

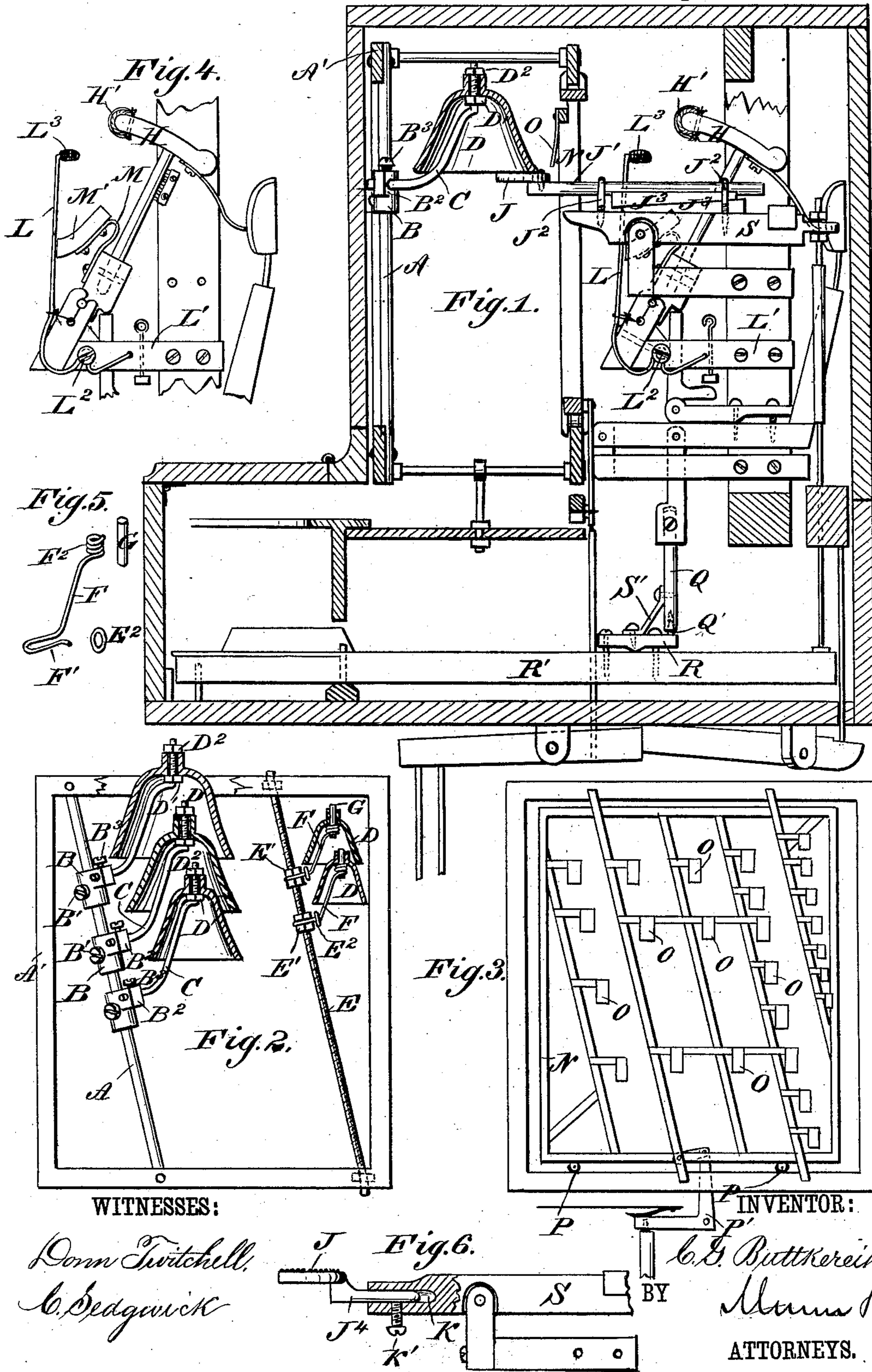
(No Model.)

C. G. BUTTKEREIT.

BELL PIANO.

No. 247,009.

Patented Sept. 13, 1881.



# UNITED STATES PATENT OFFICE.

CARL G. BUTTKEREIT, OF DES MOINES, IOWA.

## BELL-PIANO.

SPECIFICATION forming part of Letters Patent No. 247,009, dated September 13, 1881.

Application filed May 25, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, CARL GUSTAV BUTTKEREIT, of Des Moines, in the county of Polk and State of Iowa, have invented a new and Improved Bell-Piano, of which the following is a specification.

The object of my invention is to provide certain new improvements in the bell-piano for which Letters Patent No. 142,768 were issued to me on the 16th day of September, 1873.

In the accompanying drawings, Figure 1 is a cross-sectional elevation of my improved bell-piano. Fig. 2 is a longitudinal sectional elevation of the same, showing the arrangement of the bells and their supports. Fig. 3 is a front elevation of the sliding apron-frame of the piano-pedal. Fig. 4 is a detail cross-sectional elevation of hammer mechanism. Fig. 5 is a perspective view of details of several parts used in suspending the small bells. Fig. 6 is a detail side elevation and longitudinal sectional elevation of one of the smaller dampers and the damper-lever.

Similar letters of reference indicate corresponding parts.

A tubular rod, A, is fastened to the bell-frame A', and on this rod A a series of hubs, B, are loosely mounted, these hubs being provided with binding-screws B, for locking or holding them firmly in any desired position on the rod A. Each hub B is provided with an arm, B<sup>2</sup>, through which the lower end of a rod, C, passes, bent to be about parallel with the inside of the bell D, which rests on a shoulder, D', at the upper end of the rod C, and is held on the same by a nut, D<sup>2</sup>. The arm B<sup>2</sup> of the hub B is provided with a binding-screw, B<sup>3</sup>, for locking the lower end of the rod C to or in the arm B<sup>2</sup> of the hub B. The rod or arm C is preferably made hollow, and must be bent in such a manner that it cannot come in contact with the bell. A series of bells, D, are thus supported by the tubular rod A, each bell fitting within the next larger bell, as shown in Fig. 2. However, the bells may be inverted in position, if desired—that is to say, they may be arranged with the mouth to the top instead of to the bottom. The above-described hanging devices, however, are only to be used for the large and heavy bells, the light bells being hung in a different manner, which I will now describe.

A threaded tubular rod, E, is fastened to the bell-frame A', and on this rod a series of nuts, E', with grooves in the sides, are mounted, which nuts can be adjusted higher or lower on the rod E by simply turning them. A locking-ring, E<sup>2</sup>, is passed on a wire, F, with a loop or hook, F', at its lower end, and this loop or hook is passed around the nut E', and the ring E<sup>2</sup> is then passed over the free end of the hook F' for the purpose of retaining the wire F on the nut E'. The upper end of the wire F is coiled to form a socket, F<sup>2</sup>, to receive a wooden plug, G, which fits into an aperture in the top of the bell, which rests on the shoulder formed by the socket F<sup>2</sup>. The wire F is bent in such a manner that it does not come in contact with the bells. Any number of bells can thus be supported on the rod E in the same manner as described above in relation to the rod A.

The hammer H, which is hung and operated in the same manner as described in my patent above mentioned, is made of metal, and has a cushion, H', of leather, cloth, or felt, at its front end, and is provided at its front end with an aperture, through which the threads, pins, or wires for securing the cushion H' to the hammer pass, for the cushion will not hold on the hammer if fastened by means of glue or similar materials.

The damper is composed of a semicircular piece, J, covered with leather, felt, &c., and attached to a rod, J', passing through two eyelets or staples, J<sup>2</sup>, on the damper-lever S. This rod J' can be adjusted so that the damper J will be a greater or less distance from the bell by means of two wedges, J<sup>3</sup>, between the rod J' and the damper-lever S; but the damper-piece J may be attached to a short rod, J<sup>4</sup>, passing into an aperture, K, in the front end of the damper-lever S, and held therein by a screw, K'. A wire, L, is bent to form a hook at the lower end and a loop near the lower end, and this wire L is fastened to the piece L' of the piano-action by driving the hook at the end of the wire L into the piece L', and passing a screw, L<sup>2</sup>, through the loop into the piece L'. The upper end of this wire L is provided with a head or cushion, L<sup>3</sup>, against which the rod of the hammer H strikes when the hammer moves toward the bell. This produces a soft sound and prevents clattering of the hammer on the bell.

A bent copper plate or strip, M, is attached to the bottom of the hammer-rod, and a block of lead, M', is attached to the loose end of this bent strip. This weight or block M' balances the hammer and makes the hammer mechanism more sensitive.

The piano pedal-frame N, from which the aprons O O, for damping the tones, are suspended, rests on rollers P P, and is moved side-wise by the pedal-lever P', in place of being moved vertically, as described in my former patent.

The lever Q is provided at its lower end with an aperture, into which a pin, Q', on the block R of the key-lever R' passes. A rubber band, S', is attached to the lever Q and to the block R. With this construction the several parts of the instrument can be combined and united very conveniently.

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

1. In a bell-piano, the combination, with the bells D, of the curved rods C, which are adapted for supporting the bells, one within another, substantially as shown and described.

2. In a bell-piano, the combination, with the bells D, of the curved rods C and the rod A, secured to the bell-frame at one side of the bells, substantially as herein shown and described, and for the purposes set forth.

3. In a bell-piano, the combination, with the bells D, of the curved rods C, the rod A, se-

cured to the bell-frame at one side of the bells, and the hubs B, substantially as herein shown and described, and for the purpose set forth. 35

4. In a bell-piano, the combination, with the bells D, of the rods C, the rod A, the hubs B, and the binding-screws B' and B<sup>3</sup>, substantially as herein shown and described, and for the purpose set forth. 40

5. In a bell-piano, the combination, with the hammer H, of the spring-wire L and the cushion-head L<sup>3</sup>, constructed and arranged to operate substantially as herein shown and described, and for the purpose set forth. 45

6. In a bell-piano, the combination, with the damper-lever S, of the damper J, the rod J', the eyelets or staples J<sup>2</sup>, and the wedges J<sup>3</sup>, substantially as herein shown and described, and for the purpose set forth. 50

7. In combination with a hammer and bell of a bell-piano, the laterally-sliding damper apron-frame N, and the rollers P P, upon which it rests, substantially as herein shown and described, and for the purpose set forth. 55

8. In a bell-piano, the combination, with the key-lever R', of the lever Q, the pin Q', and the rubber band S', substantially as herein shown and described, and for the purpose set forth. 60

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Witnesses:

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