No. 638,632. Patented Dec. 5, 1899.

V. M. GRIFFIN.

MUSICIAN'S FINGER STRENGTHENER.

(Application filed Mar. 10, 1899.)

(No Model.)

Fig. 3.

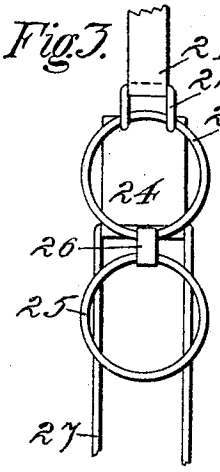


Fig. 4.

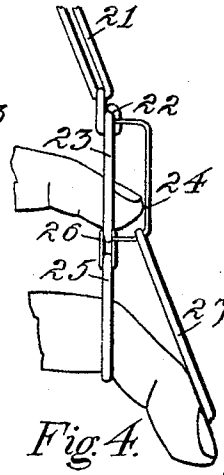
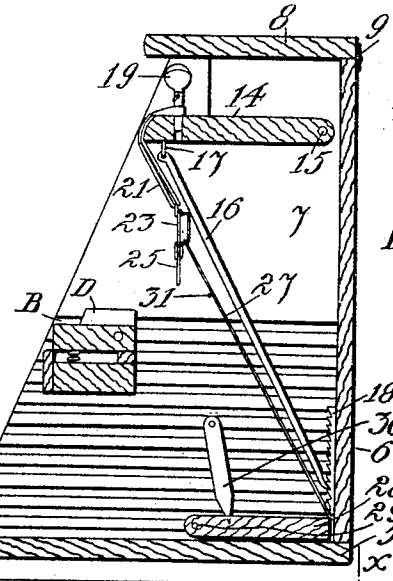
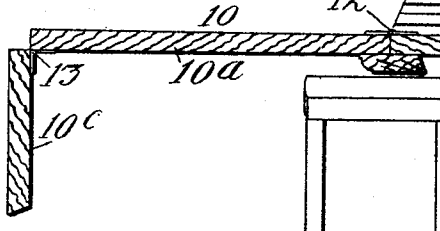


Fig. 1.





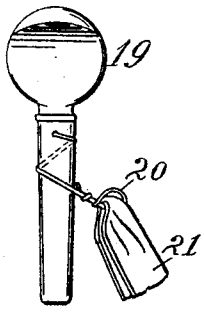


Fig. 5.

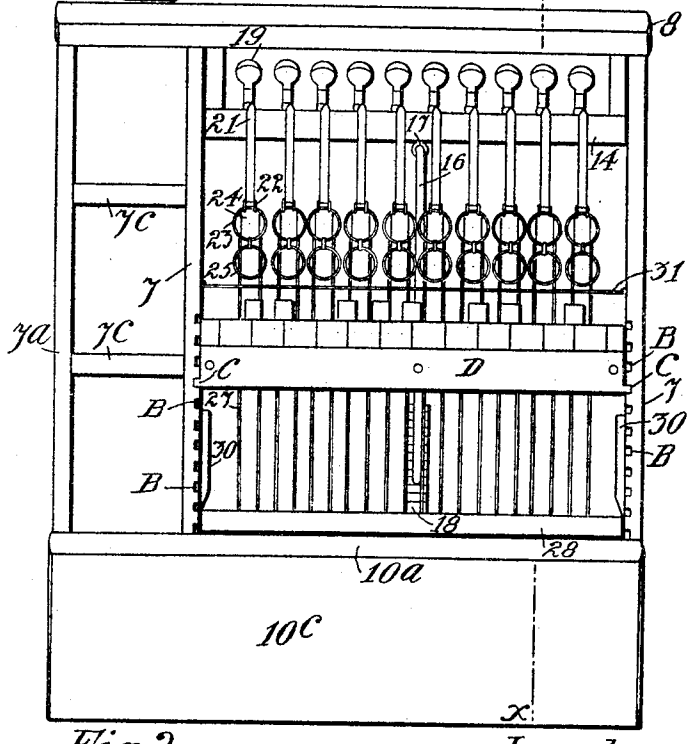


Fig. 2.

Witnesses,
H. M. Neff
Nellie G. Daniels

Inventor,
Virgil M. Griffin,
By
Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

VIRGIL MONROE GRIFFIN, OF DENVER, COLORADO.

MUSICIAN'S FINGER-STRENGTHENER.

SPECIFICATION forming part of Letters Patent No. 638,632, dated December 5, 1899.

Application filed March 10, 1899. Serial No. 708,537. (No model.)

To all whom it may concern:

Be it known that I, VIRGIL MONROE GRIFFIN, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Musicians' Finger-Strengtheners; and I do 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 the figures and letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in finger-strengtheners for use by musicians and students of music. Its object is to increase the strength of the joints of the fingers, wrist, and arm, and also to develop the muscles brought into requisition when performing on the piano, organ, violin, or other instruments requiring special finger exercises or practice.

My object is to provide an apparatus of this class which shall be simple in construction, economical in cost, reliable, durable, and efficient in use; and to these ends the invention consists of the features, arrangements, and combinations hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a vertical section taken through my improved apparatus on the line X X, Fig. 2. Fig. 2 is a front view of the device. Fig. 3 is a fragmentary front view of the finger-strengthening device, shown in detail and on a larger scale. Fig. 4 is a side view of the same with the fingers in place. Fig. 5 illustrates one of the tension-pegs with which the yielding or elastic support for the finger-rings is connected.

Similar reference characters indicating corresponding parts in the views, let the numeral 5 designate the bottom, 6 the back, and 7 the sides, of a cabinet or case provided with a top 8, hinged to the back at 9, a front 10, hinged to the bottom at 12 and composed of two parts 10^a and 10^c, hinged together at 13. By means of this hinged front the cabinet may be completely closed, concealing the operating parts of the mechanism. The front when open, as shown in Fig. 1, may be employed as a writing-desk. As shown in the drawings, (see Fig. 2,) the cabinet is provided with an additional side piece 7^a, between which and the adjacent side 7 are located shelves or horizontal partitions 7^c, forming pigeonholes. In the upper part of this cabinet is located a board or plate 14, hinged to the sides 7 at 15 and supported by a rod 16, whose upper extremity is connected with a staple 17, attached to the central front portion of the board, while the lower extremity of the rod engages a toothed rack or ratchet 18, attached to the lower portion of the back of the cabinet on the inside. In suitable openings formed in the board 14 are inserted tension-pegs 19, similar to those employed in connection with the strings of a violin. Attached to each peg 19 is a cord or wire loop 20, through which is passed an elastic band 21, whose opposite extremity is connected with a stirrup 22, upon which is hung a ring 23, to which is attached a rearwardly-depressed stop-plate 24, which limits the entrance of the finger, allowing only the tip to pass through the ring, which is specially intended for use in exercising the first joint of the finger. Another ring 25 is connected with the ring 23 by means of a loop 26. Passed through the stop 24 is a cord 27, whose lower extremities are attached to the rear edge of a board or plate 28, located in the lower part of the cabinet, and hinged near its forward edge, as shown at 29. This board 28 is held in any desired position of adjustment by means of dogs 30, whose upper extremities are pivoted to the sides of the cabinet. The lower extremities of these dogs are sharp, whereby they are adapted to enter the wood board and maintain it in position.

Any desired number of strengthening-rings 23 and 25 and their attachments may be employed. In Fig. 2 a series of ten is shown, permitting the simultaneous exercising of the thumbs and all the fingers of both hands, if desired. There is a peg 19, an elastic band 21, and a cord 27 for each pair of rings 23 25. The pegs are arranged in a row upon the upper hinged board 14, and the cords 27 are all secured to the lower hinged board 28. Though elastic bands are described herein, it is evi-

dent that coil or other springs or other suitable yielding devices may be employed. The tension of the bands 21 may be regulated individually, or one at a time, by turning their respective pegs 19. The tension of all the bands may be regulated without materially changing the elevation of the rings by adjusting the board 14 through the instrumentality of the rod 16 and the ratchet 18. Again, the tension of these bands may be regulated by the adjustment of the board 28; but this adjustment changes the elevation of the rings, since as the board is raised the recoil of the bands lifts the rings, and as this board is depressed the rings are drawn down. This explanation is based on the assumption that the cords 27 are non-elastic, which is preferably the case. A transverse elastic cord or string 31 is passed in front of the cords 27 a short distance below the rings, its extremities being attached to the sides 7 of the cabinet. This elastic cord limits the forward movement of the non-elastic cords and has a tendency to maintain the rings in their proper position.

The sides 7 of the cabinet are provided with a series of grooved ways B, adapted to receive tongues C, formed on a keyboard D, which forms a hand-rest, and may be employed in connection with the rings for exercising the fingers.

The use of the device is illustrated to some extent in Fig. 4. When it is desired to exercise the first joint of the finger, the ring 23 is employed, since the tip only of the finger can pass into the ring. Then by working the first joint the tip of the finger is moved downwardly, stretching the elastic band. As the tip of the finger is raised in working the joint the recoil of the band raises the ring accordingly. It is evident that these exercises will strengthen the first joint of the finger. When strengthening the other joints of the finger, the ring 25 is employed, since it allows the finger to slip through the ring as far as desired. To exercise the second joint, the finger should engage the ring 25 at the first joint. The second joint should then be moved in the same manner as heretofore explained with reference to the first-joint exercises. To exercise the knuckle-joint, the second joint should engage the ring as, shown in Fig. 4. To exercise the wrist and elbow joints, the finger or fingers may be slipped through the rings as far as they will go, after which the joint it is desired to strengthen is worked, while the intermediate joints, if any, are kept rigid. The shoulder-joint may be strengthened by a whole-arm movement. When the fingers are passed through the rings, they may be employed to operate the spring-supported keys of the keyboard D, which may be located at any elevation required to produce the best results.

Having thus described my invention, what I claim is—

1. In a finger-strengthening device, the combination of a yieldingly-suspended ring, and a cord leading downwardly therefrom and having its lower extremity secured in place.

2. A finger-strengthener comprising a ring located between an elastic support above and a non-elastic support below.

3. In a finger-strengthener, the combination with a case, of a board attached to the upper part of the case, a tension-peg inserted in said board, a yielding device attached to said peg, a ring supported by said device, and a cord connected with the ring at one extremity and with the case at the opposite extremity.

4. In a finger-strengthener, the combination of a cabinet or case, an adjustable board or plate located in the upper part thereof, rings yieldingly suspended from said board, and cords connected with the rings at one extremity, their opposite extremities being attached to the lower part of the case.

5. In a finger-strengthener, the combination with a cabinet or case, of an adjustable board or plate located in the upper part of the case, rings yieldingly suspended from said board, an adjustable board located in the lower part of the case, and cords connecting said rings with the last-named board.

6. The combination of an upper adjustable board or plate, rings yieldingly suspended thereform, a lower adjustable board or plate, and a suitable connection between the last-named board and the rings.

7. The combination of an upper hinged plate or board, a supporting-rod connected with said board at one extremity, a toothed ratchet which the lower extremity of rod engages, rings yieldingly suspended from said board, and a suitable connection between said rings and the lower part of the case.

8. The combination with a suitable case, of yieldingly-suspended rings, an adjustable board or plate located in the lower part of the case, and a suitable connection between the rings and said board.

9. The combination with a suitable case, of rings yieldingly suspended therein, a board or plate hinged in the lower part of the case, means for connecting the rings with the hinged board and suitable means for locking the plate in any desired position of adjustment.

10. The combination with a suitable case, of rings yieldingly suspended therein, a board or plate hinged in the lower part of the case, a suitable connection between the rings and the hinged board or plate and suitable means for locking the plate in any desired position of adjustment, said means comprising dogs pivoted on the case and adapted to engage said plate.

11. A finger-strengthener comprising a yieldingly-suspended ring, and a stop mounted on the ring and adapted to limit the entrance of the finger.

12. A finger-strengthener comprising a yieldingly-suspended ring, a stop mounted on

the ring and adapted to limit the entrance of the finger, and another ring suitably connected with the first-named ring.

13. The combination with a cabinet or case, of a hinged board adjustably supported in the upper part thereof, a series of tension-pegs mounted on said board, rings yieldingly suspended from said pegs, a hinged board or plate located in the lower part of the case, means for locking said board in any desired position of adjustment, and a suitable connection between the rings and said last-named board.

14. The combination with a case, of yieldingly-suspended finger-supporting devices mounted thereon, and a keyboard mounted on the case in suitable proximity to the said devices.

15. The combination with a case having a number of grooved ways formed in its side walls, a keyboard having tongues to engage said ways, and yieldingly-suspended finger-supporting devices located in suitable proximity to the keyboard.

16. A finger-strengthener comprising yieldingly-suspended finger-supporting devices, means for regulating the tension of said devices, and a suitable connection between said devices and a fixed object to facilitate the maintenance of the devices in their proper position.

17. A finger-strengthener comprising a yieldingly-suspended finger-supporting device, and a suitable connection between said device and a fixed object to facilitate the maintenance of the device in the proper position.

18. The combination of a series of yieldingly-suspended finger-supporting devicse, cords connecting said devices with a fixed support below, and an elastic cord passed transversely in front of and engaging said cords.

In testimony whereof I affix my signature in presence of two witnesses.

VIRGIL MONROE GRIFFIN.

Witnesses:

ISHAM R. HOWZE,

NELLIE G. DANIELS.