

(No Model.)

C. N. RAND.
PEDAL PIANO.

No. 489,035.

Patented Jan. 3, 1893.

Fig. 1.

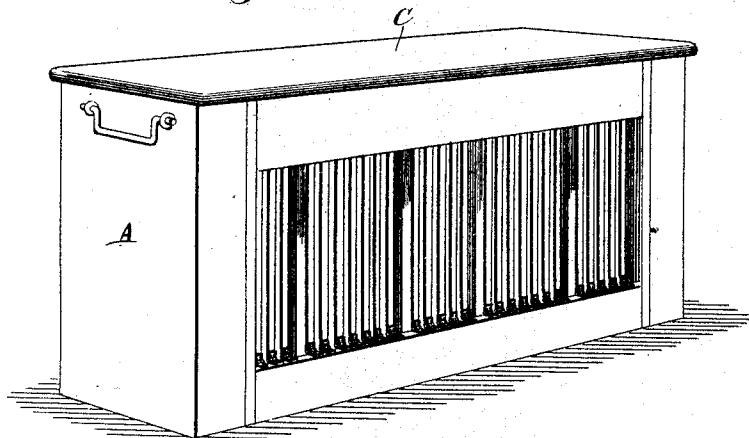


Fig. 2.

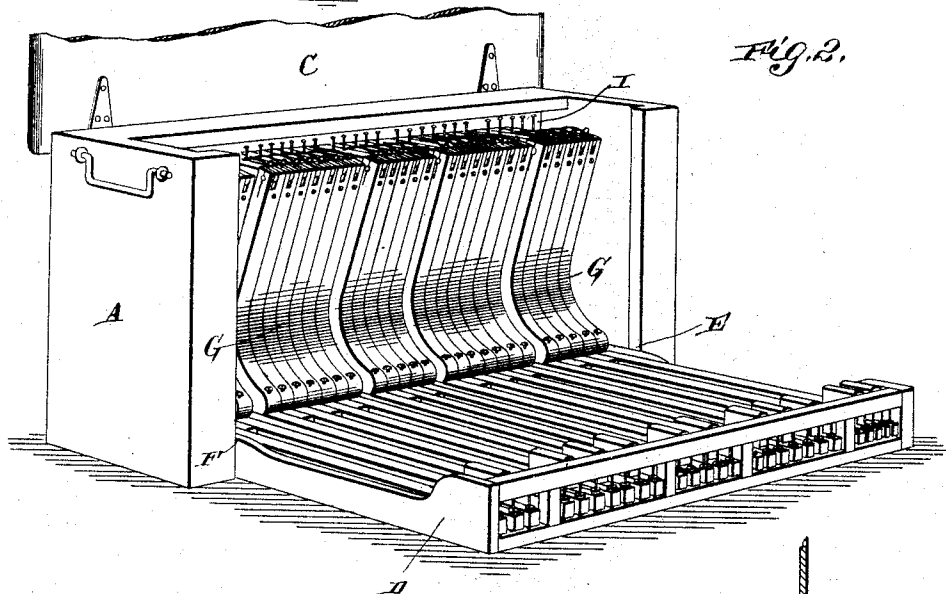
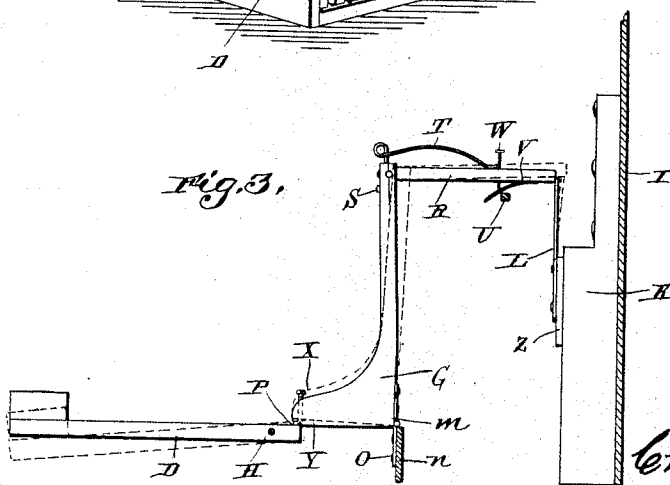


Fig. 3.



Witnesses:

Henry M. S. S.

E. P. S. S.

Inventor:

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UNITED STATES PATENT OFFICE.

CHARLES N. RAND, OF GENEVA, OHIO.

PEDAL-PIANO.

SPECIFICATION forming part of Letters Patent No. 489,035, dated January 3, 1893.

Application filed March 9, 1892. Serial No. 424,352. (No model.)

To all whom it may concern:

Be it known that I, CHARLES N. RAND, a citizen of the United States, residing at Geneva, in the county of Ashtabula and State of Ohio, have invented a new and useful Combination Piano, Bench, and Pedals, of which the following is a specification.

My invention relates to that class of instruments which are practice instruments, whereby a person can acquire proficiency and skill to use the pedals of an organ. This instrument can be used in connection with an ordinary piano or organ if desirable. I attain these objects by the mechanism illustrated in the accompanying drawings in which

Figure 1 is a view showing the pedal piano as it appears when not in use and with the pedals folded into the piano. Fig. 2 is a view of the entire pedal piano with the pedals unfolded from the piano ready for use and with the lid or seat of the bench raised to show the action or mechanical parts. Fig. 3 is a sectional view of the action.

In Fig. 2 A is a bench. I is the back of the bench and is also a sounding-board, C is the seat or cover. In this cut the cover is raised to show the mechanical parts of the instrument. D is a set of ordinary organ pedals and the frame to which they are fastened is hinged to the piano-bench at the points E and F. When the pedals are unfolded from the bench ready for use the ends of which remain in the bench come under and in contact with the angles G. The pedals being hinged to the frame and having a fulcrum point at H, a few inches from the back ends, it follows that when the front ends of the pedals are pressed down the back ends of the pedals are raised in proportion and this movement raises the front and lower ends of the angles G which gives a backward or horizontal movement to the upright part of the angles. On the front or inside of the sounding board I is fastened a number of upright ribs to strengthen the board. On these ribs is fastened a row or scale of metal prongs graduated and timed to a musical scale and corresponding with the pedals in proper number and tone.

In Fig. 3 I show a detailed section of the mechanical parts and a description of their movements. D is a pedal. H is the fulcrum point where it is hinged to the frame. G is

an angle. I is the sounding board. K. is a rib of the sounding board. L is a metal prong preferably made of tempered steel, one end of which is fastened to the rib K while the other end is left free to vibrate. z is a movable bearing which is placed between the prong L and the rib K and is used to tune the prong. This is accomplished by moving the bearing up or down between the prong and the rib by means of slots which allow it to pass on either side of the screws which hold the prong. Thus the vibrating length of the prong may be made shorter, which raises the pitch or longer which lowers the pitch. The board N extends the entire length of the piano along the bottom and is securely fastened thereto, and the angle G is fastened to it at the point M by a flat strip of spring metal O. One end of the angle G rests on the pedal D at the point P and the spring O holds the angle and pedal in position but allows them to be moved freely. At the point P where the angle rests on the pedal is a means of adjustment consisting of a plate of metal or wood Y one end of which is fastened to the under side of the angle and the other end resting on the pedal. A screw X passes through the angle and presses this plate. As the front end of the pedal is not permitted by its frame to rise higher than a horizontal position it follows that the upper end of the angle G may be moved forward or backward by turning the screw X. R is a rod hinged to the upper end of the angle G. The hinge rivet is made fast in the rod R and works loosely in the angle G which is slotted through the hinge holes and the two sides thus separated can be drawn together or separated to make the hinge tight or loose by turning the screw S. The horizontal adjustment rod U which extends the entire length of the piano, supports the rod R. One end of the spring T is fastened to the angle G and the other end rests on the rod R to bring it into position quickly. V is a flat piece of spring metal one end of which is fastened to the under side of the rod R while the other end is curved and forms an angle with the rod R to raise it when it slides on the rod U. W is a screw which passes through the rod R and presses against and curves the end of the spring V. When the front end of the pedal D is pressed down to

the dotted lines the lower end of the angle G is raised and the upper end of the angle is moved back to the dotted lines and the end of the rod R is pushed against the upper end of the prong L. The curved end of the slide V strikes the adjustment rod U and raises the end of the rod R away from the prong L which vibrates under it until the pedal D is released when the spring O brings the angle G, the rod R. and the pedal D into their original positions. In coming back into the first position the end of the rod R strikes the vibrating end of the prong L and stops the remaining vibrations thus performing the part of a damper. By turning the adjustment screw W. to the right or farther through the rod R it curves the slide spring V and the rod R pushes the vibrating end of the prong a less distance before it is raised and a softer tone is produced and when it is turned to the left the spring V is curved less and the rod R pushes the prong L farther before it is raised thus producing a louder tone. By turn-

ing the adjustment screw $\bar{X}$ on the angle G the end of the rod R can be moved nearer to or farther from the prong L. This method of producing a tone with the movement of a pedal may be used for the entire set of pedals or through an entire scale. The tones may be of any desired pitch and are made to correspond in pitch with an ordinary piano or organ. The end of the rod R which comes in contact with the prong L is covered with soft leather or felt. Casters are placed under the piano and handles on the ends to move it easily.

What I claim as my invention is:—

In a pedal piano a mechanical push and damper action consisting of the pedals D the angles G and the rods R and U together with the springs O and T and the adjustments X. Y. and V. W. as described.

CHARLES N. RAND.

Witnesses:

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