attached to the flexible bands, substantially as set forth.

2. In a seat having a main frame, the combination of the following elements, viz: several independent spring-sections arranged transversely across the seat, several flexible metallic bands respectively secured to the tops of the spring-sections, several flexible bands of fibrous fabric respectively extended independently of each other across and beyond the tops of the spring-sections and fastened to the sides of the main frame, and wooden slats arranged in several independent rows which are transverse to the seat, the slats being transverse to the metallic bands, substantially as set forth.

3. In a seat having a main frame, a series of removable spring-sections, each section having two or more springs, a separate band of flexible fibrous fabric extending over and secured to the tops of the springs of the series and adapted to have its ends secured independently of the other bands to the inside of the main frame, a series of wooden slats above the flexible fibrous fabric, and a removable bar below the series of springs attached to the lower side of the main frame, whereby the sections are removable downwardly independently of each other, substantially as set forth.

4. In a seat, two or more spring-sections, each formed of a single row of springs, a series of wooden slats supported by said single row of springs independently of the springs of the other sections and situated transversely to the row of springs below it, and intermediate connecting devices which secure said series of wooden slats to the springs below it, substantially as set forth.

5. A spring-section composed of a row of springs, a metallic spring-band supported wholly by said row of springs, a series of slats arranged contiguously to each other transversely to the metallic spring-band, fastening devices which pass through some of the slats and the metallic band, and means for holding the unperforated slats to prevent them from lateral or vertical displacement relatively to the spring-band, substantially as set forth.

6. A spring-section composed of a row of springs, a supporting-bar below them, a metallic spring-band across the tops of the springs,

wooden slats supported entirely upon said row
of springs and metallic band, and arranged
contiguously to each other, and flexible con-
necting devices situated outside of the series
5 of slats adapted to be fastened to the frame
for steadying the upper portion of the spring-
section, substantially as set forth.

In testimony whereof I affix my signature in
presence of two witnesses.

HENRY S. HALE.

Witnesses:

CHAS. H. OTTERSON,
E. R. BOULBY.