

T. E. STEINWAY.
 LID FOR UPRIGHT PIANOS.
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998,422.

Patented July 18, 1911.

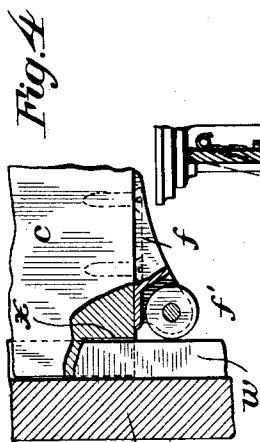
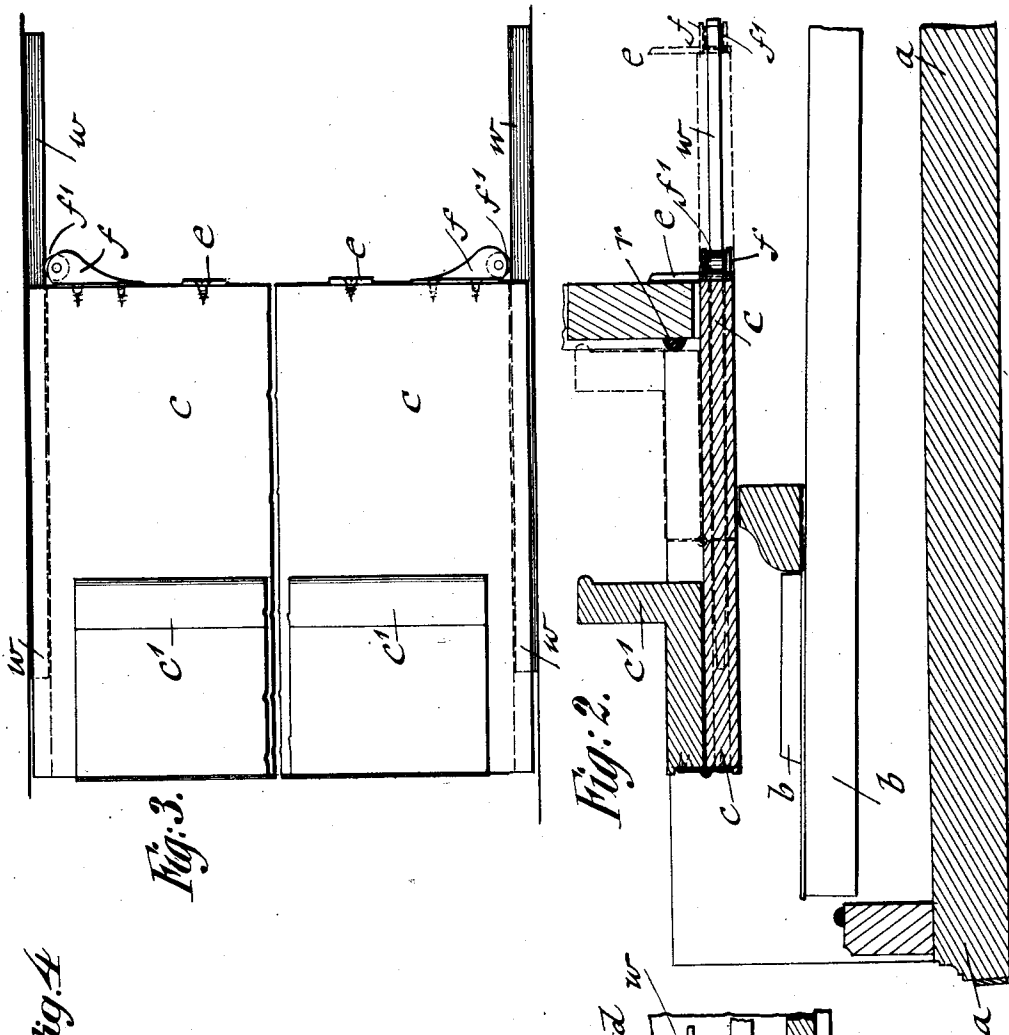


Fig. 4

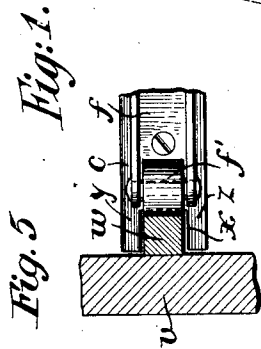
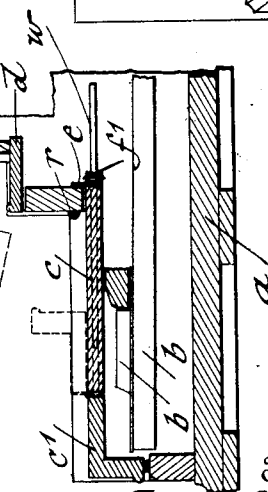


Fig. 5



Witnesses:
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UNITED STATES PATENT OFFICE.

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LID FOR UPRIGHT PIANOS.

998,422.

Specification of Letters Patent. Patented July 18, 1911.

Application filed October 31, 1910. Serial No. 589,948.

To all whom it may concern:

Be it known that I, THEODORE E. STEINWAY, a citizen of the United States of America, residing in New York, in the borough of Manhattan, in the county and State of New York, have invented certain new and useful Improvements in Lids for Upright Pianos, of which the following is a specification.

This invention relates to upright piano cases in which the lid slides bodily within the case for opening or closing the piano. These sliding lids are usually provided with grooves on their opposite ends which engage horizontal ribs on the side-walls of the case. In order to secure an accurate sliding movement commensurate with the fine work in pianos, the ribs and grooves are made to fit as closely as practicable to prevent wobbling of the lid. Consequently they are liable to bind, causing stoppage of the lid and annoyance to the pianist.

The object of this invention is to avoid this objection and to provide means in connection with such lids for securing a free and smooth movement in opening or closing a piano. To this end the sliding lid is provided at its inner edge near its opposite ends with brackets which carry anti-friction rollers which are set in from the end edges of the lid in position to engage the edges of the ribs or ways as distinguished from the upper or lower faces thereof.

In the accompanying drawings, Figure 1 represents a vertical transverse section through the key-board, fall-board, sliding lid and desk of an upright piano embodying this improvement, the parts being in closed position. Fig. 2 is a like section, being drawn on a larger scale and showing the fall-board swung back over the lid, and the latter ready to be moved back into open position. Fig. 3 is a plan view of the sliding lid, with a portion broken away. Fig. 4 represents on a larger scale a fragment of one of the side-walls of the piano in horizontal section, a plan of the ribbed way thereon and a plan of an inner corner of the sliding lid provided with this improvement, parts being broken out for better illustration. Fig. 5 represents in vertical section a fragment of one of the side-walls of the piano case and its rib or way also in vertical section and an elevation of the rear

edge of a fragment of a sliding lid provided with this improvement.

Similar letters of reference indicate corresponding parts in different figures of the drawings.

Referring to the drawings, *a* represents the key-bottom, *b* the keys, *c* the sliding-lid and *d* the desk of an upright piano. The vertical side-walls *v* of the piano case between which the lid slides are provided, respectively as usual, with horizontal ribs *w* constituting ways. The sliding lid *c* is provided at its front with the usual fall-board *c'* hinged thereto. This fall-board rests on the front ledge of the key-bottom *b* when in closed position as shown in full lines in Fig. 1, and on the top of the sliding lid in open position as shown in dotted lines in Fig. 1 and full lines in Fig. 2. The sliding lid is also provided at its opposite ends with the usual grooves *x* sunk into its edges. These grooves preferably fit the ways or ribs *w* so as to support the lid and permit it to slide smoothly without wobbling. This improvement consists in applying to the old parts thus described anti-friction rollers in such positions and relations thereto as to secure in conjunction therewith a smooth even and unobstructed movement of the sliding lid in opening or closing the piano. To this end the sliding lid *c'* is provided at its rear edge near its opposite ends with brackets *f* secured thereto by screws or otherwise. These brackets carry anti-friction rollers *f'* which are journaled therein vertically or approximately so. Each roller is set in from the end of the lid in such position that its periphery projects slightly beyond the bottom of the grooves, whereby it is adapted to engage the edge of the rib or way *w* while the projecting lips *y z* (see Fig. 5) form the sides of said groove and engage the upper and lower faces of said rib or way.

For opening the piano the fall-board is first swung up over the lid, after which the lid is moved in backward direction until the fall-board abuts against the cushions *r* on the lower front-wall of the case as shown in dotted lines in Fig. 2. The desk which is hinged to the case at its upper end, is then moved in a forward direction, as shown in Fig. 1, so as to bring the music supported thereon closer to the pianist. When the piano is to be closed, the lid is moved for-

ward until arrested by the stops *e* abutting against the rear part of the lower front-wall of the case, after which the fall-board is moved into closed position, as shown in Fig.

5 1. Under this improvement with anti-friction rollers applied to the lid adjacent to the grooves and in position to engage the edges of the ribs or ways, the ribs and grooves may fit comparatively close so as to
10 secure smooth movement of the lid, and yet avoid binding or stoppage thereof in opening and closing the piano.

Having thus described my invention, I claim as new and desire to secure by Letters
15 Patent:

1. The combination with vertical sides of an upright piano case, horizontal ribs thereon constituting ways and a sliding lid having a fall-board in front and provided with
20 grooves at its opposite ends engaging said ways, of anti-friction rollers set in from the ends of said sliding lid and projecting be-

yond the bottoms of said grooves and engaging the edges of said ribs, and means for supporting said rollers. 25

2. The combination with vertical sides of an upright piano case, horizontal ribs thereon constituting ways and a sliding lid having a fall-board in front and provided with grooves at its opposite ends engaging said
30 ways, of brackets attached to the inner edge of said sliding lid near opposite ends thereof, and anti-friction rollers journaled in said brackets, said rollers being set in from the ends of said lid and projecting beyond the
35 bottoms of said grooves and engaging the edges of said ribs.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

THEODORE E. STEINWAY.

Witnesses:

PAUL GOEPEL,
JOHN MURTAGH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."