H. K. SANDELL.

CABINET TOP LIFTING DEVICE.

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Fig. 1.

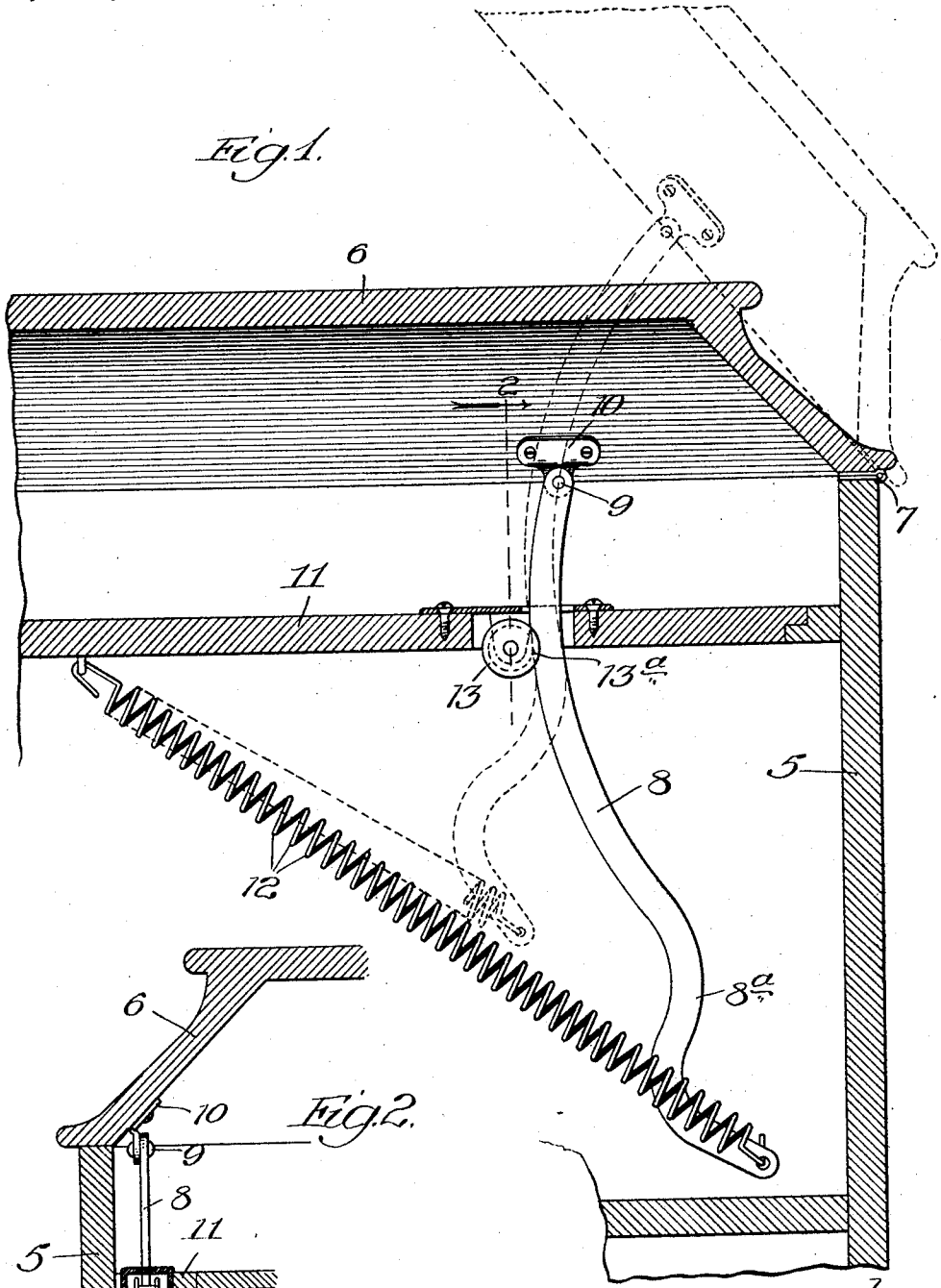


Fig. 2.

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CABINET-TOP-LIFTING DEVICE.

1,357,655. Specification of Letters Patent. Patented Nov. 2, 1920.

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To all whom it may concern:

Be it known that I, HENRY K. SANDELL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Cabinet-Top-Lifting Devices, of which the following is a specification.

The present invention relates to a cabinet top retaining and lifting device and is illustrated in the accompanying drawings as applied in one embodiment to a cabinet for a talking machine.

In the drawings—

Figure 1 is a broken sectional view of a cabinet and top, the top retaining and lifting device being shown in elevation, and

Fig. 2 is a broken sectional view on the line 2 of Fig. 1, viewed in the direction of the arrow.

Numeral 5 indicates the body of a cabinet, to which is secured top 6 by means of suitable hinges 7. A curved link 8 is pivotally attached at 9 to a plate 10 secured to the top, and depends through an opening in the cover 11 of the cabinet into the latter. A coiled spring 12 secured to the wall of the cabinet in front of the link 8 is attached to the free end of the link and draws the latter forward into movable engagement with the fulcrum 13, which is shown as a roller journaled slightly below the cover of the cabinet.

The link 8 is so curved that the pivot point 9 and part of the link below fulcrum 13 are between the vertical line through the fulcrum point 13^a (point of engagement) and the vertical line through the hinge 7. The pivot point is so placed upon the top 6 with reference to the hinge point 7 that its line of movement (the link 8 being regarded as momentarily stationary) passes below the hinge point 7 when the top 6 approaches or is in its closed position. It is preferably on a horizontal line with hinge point 7 when the top is closed. As a result of this arrangement, in closing the top, when the latter reaches a position such that the momentary line of movement of point 9 is below point 7 (lever 8 being regarded as momentarily freely movable upon fulcrum point 13^a), the force exerted by spring 12 tends to close the top and when the top is closed, the same force tends to retain it closed.

By reason of the slight rearward curvature of the portion of the link 8 below point 13^a (the top being in closed position) when the top is raised somewhat so that the line of movement of point 9 (determined as above described) passes above point 7, the force of spring 12 exerts a lifting action upon the top and the latter is lifted thereby. Near its lower end the link 8 is curved forward (at 8^a), this forward curve acting as a stop in the upward movement of the top.

In operation, the top of the cabinet being closed, it is lifted manually until the lifting action of the spring is manifested, from which point the top opens automatically until stopped by the forward bend 8^a of the link. It is retained in the open or lifted position by the spring. To close the top, it is pushed down manually until near the closed position, being thereupon pulled down and retained in the closed position by the action of the spring.

I claim:—

1. In combination, a cabinet, a top hingedly secured thereto, a depending link pivotally secured to the top, a fixed fulcrum movably engaged by said link, and means for exerting a force upon the free end of the link, the pivot point and fulcrum of the link being so arranged with respect to the hinge for the top that the force exerted at said pivot point is downward and thereby tends to retain the top in closed position when the top is in or substantially near the closed position, and the force exerted at said pivot point tends to raise the top when the latter is raised from the closed position.

2. In combination, a cabinet, a top hingedly secured thereto, a depending link pivotally secured to the top, a fixed fulcrum on the cabinet movably engaged by said link, and means for exerting a forwardly directed force upon the free end of the link, the portion of the link above the fulcrum point being rearwardly inclined and the pivot point with the top closed being so positioned that the momentary line of movement of the pivot point passes below the hinge point of the top.

3. In combination, a cabinet, a top hingedly secured thereto, a depending link pivotally secured to the top, a fixed fulcrum on the cabinet movably engaged by the link, and means for exerting a forwardly directed force upon the free end of the link, the position of the link above the fulcrum point being rearwardly inclined and the pivot point with the top closed being positioned in hori-

zontal alinement with the hinge point of the top.

4. In combination, a cabinet, a top hingedly secured thereto, a depending link pivotally secured to the top, a fixed fulcrum on the cabinet movably engaged by the link, and means for exerting a forwardly directed force upon the free end of the link, the lower portion of the link being rearwardly inclined whereby after an initial upward movement of the top the force acting upon the link tends to lift the top.

5. In combination, a cabinet, a top hingedly secured thereto, a depending link pivotally secured to the top, a fixed fulcrum on the cabinet movably engaged by the link, and means for exerting a forwardly directed force upon the free end of the link, the lower portion of the link being rearwardly inclined whereby after an initial upward movement of the top the force acting upon the link tends to lift the top, and said lower portion being further provided near its end with a forward bend whereby the lifting of the top is stopped.

6. In combination, a cabinet, a top hingedly secured thereto, a depending link pivotally secured to the top, roller journaled on the cabinet and engaged by the link and a spring secured to the free end of the link and exerting a forwardly directed force thereupon, the portion of the link above the fulcrum point being rearwardly inclined when the top is closed and the pivot point then being horizontally alined with the hinge point of the top, and the lower portion of the link being rearwardly inclined whereby after initial movement of the top the force acting upon the link tends to lift the top, said lower portion being provided near its end with a forward bend whereby the lifting of the top is stopped.

HENRY K. SANDELL.