R. A. GALLY.

MUSIC ROLL PROPELLING SYSTEM.

APPLICATION FILED JAN. 18, 1913.

1,101,842.

Patented June 30, 1914.

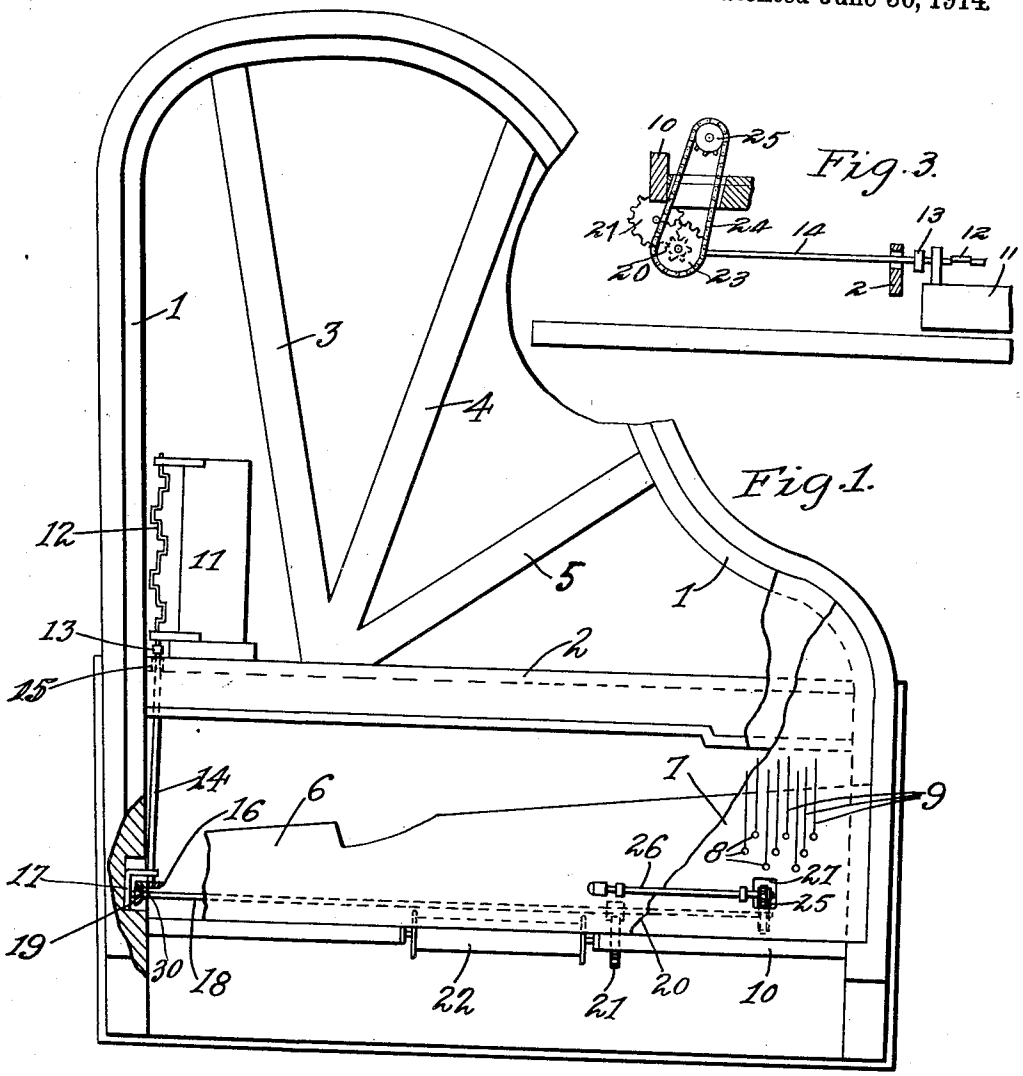

Fig. 1.

Fig. 3.

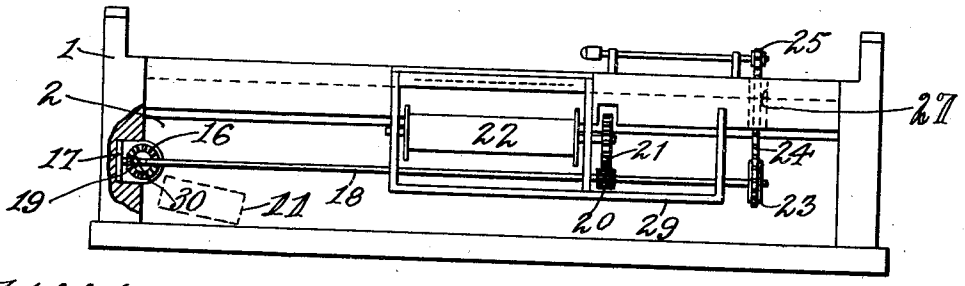

Fig. 2.

Witnesses:
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UNITED STATES PATENT OFFICE.

ROBERT A. GALLY, OF CINCINNATI, OHIO.

MUSIC-ROLL-PROPELLING SYSTEM.

1,101,842. Specification of Letters Patent. **Patented June 30, 1914.**

Application filed January 18, 1913. Serial No. 742,864.

To all whom it may concern:

Be it known that I, ROBERT A. GALLY, a citizen of the United States, residing at Cincinnati, in the county of Hamilton, State of Ohio, have invented certain new and useful Improvements in Music-Roll-Propelling Systems, of which the following is a specification.

Previous attempts in placing a motor and connections therefrom to the music-roll propelling devices, in a player piano of horizontal form, as a grand, have required enlarged cases, and have been of complicated structure and inconvenient of access, where the present invention causes no enlargement of the piano, and has a minimum of parts that are direct in action and readily reached.

In the drawings, Figure 1 is a plan view of a grand piano with parts of the plate and sound-board and wrest plank removed to show the motor and shaft, Fig. 2 is a front view of the same, and Fig. 3 a view of the sprocket wheels, etc., as seen from the right end of Fig. 2.

The grand piano shown has a case comprising a rim 1 and a cross-rail 2, with braces 3, 4 and 5 extending rearwardly from said cross-rail 2 to said rim 1. A wrest plank 6 extends across the piano and the metal plate 7 is fastened on its top. Tuning pins 8 are provided for attachment of the strings 9. In front of the wrest plank is a front rail 10. A motor 11 at rear of cross-rail 2 has its shaft 12 in a line at right angles to the cross-rail 2 and front rail 10, and a separable coupling 13 connects it with a main shaft 14 which continues forward through a hole 15 in cross-rail 2 to a miter gear 16 attached on its front end, where the shaft 14 is supported in a bearing 17. Bearing 17 also supports a drive shaft 18 at right angles to shaft 14, on which shaft 18 is mounted a miter gear 19 which is in running engagement with its mate gear 16. Drive-shaft 18 lies somewhat under the wrest plank 6 and parallel with front rail 10. On drive-shaft 18 is a pinion 20 engaging a gear 21 connected with take-up spool 22, and farther along the drive shaft 18 is a sprocket wheel 23 or equivalent drive connected by a chain-belt 24 or equivalent to a wheel or gear 25 on a counter-shaft 26 which runs to reroll a music sheet from take-up spool 22. Chain 24 or other transmission means passes through hole 27 in wrest-plank 6 and plate 7, forward and clear of tuning pins 8.

The loosening of miter-gear 19 on drive-shaft 18 as by a set screw 30 enables the sliding of shaft 18 out of gear 19 and bearing 17 and the removal of shaft 18 and its connected parts from the piano without disturbing main-shaft 14. Drive-shaft 18 may be carried by a frame 29 which also has the take-up spool 22 and other related parts carried by it, so all said parts may be removed as a unit.

The usual means may be employed for shifting the pinions and wheels for alternate forward or reroll drive, or modifications made herefrom, and yet be what I claim as my invention.

Claims:

1. A horizontal player piano having a cross-rail, a motor having a shaft lying rearward of and at a right angle to said cross-rail, a hole in said cross-rail, and a continuation of said shaft extended forwardly through said hole and having the same axis as said motor-shaft.

2. A horizontal player piano having a cross-rail, a motor having a shaft lying rearward of and at a right angle to said cross-rail, a hole in said cross-rail, and a continuation of said shaft extended forwardly through said pole and having the same axis as said motor-shaft, and a separable coupling connected to both said shafts at their meeting place.

3. A horizontal player piano having a cross-rail, a motor having a shaft lying rearward of and at a right angle to said cross-rail, a hole in said cross-rail, and a continuation of said shaft extended forwardly through said hole and having the same axis as said motor-shaft, a drive-shaft disposed at a right angle to the main-shaft at the forward end of said main-shaft, and miter gear connections from one shaft to the other at their meeting place.

4. A horizontal player piano having a rim, a cross-rail, and braces extended rearwardly from said cross-rail to said rim, a motor disposed at the rear of said rail and in the space between the rim and the next adjacent brace, and a main-shaft extending from said motor through and forward of said cross-rail.

5. A horizontal player piano having a rim, a cross-rail, and braces extended rear-

wardly from said cross-rail to said rim, a motor disposed at the rear of said rail and in the space between the rim and the next adjacent brace, and a main-shaft extending from said motor through and forward of said cross-rail, and a drive-shaft disposed at a right angle to the main-shaft at the forward end of said main-shaft and miter-gear connections from one shaft to the other at their meeting place.

6. A horizontal player piano having a rim, and wrest plank and a front-rail substantially at a right angle to said rim, a shaft bearing affixed to the inner part of said rim adjacent said front rail and under said wrest-plank, a shaft engaged in said bearing and extended rearwardly thereof, and another shaft engaged in said bearing and extended therefrom at a right angle to said first named shaft, and under and parallel with the front and under faces of said front rail.

7. A horizontal player piano having a rim, a wrest plank and front-rail substantially at a right angle to said rim, a shaft bearing affixed to the inner part of said rim adjacent said front rail and under said wrest-plank, a shaft engaged in said bearing and extended rearwardly thereof, and another shaft engaged in said bearing and extended therefrom at a right angle to said first named shaft, and miter-gears connected to said shafts adjacent said bearing and engaging one with the other.

8. A player piano having a horizontal wrest-plank, and a metal plate and pins and strings thereon; a drive-shaft disposed horizontally under said wrest-plank and parallel to its front line; a counter-shaft above said plate and wrest-plank, and parallel their front lines; drive-means on each said shaft; a hole in said plate and wrest-plank in line with the two said drive means; and transmission means extended through said hole from one said drive means to the other.

9. A player piano having a horizontal wrest-plank, and a metal plate and pins and strings thereon; a drive-shaft disposed horizontally under said wrest-plank and parallel to its front line; a counter-shaft above said plate and wrest-plank, and parallel their front lines; drive-means on each said shaft; a hole in said plate and wrest-plank in line with the two said drive means and forward of some of said pins.

10. A player piano having a horizontal wrest-plank, and a metal plate and pins and strings thereon; a drive-shaft disposed horizontally under said wrest-plank and parallel to its front line; a counter-shaft above said plate and wrest plank, and parallel their front lines; drive-means on each said shaft; a hole in said plate and wrest-plank in line with the two said drive means and forward of some of said pins, and nearer the middle of the piano than others of said pins.

ROBT. A. GALLY.

Witnesses:
J. W. MACY,
LUCIEN WULSIN.

Correction in Letters Patent No. 1,101,842.

It is hereby certified that in Letters Patent No. 1,101,842, granted June 30, 1914, upon the application of Robert A. Gally, of Cincinnati, Ohio, for an improvement in "Music-Roll-Propelling Systems," an error appears in the printed specification requiring correction as follows: Page 1, line 86, for the word "pole" read *hole;* and that the said Letters Patent should be read with this correction therein that the same may conform to the records in the Patent Office.

Signed and sealed this 14th day of July, A. D., 1914.

[SEAL.]

J. T. NEWTON,

Acting Commissioner of Patents.

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J. T. NEWTON,

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