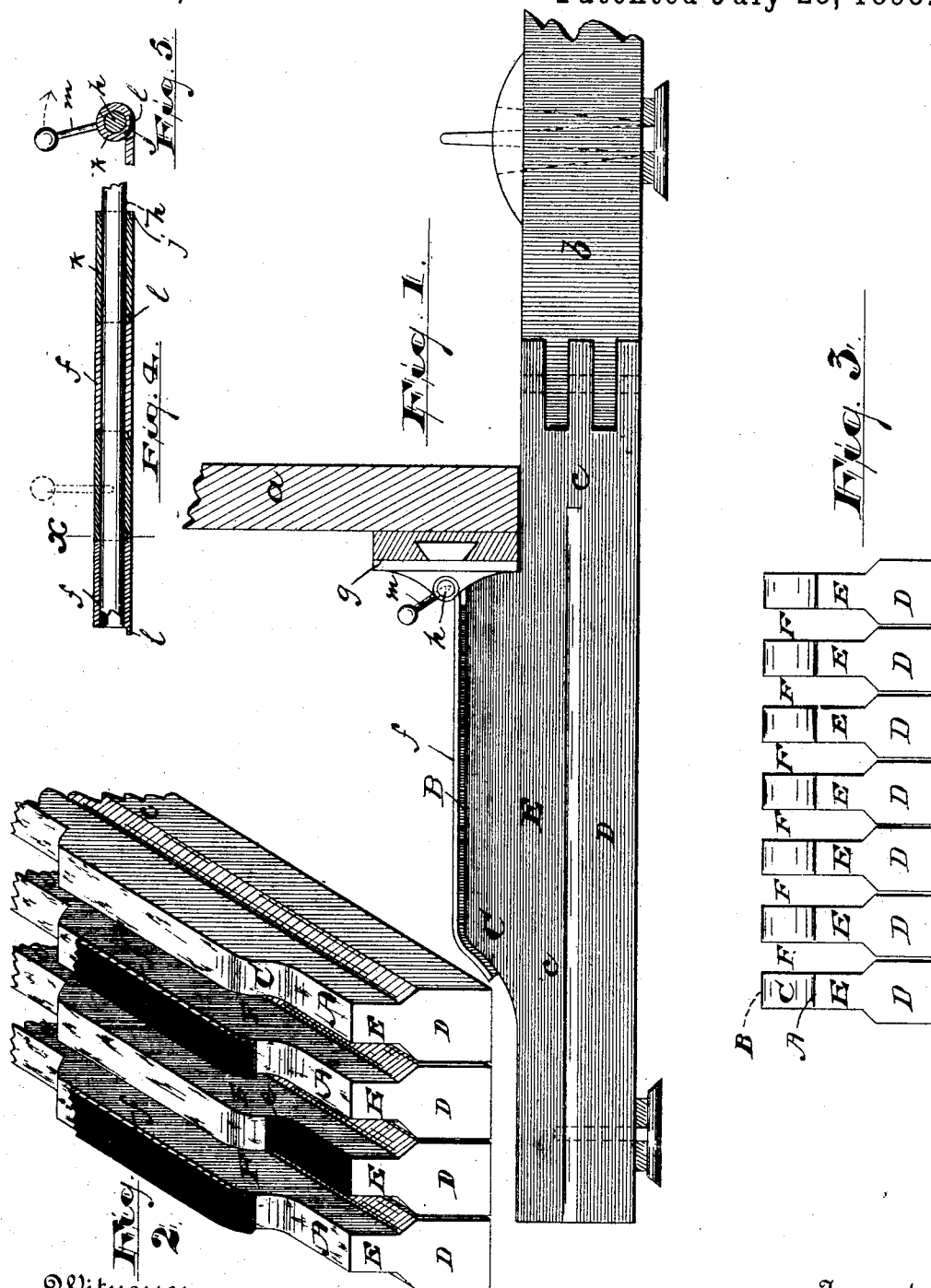


(No Model.)

C. C. KROPP.
KEYBOARD FOR MUSICAL INSTRUMENTS.

No. 502,099.

Patented July 25, 1893.



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UNITED STATES PATENT OFFICE.

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KEYBOARD FOR MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 502,099, dated July 25, 1893.

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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 Keyboards or Manuals for Musical 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 use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The objects of this invention are, to admit of a more natural and free use of both the longer and shorter fingers of the hand in playing upon a piano, organ or like musical instrument, to facilitate the execution of trills, turns, rapid passages and chords of all kinds, 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 key board or manual for pipe, reed, stringed and similar musical instruments, and in the arrangements and combinations 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 figures, Figure 1 is a vertical sectional view of a portion of a musical instrument having a key board or manual. Fig. 2 is a perspective detail showing a series of keys of the improved construction and including the key known as the central C key. Fig. 3 is a front elevation of said keys and showing the relation of certain adjustable covers or marking pieces to said keys. Fig. 4 is a detail showing a certain pivotal rod and covers arranged thereon and Fig. 5 is a transverse section of the same.

In said drawings, *a* indicates the ordinary back board of a piano, reed or pipe organ, or similar instrument, and *b* the interior portions of the usual music levers or keys which may be arranged in any ordinary manner with co-operating parts. *c* are the outer or exposed extremities of said levers. They

may be integrally united with the said interior portions or be jointed as shown, or in any other manner. These said exposed lever or key portions are of uniform length, all extending out to a given line as indicated in Fig. 2, there being no short keys, similar to the black keys in the older, chromatic manuals now commonly in use. Of the said uniformly extending keys, *A* indicates the lower touch surface and *B* an elevated touch surface, all the keys, uniformly, being provided with the same, so that each key may be played upon with either the longer or the shorter fingers with equal ease and convenience.

C indicates a slide surface or incline, which allows the thumb or either of the fingers to slide or pass with a gliding action from the lower to the upper touch surface or vice versa without allowing the key to rise or to resound because of the change in position.

D indicates the wider base of the key, having a width of about seventeen thirty-seconds of an inch, and *E*, the narrower upper parts on which the touch surfaces are formed, the width of this part being about nine thirty-seconds of an inch. Spaces *F*, are thus formed between the touch surfaces which are of value in that a beginner, particularly, will be enabled to attain a true and unerring touch difficult to attain in the old manual.

To distinguish the particular key on the new manual which produces the sound or tone commonly known as center *C*, and from which the other tones and keys are known, I have marked said key so that it will be exceptionally conspicuous. I may do this by giving it a different color or other distinguishing mark, *e*, as indicated in Fig. 2. This mark is preferably on the lower touch surface where it will be constantly in sight.

To show the old stationary arrangement of white and black keys, I use covers, *f*, of different material or color from that of the keys to cover the upper surfaces of each second, fourth, seventh, ninth and eleventh keys of any chromatic scale contained within the compass of the manual. These covers are made and arranged in connection with co-operating parts so that they will sink and rise with the manual keys, but are stationary with relation to each other and laterally movable in relation to the said manual keys. To enable said cov-

ers to be moved, as a collection or group, in either direction, I have arranged them all upon a slide, *g*, arranged to work in a suitable slide-way upon the back-board. Said slide carries a pivotal wire or rod, *h*, and the covers are turned around the same and allowed a limited pivotal movement thereon so that they may be depressed with the keys in playing and yet, when it is desired to change the relation of the holders to the said keys by sliding the said holders laterally over said keys, they may be turned upwardly with the pivotal wire, away from said keys so as not to interfere therewith. This is accomplished by forming recesses, *j*, in the ends of the collars, *k*, which separate the covers from one another and hold the same in proper relation to the keys, and forming lateral projections, *l*, on the opposite ends of the covers, *f*, which lie in said recesses, working therein when the cover is turned with the key, but engaging end walls of said recesses and causing the covers to turn with the pivotal rod and the collars fixed thereon, when it is desired to raise the series of covers from the keys, as will be understood.

A finger piece, *m*, serves as a lever to raise the covers, the said finger piece extending through the collar, *k*, and into the rod, as shown in Fig. 2.

In operating the device, the keys or levers being suitably arranged to be played upon as described, and the covers being arranged by lateral movement to cover each second, fourth, seventh, ninth, and eleventh keys of any desired chromatic scale contained within the compass of the manual, the keys are played upon as in ordinary piano or organ playing. Each cover when pressed down will sink with its underlying key and rise therewith. When a change of key is desired, the covers are again moved laterally accordingly, the middle C key serving as a guide. The black keys may be either played by pressing on the cover or upon the touch surfaces A, thus rendering the playing more convenient.

By providing the movable covers and keys having upper and lower touch surfaces and spaces between the keys as described, the player is enabled to execute easily and without interference of keys, difficult music in any key or mode desirable without rewriting or transferring the printed music and without changing the fingering. The methodical or habitual fingering used for instance in the scale of "B" can, on the new manual, be used without any change whatever in the scale of C, D flat, B flat, A, G sharp, &c.

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

1. The key board for a musical instrument comprising a series of uniformly colored keys embracing the full chromatic scale, substantially as set forth.

2. The key board for musical instruments herein described, having therein the keys of each chromatic scale uniform and alike in shape and color.

3. In a musical instrument, the combination with the uniform keys comprising full chromatic scales, of covers for said keys disposed, in their relations with said keys and with each other, to cover the second, fourth, seventh, ninth and eleventh keys in each scale and connected together to be moved simultaneously laterally with reference to said keys substantially as set forth.

4. In a manual or key board, the keys having the exposed portions of uniform length, and having the bases wide and the upper parts narrow, the said upper parts having a lower and upper touch surface.

5. In a manual or key board, the series of keys of uniform length, all extending out to a given line, having wide base portions and narrow upper parts and having laterally adjustable covers, substantially as set forth.

6. The combination with a key board having uniformly colored keys including a full chromatic scale or scales, of covers laterally adjustable with reference to said keys and relatively disposed to cover the second, fourth, seventh, ninth, and eleventh keys of said scale or scales substantially as set forth.

7. In a musical instrument the series of keys having spaces, F, formed between and having upper and lower touch surfaces, substantially as set forth.

8. In a musical instrument the series of keys having wide bases and narrow upper parts with spaces formed between, the upper surfaces of said keys being comparatively low at the front and more elevated at the rear to form differently elevated touch surfaces A, B, substantially as set forth.

9. In combination with the lever, *b*, of a piano or similar instrument, a series of keys extending uniformly to a given line, the said keys being all provided with touch surfaces A, B, at different elevations, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 19th day of July, 1892.

CHARLES CLEMENTS KROPP.

Witnesses:

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