

No. 743,992.

PATENTED NOV. 10, 1903.

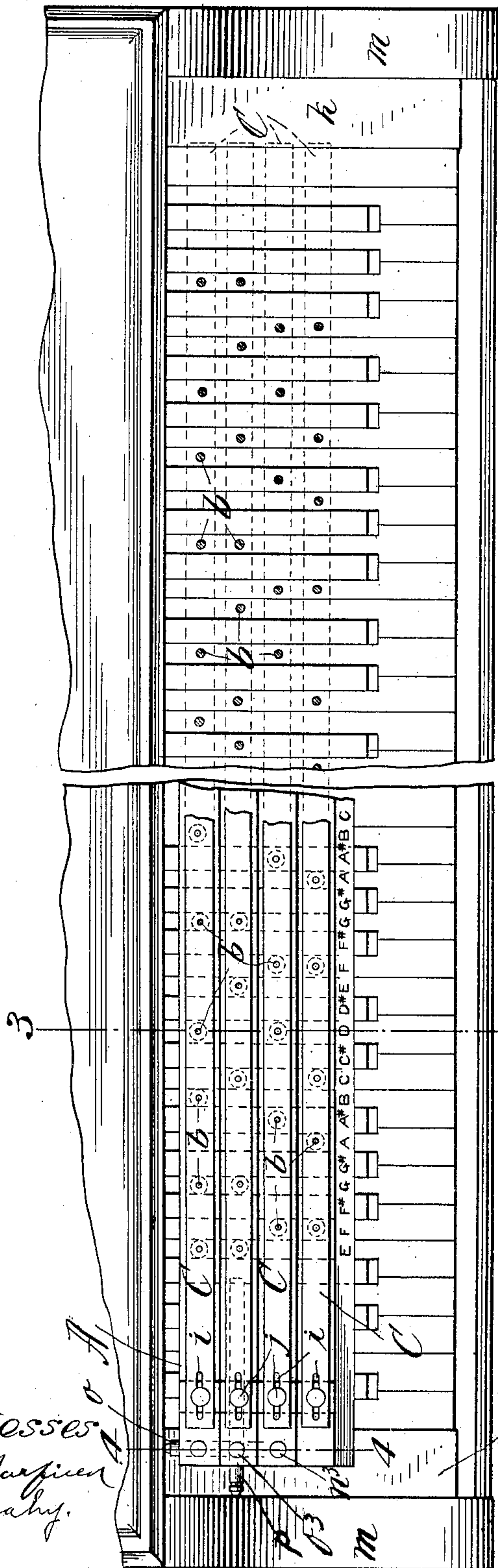
B. F. STOWELL.

DEVICE FOR PLAYING KEYBOARD MUSICAL INSTRUMENTS.

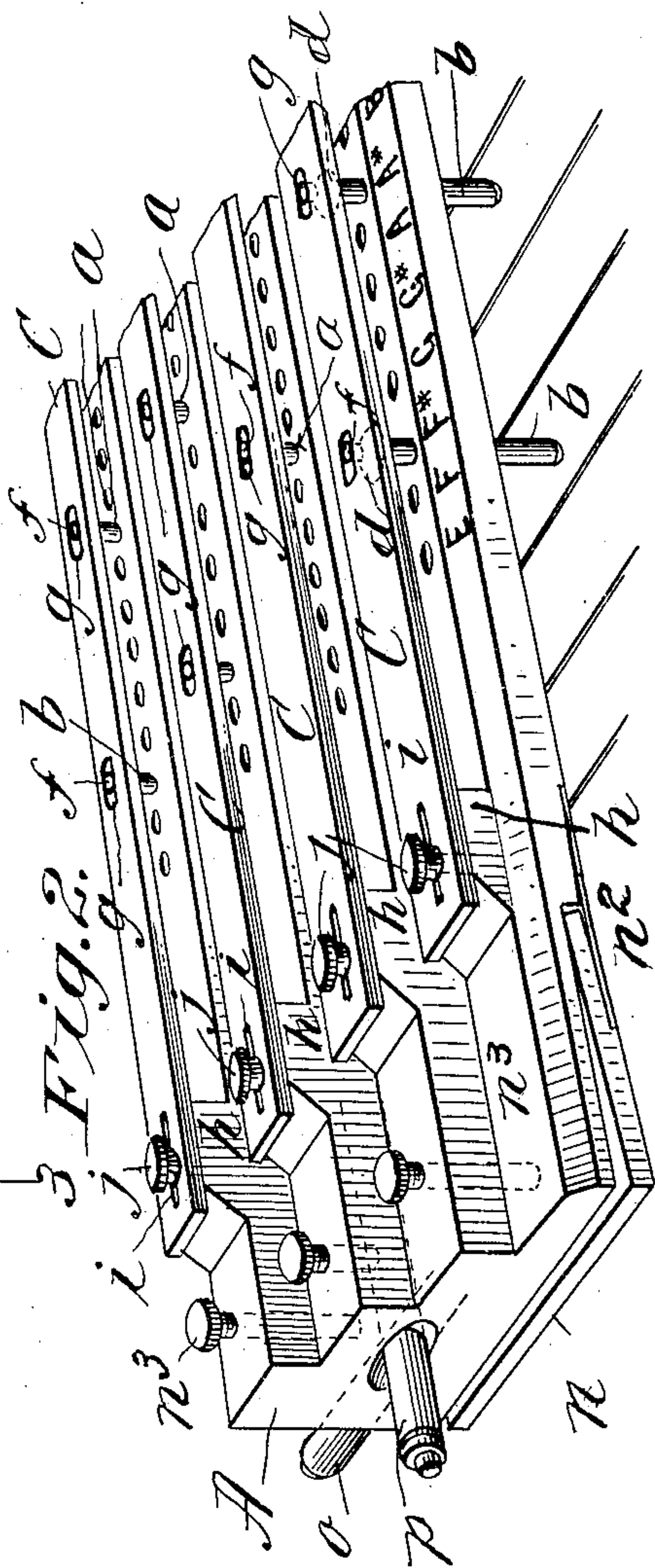
APPLICATION FILED JAN. 10, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses
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No. 743,992.

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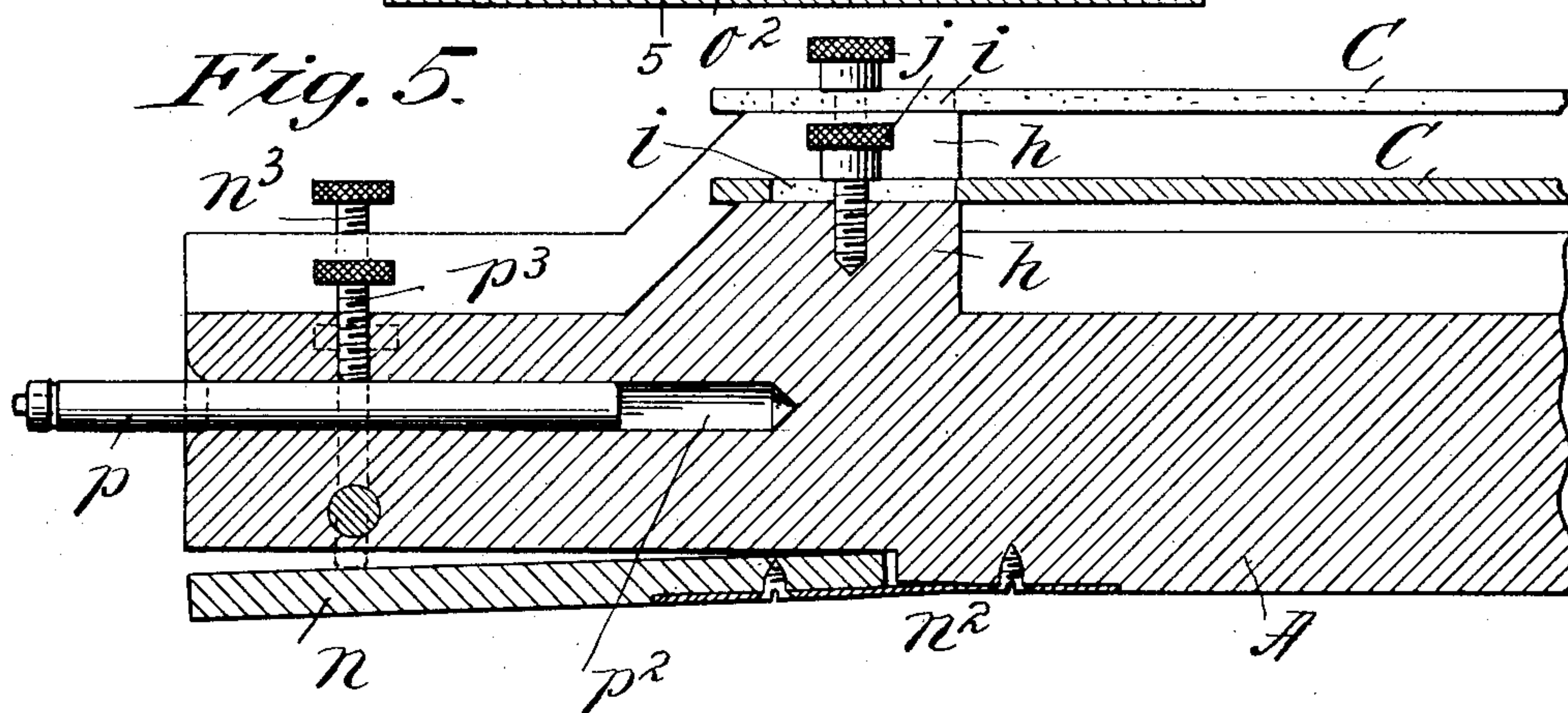
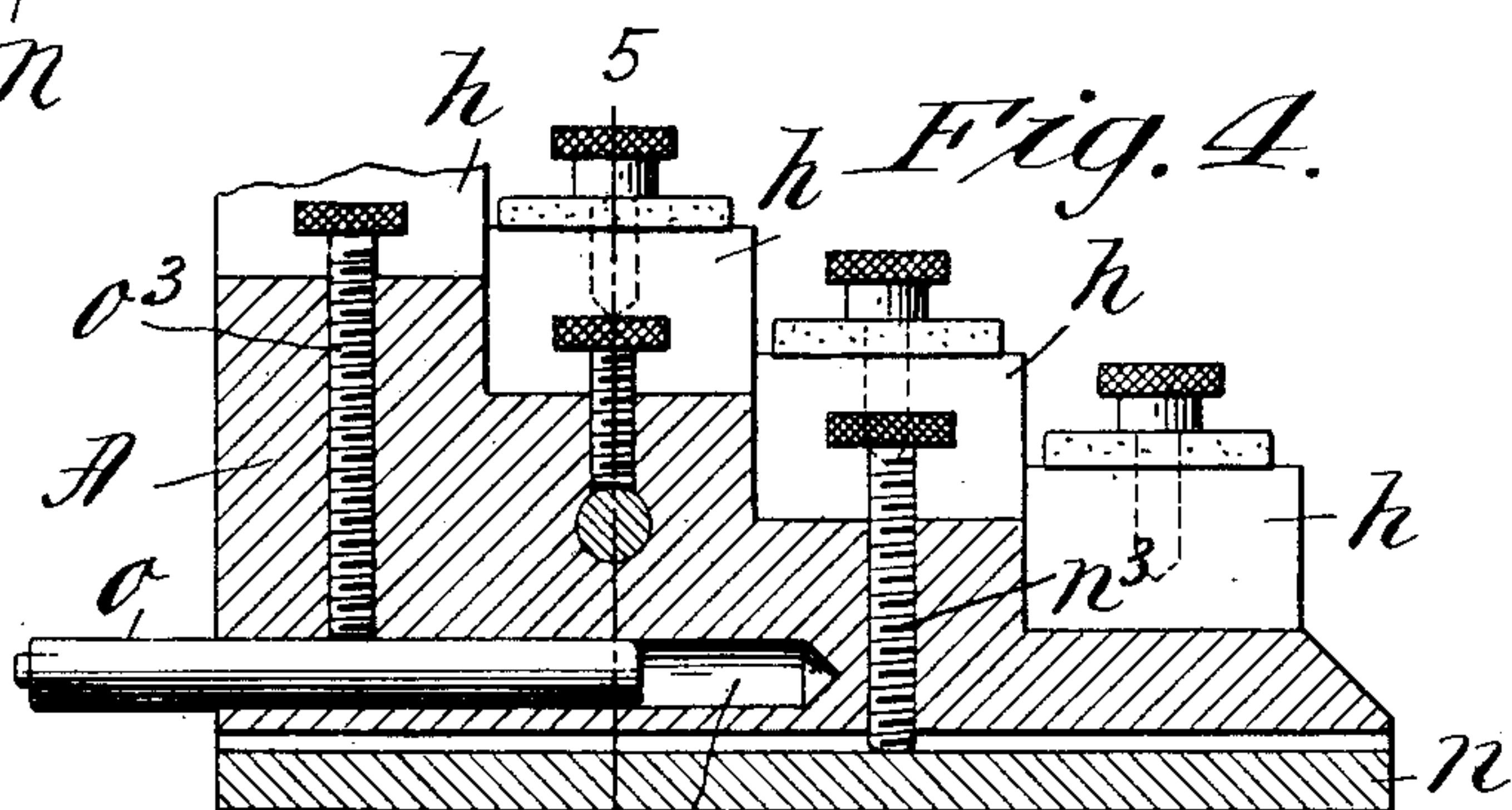
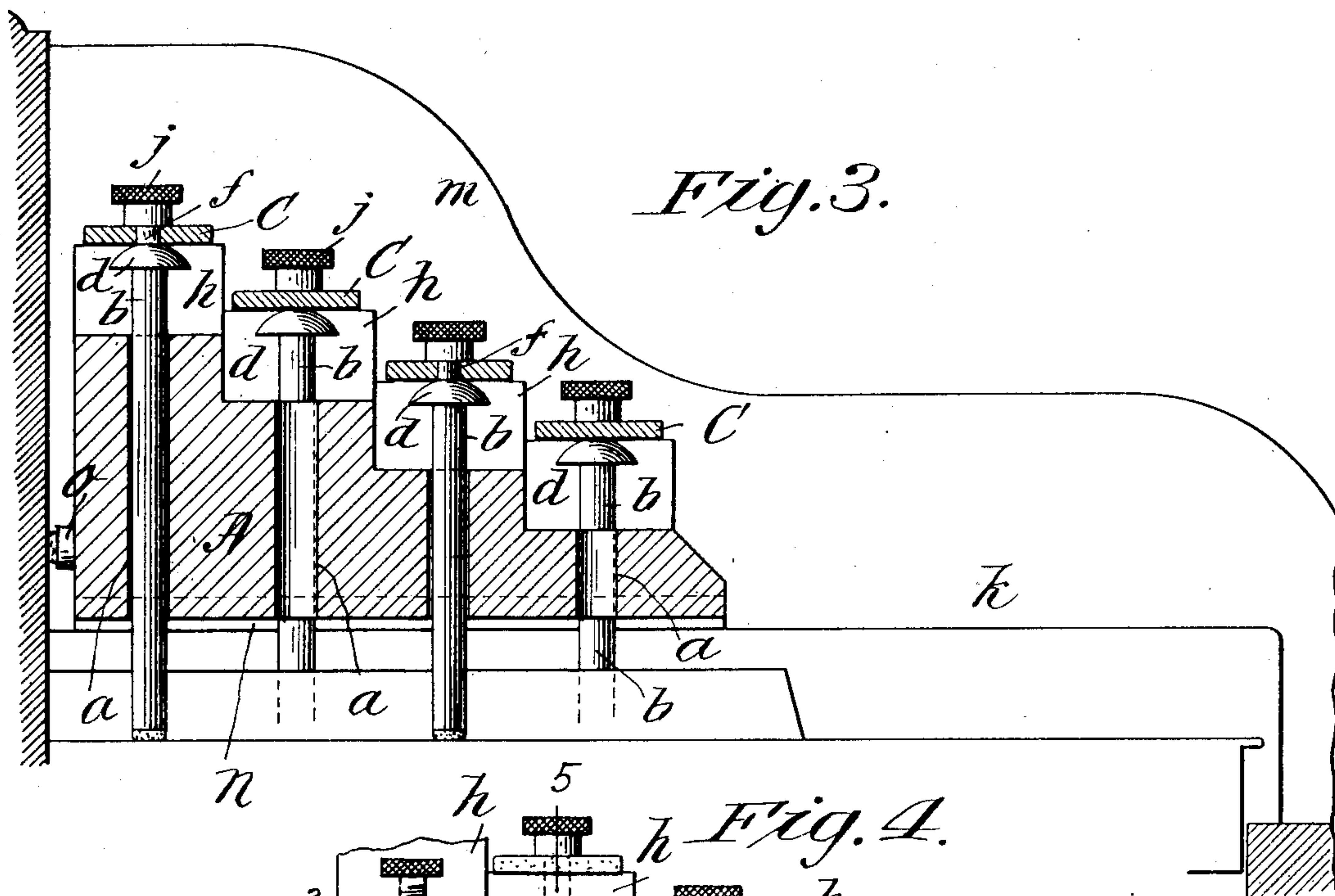
B. F. STOWELL.

DEVICE FOR PLAYING KEYBOARD MUSICAL INSTRUMENTS.

APPLICATION FILED JAN. 10, 1903.

NO MODEL.

3 SHEETS—SHEET 2.



Witnesses:

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No. 743,992.

PATENTED NOV. 10, 1903.

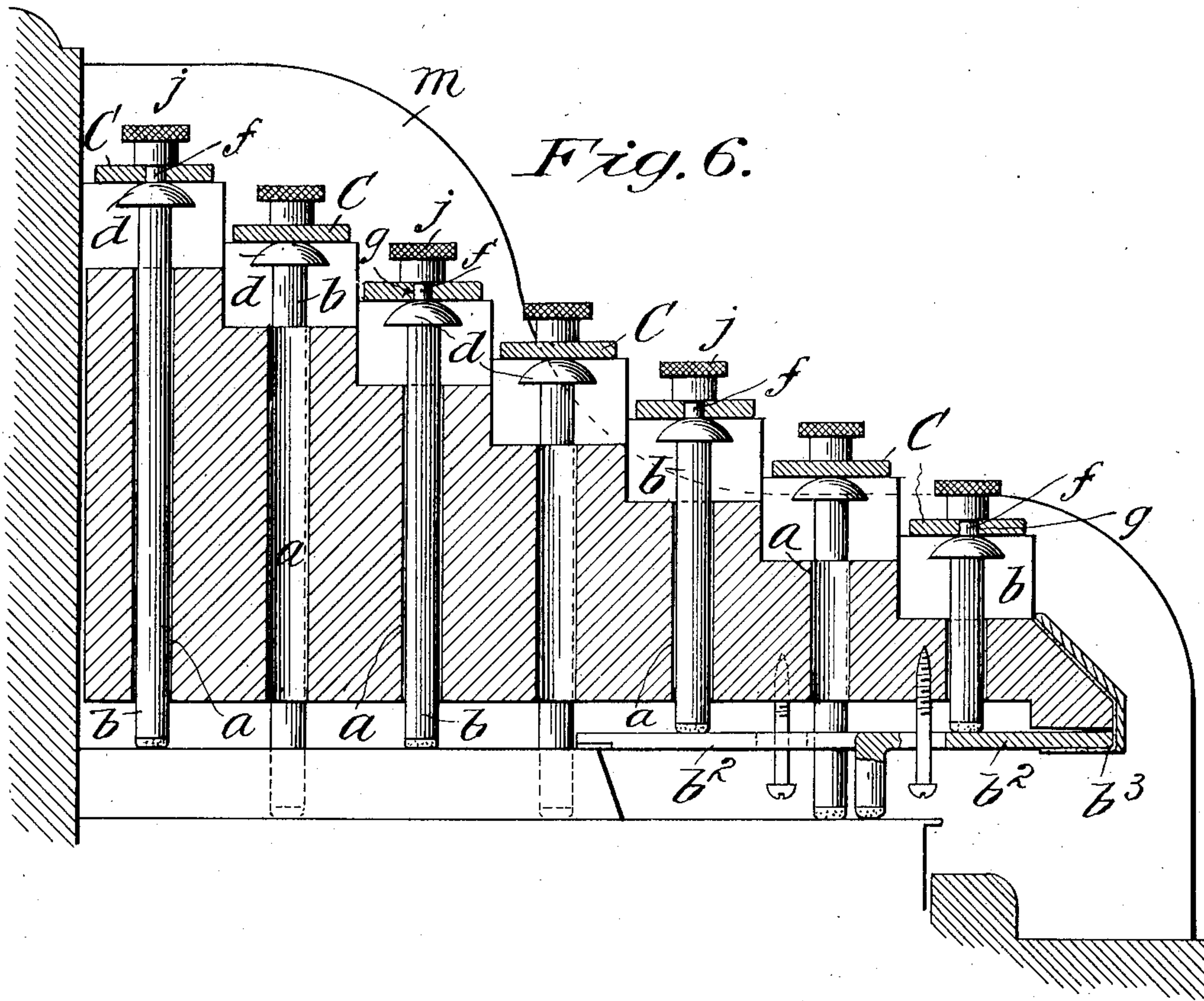
B. F. STOWELL.

DEVICE FOR PLAYING KEYBOARD MUSICAL INSTRUMENTS.

APPLICATION FILED JAN. 10, 1903.

NO MODEL.

3 SHEETS—SHEET 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

BYRON F. STOWELL, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR OF ONE-THIRD TO CHARLES E. VAN NORMAN, OF SPRINGFIELD, MASSACHUSETTS.

DEVICE FOR PLAYING KEYBOARD MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 743,992, dated November 10, 1903.

Application filed January 10, 1903. Serial No. 138,544 (No model.)

To all whom it may concern:

Be it known that I, BYRON F. STOWELL, a citizen of the United States of America, and a resident of Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Devices for Playing Keyboard Musical Instruments, of which the following is a full, clear, and exact description.

This invention relates to a device or apparatus for facilitating the manual playing of keyboard musical instruments.

The invention is embodied in a device which is adapted to be supported at the front of a piano or other keyboard instrument to range over the keyboard across the keys and to have key-strikers individual to separate notes of the scale arranged in series or combinations, preferably in chords, said strikers being accessible for depression by manual pressure, either individually or in quick succession, whereby melodious and harmonious effects may be produced; and the device is characterized by further features of structure and arrangement, all substantially as hereinafter fully described, and set forth in the claims.

In the drawings, Figure 1 shows a keyboard of a piano and the playing device in place thereon, the same being at the left-hand portion of the figure, shown in full lines, while at the right-hand portion portions of the device are indicated by dotted lines and the key-strikers are shown in horizontal cross-section. Fig. 2 is a perspective view of an end portion of the piano-playing device. Fig. 3 is a cross-sectional view, on a larger scale, as taken on the line 3 3, Fig. 1. Fig. 4 is a vertical section as taken across the end portion of the supporting-bar comprised in the device on the line 4 4, Fig. 1. Fig. 5 is a longitudinal sectional view of the supporting bar or frame of the device and some of the parts combined therewith as taken on the line 5 5, Fig. 4. Fig. 6 is a cross-sectional view similar to Fig. 3, but showing an amplified arrangement to be hereinafter referred to.

Similar characters of reference indicate corresponding parts in all of the views.

In the drawings, A represents the frame or main supporting and guiding part of the de-

vice, the frame being, preferably, for purposes of simplicity and economy, made in the form of a bar (which may be of wood) somewhat longer than the keyboard and, as shown in Figs. 1 to 4, of a width less than the front-to-rear dimension of the exposed keyboard. This bar has several rows of holes *a* vertically therethrough, properly located to register with the keys. In practice it is deemed best to have as many holes in each row as there are keys to be covered in the range or scope of the device, and so in the bar having, as shown, four longitudinal rows of the holes *a* there would be in each row substantially the same number of the holes which in the cross-lines of the bar are coincident with the holes of the other rows.

b b represent the key-strikers, each of which is in the form of a dowel, fitted for free vertical movement and guidance in one of the vertical holes in the bar A. It is understood that the bar is properly adjusted, so that the holes thereof are in the proper relative arrangement to the keys, and an approved arrangement is to have the strikers *b* of a row arranged to bear on keys which will strike chords, the strikers of the next row bearing on keys which will sound other chords, and those on the third and fourth rows bearing on keys which will sound still other and different chords, and thus, as shown in Fig. 1 in which the apparatus is fixed for producing tunes and harmonies in the key of F the strikers in the first or front row play through the holes in the bar, so as to rest at the lower ends on each of the keys F, A, and C repeatedly from end to end of the keyboard. The strikers in the second row are placed to bear on the keys F, A \sharp , and D repeatedly throughout the length of the keyboard and those in the third row bearing on the series of keys E, G, and C throughout the keyboard, while those in the fourth or rear row bear on keys which will sound a chord different from any of the other chords. Each striker-rod *b* near its upper end has a shoulder producing enlargement *d*, above which a short teat *f* is extended. Straps C, of leather or other suitable flexible material, are extended over and parallel with the bar respectively in the lines of the several series of striker-rods, said

straps having apertures *g*, preferably in the form of longitudinally-elongated holes or slots, in and through which engage the aforesaid teats at the upper ends of the strikers, such arrangement permitting the straps to have bearing upon the tops of the shoulders *d*, and yet the straps cannot accidentally become displaced from their engagements with the strikers. The bar, as shown in Figs. 2, 3, and 4, is preferably of step form rising rearwardly, and the striker-rods at the rear are correspondingly longer than those at the front of the bar, so as in each case to have proper clearance above the top of the bar, and at the ends the bar is provided with the upstanding heads *h*, suitably elevated so as to have the tops thereof about flush with the level of the bottom of the strap when longitudinally extended in its engagement with the several strikers. As preferable, the end portions of the straps overlying and resting upon the tops of these upstanding heads *h* have longitudinally-elongated holes *i*, loosely through which are passed the shanks of set-screws *j*, which penetrate vertically down into the wood, while the enlarged heads bind against the tops of the strap extremities and hold them firmly against the upper surfaces of said heads *h*.

The opposite end portions of the bar or frame *A* rest upon the blocks *k k*, formed as a part of the case of the piano or other instrument at the opposite ends of the keyboard next within the portions *m m* of the ends of the case, and in order that the bar proper may be adjustable, so as to have the key-strikers thereof at the proper height relatively to the top surfaces of the keys, the bar is provided with sections *n n*, arranged to fit in rabbets in the bottom of the bar and hinged, as indicated at *n²*, to each bar proper, and adjusting-screws *n³*, one or more, vertically screw-engage down through the end portions of the bar and have a downward forcing bearing against the free portions of the sections *n*, so that by turning the screws in the proper direction the hinged sections will assume a greater angle to the plane of the bottom of the bar, or, in other words, this will insure the elevation of the bar proper above the plane of support upon the top surfaces of the parts *k k* of the piano case.

In order that the device may be gaged and held in its proper position as regards the front-to-rear arrangement thereof relatively to the keyboard, the dowel-like pieces *o o* are fitted to play in the sockets *o²*, transversely formed and rearwardly opening in the bar, the binding-screws *o³* confining these rods or dowels in any distention in which they may be placed, so that their rear bushed ends may bear against the front wall of the case standing next back of the keyboard, and in order to hold the player against any longitudinal shifting the dowel-like pieces or rods *p p* are provided in endwise-opening longitudinal sockets *p²* in each end of the bar, (which bar

is intended to be constructed somewhat shorter than the distance between the parts *m m* at the opposite ends of the case,) said pieces *p* being confined in their distentions by the binding-screws *p³*.

Now it will be understood that having the player in place upon the piano or other keyboard instrument the person may quickly familiarize himself with the locations beneath the various straps of the strikers for any and all of the notes of the scale, and by properly pressing upon the top of the strap at or near the location of a given striker the key only to which such striker pertains will be depressed to sound that note, and thus tunes or melodies may be played; but while the tune or melody is being played by the selection and the depression of the proper strikers a running pressure along one or more of the straps will produce chords in harmony and amplification of the piece being rendered, so that the musical composition may be rendered in a voluminous and effective manner much more readily and as the result of much less study and care than would be required for the performance thereof in the absence of the device described.

It is claimed that this player will be considered advantageous to experienced and expert players, for the reason that it will enable them to produce better, more voluminous, and more intricate musical effects than they could without it, while novices may play in a more highly gratifying manner than they could aspire to do without the new device, especially for the reason that the combining of the chord effects with the melody can be done by running pressure with one hand along the straps concurrently with the picking out of the notes of the tune and without any danger or possibility of discord, for the reason that having the strikers of a given strap or series set in proper chords discordant combinations in a run cannot be sounded.

In Fig. 6, in which the player is shown as having so many rows as to require a width of the bar or frame *A* wider than the keyboard and so that the strikers in the front row are located forward both of the black and the white keys, combined strikers are provided for the forward rows, the same consisting of the vertical striker-rods playing through the holes in the bar, as before described, but having their lower ends resting on individual levers *b²*, the front ends of which are hinged at *b³* to the bar, said levers, either straight or of angular form, (both of which forms are shown in Fig. 6,) having bearing engagements against the keys.

In the presentation of the player in the trade the bar is to have the several rows, the holes of each row being in number and spacing corresponding to all the notes of the keyboard, and to provide for the straps for the several rows elongated holes or slots *f* therein located according to the chords required for the playing in a given key, and substi-

tute straps are to be provided which may replace the first set of straps, the changed arrangement of the holes *g* thereof indicating to the user of the device the proper changing of the positions of the strikers in the guiding-holes of the bar, so that, as predetermined by the constructor, the user cannot set the strikers otherwise than in their proper guiding-holes for the correspondingly proper musical effects; but the straps may be provided, each having as many holes as there are bar-holes *a* or keys in the instrument, leaving it to the user to set the strikers for chords modifications thereof, or other combinations, to suit himself and as he may be able to do according to his musical knowledge. Characters corresponding to the notes of the keyboard with which the rows of the several holes in the bar *A* match are shown as provided, Figs. 1 and 2, at the front of the bar and opposite the transverse lines or "check-row" of the holes *a*, so that a person may be guided in the arrangement of the strikers in chords or combinations in the various longitudinal sets of the holes to suit his desires.

It is preferred to make the apertures *g* through the strap longitudinally elongated rather than have them holes which closely fit the upper attenuated teats of the strikers, for the reason that the strap is thereby better conformable for its engagement with the so-formed strikers and any lengthening or contraction of the strap due to atmospheric or temperature changes will not create a binding between the strap and the strikers to impair the freedom of the action both in the depression and recovery of the strikers and keys.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a device of the character described, a bar to overlie a keyboard, having a series of strikers, guided for reciprocation therethrough, arranged in sets corresponding to given notes of the scale, and a strip of flexible material overlying and engaging the several strikers for the purpose set forth.

2. In a device of the character described, a bar to overlie a keyboard having several series of strikers arranged in separate rows guided for reciprocation therethrough, those in one row being arranged in combinations corresponding to given notes of the scale different from those of another row, and strips of flexible material overlying and engaging the strikers in the respective rows thereof, for the purpose set forth.

3. In a device for the purpose described, the combination with a bar to overlie a keyboard having a row of strikers guided for reciprocation therethrough, each thereof having at its upper portion a shoulder and an upwardly-projecting teat, of a flexible strap extending along over the several strikers and having recesses therein in which the said teats engage.

4. In a device for the purpose described, the combination with a bar to overlie a keyboard having a row of strikers guided for reciprocation therethrough, each thereof having at its upper portion a shoulder and an upwardly-projecting teat, of a flexible strap extending along over the several strikers and having recesses therein in which the said teats engage, and having its end portions engaged with end portions of the bar.

5. In a device for the purpose described, the combination with a bar to overlie a keyboard having at its ends upstanding members, and having a row of strikers guided for reciprocation therethrough, each thereof having at its upper portion a shoulder and an upwardly-projecting teat, of a flexible strap extending along over the several strikers and having recesses therein in which the said teats engage, and having the end portions engaged with said upstanding members of said bar.

6. In a device for the purpose described, the combination with a bar to overlie a keyboard having a row of strikers guided for reciprocation therethrough, each thereof having at its upper portion a shoulder and an upwardly-projecting teat, of a flexible strap extending along over the several strikers and having slots therethrough in which the said teats engage and means of adjustable connection between the end portions of the strap and the end portions of said bar.

7. In a device for the purpose described, the combination with a bar to overlie a keyboard having at its ends upstanding members and having a row of strikers guided for reciprocation therethrough, each thereof having at its upper portion a shoulder and an upwardly-projecting teat, of a flexible strap extending along over the several strikers having recesses therein in which the said teats engage and having slots in its end portions which overlie said upstanding members, and headed screws which, by their shanks engage through said slots in said upstanding members, and by their heads bind the strap to the block.

8. In a device for the purpose described, a bar to overlie a keyboard having a series of strikers guided for reciprocation therethrough which are arranged in sets or series corresponding to predetermined notes of the scale and have the upper ends thereof normally located above the top of said bar, and said bar having in the end portion thereof, transverse rearwardly-opening sockets, rods movable therein, and adapted to be projected outwardly therebeyond, and screws penetrating the bar, to bind against the said rods.

9. In a device for the purpose described, a bar to overlie a keyboard having a series of strikers guided for reciprocation therethrough which are arranged in sets or series corresponding to predetermined notes of the scale and have the upper ends thereof located above the top of the bar, means for adjusting said bar vertically on the instrument over the keyboard thereof, and rods transversely and lon-

itudinally fitted in sockets in the end portions of the bar for projection therefrom rearwardly and endwise, therefrom, and binding-screws for said rods.

5 10. In a device for the purpose described, a bar to overlie a keyboard having a series of key-strikers guided for reciprocation there-through which are arranged in sets or series corresponding to predetermined notes of the
10 scale and have the upper ends thereof located above the top of the bar, and said bar having at its lower end portions, hinged sections and means for swinging said sections relatively to the bar proper and for restraining said sec-
15 tions and the bar in their set relations.

11. In a device for the purpose described, a bar to overlie a keyboard having a series of strikers guided for reciprocation therethrough which are arranged in sets or series corre-
20 sponding to predetermined notes of the scale and have the upper ends thereof located above the top of the bar, and said bar having at its lower end portions, hinged sections and adjusting - screws penetrating downwardly
25 through the bar and engaging for downward pressure against said hinged section.

12. In a device for the purpose set forth the

combination with a bar to overlie a keyboard having a cross-sectional step form and having longitudinal rows of holes vertically through
30 each of the variously-elevated steps of the bar, strikers arranged relatively to, and having guiding engagements through pluralities of the holes of the several rows, and straps overlying and engaging the tops of the strikers
35 along the several rows thereof.

13. In a device of the character described a bar to overlie a keyboard having several sets of strikers arranged in different longitudinal
40 lines and comprising various combinations of portions of the note-scale, and directly bearing upon the keys, and an additional row of strikers comprising members hinged to the bar, and extended therefrom to engagement
45 with the keys, and members, accessible for manual depression at the top of the bar and engaging the said hinged and extended members.

Signed by me at Springfield, Massachusetts, in presence of two subscribing witnesses.

BYRON F. STOWELL.

Witnesses:

WM. S. BELLOWS,

A. V. LEAHY.