

J. A. Gray,
Piano Attachment,

Nº 6,223,

Patented Mar. 27, 1849.

Fig. 1

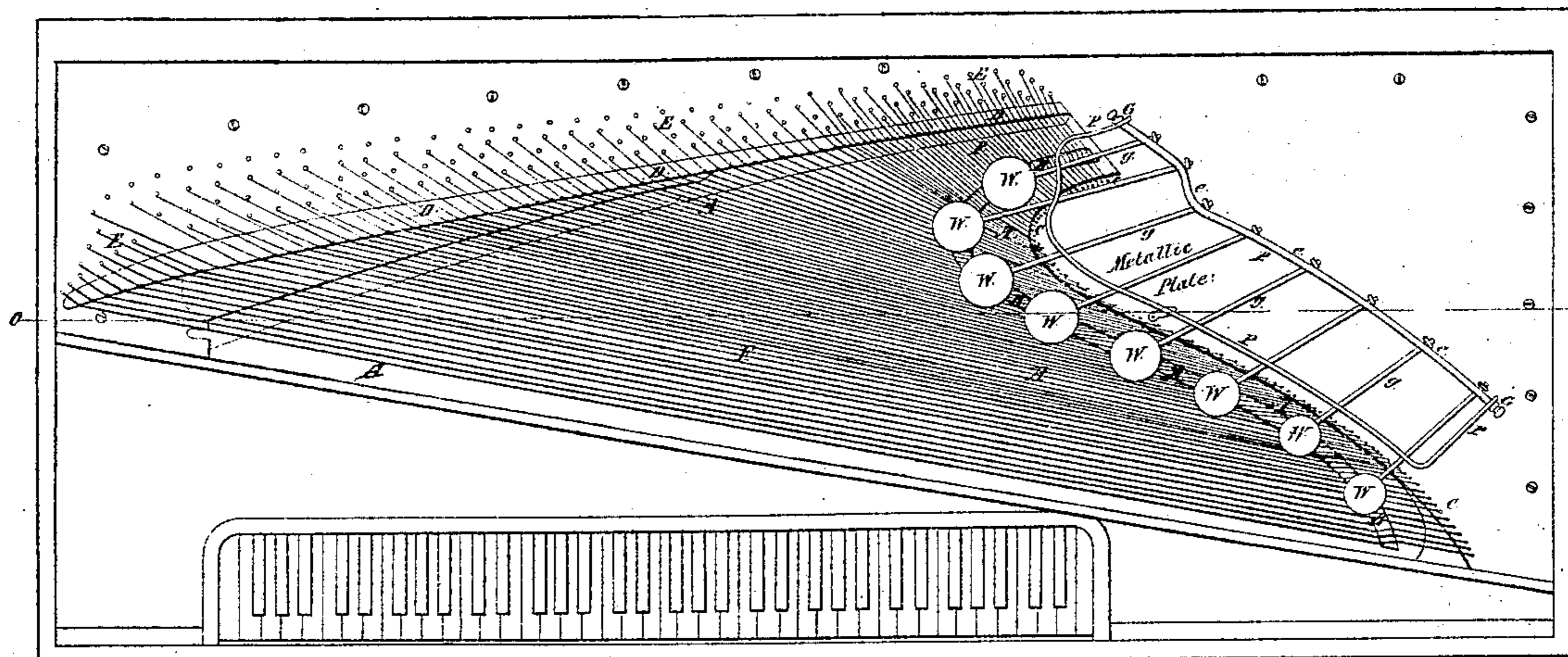
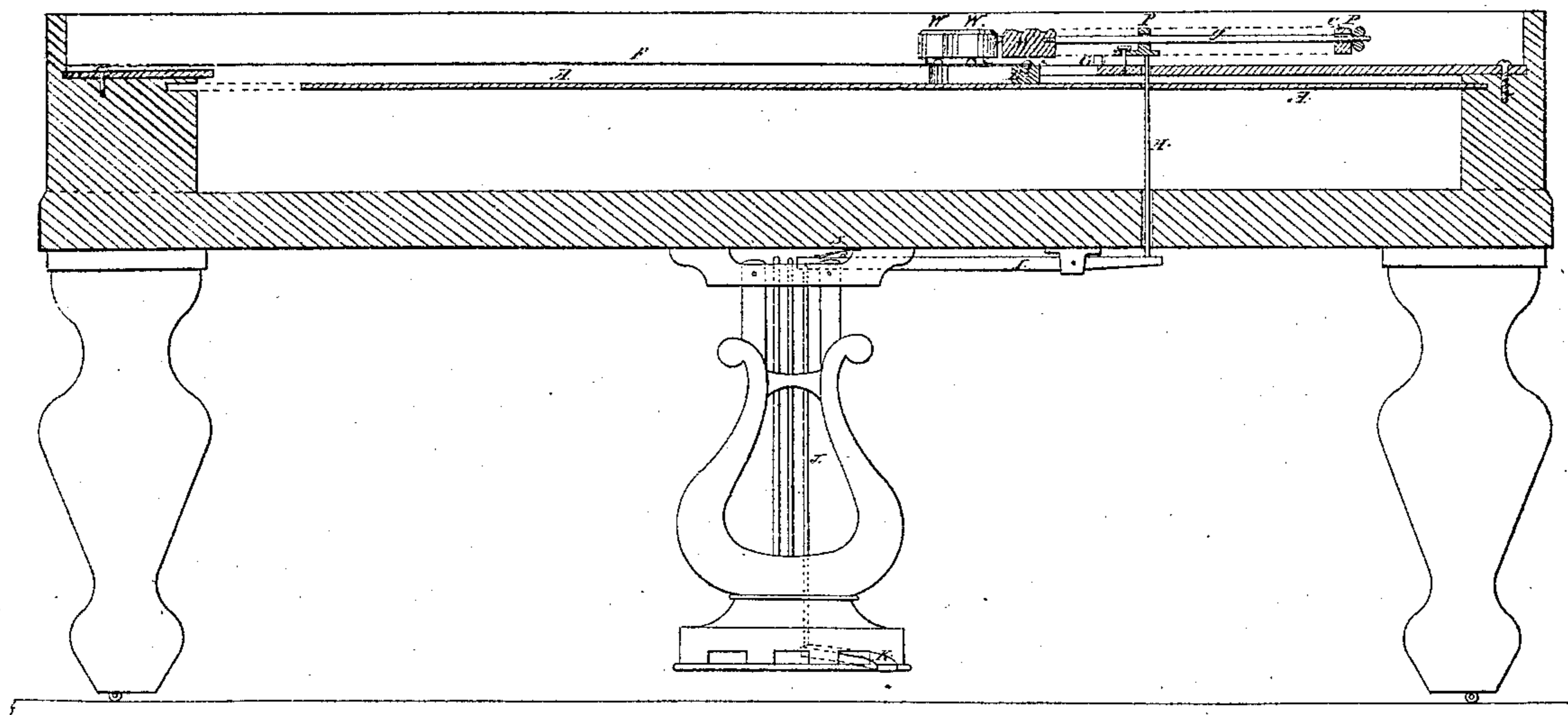


Fig. 2



Witnesses:

Joseph A. Gray,
John A. Gray,

Inventor:

J. A. Gray,
Practical Patent Attorney

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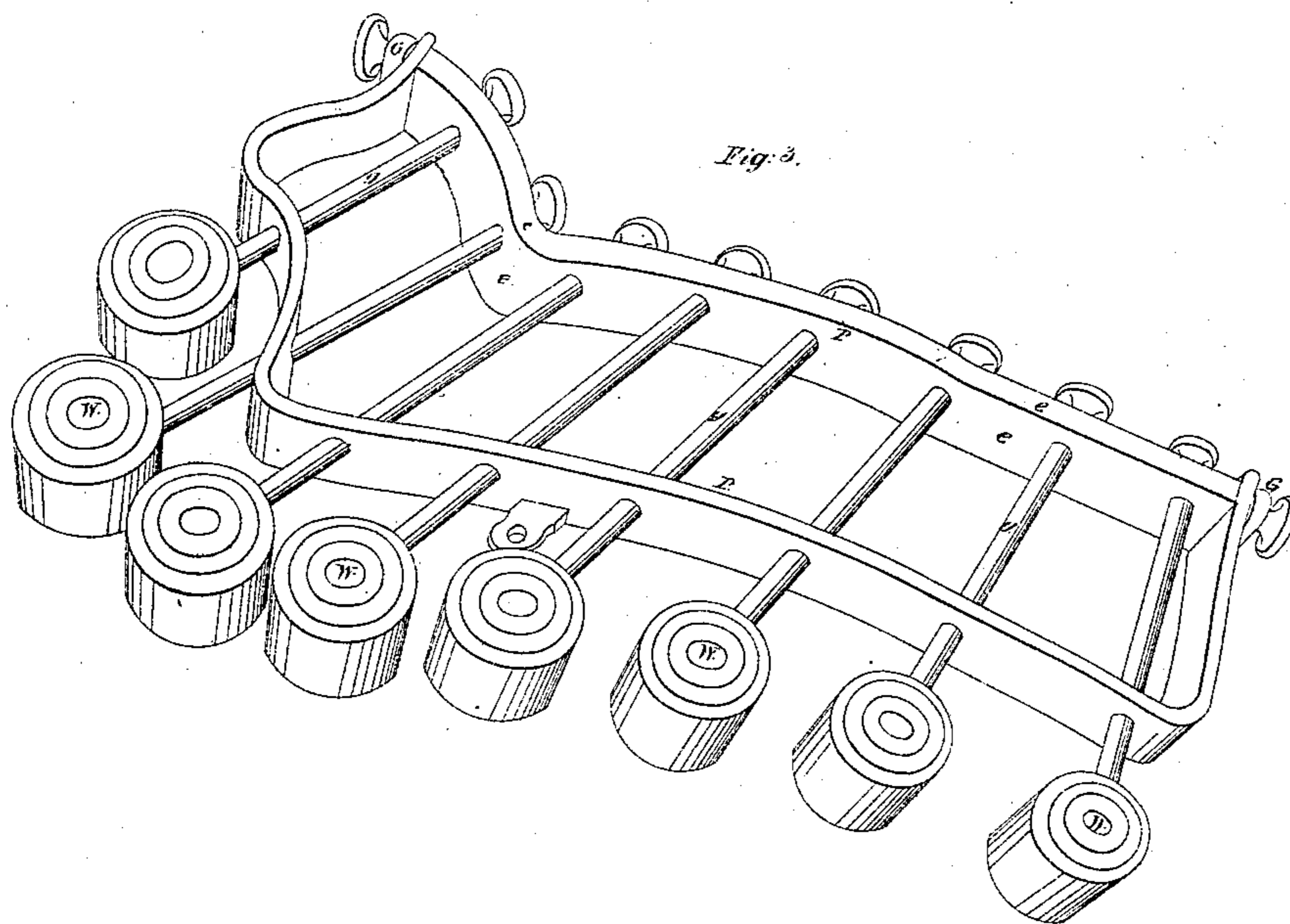
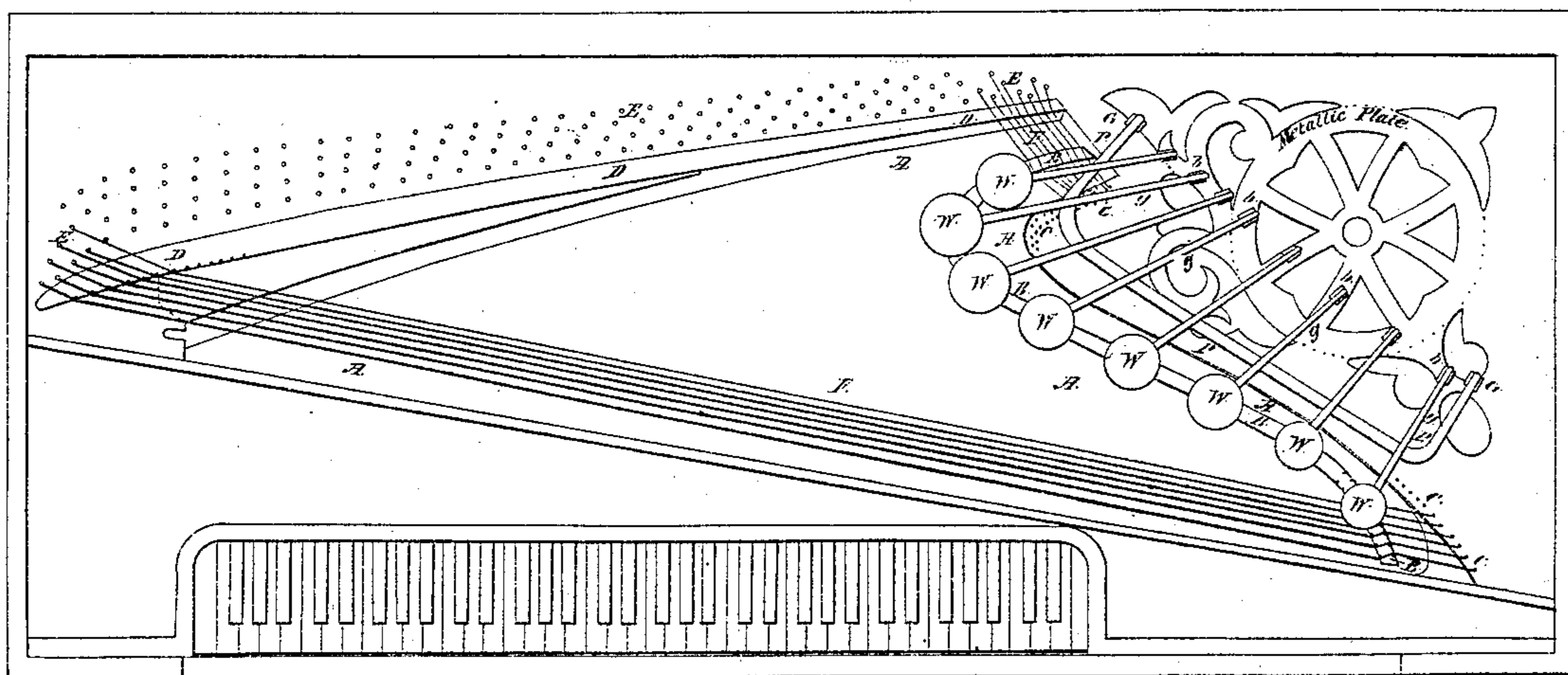


Fig. 4.



Witnesses:
Samuel H. Seward,
John A. Ott.

Inventor:
James A. Gray
Braden & Gray

UNITED STATES PATENT OFFICE.

J. A. GRAY, OF ALBANY, NEW YORK.

PIANOFORTE.

Specification of Letters Patent No. 6,223, dated March 27, 1849; Antedated September 27, 1848.

To all whom it may concern:

Be it known that I, JAMES A. GRAY, of the city of Albany and State of New York, have invented a new and Valuable Method of
5 Changing and Improving at Will the Tone of the Pianoforte, which I call the "Dolce Campana Attachment or Stop;" and I declare the following specification, with the drawings attached thereto and forming part
10 thereof, to be a full and perfect description of the same, the same letters on the different drawings indicating the same parts of the machine.

The apparatus intended to produce the
15 effect above described consists of a series of weights W W made of any ponderous substance and of any convenient shape, they are made by me of the form shown in the drawings and of lead cased ornamentally in
20 brass. These weights are arranged directly above the crooked-bridge B B which is attached to and forms part of the sounding-board of the instrument; and each of them is attached to an arm or lever *g g* which projects horizontally from them several inches.
25 In one method of the construction of the apparatus, the ends of these levers are pivoted or hinged in range upon upright supports *b b* No. 4—or in a second mode of
30 construction they are secured to a cross bar *e e* forming part of the frame P, P, Nos. 1, 2, 3.—In this latter case the cross bar is by its ends pivoted upon upright supports G, G, at its extremities: These supports G, G,
35 being secured to the metallic plate or frame (so called) of the piano. When the arms are hinged separately they rest, at a short distance from the weights, upon a curved bar, the ends of which, curve or recede back
40 and are pivoted in a range with the pivots of the separate arms, so that when these arms are moved up and down by the action of this bar there may be no sliding and friction between them; see P P No. 4.

45 By the second mode of construction, which I consider the best one, the cross bar *e, e*, and the curved bar form one frame P P the arms of the weights passing through the front and being secured into the rear bar;
50 the object of this frame being merely to support and steady the movement of the weights.

The weights are moved to and from the

crooked bridge B, upon which they are intended to operate by a pedal at the bottom of the piano, through the means of the rod
55 H No. 2, which passes from beneath any part of the front bar, described, through the frame of the instrument, and by means of lever I and a rod J is connected with the pedal K. It being necessary in the ordinary
60 use of the piano to keep the weights from touching the bridge B, this is effected by a spring S which keeps the long arm of the lever I depressed and holds the other end of it with rod H and the superincumbent
65 frame P P raised until the pedal is brought into action.

To enable the weights to operate on the bridge to the best advantage, and to regulate conveniently each one's independent action,
70 I fix into the bridge directly under the center of each weight a screw α No. 2 which can be slightly raised or lowered in adjustment of the touch of the weight over it.

In the above arrangement it will be seen
75 that the pressure required is produced by the use of weights. The weights are not absolutely necessary. Substitutes for them may be made of wood and other light material and pressure effected by a spring be-
80 low, or by the pressure of the foot with greater or less force upon the pedal the rod H in that case being attached to the frame P, P. But to secure equal and uniform pressure and a correspondent effect upon the
85 tone of the instrument weight as arranged according to the plan above specified is best.

It is obvious that the number of weights and their distribution over the crooked bridge is a mere matter of expediency. I
90 do not limit myself in this respect to the number shown in the drawings. Neither do I limit myself to the application of weights to the crooked bridge. I adopt this as the most convenient way of producing pressure
95 upon the sounding board of which the bridge is an integral part, but propose if more convenient to apply the weight direct to the sounding board near to the place of the
100 bridge.

I do not limit myself to the peculiar mechanical detail herein set forth and described for supporting raising and depressing the weights, intending to use any of the

well known mechanical apparatus fitted for that purpose.

I claim the application of weight or pressure upon the sounding board of the piano-
5 forte either directly or upon the crooked bridge thereof, as the most convenient mode of applying the same, for the purpose of

producing a change in the tone of the instrument; thereby extending its musical capabilities.

JAMES A. GRAY.

Witnesses:

RICHD. VERICK DE WITT,
SIBERIA OTT.