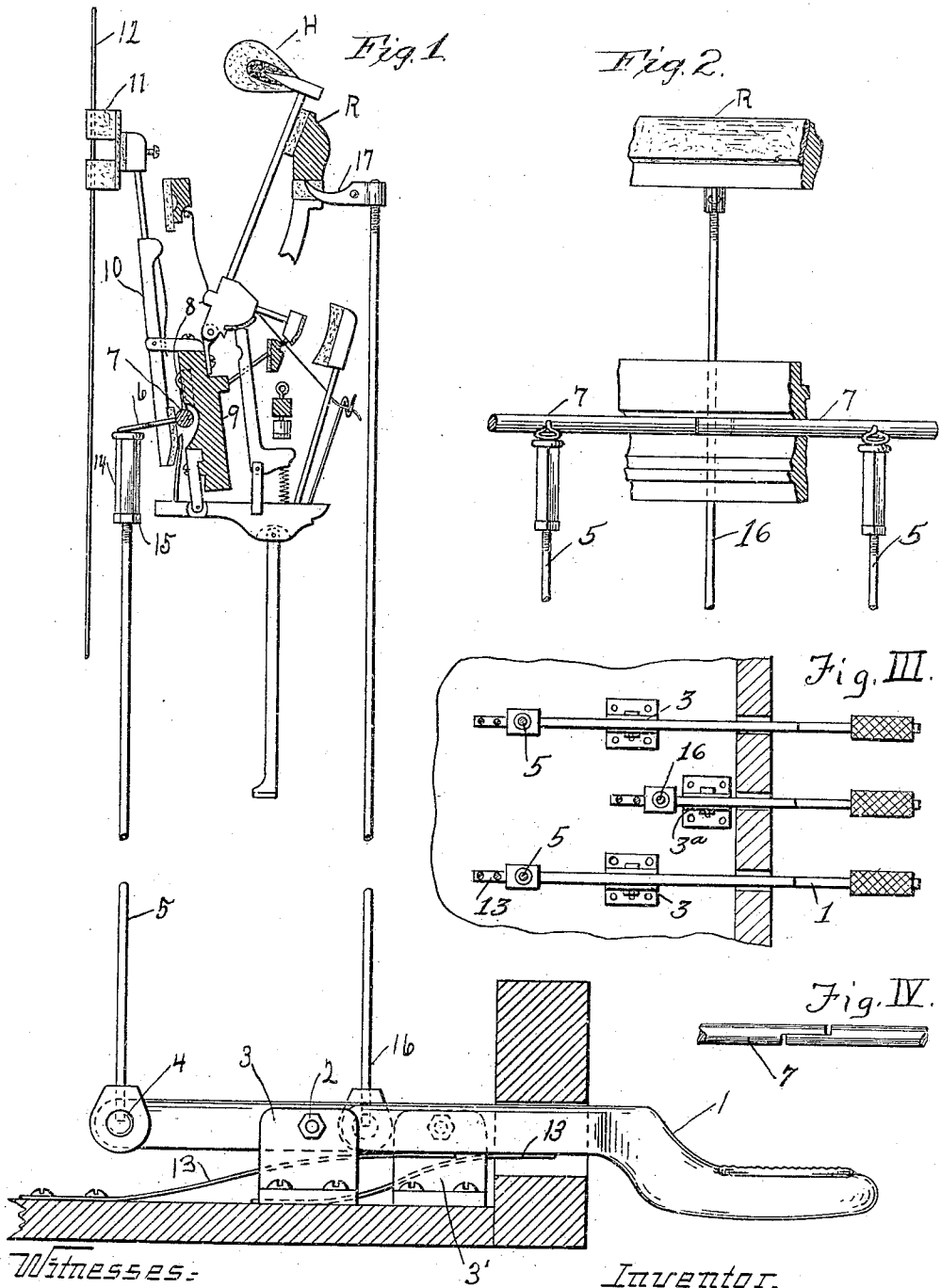


E. D. ST. JOHN.
PIANO PEDAL ACTION.
APPLICATION FILED APR. 30, 1908.

951,550.

Patented Mar. 8, 1910.



Witnesses:-

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UNITED STATES PATENT OFFICE.

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PIANO PEDAL-ACTION.

951,550.

Specification of Letters Patent.

Patented Mar. 8, 1910.

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To all whom it may concern:

Be it known that I, ELMER D. ST. JOHN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Piano Pedal-Actions; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to pianos and has for its object the improvement of the pedal action whereby I attain simplicity of action and construction and compactness of parts, and also the elimination of the series of intermediate parts usually employed in imparting the motion of the pedals to the dampers and other adjustable devices designed to modify, the tone as desired.

Another essential object of this invention is to provide a pedal mechanism with its connected parts whereby on account of the paucity of joints the operation will be simplified and the rattling of the joints be eliminated.

My invention consists first in combining, in connection with the different pedals, directly connected vertically acting bars or rods which in turn are connected to the rock rods which operate the different dampers or mufflers.

My invention further consists in forming the connecting rods with means whereby the same may be adjusted in relation to the damper rods and also in the parts and combination of parts, all of which will be hereinafter fully set forth and claimed.

In the drawings, Figure I is a view in elevation of so much of the piano action as is necessary to disclose my invention, showing the same as looking inward from one side of the piano. Fig. II is a detached, enlarged view showing the damper rods which operate the dampers and being divided as usual for the purpose of allowing one of the damper rods to be operated independent of the other, and also to cause both damper rods to be operated by the one action of the single pedal. Fig. III is a horizontal sectional view taken on a line above the pedals and showing the connection of a riser rod with the inner end of each pedal, and, Fig. IV is a plan view of a part of the damper

rods, showing the manner in which the meeting ends thereof overlap.

In a pedal action, as heretofore constructed, it has been the custom to operate the damper rods, which in turn operate the dampers, from the ends of the piano. This necessitated connections from the inner ends of the pedals horizontally to the sides of the piano at the bottom thereof, and from thence vertically up the sides to the damper rods at both ends of the piano. This construction necessitated the making of the damper rods of such a length as to project at both ends of the action, and also in operating the hammer rest rail the same was operated from one end of the piano. The above described construction obviously included parts intermediate the pedals and dampers and the hammer rest rail of unnecessary length, and included a multiplicity of parts which I have, in my invention entirely eliminated, while I attain a direct action, a simple construction with fewer parts, which I will proceed to set forth.

1 represents a pedal of which there may be one, two, three or more according to the construction of the piano. In the present construction, a portion of each damper rod is shown in Fig. II, with a riser rod or operating rod for each of the damper rods, and a single riser rod or operating rod for the hammer rest bar, and obviously there must be a pedal for each riser rod shown. The pedal 1 is pivotally secured to a riser 3 as at 2. At the inner ends of the pedal I pivotally secure it to the riser rod 5 as at 4. This rod rising directly from the pedal to the rear of the action engages at its upper end an arm 6 of the rod 7, which in turn is hinged as at 8 to the action rail 9 through the arm 9' arranged at substantially right angles to said arm 6. Thus it will be seen that as the pedal is depressed the riser rod 5 is raised, raising in turn the arm 6, which causes the rod 7 to engage the pivoted damper lever 10, and release the dampers from the string 12. The reverse action of the pedal, which is caused by means of the action of the spring 13 reverses the action of all the parts and allows the damper 11 to engage the string 12. Each rod 5 is provided with a nut 14, which in this instance is shown on the upper end of the rod and which is adjusted by means of an external

screw thread on the rod, and an internal screw thread in the nut 14, this nut being kept in position by means of a lock-nut 15, and it is by this means that the riser rod 5 may be lengthened or shortened as required.

In operating the hammer rest rail R, the pedal shown in dotted lines to the rear of the pedal 1, and pivotally connected to the riser rod 16, is depressed, which in turn raises the riser rod 16 and with it the hammer rest rail R, throwing said hammer rail inward and shortening the stroke of the hammer H. This is accomplished through the medium of an adjustable arm 17 at the upper end of the riser rod 16. Said last named pedal is pivoted to the riser 3' and is also provided with a return spring 13.

By a construction as above set forth, it will be seen first that the movements of the pedals are directly communicated to the dampers, and to the hammer rest rail, centrally of the piano, and near or close to the overlapping meeting-ends of the damper-rods 7, thus eliminating torsional strain on the arms 6 leading from the damper rods 7 and also eliminating a multiplicity of joints and parts. It will also be seen that the action for operating the hammer rest rail is direct from its pedal and is central of said hammer rest rail.

In setting forth this invention I have

shown and described it as I consider it best adapted to perform its functions and have shown the same with its characteristic features and their embodiment as I consider them best adapted for the purpose, but I do not wish to be limited to these details as they may be modified and still the main objects of the invention be attained, without departing from the spirit and scope of the invention as claimed.

What I claim is:—

In a piano pedal action, the combination with an action rail, and damper levers carried thereby, of damper rods pivotally suspended from said action rail and having overlapped meeting-ends, an arm carried by each rod adjacent the meeting ends thereof, a pedal for each damper rod, the arms of said damper-rods being in the same planes as the pedals, and riser rods directly connected at their lower ends to the inner ends of the pedals with their upper ends engaging said arms.

Signed at Cleveland in the county of Cuyahoga and State of Ohio, this twentieth of April 1908.

ELMER D. ST. JOHN.

Witnesses:

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