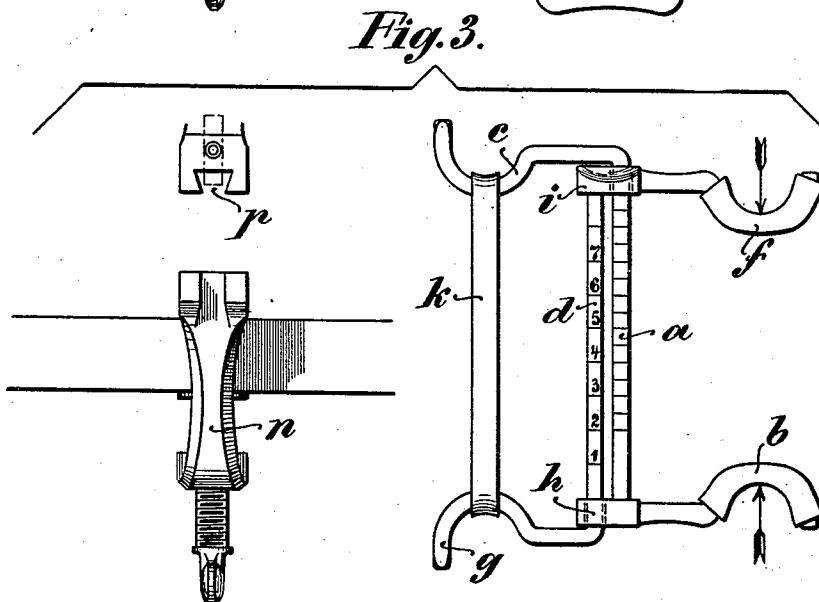
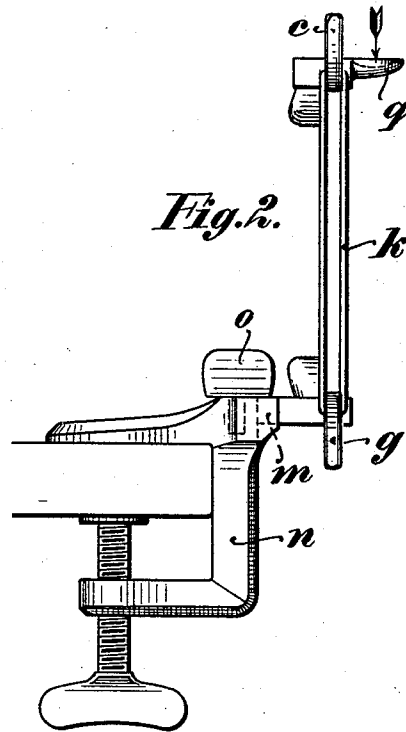
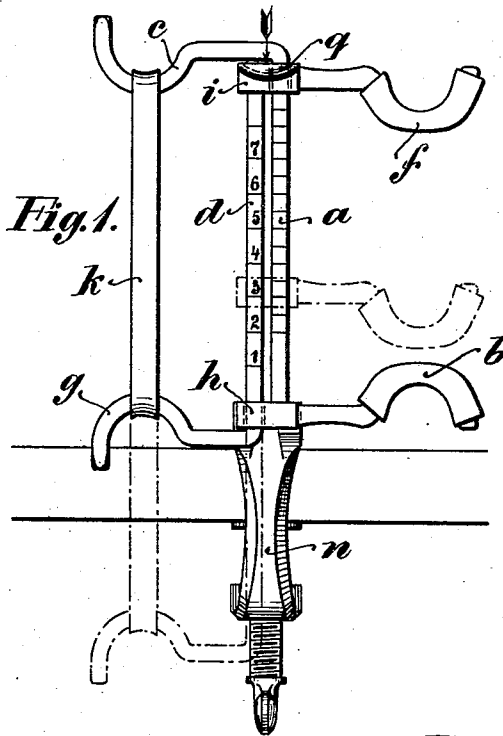


A. ZACHARIAE.  
EXERCISING MACHINE.  
APPLICATION FILED NOV. 29, 1910.

1,007,410.

Patented Oct. 31, 1911.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

AUGUSTE ZACHARIAE, OF HANOVER, GERMANY.

## EXERCISING-MACHINE.

1,007,410.

Specification of Letters Patent.

Patented Oct. 31, 1911.

Application filed November 23, 1910. Serial No. 594,632.

*To all whom it may concern:*

Be it known that I, AUGUSTE ZACHARIAE, a subject of the King of Prussia, German Emperor, residing at Hanover, in the Province of Hanover, Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Exercising-Machines, of which the following is a specification.

This invention relates to an apparatus for developing the hand of a pianoforte player.

The apparatus is simple and convenient and permits of various exercises adapted to the purpose in view and in case of need also with varied amount of force.

In the accompanying drawings, which form part of this specification, Figure 1 represents a front elevation, Fig. 2 is a side elevation, and Fig. 3 represents a detail and shows the manner in which the principal part of the apparatus can be separated and used for a special kind of exercise.

Referring first to Figs. 1 and 2, *a* indicates a vertical fixed bar to which is rigidly attached at its lower end a padded hook *b* and at the upper end, bent in the opposite direction is a hook *c*. Parallel to the bar *a* is arranged a vertically adjustable bar *d* which is provided at its upper end with a padded hook *f*, above hook *b* on bar *a* and bent oppositely to hook *b*, and at the lower end of bar *d* is a hook *g* bent in the opposite direction to bar *f*. The bar *a* is provided with a loop *h* at the inner end of hook *b*, through which bar *d* passes and is vertically movable therein, and on the inner end of hook *f* is a loop *i* through which the bar *a* passes.

*k* indicates a tension device, such as a rubber band, applied to the hooks *c* and *g*, which tends continuously to draw the hook *g*, the bar *d* and hook *b* upward, by reason of the inner end of the hook *g* engaging the loop end of hook *b*, as shown in Fig. 1.

A projection *n* attached at right angle below to the bar *a*, engages in a dovetail cavity *p* of the table clamp *n*, and is prevented from separating by means of the part *o* so that the whole apparatus remains in a vertical position.

The apparatus can be used by pressing with any desired finger upon the key *q* attached to the bar *d*, and pressing this down against the resistance of the band *k* (posi-

tion shown on the drawing in dotted lines). A scale attached to the bar *d* renders it possible to measure exactly the power used. Furthermore, the thumb can be placed in the hook *b* and in the hook *f* a finger can be placed, and both thumb and finger can then be pressed together. The counteraction can, however, take place also between any two fingers without the thumb if desired. The rubber band *k*, which may be replaced by a steel spring or the like, can be changed with ease and replaced by a stronger or weaker band, or it may be doubled in order to change at will the resistance of the apparatus. If the part *o* be turned so that it no longer touches the part *m*, then latter can be withdrawn from the dovetail cavity *p* (Fig. 3) whereupon the detached portion of the apparatus can be used for other exercises. Thus the above described counteraction can be effected between two fingers, especially between the thumb and any finger, with the hands in any desired position. Moreover the hook *b* can be grasped with one hand and the hook *f* with the other hand, and the two hooks can be pressed toward each other. Especially in these exercises, the hooks can be engaged between the thumb and the index finger, or between any two fingers of either hand. Finally it should be mentioned that the apparatus secured to a table could also be utilized for the suspension of an elastic strip provided with a finger ring which can be extended by the various fingers.

Having now particularly described my invention, what I claim is:

1. An exercising machine, comprising a pair of parallel bars, one of which is fixed, the other movable, said bars being provided with oppositely extending hooks and slidably connected by loops at the inner ends of said hooks, and a tension device engaging a fixed and a movable hook.

2. An exercising machine, comprising a fixed and a movable bar slidably connected, provided with a graduated scale, oppositely extending and oppositely curved hooks, the hooks on one side of the machine being adapted for engagement with the fingers of the user, and a contractile engaging the hooks on the opposite side of the machine.

3. An exercising machine, comprising a pair of parallel adjacent bars, one of which

is fixed, the other vertically movable, said  
bars having oppositely extending and oppo-  
sately bent hooks, and loops at the inner ends  
of the hooks connecting said bars, a tension  
5 device engaging a fixed and a movable hook,  
and a clamp for securing the machine to a  
fixed support.

In testimony, whereof I have signed my  
name to this specification in the presence of  
two subscribing witnesses.

AUGUSTE ZACHARIAE.

Witnesses:

EMILI PLATKNER,  
HEDWIG BRAUNHOLTZ.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,  
Washington, D. C."

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