

No. 871,782.

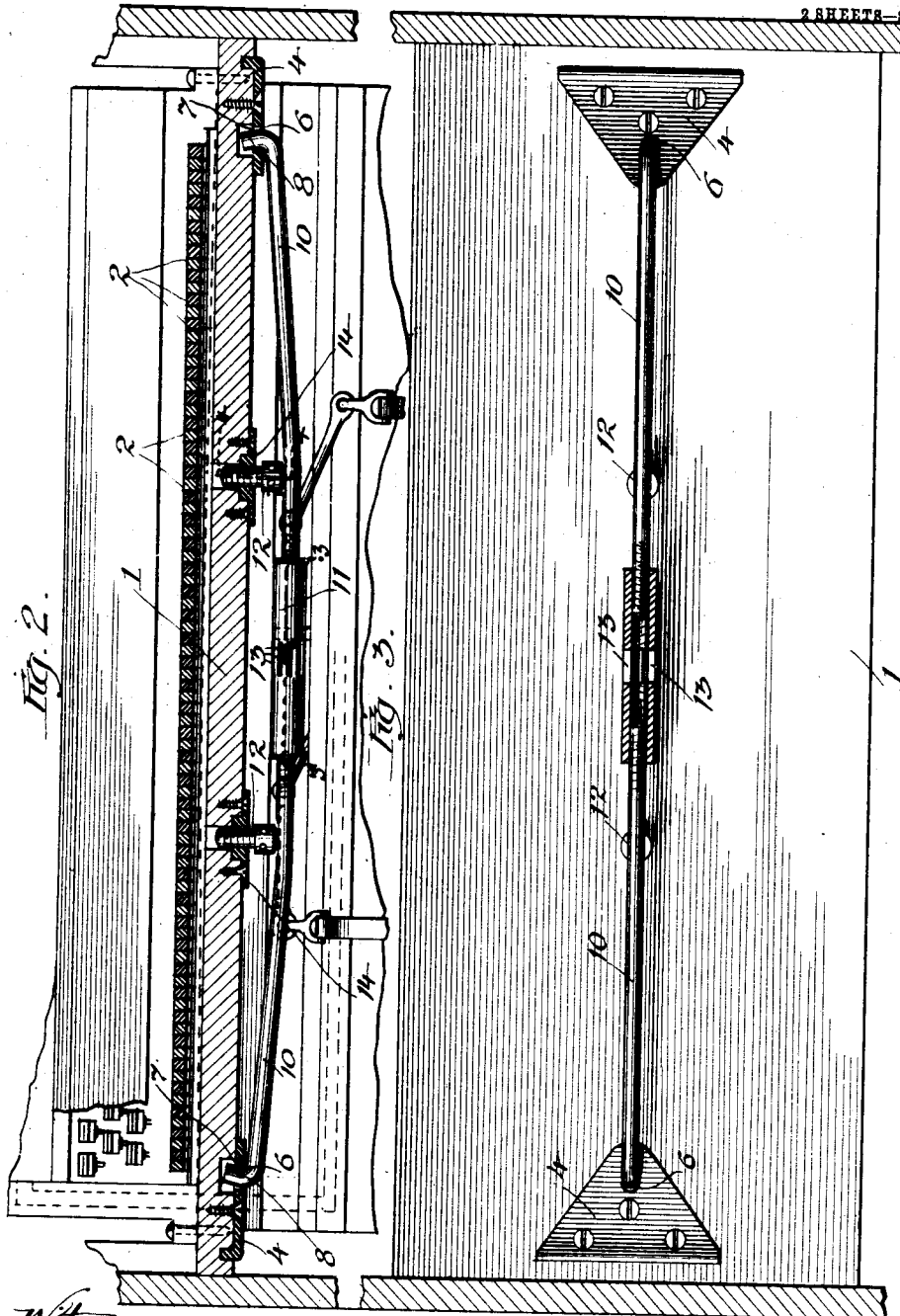
PATENTED NOV. 26, 1907.

M. CLARK.

PIANO:

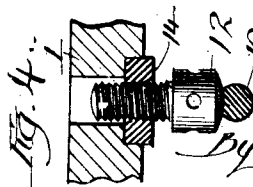
APPLICATION FILED AUG. 1, 1908.

2 SHEETS—SHEET 2.



Witnesses:

Frank Blanchard
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UNITED STATES PATENT OFFICE.

MELVILLE CLARK, OF CHICAGO, ILLINOIS.

PIANO.

No. 871,782.

Specification of Letters Patent.

Patented Nov. 26, 1907.

Application filed August 1, 1906. Serial No. 328,654.

To all whom it may concern:

Be it known that I, MELVILLE CLARK, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Pianos, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The purpose of this invention is to provide an improved construction for overcoming a defect commonly observed in pianos, due to two causes: namely, first, the tendency of the supports and bearings of the manual keys to become packed with use and so to become more packed at the middle part of the manual where the keys are more used than at the ends; second, the tendency of the key table or main support of the keys to sag at the middle of its length from obvious causes. The combined effect of both these tendencies is to require frequent readjustment of the keys in order to give proper uniformity of stroke, and also to level them.

This invention consists in the means and features of construction shown and described in the drawings and specification and set out in the claims for overcoming these defects.

In the drawings:—Figure 1 is a vertical section longitudinal with respect to the keys and transverse with respect to the key-table, through a portion of a piano containing my improvement. Fig. 2 is a section at the line 2—2 on Fig. 1. Fig. 3 is a detail bottom plan view, partly sectional, section being made at the line 3—3 on Fig. 2. Fig. 4 is an enlarged detail section at the line 4—4 on Fig. 2.

In the drawings I have shown the present invention applied to a piano which has automatic playing devices of which the pneumatic action and pumping devices are mounted on the key-table and by reason of their weight added to the other parts supported by the key-table tends somewhat to increase the defect above mentioned arising from the tendency of the key-table to sag at the middle; and my invention is of special importance in connection with pianos having such automatic playing devices supported on the key-table.

In the drawings, 1 represents the key-table, which may be understood as sup-

ported in the usual manner by the remainder of the piano frame. The keys, 2, 2, are shown supported in a customary manner on the key-table, and having a customary connection with the action, and a familiar form of felted supports, 3, which are liable to packing in use. To the under side of the key-table, 1, at or near the ends there are secured anchor plates, 4, 4, preferably angular and adapted to embrace the lower corner of the ends of said table. Each anchor plate has an aperture, 6, preferably bored for a short distance forming a recess, 7, coincident with the aperture of the anchor plate. Said aperture and recess at each end of the key-table receives a hook end, 8, of a strain rod, 10, the two strain rods extending toward each other and being oppositely threaded at their proximate ends and connected by a turn-buckle, 11.

12, 12 are strut posts set into the under side of the key table near the two ends of the turn-buckle, in position for lodgment upon the ends of the strain rods, which, with the turn-buckle, are thus caused to constitute a truss for the key-table. The turn-buckle has intermediate its threaded ends a series of radial slots, 13, adapted to receive a screw-driver or similar tool for rotating the turn-buckle to strain the truss, a very slight shortening of which operates to bow the key-table up at the middle and cause it to compensate for the packing of the supports of the keys, or to restore the key-table to proper height at the middle if it has itself settled or been bowed down at all by its own weight or the weight or pressure which it carries. Preferably, the anchor plates are triangular in form, as shown, so as to obtain a sufficiently broad hold upon the key-table to insure the springing or bowing of the table throughout its entire width when the turn-buckle is tightened as described.

In some cases the lowest point, or point most in need of being elevated, may not be at the exact middle of the key-table, but a little to one side of the middle, and in such case the tightening of the truss might not entirely or accurately correct the difficulty. I provide, however, for this possibility by making the strut-posts each adjustable, and they being each at a short distance from the middle, one or the other of them being adjusted for increased protrusion, will cause the maximum adjustment of the table to be

effected at the proper point when the exact middle is not the proper point for such maximum adjustment. For adjustability of these strut-posts they are each made with an interiorly threaded seat-piece or socket, 14, embedded in the under side of the key table and receiving the exteriorly threaded upper end of the adjustable strut-post whose protruding part or head is adapted to be engaged by a spanner wrench or lever rod for rotating it to screw it into or out of the socket plate or seat. The end of the strut-post head is preferably spherically curved so that it may be rotated readily notwithstanding the truss rod is strained hard over it.

I claim:—

1. In a piano, in combination with the key table, anchor plates engaged in the under side of the table near the opposite ends; truss rods hooked into said anchor plates; symmetrically disposed strut posts projecting from the under side of the table over which said truss rods respectively extend toward

the middle; means for connecting and straining the truss rods.

2. In a piano, in combination with the key-table and the manual keys mounted thereupon, truss-rods anchored at their remote ends in the under side of the key-table near the ends of the latter; means connecting their proximate ends adapted for drawing them together, and strut-posts projecting from the under side of the key-table against whose lower ends the truss-rods bear, said strut-posts having threaded seats in the key-table and adapted to be screwed into and out of them to change their protrusion against the truss-rods.

In testimony whereof, I have hereunto set my hand, in the presence of two witnesses, at Chicago, Illinois, this 25th day of July, 1906.

MELVILLE CLARK.

In the presence of—

M. GERTRUDE ADY,
J. S. ABBOTT.