W. W. MAUGHLIN.

Bed-Bottom.

No. 207,758. Patented Sept. 3, 1878.

FIG. I.

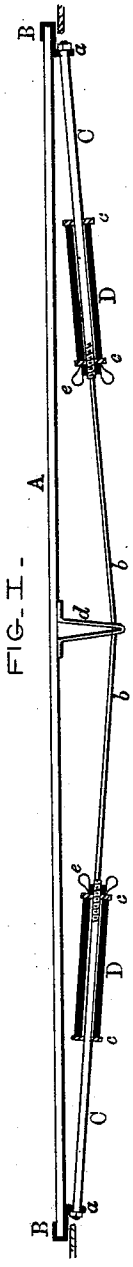


FIG. II.

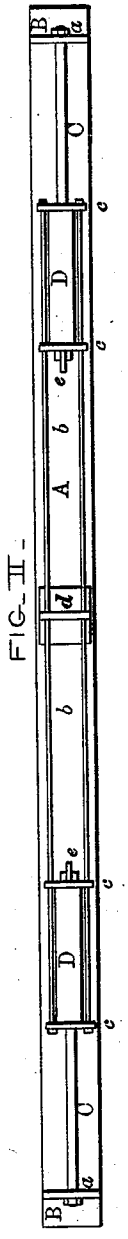
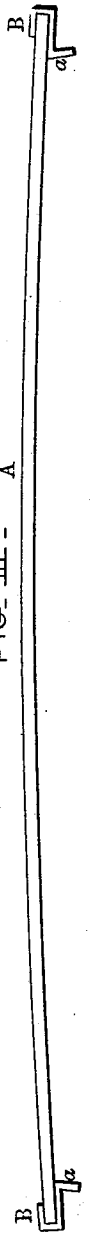


FIG. III.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM W. MAUGHLIN, OF BALTIMORE, MARYLAND, ASSIGNOR TO REBECCA A. MAUGHLIN, OF SAME PLACE.

IMPROVEMENT IN BED-BOTTOMS.

Specification forming part of Letters Patent No. **207,758**, dated September 3, 1878; application filed May 7, 1878.

To all whom it may concern:

Be it known that I, WILLIAM W. MAUGHLIN, of the city of Baltimore and State of Maryland, have invented certain Improvements in Springs, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to a novel method of strengthening and increasing the flexibility of a strip or board, whereby the same is adapted as a spring to be used in the construction of bed-bottoms, and for a variety of other purposes too numerous to mention; and the invention consists in applying to one side of a flexible strip or board a system of elastic extensible rods, forming practically a single elastic supporting device, which is elongated as the flexible strip or board is deflected from a straight line, or from any shape or form which it may assume when not weighted or in use.

In the further description of my invention which follows, reference is made to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is an edge view, partly in section, of the improved spring. Fig. 2 is a view of the under side of the invention, and Fig. 3 is an edge view of a part of the same.

Similar letters of reference indicate similar parts of the invention in all the views.

A is a flexible strip, preferably of wood, supported at its ends, and B B are plates which overlap the ends of the strip A, provided with lugs *a*, to which the flexible supporting device is attached.

The extensible supporting device consists of the following-described parts or elements: Single rods O, secured to the lugs *a*, are connected by means of double rods *b b* and india-rubber or spiral-wire springs D, which springs are compressed between cross-heads *c* as the rods are practically lengthened in the deflection of the strip or board.

The means whereby the movement of the strip or board in its deflection is communicated to the center of the system of supporting-rods is the standard *d*, projecting from the under side of the strip or board, as shown.

The rods are adjusted in length through the medium of thumb-nuts *e*, screwed on the single rods; but any other adjusting devices may be employed without affecting the nature of the invention.

In the invention illustrated in Figs. 1 and 2, the stretching or extension of the supporting-rods is modified or reduced somewhat by the practical shortening of the strip in its deflection; but this may be obviated and less rigid springs used by giving the strip a permanent set or curve, as shown in Fig. 3 of the drawings. It will be understood that in this latter design the ends of the strip are extended instead of contracted as the deflection of the strip takes place; but this extension is effected only until the center of the said strip has passed below a straight line drawn between its ends. In very long strips two or more standards may be used with advantage.

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

The flexible strip A, clasped at each end by a plate, B, and provided with the standard *d*, combined with rods secured at *a*, intermediate rods, and adjustable springs, substantially as specified.

In testimony whereof I have hereunto subscribed my name this 22d day of March, in the year of our Lord 1878.

WILLIAM W. MAUGHLIN.

Witnesses:
HUGH A. MAUGHLIN,
JOHN T. FARLOW.