

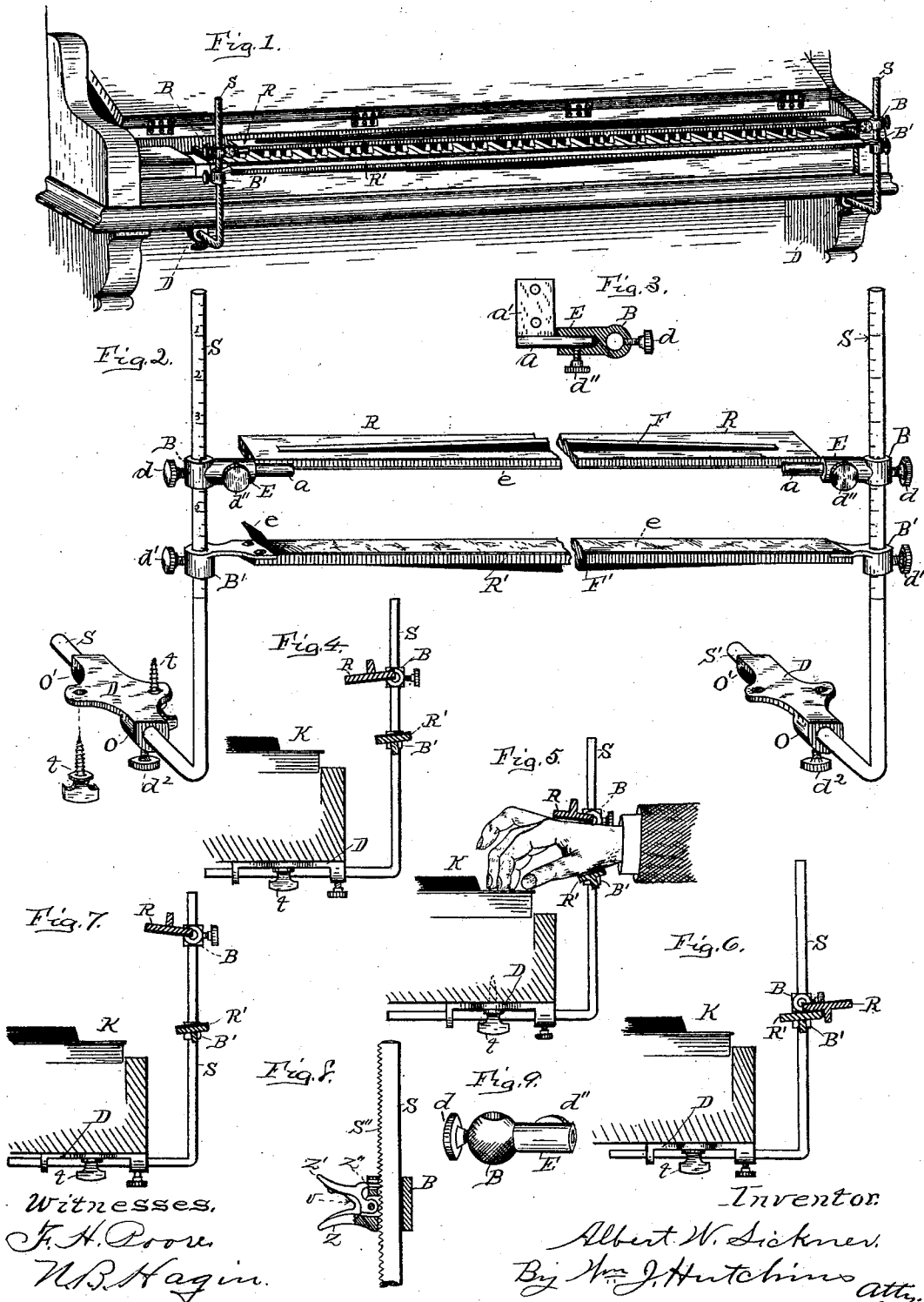
(No Model.)

A. W. SICKNER.

HAND AND ARM GUIDE FOR PIANOS OR ORGANS.

No. 469,276.

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UNITED STATES PATENT OFFICE.

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HAND AND ARM GUIDE FOR PIANOS OR ORGANS.

SPECIFICATION forming part of Letters Patent No. 469,276, dated February 23, 1892.

Application filed November 9, 1891. Serial No. 411,267. (No model.)

To all whom it may concern:

Be it known that I, ALBERT W. SICKNER, a citizen of the United States of America, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Hand and Arm Guides for Pianos or Organs, of which the following is a specification, reference being had therein to the accompanying drawings, and the letters of reference thereon, forming a part of this specification, in which—

Figure 1 represents in perspective a key-board of a piano having my improved hand guide and trainer attached thereto as it would appear ready for use; Fig. 2, a perspective view of the guide and trainer apparatus detached from the instrument, having the center portion of the guide-rails broken away to condense the view; Fig. 3, a detailed section of the rail-hinge. Figs. 4, 5, 6, and 7, respectively, represent the key-board of an instrument and the guide-rails of the apparatus in transverse section and a side elevation of one rail-supporting standard attached to the instrument, said views respectively illustrating various adjustments and positions of said guide-rails. Fig. 8 represents one of the guide-rail-supporting boxes in section and a side view of the supporting-standard passing through said box, also showing a side plan of a spring-latch mechanism for adjustably holding the box on the standard; and Fig. 9 is a detailed perspective of one of the upper rail-supporting boxes.

This invention relates to certain improvements in apparatus designed as an attachment for pianos and organs for guiding and training the hand movements of persons learning the art of instrumental music as the result of practice upon pianos and organs; and it consists in the construction and combination of certain parts, which improvements are fully set forth and explained in the following specification, and pointed out in the claims.

The object of this invention is to cause the learner in said art to maintain a correct position of the forearms and wrists and at the same time permit freedom of the hands and fingers; also, in some instances to guide and prevent improper movements of the hands and permit freedom of the fingers, and also, in other instances, to guide and prevent im-

proper movement of the forearms and permit freedom of the wrists and hands.

Referring to the drawings, K represents that portion of a piano or similar instrument commonly known as the "key-board," to the under side of which the supports of the apparatus are attached, and D represent such supports, which consist of plates or an equivalent frame having screw-holes therein, through which thumb-screws *t* are arranged for securing them to the instrument, and are further provided with the horizontally-arranged boxes O and O', a box at each end of each plate arranged in line with each other, as represented, the forward boxes O of said plates being respectively provided with set-screws *d*², arranged in corresponding screw-threaded holes turned upward into said boxes.

S S represent the guide-rail-supporting standards, which are preferably made of round metal bars and bent at a given point, so that one portion extends horizontally and the opposite portion vertically and at right angles to the former portion. Said horizontal portions are represented at S' S' and are arranged extending under the key-board K and through the boxes O and O' of plates D, and are adapted to be moved longitudinally in either direction to adjust the vertical standards S S either to or from the key-board and are held into adjustment by means of the set-screws *d*², turned hard against them.

R' represents the lower guide-rail of the apparatus and consists, preferably, of wood provided with a lower truss-bridging F' to prevent it being too flexible and with the metallic boxes B' B', one box secured to each end, as shown, which boxes are sleeved on the standards S, respectively, as represented, and adjustably held thereon into serviceable position by means of the set-screws *d*', respectively, turned into corresponding screw-threaded holes of the boxes and brought to bear against their respective standard.

R represents the upper guide-rail of the apparatus of similar construction, but of reverse position of rail R', and is supported by means of boxes B B through the agency of hinge connections in like manner as the lower rail, which boxes are also adjustably held on said standards by means of the set-screws *d* in like manner as boxes B'. Said hinge con-

nections consist, respectively, of an extending barrel portion E, of boxes B, and of a hinge part *a*, having a securing-wing *a'* (see Fig. 3) secured to each end of the rail, with the extending portions of said parts *a* arranged in the barrels E, where they are adjustably held against rotation by means of set-screws *d''*, turned into corresponding screw-threaded holes of said barrels and brought to bear against said parts *a'*. The purpose of said hinges is to adjust the rail R, so that its under surface will be brought to incline either upward or downward toward the key-board or to a horizontal position, which is accomplished by loosening the set-screws *d''*, and when the adjustment is made tightening said screws, and thereby holding the rail into such desired adjustment as may be required. In the arrangement of said rails the lower rail is held centrally between the supporting-standards, while the upper rail extends to one side toward the key-board, which brings its outer side about vertically central over the center of the lower rail, which relative position of the rails is essential and very important to the proper use and success of the apparatus, for the reason that the lower rail must be sufficiently distant from the key-board, so as not to interfere with the free movement and use of one's thumb, and the upper rail must be sufficiently near the key-board to properly guide the back of the hands to prevent improper free movement of the hands and yet permit free movement and use of the fingers. The lower rail is, for the purpose of better adapting it to the hands in service, arranged with its upper or contact surface inclining downward toward the key-board, as represented, and the contact-surface of each of the rails is covered with felt or other suitable fabric material, as shown at *e*, to avoid the hands coming in contact with the wood portion of the rails.

In Fig. 8 I have represented a spring-latch mechanism for use as a substitute for the set-screws of the rail-boxes of the apparatus for holding said boxes into adjustment, which latches consist of a fixed part Z of the box B, arranged extending in a direction from the key-board, and of a latch part Z', pivotally secured to the box and having a contact part Z'' arranged extending through a side hole of the box into the box-bore, which is yieldingly held in such position by means of a spring V, arranged between parts Z and Z', as shown. The standard S, when used with such latch mechanism, is provided along one side with a series of notches S'', into which notches said contact part Z'' of the latch engages to hold the box adjusted, and when it is desired to again adjust the box said parts Z and Z' are taken between the fingers and the latch part Z' depressed, causing its contact part Z'' to disengage from the notches, and when the adjustment is made said parts are released, thus permitting spring V to return part Z'' to its position into the adja-

cent notch of the standard, and I desire to state that other analogous means may be employed, if desired, to hold said boxes into adjustment.

In use the lower rail is brought to a position a little distance from and above the plain of the keys of the instrument to which the apparatus is attached to properly serve as a guide-rest for the hands or wrists, as the desired position may require. The upper rail is then brought to a position to lightly touch the back of the hands, which, if the hands are resting in the position illustrated in Fig. 5, will hold the hands against vertical movement and permit free movement vertically to the fingers. In instances where the rails are adjusted farther from the key-board, so that the lower rail will engage the wrist, a limited free movement of the hands may be had, but too high vertical movement prevented by the upper rail, and in such adjustment, if the upper-rail contact-surface is inclined upward in the direction of the key-board (see position in Figs. 5 and 7) and if it becomes necessary to more closely confine the hands, said upper rail may be adjusted to incline reversely, as shown in Fig. 4, which would cause the back of the hand adjacent the knuckles to sooner engage the rail if moved vertically.

By loosening the hinge set-screws *d''* of rail R hinge parts said rail may be turned to present its contact-surface uppermost and then lowered by adjusting its supporting-boxes to rest upon the outer part of rail R', as shown in Fig. 6, which position of rails forms a wrist or hand rest only, and by bringing the two rails together form a compound rest. Practically the same result may be attained by the removal from standards S' S' of the upper rail together with its boxes.

In Fig. 2 the upper portion, of the standards S' S' are represented as scaled for the purpose of intelligibly adjusting the rails.

Having thus described my invention, what I claim as new and useful, and desire to secure by Letters Patent, is as follows:

1. The guide and trainer for pianos and organs, consisting of the combination, with the laterally-adjustable standards, of the two parallel guide-rails provided with end boxes and adjustably supported by said standards through the agency of said boxes, wherein the upper rail is connected with its boxes by means of hinge-joints, substantially as and for the purpose set forth.

2. In the apparatus described, the combination, with the rail-supporting standards, of the supporting-plates respectively provided with the opposite supporting-boxes, with holes for the admission of screws for securing them to a musical instrument, and with set-screws for adjustably holding the standard-laterals, substantially as set forth.

3. In the apparatus described, the combination, with their supports, of the rail-supporting standards consisting of metal bars bent at a given point to provide laterally-ex-

tending portions at right angles to the vertical portions and adapted to be adjusted to and from said supports, the set-screw for holding their adjustment, the guide-rails supported by said standards by means of boxes sleeved on their vertical portion, and the means for adjustably holding said rails, substantially as and for the purpose set forth.

4. In the apparatus described, in combination with the guide-rails respectively provided with supporting-boxes, the rail-supporting standards respectively provided with the indicating-scale, substantially as and for the purpose set forth.

5. An apparatus for attachment to pianos and organs for guiding and training the hand movements, consisting of a pair of vertical rail-supporting standards adjustably secured to the piano or organ, a lower guide-rail adjustably supported by and approximately central between said standards, and an upper guide-rail supported by said standards through the agency of hinge connections with its outer edge approximately vertically central over said lower rails, substantially as and for the purpose set forth.

6. In the guide and training apparatus, the combination, with their supporting-standards, of the lower guide-rail arranged with its contact-surface at an incline and the upper guide-rail arranged with its outer edge vertically central, or approximately so, over the lower rail, substantially as and for the purpose set forth.

7. In the apparatus described, the guide-rails thereof provided on their contact-surface with a fabric or an equivalent material and at their back with the truss-bridge, substantially as set forth.

8. In the apparatus described, the combination, with the upper guide-rail and its supporting-boxes, of the hinge connections consisting of the barrels made integral with the boxes and the hinge shanks or parts fixed to the rail and adapted to enter into said barrels and the set-screws turned into said barrels for holding the rail parts into adjustment, substantially as and for the purpose set forth.

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Witnesses:

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N. B. HAGIN.