(No Model.) 2 Sheets—Sheet 1.

J. A. WESER.

MUSIC RACK FOR MUSICAL INSTRUMENT CASES.

No. 560,248. Patented May 19, 1896.

FIG. 1.

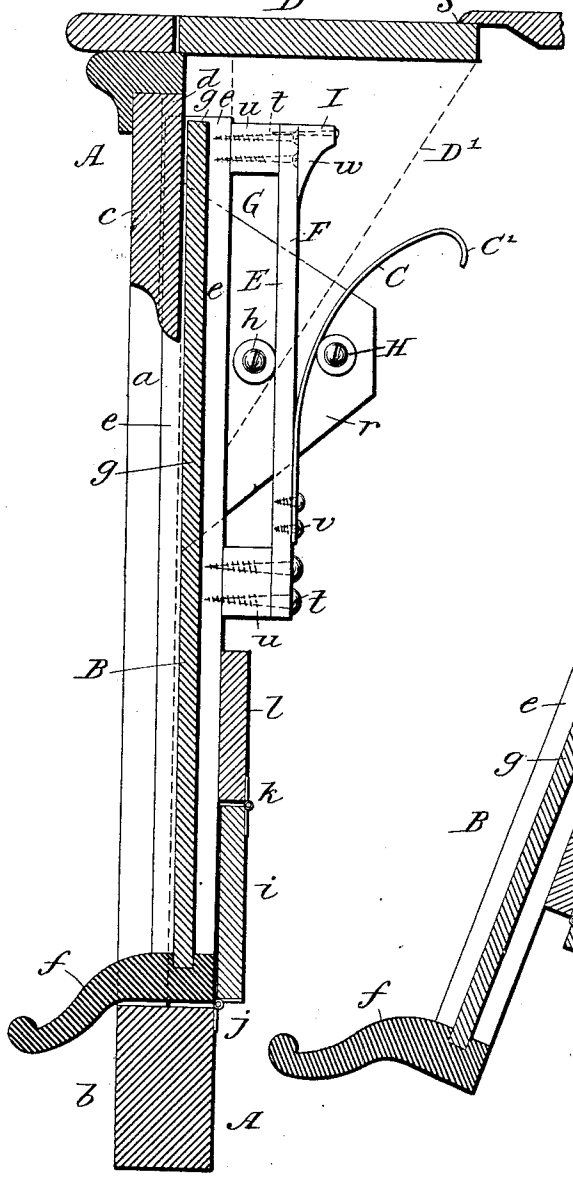
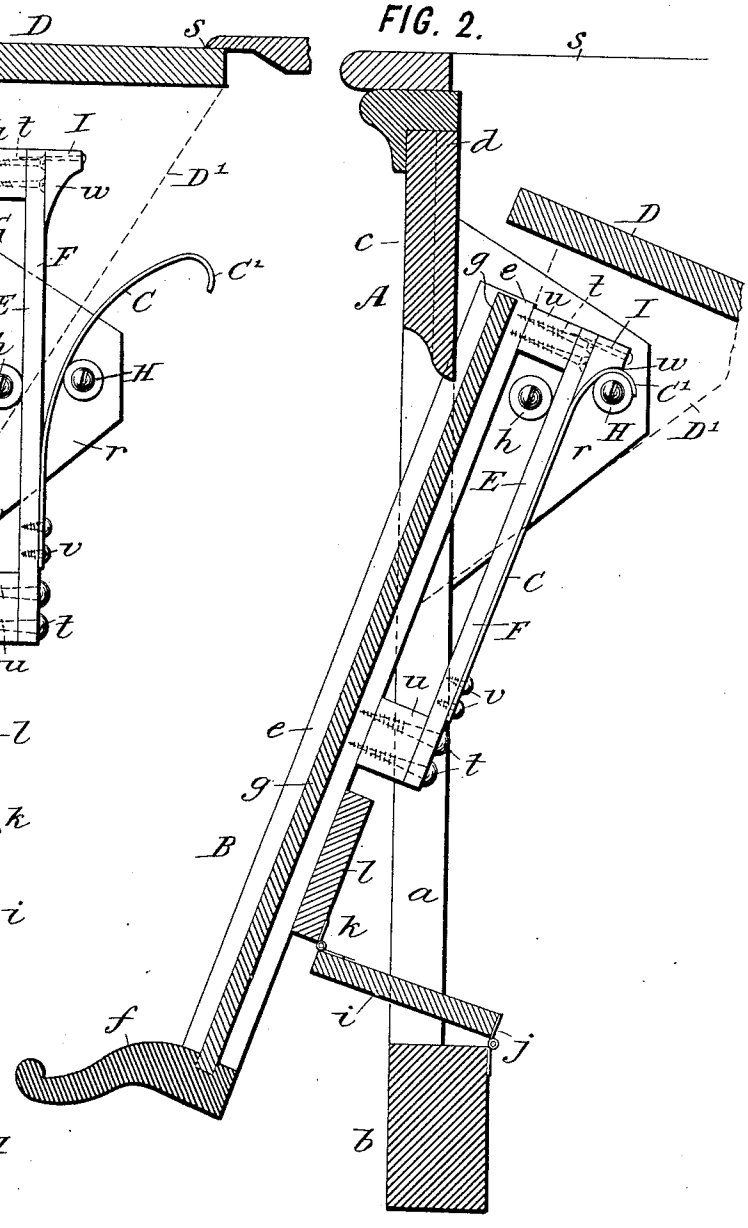


FIG. 2.



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(No Model.) 2 Sheets—Sheet 2.

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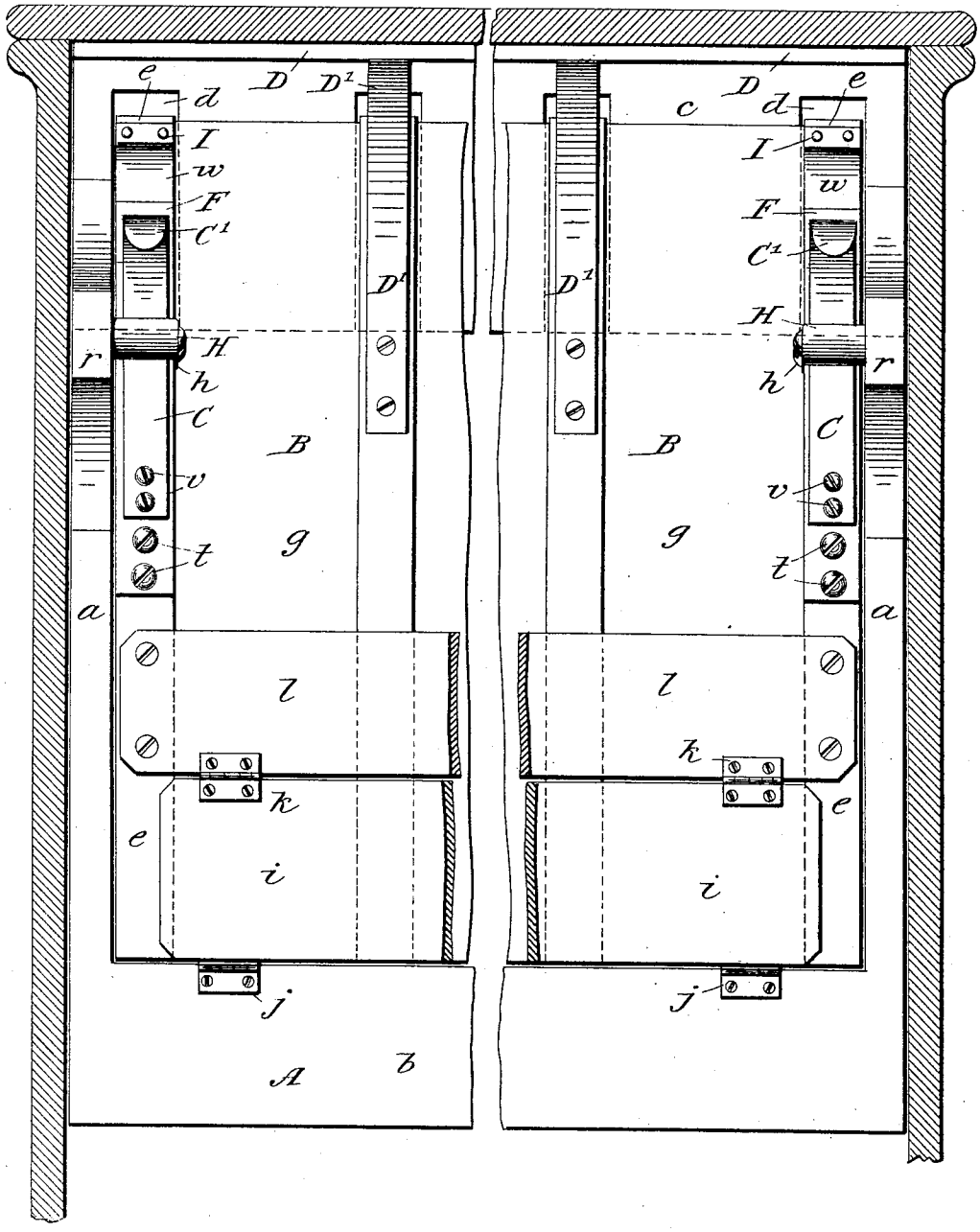
FIG. 3.



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UNITED STATES PATENT OFFICE.

JOHN A. WESER, OF NEW YORK, N. Y.

MUSIC-RACK FOR MUSICAL-INSTRUMENT CASES.

SPECIFICATION forming part of Letters Patent No. 560,248, dated May 19, 1896.

Application filed May 19, 1893. Serial No. 474,740. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. WESER, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Music-Racks for Musical-Instrument Cases, of which the following is a specification.

This invention relates to music racks, desks, or leaves of the type wherein the desk both swings out and slides down to bring it to the open position. The desk closes into an opening in front of the case and has a sliding or moving connection with the case at or near the top of the opening and a swinging or other connection at its lower part with the bottom of the opening, which connection effects the forward projection of the bottom of the desk as the latter moves to the open position. Various constructions of desks acting on this general principle are employed, that shown in my Patent No. 514,249, dated February 6, 1894, being an example of one such construction.

My present invention is an improvement upon the desks of this class in which the upper part of the desk slides up or down in close proximity with the upper margin of the opening in the case as the desk is moved to the open or closed position. Such a desk is shown in my said application, the desk riding against a roller at its rear, toward which it is pressed inwardly by a leaf-spring fastened to the case and the tension of which counterbalances the weight of the desk.

According to my present invention I provide guiding rollers or projections on the case, a track on the desk engaging the rear sides of said rollers and a retracting or counterbalancing spring carried by the desk and reacting against the latter, and a suitable point connected to the case and thereby tending to counterbalance the desk during its movement and retain its track in engagement with said guiding-roller.

I also provide certain other features of improvement which will be hereinafter set forth.

In the accompanying drawings, which illustrate the preferred form of my invention as applied to the case of an upright pianoforte, Figure 1 is a fragmentary vertical transverse section of the front upper portion of the case, showing the desk in the closed position. Fig. 2 is a similar view showing the desk in the open position; and Fig. 3 is a fragmentary sectional rear elevation showing the ends of the case and desk, the middle portion being broken away.

Referring to the drawings, let A designate in general the front part of the case of a musical instrument—as, for example, an upright pianoforte or parlor-organ—and B the music rack, desk or leaf thereof, which may be a mere movable front to the case in instruments having a separate music-rack. The part B will hereinafter be referred to as a "music-desk." The case A is made, as usual, with an opening in front, which is closed by the desk when the latter is in the normal or closed position, that shown in Figs. 1 and 3. When the desk is in use, it is swung forward at the bottom and brought down to the position shown in Fig. 2, which is termed the "open" position. To admit of this descending movement its upper end is arranged to slide in the case at the upper side of the opening thereof. The case A is usually formed with side bars *a a* at opposite sides of the music-desk opening, with a cross-bar *b* beneath the opening and a cross-bar *c* extending across the front of the case at the top of the opening. The desk B is constructed with a frame consisting of side bars *e e*, a bottom bar *f*, usually constituting the shelf of the desk, and an intermediate board or plate *g*. When the desk is closed, this board *g* occupies a plane inside of the inner face of the top bar *c*, and the upper ends of the side bars *e* of the desk slide in grooves *d* in the back of the top bar. As the desk is swung out at its bottom and drawn down its upper end descends, the ends of its bars *e* sliding down in the grooves *d* until at the open position the upper edge of the desk is near the lower edge of the top bar *c*. To permit this movement of the upper part of the desk, interengaging guiding provisions between it and the case have been provided, those shown in my said application consisting of a roller or projection on the case engaging the rear face of the side rail *e*. The lower end of the desk has been supported and guided in various ways. I preferably employ the usual crank arm or link between it and the lower bar *b* of the case, as shown. In the construction shown this crank arm or link

consists of a strip of wood or other material *i*, extending nearly across the width of the desk and fastened by hinges *j* to the lower bar *b*, and by hinges *k* to the lower edge of a back bar or board *l*, attached to the back of the desk. As thus far described the construction is the same as in my said application. I prefer this construction for use with my present invention; but so far as my present invention is concerned it is not essential that this construction be employed, as the invention can be availed of advantageously in connection with various other constructions analogous in principle or operation.

I will now describe the preferred embodiment of my present invention as applied to a music-desk of the character described.

According to one feature of this invention I provide a connection between the two members consisting of the case as the stationary member and the desk as the movable member, which connection consists of a track on the one member and a projection or roller on the other, said track and roller being in engagement to permit the several movements of the desk to and from its open position and to prevent the forward movement of the upper part of the desk against the top bar *c* of the case. Preferably this is accomplished by providing a track E on the desk and a roller *h*, acting as the guiding-roller, engaged by this track and mounted at a fixed point on the case. The track E preferably consists of a vertical strip of wood F, extending parallel with the side rail *e* at each end of the desk and fixed to this rail by screws *t*, passing through blocks *u* and engaging the rail *e* at the top and bottom ends of the track. The roller *h* is disposed slightly below the lower edge of the top bar *c* of the case and sufficiently at rear of the rail *e* of the desk to be free from the latter, and the forward face of the track E rides on the rear face of the roller *h*, thus insuring that there shall be no looseness for forward movement of the desk against the top bar of the case. Thus there exists between the track and the desk a groove or slot G, within which the roller *h* is received and which passes up and down over the roller during the movements of the desk. The track E and roller *h* are disposed at each side of the desk, as shown in Fig. 3.

According to another feature of my invention I provide, in connection with the track E and roller *h*, a counterbalancing-spring for holding these parts in engagement and maintaining the desk in its various positions. Preferably this is accomplished by two springs C C, located close to the opposite sides of the desk. I prefer to construct these as leaf-springs, fixed at their outer ends by screws *v* to the rear face of the bar F, near the lower end thereof, and extending thence upwardly, with a tendency to flex rearwardly, and terminating at top in hooked ends C′. These springs are each engaged by a roller or projection H, over the front face of which the spring rides, the spring exerting a rearward tension against the roller. These rollers H are fixed on the case at a point in rear of and preferably slightly above the roller *h*. Some slight space exists between each roller H and the rear face of the adjacent bar F, and through this space passes the spring C in each instance. The location of each roller H is such as to bend or deflect its spring out of the position which it normally tends to assume, so that its spring is caused to exert a tension against the desk by its reaction against its roller and the rear face of the bar F. This tension is such that it forces the track E into firm engagement with the rear face of the roller H, and at the same time tends to hold the desk in the closed position or to move it toward this position or in part counterbalance its opposite tendency while the desk is in the other positions. When the desk is in the closed position, the space between the rear bar F and the front face of the roller H will be greatest, as the bar then stands vertically, and as the desk approaches the open position this space will be greatly reduced, thus pressing the spring C and increasing the elastic tension thereof. This tension is proportional to the rearward bend of the spring, as shown in Fig. 1. The spring is straightened against the rear face of the bar as it approaches the open position, and when in the extreme open position its hooked end C′ envelops the upper side of the roller H, thus serving as a stop for limiting the downward motion of the desk.

My invention also provides an improved stop or rest for firmly maintaining the desk when in the fully-opened position and for noiselessly arresting it as it approaches this position. Preferably this consists of a yielding pad I mounted on the rear face of the upper part of the bar F and having a tapering, wedge-shaped, or rounded working face *w*, which passes in part in front of the roller H and the remainder above this roller as the desk reaches the open position. By this construction the pad I wedges firmly between the roller H and the bar F, forcing the latter tightly against the roller *h*, thus firmly maintaining the desk when the parts are in the open position. The pad is of yielding material of gradually-increasing thickness, and hence its action in arresting the desk is a gradual action due to the compression of the material of the pad by the roller H. In the construction shown the rollers *h* and H are each carried by a block of wood *r*, which is fastened against the inner side of the case A, preferably to the side bar *a* thereof.

I have shown a music case and desk of the construction claimed in my application for patent, Serial No. 451,535, filed November 10, 1892, in which the movable top board D of the case is rigidly connected to the desk by brackets D′ (shown in dotted lines in Figs. 1 and 2) and moves with the desk to open or close the opening *s* in the top of the case.

In operation the desk can be drawn to the

open position by pulling forwardly on its bottom bar *f*. A slight force will suffice to overcome the resistance of the spring C and the desk will ride down, being guided by the engagement of its track E with the roller *h*. The spring C will prevent any lost motion during the movements of the desk. The desk will rest firmly on the stop I when in the open position, and can be returned to the closed position by a gentle inward or upward pressure on its bar *f*.

It will be seen that this invention provides an improvement in music-desks which can be variously availed of and which is simple in construction and convenient and effective in operation.

It will be understood that the invention is not limited to the particular details of construction and arrangement set forth and shown as its preferred form, as it may be availed of according to such modifications as the judgment of those skilled in the art may suggest without departing from its essential features.

What I claim is the following-defined novel features and combinations, substantially as hereinbefore specified, namely:

1. The combination with a musical-instrument case having a front opening, of a music-desk adapted to close said opening, sliding within the case at top, and moving out at bottom, rollers mounted on said case, tracks mounted on the desk engaging and disposed between said rollers and guiding the upper part of the desk in its movement, and a leaf-spring fixed at its lower end to said desk below said rollers, movable with said desk, holding the track against one of said rollers, and reacting at its upper end against said case.

2. The combination with a musical-instrument case having a front opening and a music-desk closing said opening, sliding within the case at top and moving out at bottom, of a track on said desk, and a fixed projection on said case in front of and engaged on its rear side by said track during the movement of the desk, a projection on said case at rear of said track, and a spring carried rigidly at its lower end by said desk and pressing rearwardly against the front face of the latter projection fixed to said desk below said projections and forcing said track outwardly against said projection in front of it.

3. The combination with a musical-instrument case having at front an opening, and a music-desk closing said opening, sliding within the case at top and moving out at bottom, of a track on said desk, and a fixed projection on said case in front of and engaged by the track during the movement of the desk, a projection on said case at rear of said track, and a stop, carried by said desk at rear of said track, and engaging said rear projection as said desk moves to the open position to limit such movement.

4. The combination with a musical-instrument case having an opening in its front, and a music-desk closing said opening, sliding within the case at top and moving out at bottom, of a projection *h* fixed to the case, and a track E, consisting of a bar F, carried at the rear of said desk and riding on the rear face of said projection *h* during the movement of the desk, and a spring sustaining the latter.

5. The combination with a musical-instrument case having an opening in its front, and a music-desk closing said opening, sliding within the case at top and moving out at bottom, of a projection *h* fixed to the case, and a track E, consisting of a bar F, carried at the rear of said desk and riding on the rear face of said projection *h* during the movement of the desk, a projection H fixed to the case at rear of said track, and a spring C fixed to the case and reacting against said projection H to press said track E against said projection *h*.

6. The combination with a musical-instrument case having an opening at front, and a music-desk closing said opening, sliding within the case at top and moving out at bottom, of a projection *h* fixed to the case, a track E, consisting of a bar F, carried at the rear of said desk and riding on the rear face of said projection *h* during the movement of the desk, a projection H fixed to the case at rear of said track, and a pad I fixed to the upper part of said bar F and engaging said roller H to stop the desk when at the open position.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN A. WESER.

Witnesses:
FRANCIS H. PEATY,
WINFIELD S. WESER.