(No Model.)

C. CLEMENTS-KROPP.

MUSICAL INSTRUMENT.

No. 572,550. Patented Dec. 8, 1896.

Fig. 1.

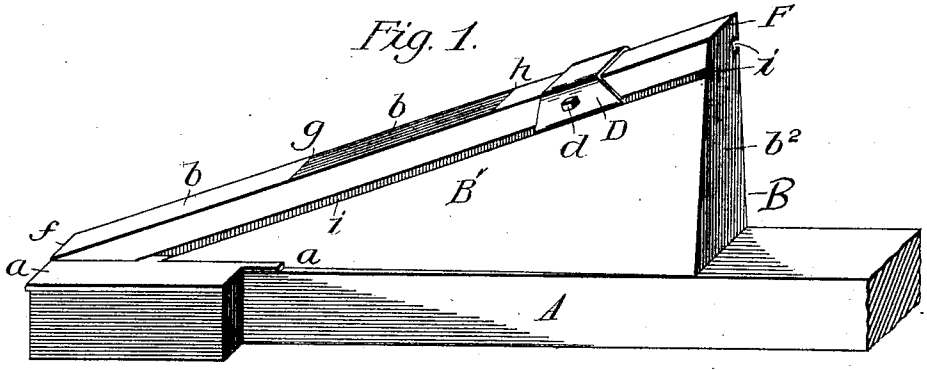


Fig. 2.

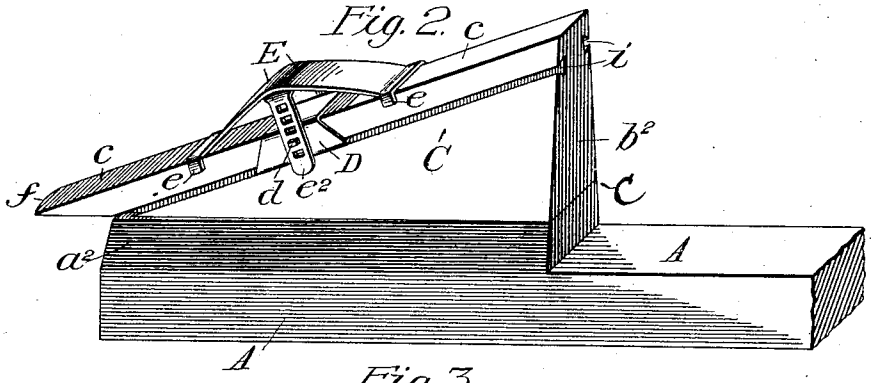
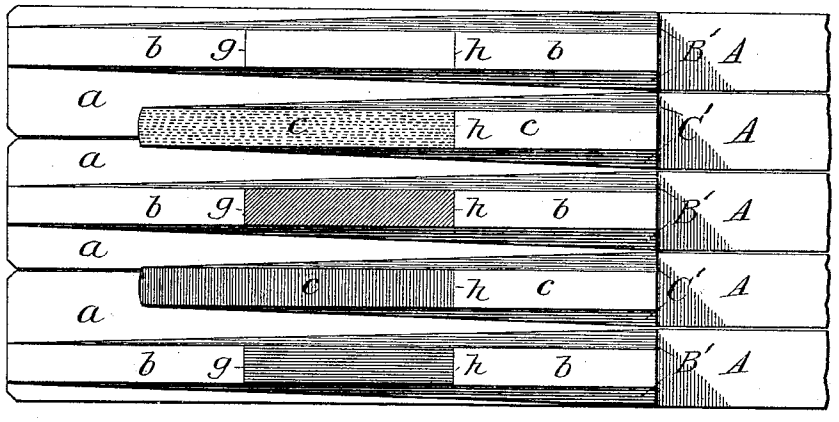


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES CLEMENTS-KROPP, OF NEWARK, NEW JERSEY.

MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 572,550, dated December 8, 1896.

Application filed October 11, 1893. Serial No. 487,902. (No model.)

To all whom it may concern:

Be it known that I, CHARLES CLEMENTS-KROPP, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Manual and Pedal Keyboards of Organs, Pianos, and Relative Instruments; 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 appertains to make and to use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of the specification.

The objects of this invention are to make the exposed portions of a pedal and a manual keyboard and the touch-surface of each key thereon more practical and convenient for the player and more suitable for the natural construction of the thumbs and fingers of the hands and for the heels and toes of the feet; to provide a suitable always fitting pressure-spot directly below the tips or ends of the thumbs and the naturally-extended fingers of either an adult or a child; to admit of more free and independent fingering of difficult passages, turns, &c., and to facilitate the execution of technical and the understanding of theoretical music, and to secure other advantages and results some of which will be referred to in connection with the description of the working parts.

The invention consists in the improved pedal and manual parts of the keys of the keyboards of a reed or a pipe organ, a piano, or a similar musical instrument, and in the arrangement and combination of parts, all substantially as will be hereinafter set forth, and finally embodied in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the views, Figure I is a perspective view of a long key of a pedal and of a manual keyboard. Fig. II is a perspective view and detail of a short key of a manual and of a pedal keyboard and of a sliding fixture movable and adjustable thereon. Fig. III is a partial top view of a section of a manual keyboard.

The letters A, A, a, and a^2 refer to old and not improved parts of the manual and pedal keys. Only the front portion of the keys and levers A and A is shown in the drawings.

Fig. I shows the new triangular and trapezoidally shaped pressure apparatus B combined with the old key and lever A and with the broad and usually white touch-plate a. The letter B occupies about the center of the triangular side surface of the pressure apparatus, which has the integral and continuously-inclining touch-surface b, descending uninterruptedly from its rear and highest point F down to its lowest point f or to the front of touch-plate a and of key and lever A. The letter b^2 refers to the trapezoidal back end of the apparatus. The acute angle provides the front and lowest point of the touch-surface b. Letter D refers to an ordinary sliding fixture consisting of a double-armed spring-clasp, grasping into and sliding within the grooves i, which run parallel with the touch-surface b. Sliding fixture D is movable and adjustable thereon. d refers to a knob or catch to hold and to combine the elastic sliding fixture and auxiliary touch-surface E (shown in Fig. II) with D and with the regular touch-surface b of apparatus B and with every apparatus and key of a keyboard. The grooves i may be replaced by an ordinary metal flange on each side of the apparatus. The letters g and h refer to points upon the touch-surface of each apparatus where two different colors meet.

The touch-surface of each key of the keyboard is multicolored. Two standard colors, as a rule white and black, are applied to the front and middle portion of the touch-surface b. The third color is a different and distinct one for each of the twelve successive keys constituting a chromatic scale. These twelve specific colors are systematically arranged, so that one of the twelve colors being exhibited upon one of the twelve successive keys constituting a chromatic scale on the keyboard and so that each thirteenth key shows the same color as the first key of said scale. Each tonica and each specific interval of a given major or a minor scale are made obvious by a specific or peculiar color shown upon the touch-surface of every key representing and sounding the same tonica or the same interval, which aids immensely the explanation of

the theories or science of tones and the practical understanding thereof by giving a visible object for the eye to see and to distinguish each specific interval or tone and thus educate the ear to hear and to distinguish each specific interval and tone of a scale and thus provide advantages for both the teacher and the student.

The inclination of each touch-surface upon each key of a keyboard provides a low touch-spot for the thumbs and heels and a more elevated one for the toes and the naturally-extended fingers of the player. The shorter a finger the smaller the elevation of the touch-spot. The longer a finger the higher is the location of the touch-spot on the new key, so that it will fit the small fingers of a child, as well as the long fingers of a "Thalbergar Liszt," and provide equal convenience of fingering for either one.

Fig. II shows the new pressure part or apparatus C, combined with the old and short key and lever A and with the old elevated touch-block a^2 and with the new sliding fixtures D and E. The continuously-inclining side surface C has the form of a triangle, the acute angle of which projects horizontally beyond the front ends of the touch-block a^2 and the key and lever A. The back of touch part or apparatus C is marked b^2, because it has the same trapezoidal shape, the same height, and the same gradually-increasing width from the top down to the basis upon lever A as the back of the apparatus B. Letter *i* refers to grooves running parallel with the touch-surface *c*, (which may be replaced by metal runners,) carrying and guiding the sliding fixtures D and E. Sliding fixture E provides an auxiliary and adjustable touch-surface for the thumbs and fingers and for the heels and toes of the player. It consists of a thin elastic strip of metal or other material, forming a curve-lined, elevated, and on both sides round-edged touch-plate, having four small guiding-wings *e* and two spring clasps or arms e^2, with eyes or openings to receive the knob or catch *d* of fixture D, and to provide a regulable height or elevation of the auxiliary touch-surface of plate E, making it fit for the small fingers of a child or for those of an adult, and for a level or an inclining touch-surface. The sliding fixtures D and E may be adjusted anywhere between the points F and *f* or wherever they are deemed to be most serviceable for the execution of rapid passages, turns, shakes, &c., or where they may render other advantage or convenience. The equally-inclining touch-surface *b* and *c* and the equal vertical height at any corresponding point of the triangular touch parts B and C provide a level inclined top and touch-surface for the improved keyboard, which is adequate to the natural condition of the not forcibly-extended fingers and to the particularities of thumbs, heels, and toes of a player sitting before an organ or piano.

The auxiliary touch-surface E may be adjusted to substitute either a black or a white key of the old keyboard, and thus any desirable succession of black or white or low and elevated keys may be provided upon the touch-surface of the improved keyboard. The level inclined surface of the keyboard prevents the inconvenient necessity of placing the long fingers behind one or between two elevated touch-blocks a^2, and does not require a forcibly stretching forward or drawing inward the tips of the fingers in order to reach a certain key or a certain spot thereon. Furthermore, it does away with the tedious and trying practice of fingering and playing the numerous major and minor scales correctly in the different number of sharps or flats they may require to be observed, and it releases the player from the mental strain of transposing music whenever necessary or desirable, because the tonica and each interval of any scale whatever may be indicated to suit the player and yet to meet every desired or required condition of pitch.

Fig. III shows a partial top view of a section of the improved manual keyboard. Letters *g* and *h* refer to points on the touch-surface of the keys where different colors meet. Letter *b* refers to the integral and continuously-inclining touch-surface of the apparatus and key B. *a* refers to the old touch-surface of the white touch-plate of key and lever A. Letter *c* refers to the inclining touch-surface of apparatus and key C, which is a little shorter in length, but in height, incline, and width it is equal to apparatus and key B. Letters B′ and C′ refer to the vertical and inclining sides of the apparatus B and C. The front part of the improved manual keyboard is constructed to retain the general appearance and conditions, as well as octave distance, of the keys of the old ordinary manual keyboard of either an organ or a piano, in combination with the inclining touch-surface of the new touch apparatus B and C and the adjustable sliding fixtures D and E. Each organ or piano player can use the new keyboard at once and enjoy the numerous technically and theoretically essential advantages and improvements the new keyboard provides.

Having thus described the invention, what I claim as new is—

1. In a manual or pedal keyboard of an organ, piano or similar instrument, the combination of an ordinary long key-lever with a triangular finger or foot pressure device, not wider than the narrow portion of the long key, the upper front portion of the pressure device forming an ascending touch-surface from the top of the front end of the key-lever to the back of the keyboard; substantially as specified.

2. In a manual or pedal keyboard the combination of an ordinary short key-lever, with a triangular finger or foot pressure device, arranged upon the upper front portion of the short key with its acute-angular portion be-

yond the front end thereof and with its hypotenuse to form a new, elevated and uninterruptedly-descending touch-surface from the back of the keyboard down beyond the end of the lever; substantially as set forth.

3. In a keyboard the triangular finger and foot pressure device combined with and arranged upon the top front portion of a manual or pedal key-lever to form an ascending pressure-surface, carrying thereon the small auxiliary finger or foot pressure device E, D, substantially as set forth and shown.

4. In a manual or pedal keyboard the small auxiliary finger or foot pressure device being adjustable to and movable upon the inclined top portion of a triangular finger or foot pressure device; substantially as specified.

5. In a manual or pedal keyboard the combination with the upper front portion of a short or long key-lever, of a triangular finger or foot pressure device, and of a small auxiliary pressure device adjustably and movably arranged upon the pressure-surface of the triangular device; substantially as described and shown.

6. In an organ, piano or similar instrument, the pedal or manual keyboard, consisting of ordinary long and short key-levers having a triangular pressure device united to their upper front portion; substantially as and for the purpose specified.

7. In a musical instrument the keyboard consisting of ordinary long and short key-levers, bearing upon their upper front portion a triangular finger or foot pressure device, having a narrow, elevated and inclined touch-surface, ascending from the front top surface of a long lever up and close to the backboard of the keyboard, or descending from the backboard downward and beyond the extreme front end of the short key-lever; substantially as set forth.

8. In a keyboard the manual and the pedal key-levers having upon their upper front portion a triangular finger or foot pressure device, and having a small auxiliary finger or foot pressure device adjustable and movable upon the pressure-surface of the triangular device; substantially as and for the purpose specified.

9. In combination with ordinary key-levers or inclined pressure-surface, a small auxiliary finger or foot pressure device, having the rounded and elastic touch-surface E, combined with a spring-clasp D, arranged to be movable to differing locations upon the inclined pressure-surface, and to be adjustable to differing height of its touch-surface; substantially as and for the purpose set forth.

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Witnesses:
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