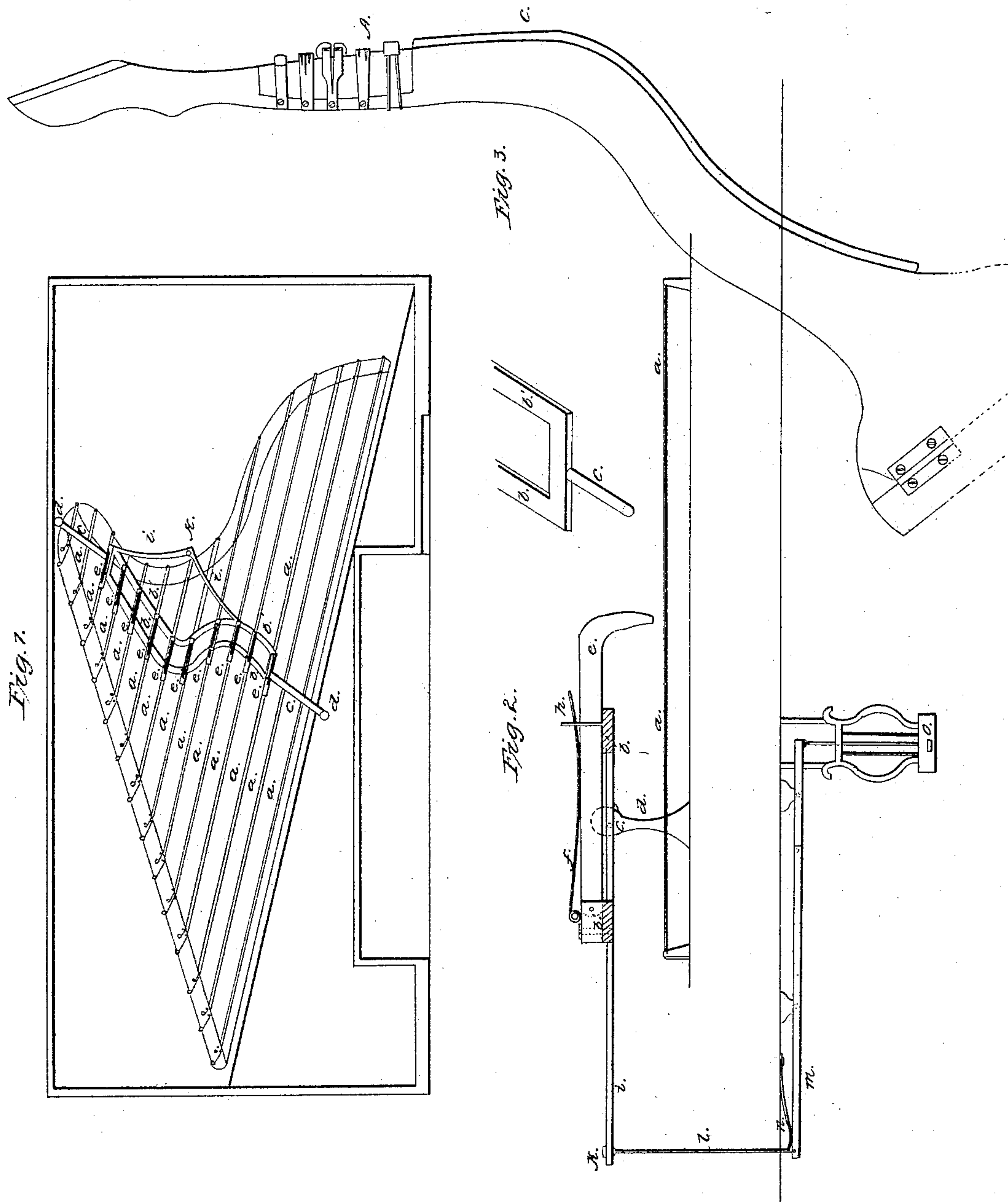


E. L. WALKER & G. W. CHERRY.
PIANO ATTACHMENT.

No. 3,888.

Patented Jan. 16, 1845.



UNITED STATES PATENT OFFICE.

E. L. WALKER, OF CARLISLE, PENNSYLVANIA, AND G. W. CHERRY, OF ALEXANDRIA,
DISTRICT OF COLUMBIA.

PIANOFORTE.

Specification of Letters Patent No. 3,888, dated January 16, 1845.

To all whom it may concern:

Be it known that we, EDWARD LESLEY WALKER, of Carlisle, in the county of Cumberland and State of Pennsylvania, and
5 GEORGE W. CHERRY, of the city and county of Alexandria and District of Columbia, have invented certain new and useful Improvements in Pianofortes; and we do hereby declare that the following is a full, clear,
10 and exact description thereof, reference being had to the accompanying drawings, which forms a part of our specification, in which—

Figure 1, is a top plan. Fig. 2, is a section across the frame of our improvement. Fig. 3, is a representation of a modification of the instrument.

The nature of this invention consists in producing harmonies an octave higher than
20 the original sound of the strings of the piano forte *ad libitum*, by means of a set of hammers or weights, which are placed in a frame over the strings, and are brought down upon them at the center of their length by a pedal
25 or other analogous device under the piano similar to what is used at present to control the soft pedal or damper frame. A bar Fig. 3, may be substituted for the hammer frame as hereafter described.

30 The construction of the improvements is as follows: Over the strings (*a*) of the piano is suspended a frame composed of two parallel bars *b*, *b'*, formed so as to be over each string a little on one side of the center of
35 the length of said strings, its shape on some pianos being nearly similar to the letter S, it is supported by, and turns on an axis *c*, that projects from each end of the frame and turns in standards (*d*) projecting up
40 from the frame of the piano to which they are affixed and supporting the frame above named.

Along the bar (*b'*) of the moving frame a set of hammers are hinged, that project
45 across the frame over the other bar (*b*) parallel with and at some distance above the strings of the piano, the end of each hammer is curved down so as to rest upon the strings when the pedal is used; the ends of these
50 hammers are covered with any suitable soft substance such as buckskin, india rubber, &c. One of the hammers together with a cross section of the frame is shown in Fig. 2.

The hammers or weights (*e*) should be made of metal or other heavy material and
55 a spring (*f*) may be placed over each to regulate the pressure and prevent vibration. To guide the end of the hammers that touch the strings and keep them over the proper
60 ones a pin or staple (*h*) should be fixed in bar (*b*) of the frame at each hammer. Arms (*i*) connected with the frame extend back in a curved line from each end of the bar (*b'*) of the frame joining at a point (*k*)
65 beyond the ends of the strings from which point a rod (*l*) extends down through the bottom of the piano and is connected with the pedal lever (*m*) of common construction, the spring (*n*) attached to said lever bears
70 that end of the lever down and causes the hammers (*e*) to stand up from the strings as shown in Fig. 2.

The harmonic frame and hammers can obviously be made to extend over the whole or only a part of the strings at the option of
75 the manufacturer. A modification of this plan is to attach the india rubber or other elastic substance to springs affixed to a bar as shown at A, Fig. 3, instead of the hammers, one end of said spring being attached
80 to the bar and the other bearing on the strings to which end the elastic substance is fixed or a continuous bearing as at C, may be used across the strings all of which produce the harmonic sounds, but in a less perfect
85 manner and without the brilliancy of tone of that first described.

Having thus fully described the improvements what we claim therein as new and desire to secure by Letters Patent is—
90

An extra set of hammers, weights or dampers or a continuous bearing, constructed and arranged as herein described, passing over the center of the strings of a piano forte, so as to be brought down upon them
95 by a pedal or other analogous device for the purpose of producing the harmonic tones as herein set forth.

E. L. WALKER.
G. W. CHERRY.

Witnesses:

J. J. GREENOUGH,
LAFAYETTE CALDWELL.