

No. 757,168.

PATENTED APR. 12, 1904.

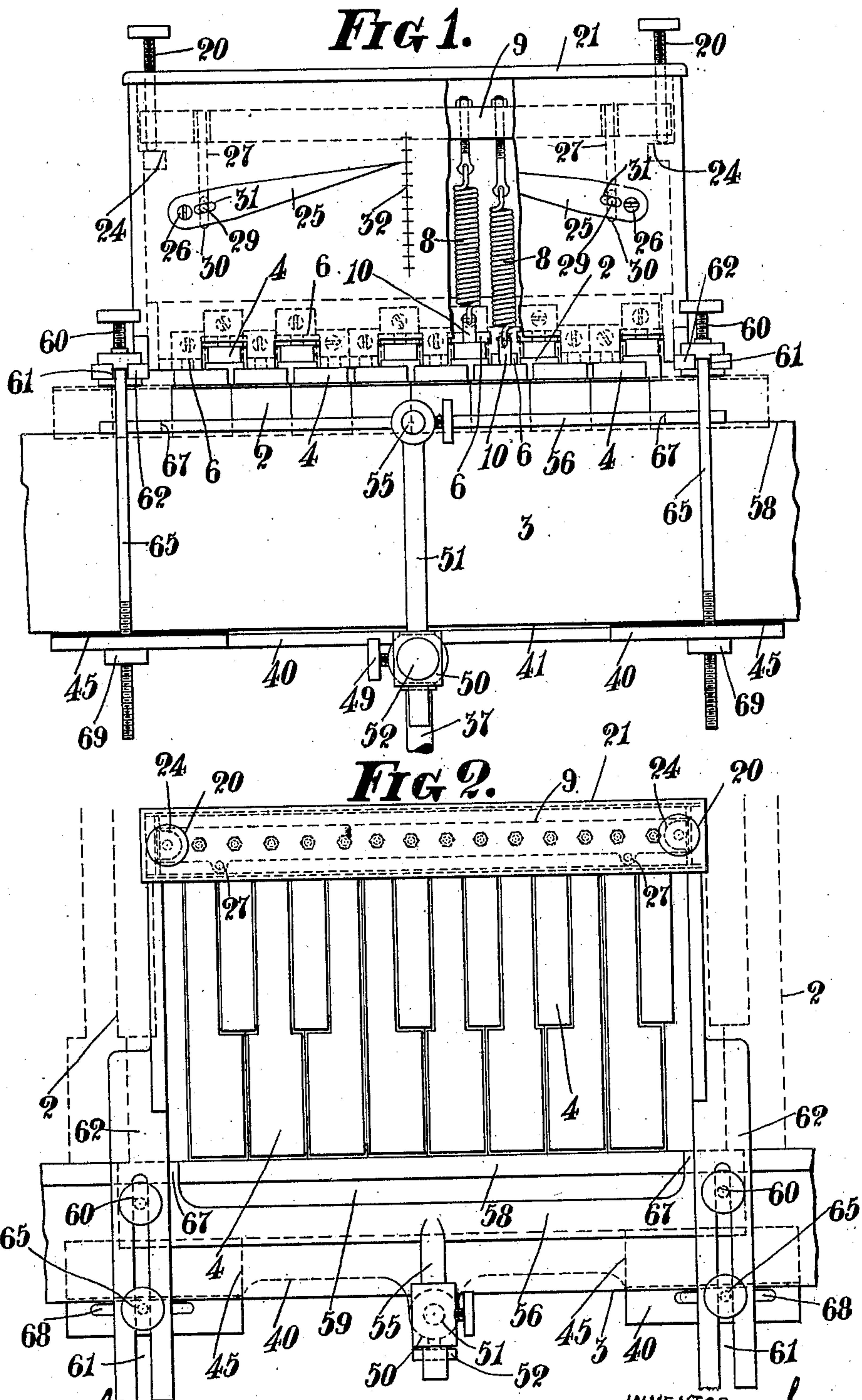
H. WRAITH.

EXERCISING ATTACHMENT FOR MUSICAL INSTRUMENTS.

APPLICATION FILED MAR. 11, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

Isabella Waldron
Adelaide Claire Gleason.

INVENTOR.

Harry Wraith
BY
Richardson
ATTORNEYS

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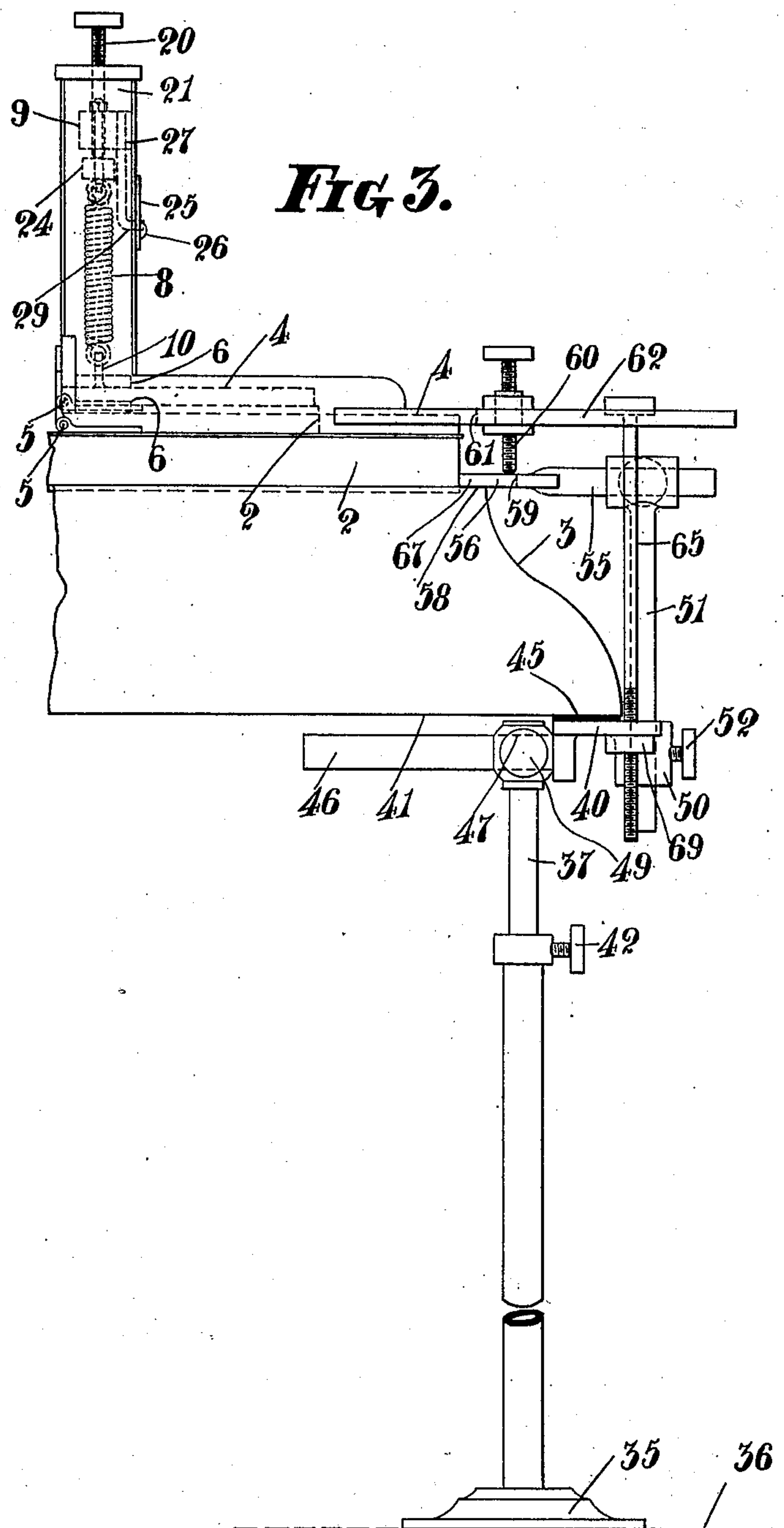
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UNITED STATES PATENT OFFICE.

HARRY WRAITH, OF BRADFORD, ENGLAND.

EXERCISING ATTACHMENT FOR MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 757,168, dated April 12, 1904.

Application filed March 11, 1902. Serial No. 97,769. (No model.)

To all whom it may concern:

Be it known that I, HARRY WRAITH, a subject of the King of England, residing at 32 Ryan street, Bradford, England, have invented certain new and useful Improvements in Exercising Attachments for Musical Instruments, of which the following is a specification.

This invention relates to a new or improved apparatus for use with pianos and other keyed instruments for the purpose of exercising the fingers or digits and wrist in order to strengthen their muscles. For this purpose I employ a suitable frame adapted to be clamped or otherwise secured to the frame of the piano or other musical instrument, preferably at the front. In this frame a number of keys are pivoted and arranged to fit over and cover the keys of the musical instrument. Each of the keys of the new apparatus is held up by a spring, preferably of spiral form, and provided with an adjustable screw and nut supported by an adjustable bar. By this means the tension of the springs can be either individually or collectively adjusted and the pressure required to depress the keys of the musical instrument augmented in proportion to the tension of the springs. Scales and indicator fingers or levers are provided to show when each end of the adjustable bar has been equally moved and also the tension on the springs.

I prefer to use five or eight or more keys in the apparatus; but one key only can be employed.

In the accompanying sheet of drawings, forming a part of this specification, Figure 1 represents an elevation of my apparatus applied to the keyboard of a piano. Fig. 2 is a plan view, and Fig. 3 is a side view, of the same.

The keys 2 (shown by broken lines in Fig. 2) and the piano-front 3 are of any ordinary construction.

The instrument is placed over the keys and is supported in any convenient way that will prevent the back ends of the exercise-keys 4 bearing upon the rear of the keys 2. The keys 4 are pivoted at 5 and are held in a horizontal position against the under side of the

projections 6, to which they are pivoted by the spiral springs 8, stretched between the adjustable bar 9 and the studs 10 in the keys. In Fig. 3 one spring only is shown connected to the "flat" key in order to avoid confusion.

The bar 9 is adjusted by the screws 20, extending above the top of the casing 21. The screws 20 fit female screw-threads in the ends of the bar 9 and passing through such bar rest upon the projections 24 in the interior of the casing. Raising the bar increases the tension on the spiral springs, and consequently the pressure required to depress the keys is increased.

Fingers 25 are preferably pivoted by the screws 26 to the front of the casing, and these fingers are connected to the bar 9 by the wires or rods 27, the ends 29 of which pass through the slots 30 in the front of the casing and engage slots 31 in the fingers. A scale 32 is provided on the middle of the front of the casing to indicate when the bar 9 is horizontal as well as show the degree of tension on the springs. One of the fingers is shown broken away in Fig. 1, as well as the front of the casing, in order to show the interior.

The apparatus may be fitted over the keyboard in any convenient way.

In the drawings a telescopic stand is shown. The base 35 of this stand rests upon the floor, (represented by the broken lines 36, Fig. 3,) and the upper piece 37, sliding therein, is adjusted to press the face 40 against the under side 41 of the keyboard and is fixed by screw 42. Leather or other packing-pieces 45 are preferably introduced at each end 4 to avoid damaging the woodwork. The piece 40 is connected to the top of 37 by the shank 46, fitting the eye 47 at the top of 37 and secured thereto by the clamping-screw 49. A socket 50 is formed in the front of the piece 40 to receive the adjustable pillar 51, fixed by the clamping-screw 52. The pillar has an eye at the top in which the shank 55 of the rest 56 fits. The inner ends 67 of this rest rest upon the edge 58 of the keyboard, and the middle portion 59 is cut away to prevent it interfering with the free action of the piano-keys under the instrument. The instrument is supported on this rest by the adjustable screw-feet 60,

mounted in the slots 61 in the side arms 62 of the instrument. In front of these the screwed rods 65 also fit in the slots 61, and their heads bear on the upper faces of the arms 62, while
5 their other ends pass through the slots 68 in the piece 40 and have nuts 69 to bear against its under side:

I claim—

1. An attachment for musical instruments
10 comprising a series of keys, a frame in which said keys are pivoted at their rear ends, means for holding said frame in position with the keys thereof over the keys of the instrument, and means carried by the frame for applying
15 an adjustable tension to the said keys, the front ends of the keys being exposed for manipulation by the fingers, substantially as described.

2. In combination, a frame adapted to be at-
20 tached to the musical instrument, keys pivotally carried thereby, a cross-bar, means for

adjustably holding said cross-bar in the frame and a series of springs connecting the said cross-bar and the keys, substantially as described.

3. An attachment for musical instruments
25 for exercising the fingers and wrists comprising a frame, means for securing the same in proximity to the keyboard including an adjustable pillar adapted to rest on the floor
30 with means for clamping the same to the instrument, keys pivotally connected to said frame and means for applying a variable spring tension to said keys, substantially as described.

In witness whereof I have hereunto set my
hand in presence of two witnesses.

HARRY WRAITH.

Witnesses:

FARRO NOWELL,
SAMUEL DRACUP.