(No Model.)

J. O. FINNBLADE & O. T. WESTLIN.

PIANO TECHNIC REGULATOR.

No. 591,800. Patented Oct. 12, 1897.

Fig. 1.

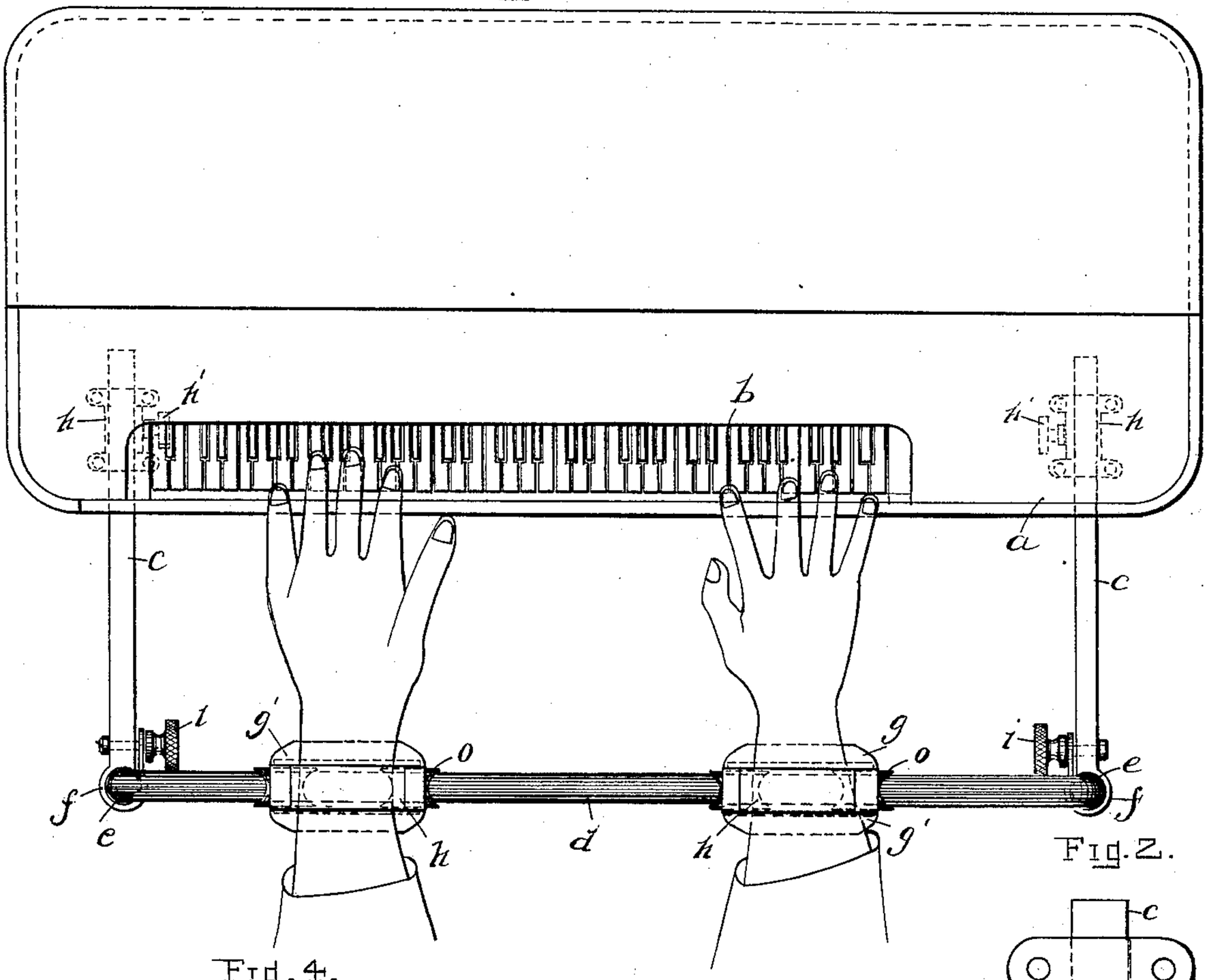


Fig. 2.

Fig. 4.

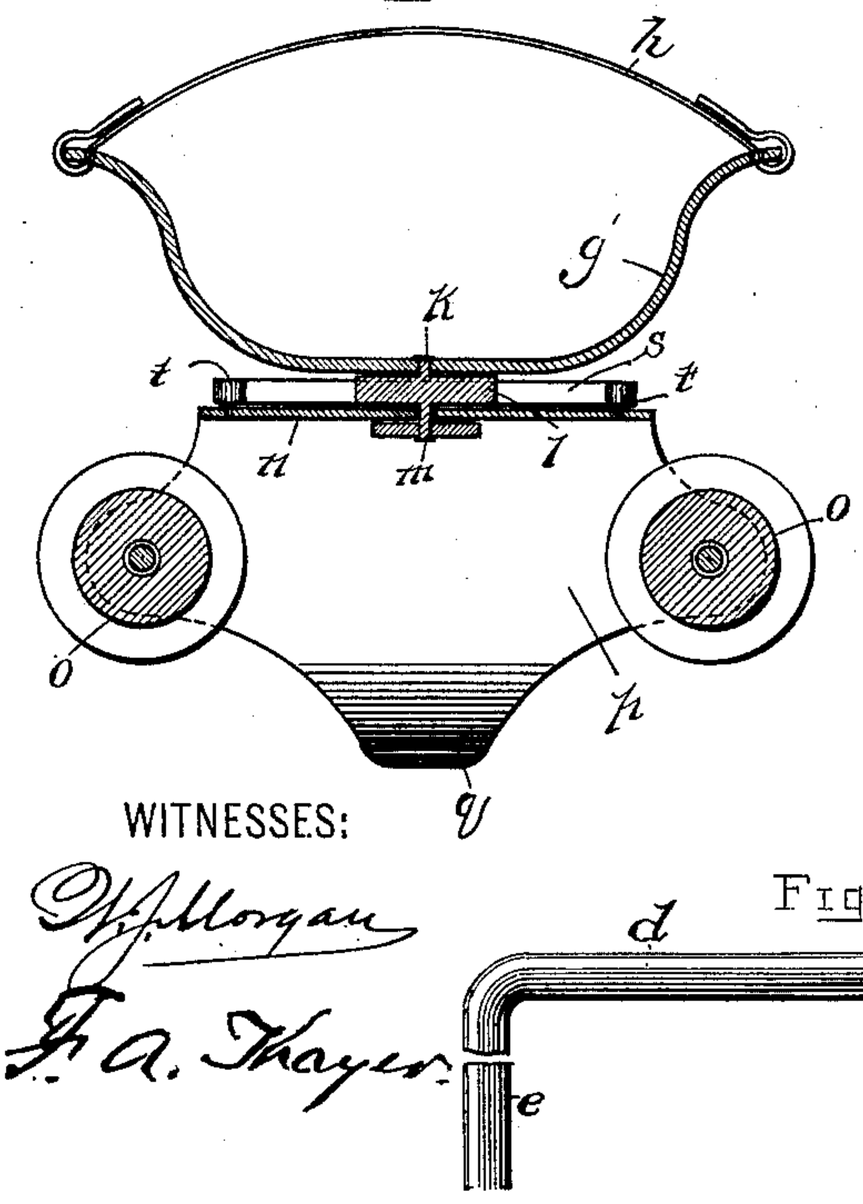
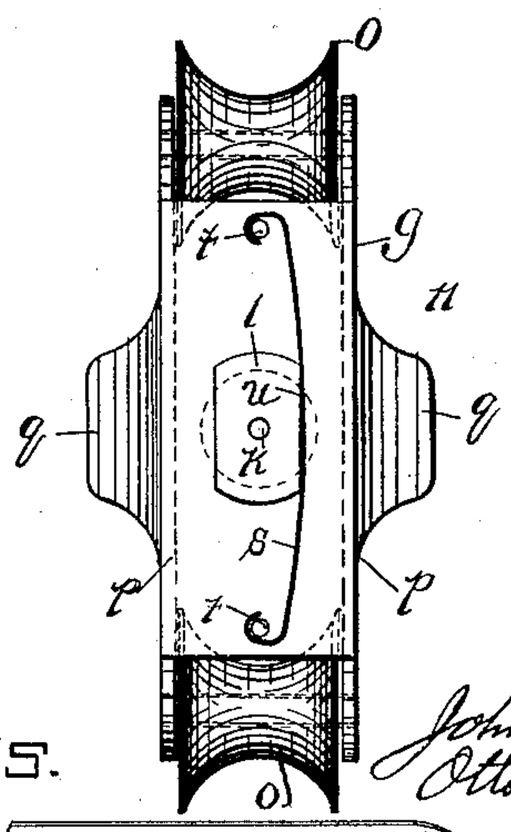


Fig. 3.



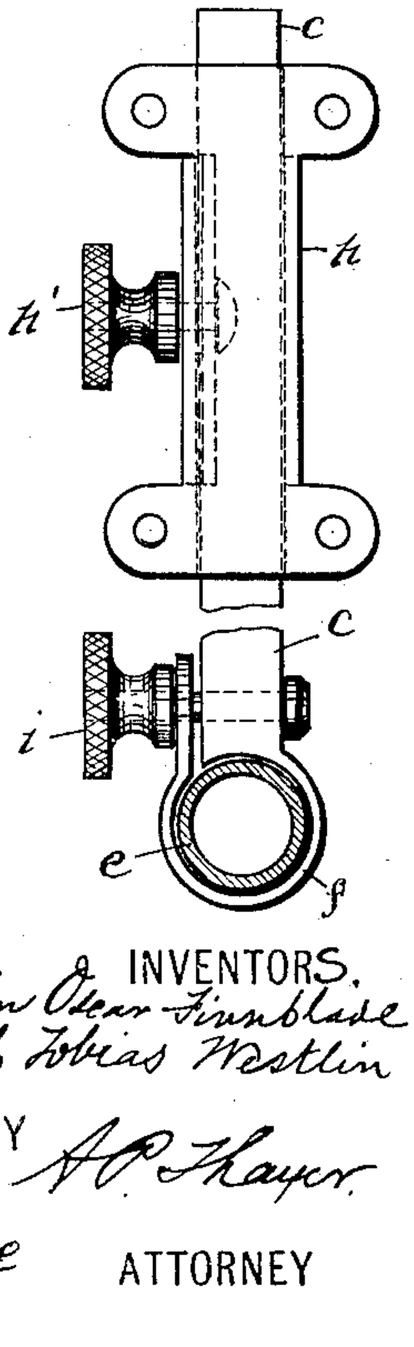
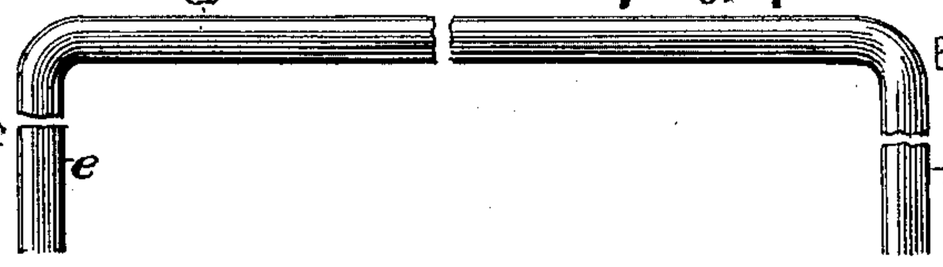


Fig. 5.



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JOHN OSCAR FINNBLADE AND OTTO TOBIAS WESTLIN, OF BROOKLYN, NEW YORK.

PIANO-TECHNIC REGULATOR.

SPECIFICATION forming part of Letters Patent No. 591,800, dated October 12, 1897.

Application filed August 1, 1896. Serial No. 601,370. (No model.)

To all whom it may concern:

Be it known that we, JOHN OSCAR FINNBLADE, a citizen of the United States, and OTTO TOBIAS WESTLIN, a subject of the King of Sweden and Norway, residents of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Piano-Technic Regulators, of which the following is a specification.

Our invention consists of improvements in apparatus for the use of piano and other keyboard-instrument pupils to aid in drilling the hands for position, as hereinafter described, reference being made to the accompanying drawings, in which—

Figure 1 is a diagrammatic plan of a piano with our improved regulating apparatus applied, together with a pair of hands indicated to illustrate the use of the apparatus, said apparatus and the hands being considerably exaggerated for greater clearness. Fig. 2 is a plan view of one of the supporting-arms attached to the piano for carrying the regulating apparatus, with a part in horizontal section. Fig. 3 is a plan of the hand-rest with the bearing-plate detached, and Fig. 4 is a sectional elevation of a hand-rest. Figs. 2, 3, and 4 are drawn to a larger scale than Fig. 1. Fig. 5 is a detail of the hand-rest support in side elevation.

Under the table *a* at each extremity of the keyboard *b* we attach a forwardly-projecting arm *c*, in the outer extremity of which we support a rail-bar *d* in any approved way, but preferably by a vertical terminal part *e*, at each end of said bar, and clamping-sockets *f* of the arms, and together with this rail-bar, which is preferably of round form and also tubular, we provide hand and arm rests *g*, one for each and adapted to bear on and move along the rail and at the same time support the hands at the right height for proper action by resting the forearms in them just back of the wrist-joints far enough to avoid interference with the proper working of the wrist-joints. Said rests are also adapted to be lifted off the rail by the arms when raised above the normal position, being attached to the arms by straps *h*, and they are also adapted to catch on the rail when the arms are lowered.

The arms *c* are connected to the under side of the table *a* by clamping-sockets, in which they can be adjusted forward and backward to set the bar *d* at the proper distance from the keyboard and to enable them to be shoved back entirely under the table out of the way when the rests are not to be used, with clamping-screws *h'* to secure the arms in position. The bar is adjustable vertically in these arms through shifting the terminals *e* of said bar up and down in the sockets *f*, with clamping-screws *i* to secure them in position.

The rests *g* consist of suitably-bent plates *g'* for embracing about half the circumference of the arms suitably for being temporarily strapped thereto by elastic or other straps *j h*, said plates being connected at the center by a rivet *k* with a seat *l*, centrally pivoted at *m* to the top of a traveler *n*, having a pair of grooved rollers *o*, adapted to rest on the bar *d* and move along the bar with the arms as the hands move along the keyboard.

The sides *p* of the traveler extend considerably lower than the treads of the rollers and are flared, as shown at *q*, to control the return of the rollers of the traveler to the bar *d*, when it may at any time be lifted off the bar by rising movements of the hand.

With the seat, which is pivoted to the traveler for the necessary variations of the angular relations of the arms to the rests due to the lateral movements of the hands, a spring *s* is provided, the tendency of which is to return the traveler to the normal parallel relation of the rest, but will yield readily and allow the rest to turn on its pivot as needed for the accommodation of the hands when the arms range obliquely. The spring may be variously arranged for this purpose; but in this example we have provided a semielliptical spring fixed at the ends to studs *t* in the top of the traveler for holding it in position with the middle portion bearing against a flat side *u* of the seat *l*, which tends to maintain the rest in the normal position.

We claim—

1. The combination with the keyboard of a piano or other musical instrument, of arm-rests to control the relative height of the hands to the keyboard, a supporting-rail on which said rests are movable along the key-

board parallel with it, and means to connect said rests to the arms of the player, said rests being detachable from the supporting-rail for enabling the hands to be raised above the normal positions, and provided with the flared downwardly-projecting sides to control the return of the traveler to the bar substantially as described.

2. The combination with the keyboard of a piano or other musical instrument, of arm-rests to control the relative height of the hands to the keyboard, a traveler on which said rests are movable along the keyboard, a supporting-rail for the traveler and a spring to control the alinement of the rests said rests being vibratory on the traveler as the angular relations of the hands vary substantially as described.

Signed at New York city, in the county and State of New York, this 18th day of July, A. D. 1896.

JOHN OSCAR FINNBLADE.
OTTO TOBIAS WESTLIN.

Witnesses:
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