

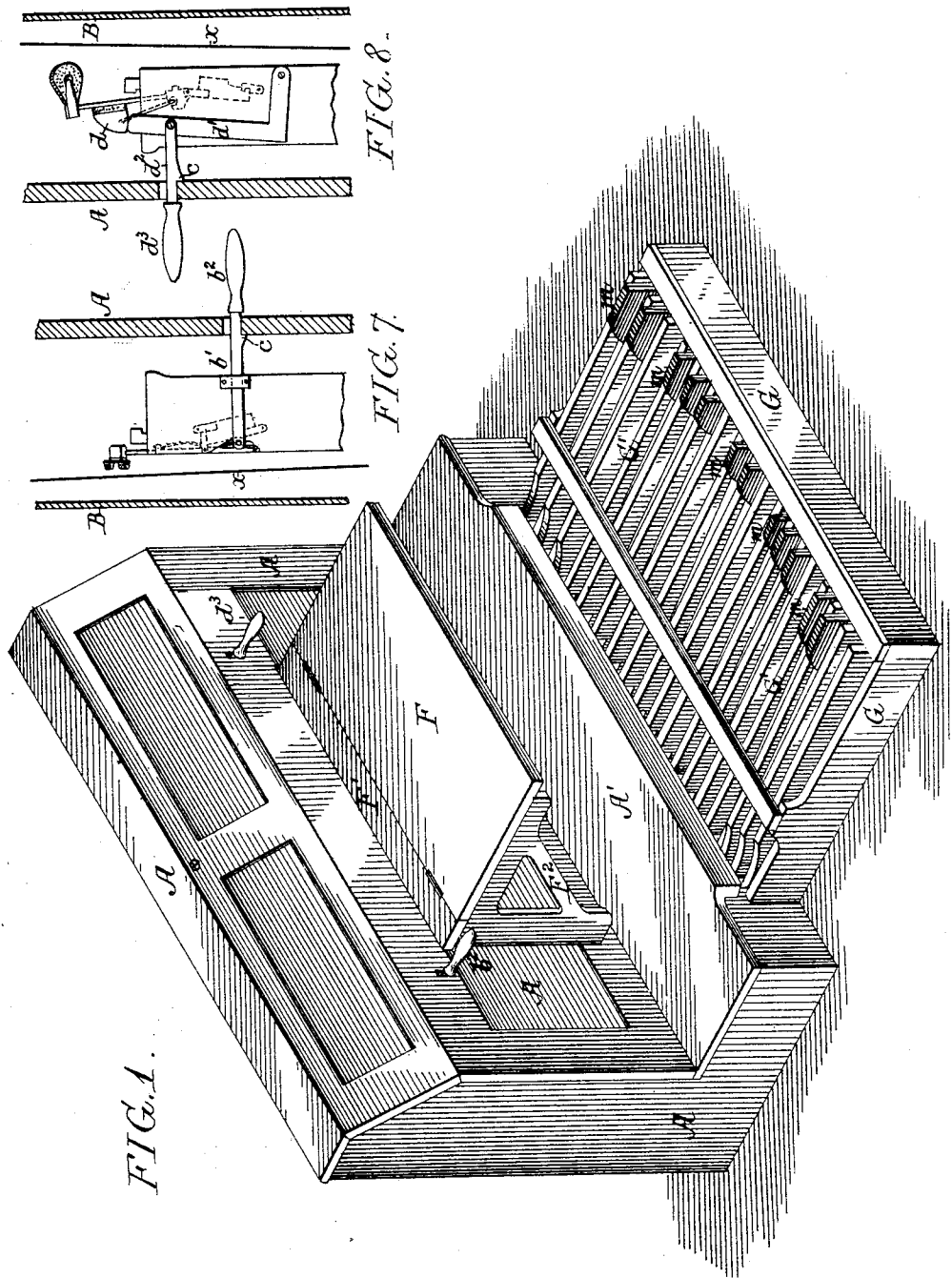
(No Model.)

6 Sheets—Sheet 1.

L. A. SUBERS.
PEDAL PIANO.

No. 459,382.

Patented Sept. 8, 1891.



Witnesses:
Alex. Parkoff
Fred L. Goodwin.

Inventor:
Lawrence A. Subers
by his Attorneys
Howson & Howson

(No Model.)

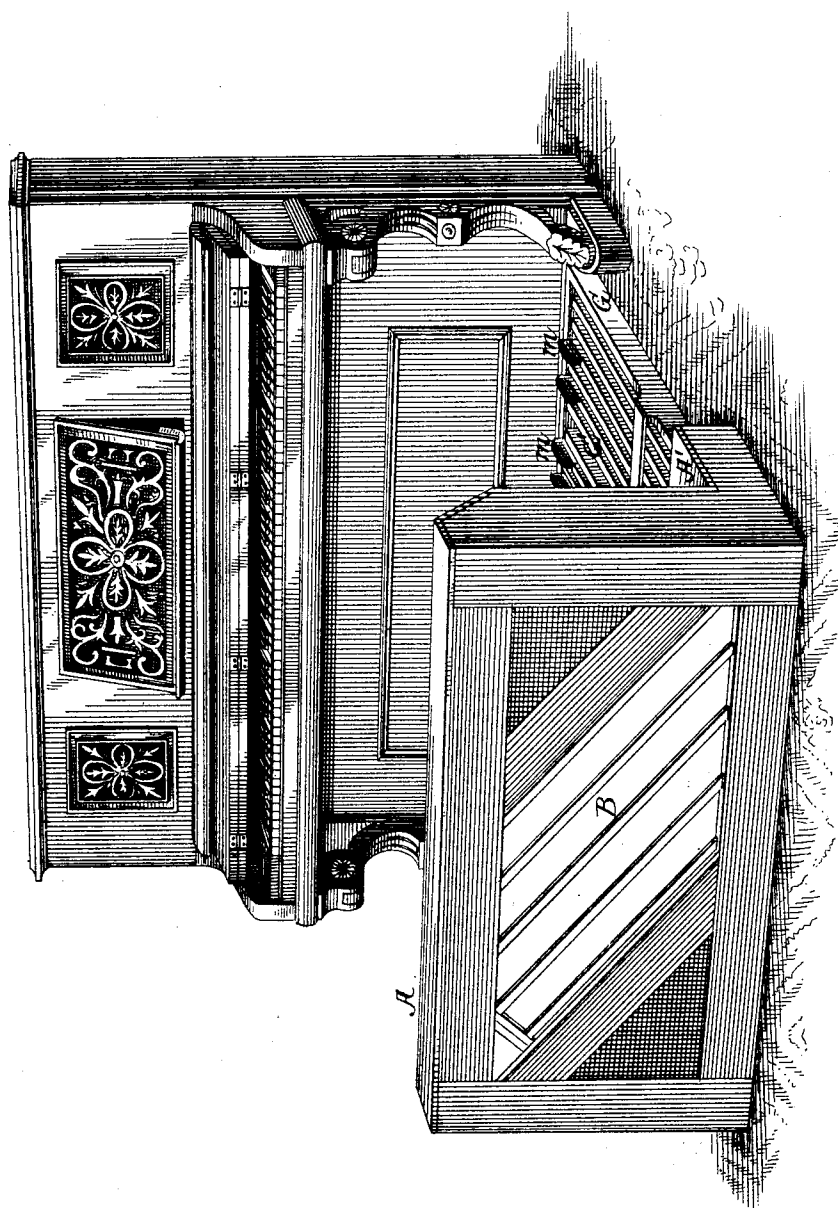
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FIG. 2.



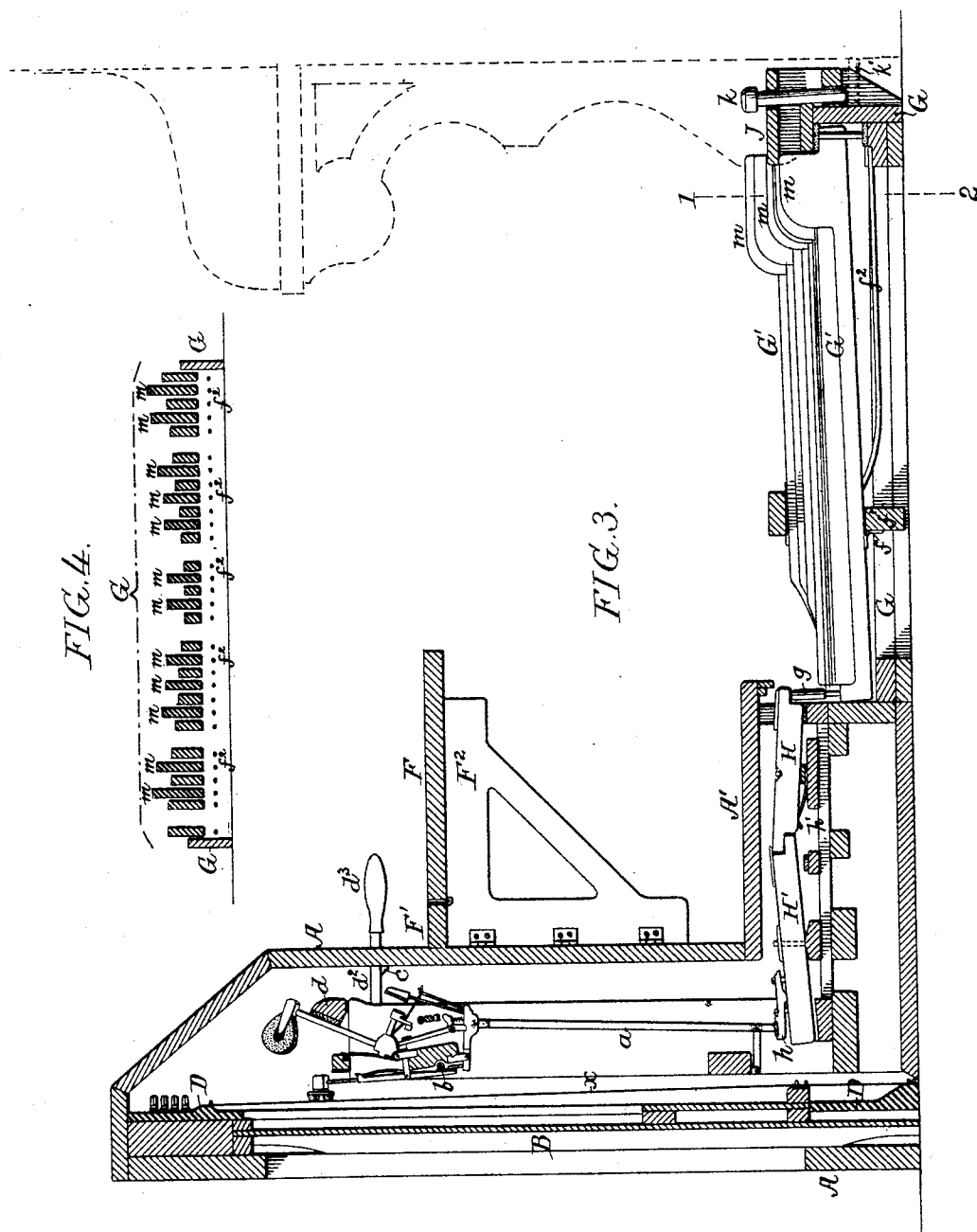
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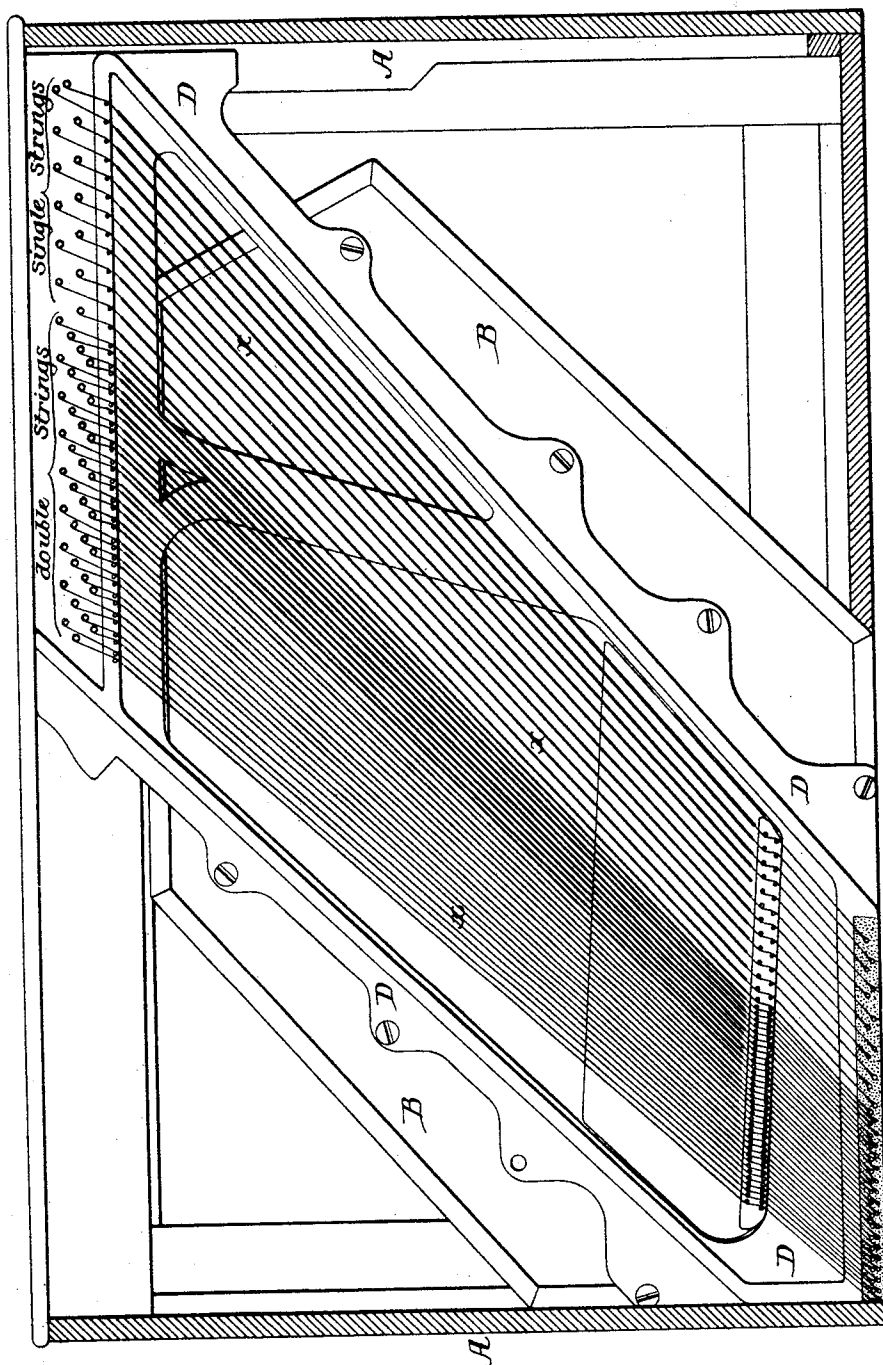
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FIG. 5.



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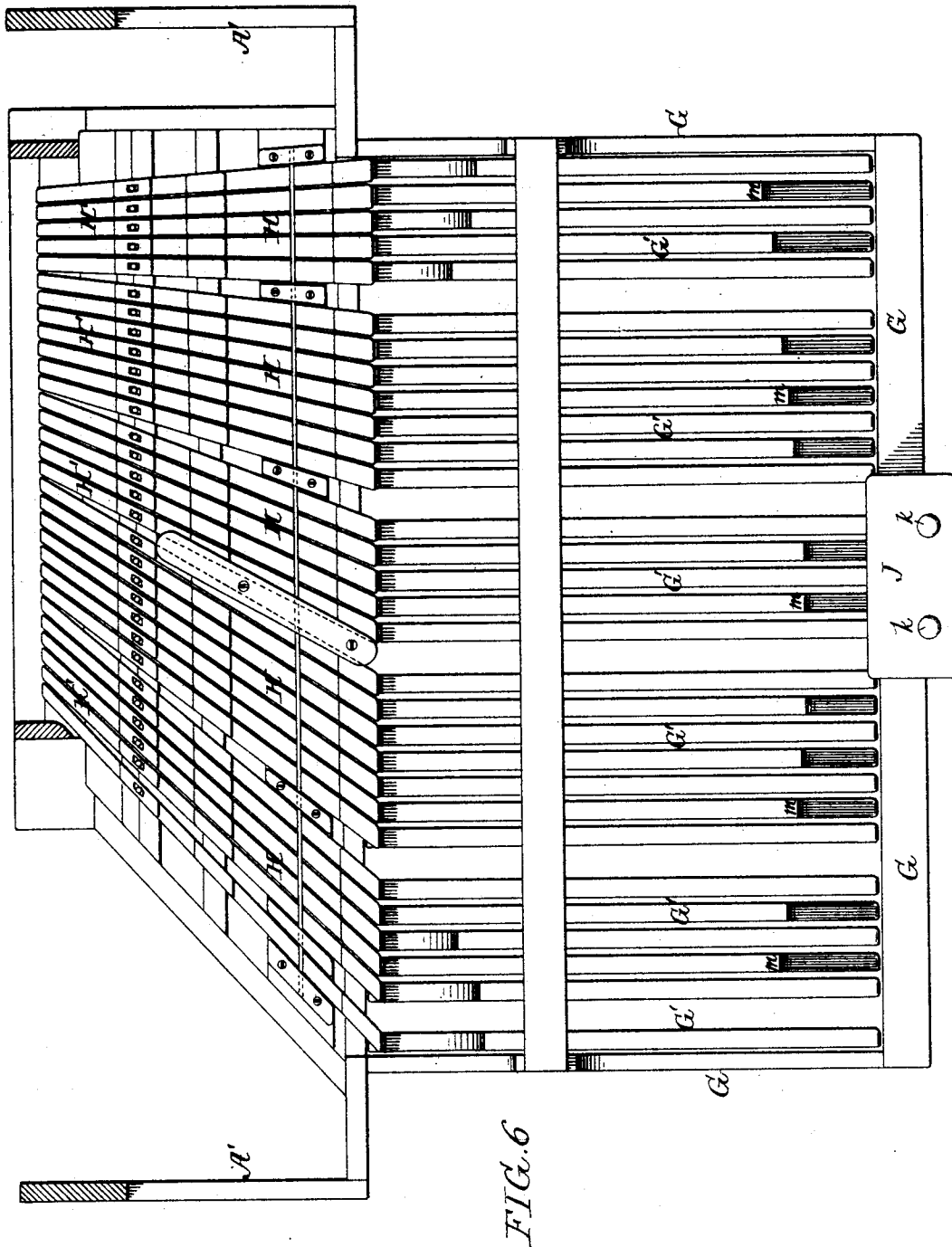
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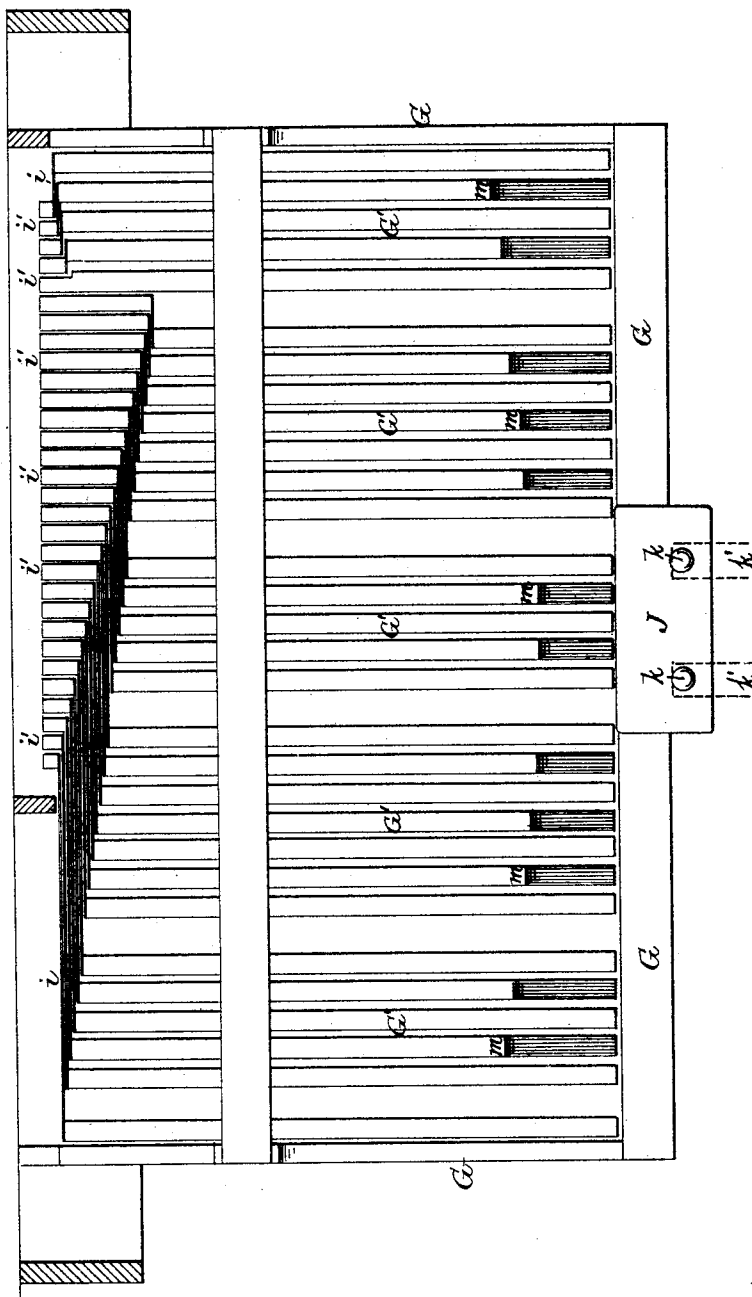
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FIG. 9.



Witnesses:

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UNITED STATES PATENT OFFICE.

LAWRENCE A. SUBERS, OF PHOEBUS, VIRGINIA.

PEDAL-PIANO.

SPECIFICATION forming part of Letters Patent No. 459,382, dated September 8, 1891.

Application filed January 20, 1891. Serial No. 373,468. (No model.)

To all whom it may concern:

Be it known that I, LAWRENCE A. SUBERS, a citizen of the United States, and a resident of Phoebus, Elizabeth City county, Virginia, have invented a Pedal-Piano, of which the following is a specification.

The object of my invention is to provide musicians with a piano constructed for being played by means of pedal-keys and available for use either alone or in connection with an ordinary piano or organ, so that the performer has the same facilities for pedal practice as though playing upon an expensive pedal-organ, my improved pedal-piano, when used in connection with an ordinary instrument, also supplementing and enriching the tone of the same.

In the accompanying drawings, Figure 1 is a perspective view of my improved pedal-piano, looking at the front of the same. Fig. 2 is a perspective view, on a smaller scale, illustrating the rear of the pedal-piano and showing the same in position for use in connection with an ordinary piano. Fig. 3 is a transverse section of my improved pedal-piano on a larger scale than Fig. 1. Fig. 4 is a longitudinal section on the line 1 2, Fig. 3, but on a smaller scale. Fig. 5 is a longitudinal section illustrating in elevation the sounding-board, metal frame, and string-scale of the piano. Fig. 6 is a plan view of the pedals and concentrating mechanism employed in connection therewith. Figs. 7 and 8 are detached views illustrating certain minor features of the invention, and Fig. 9 is a plan view illustrating a special construction of the pedals with the view of effecting economy in space.

My improved pedal-piano consists, essentially, of an upright casing A, having a sounding-board B and metal frame D, the latter having the usual pins for the wire strings α of the scale, all of the strings, however, from treble to bass running in the same direction, and both frame and strings extending diagonally from one of the lower corners of the casing to the opposite upper corner of the same, as shown in Fig. 5, so as to insure the maximum length of string compatible with the desired limited height of the instrument.

The hammer-action may be substantially similar to any of those ordinarily employed in pianos, the lifter-pins a , however, being somewhat longer than usual, owing to the fact that they extend down to the base of the instrument, which distance is somewhat greater than that between the upper portion of the action and the keys of an ordinary piano.

The means for operating the damper-lever roller b , whereby the dampers are removed from contact with the strings for prolonging the note, and the means for moving the hammer-rail d , so as to vary the stroke of the hammers, are also somewhat different from the devices employed for like purposes in an ordinary piano—that is to say, the roller b is connected to an arm b' , which projects through an opening in the front of the casing A, and has at the outer end a handle b^2 , as shown in Fig. 7, and the lever d' , which acts upon the hammer-rail d , is likewise connected to an arm d^2 , which extends through an opening in the casing, and has beyond the same a handle d^3 , each of the arms b' and d^2 having a catch-lug c , serving to retain the arm when it is pushed inward. By this means both the dampers and the hammer-rail are under direct control of the performer seated upon the stool F at the front of the casing, so that the prolonged notes and loud and soft pedal effects can be produced as readily as upon an ordinary piano.

The seat F is hung to a strip F' on the front of the casing A, and when extended is supported by swinging brackets F², hinged to the front of the casing and located adjacent to the ends of the stool; but when these brackets are folded in against the front of the casing the stool can be lowered so as to occupy but little space.

The pedal-frame G is preferably independent of the casing of the instrument, although it may form part of the same, if desired, and the pedals G' are hung by hinges f to a transverse bar f' on this frame, and are acted upon by springs f^2 , tending to elevate their outer ends, the pedals being otherwise similar to those of an ordinary pedal-organ, the pedals shown in the present instance comprising a full pedal-scale of thirty notes.

The inner end of each pedal carries an adjustable pin *g*, which acts upon one arm of a lever *H*, hung within the projecting base *A'* of the instrument, and this lever acts upon a second lever *H'*, which carries the usual rocker *h* for the lower end of the lifter-pin *a*. The adjustment of the pins *g* serves to compensate for any irregularity in the alignment of the pedals due to irregularities in the floor or other causes.

The object of using the intermediate system of levers *H H'* is to permit of the concentration of the action at one side of the instrument and within considerably less compass than the width of the pedal-frame, the levers *H H'* being angularly disposed in respect to the pedals, as shown, for instance, in Fig. 6. Hence the strings may be disposed diagonally within the casing, so as to insure the maximum length of string compatible with the height of the instrument, as before described. A single spring *h'* acts upon each lever *H* and serves to elevate the meeting ends of both of the levers *H H'*.

Instead of using the interposed levers *H H'* as a concentrating device, I may in some cases provide the inner end of each of the pedals with a right-angled bar *i*, whereby it is connected to a finger *i'*, properly disposed in respect to the action, these concentrating-bars *i* being of different lengths, as shown in Fig. 9.

The front part of the pedal-frame *G* carries a frame *J*, which projects in front of the frame *G* and has guides for two pins *k*, so disposed that when the pedal-frame is placed in front of an ordinary piano these pins will be in position to act upon the usual damper and hammer-bar pedals *k'* of the same, as shown by dotted lines in Figs. 3 and 9, this device thus not only serving as a means for operating said pedals of the ordinary piano, but also as a means of centering the pedal-frame in respect to said instrument, so that the middle-C pedal is in line with the middle-C key of the piano-key-board, and the pedals will occupy the same relative position to the performer as those of a pedal-organ, as it is essential that they should, in order to provide the performer with facilities for correct pedal practice.

The tops of the pedals form a radiating scale, being arranged on a curve having its lowest point at the center of the series and its highest point at the ends of the same, so that the end pedals are within as convenient reach of the performer as those in the center, and for the same reason the tongues or projections *m* of those pedals which represent the sharps of the scale vary in length, those at the center being shortest and those at the ends longest, as shown in Figs. 1, 6, and 9.

By placing the frame, string-scale, action, and main casing of my improved pedal-piano in the rear of the player's bench not only am I enabled to conveniently use said pedal-piano in connection with an ordinary piano

or organ for the purpose of pedal practice or for enriching the tone of the main instrument, but I insure compactness in the pedal-piano itself considered as a separate instrument.

The strings of the scale of the pedal-piano are arranged reversely as compared with those of ordinary pianos—that is to say, when the scale is viewed from the front the treble-strings are at the left-hand side of the scale and the bass-strings at the right-hand side, this arrangement being due to the fact that the instrument is at the rear of the performer, while the pedals are in front and are arranged in the same way as those of an ordinary pedal-organ—that is to say, with the treble-notes at the right hand and the bass-notes at the left hand of the performer.

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

1. A pedal-piano having, in combination, strings inclined from one lower corner of the instrument to the opposite upper corner, a hammer-action concentrated at one side of the instrument, and pedals having concentrating devices, whereby each pedal is caused to act upon its proper element of the hammer-action, substantially as specified.

2. A pedal-piano in which are combined the pedals, the hammer-action, and a string-scale having the treble-notes at the left-hand side and the bass-notes at the right-hand side, substantially as specified.

3. A pedal-piano having a casing inclosing the string-scale, its frame, and the hammer-action and located at the rear of the performer's seat, a pedal-frame, and pedals located in advance of said seat, substantially as specified.

4. The combination, in a pedal-piano, of the frame and strings inclined from one lower corner of the instrument to the opposite upper corner, a hammer-action concentrated at one side of the instrument, the pedals, and coupled levers serving to transmit the movement of each pedal to its proper element of the hammer-action, said levers being angularly disposed in respect to the pedals, substantially as specified.

5. A pedal-piano comprising a casing containing the string-scale, frame, and hammer-action, the pedals in advance of said casing, and a performer's stool secured to the front of the casing, substantially as specified.

6. The combination of the pedal-piano with a frame secured to and projecting forward beyond the pedal-frame and having pins for acting upon the damper, and hammer-pedals of an ordinary instrument, in front of which the pedal-piano is placed, substantially as specified.

7. The within-described radiating pedal-scale for pianos and organs, said scale having the tops of the pedals arranged on a curve rising from the center toward each end of the series, substantially as specified.

8. The radiating pedal-scale having tongues of graduated length upon the pedals representing the sharps of the scale, the tongues being shortest at the center of the series and gradually increasing in length toward each end of the series, substantially as specified.

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9. The combination of the diagonal metal frame with the string-scale having all of the strings from the treble to bass running di-

agonally in the same direction from bottom to top of the frame, substantially as specified.

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

LAWRENCE A. SUBERS.

Witnesses:

EUGENE ELTERICH,
HARRY SMITH.