G. P. SMITH.

ORCHESTRION.

APPLICATION FILED DEC. 29, 1917.

1,305,942.

Patented June 3, 1919.

3 SHEETS—SHEET 1.

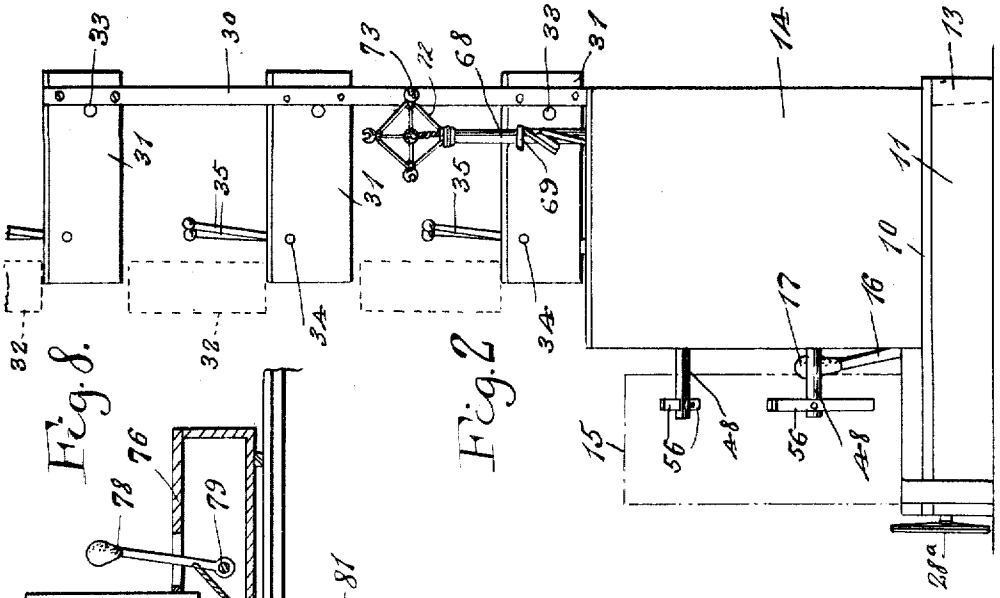


Fig. 8.



Fig. 2

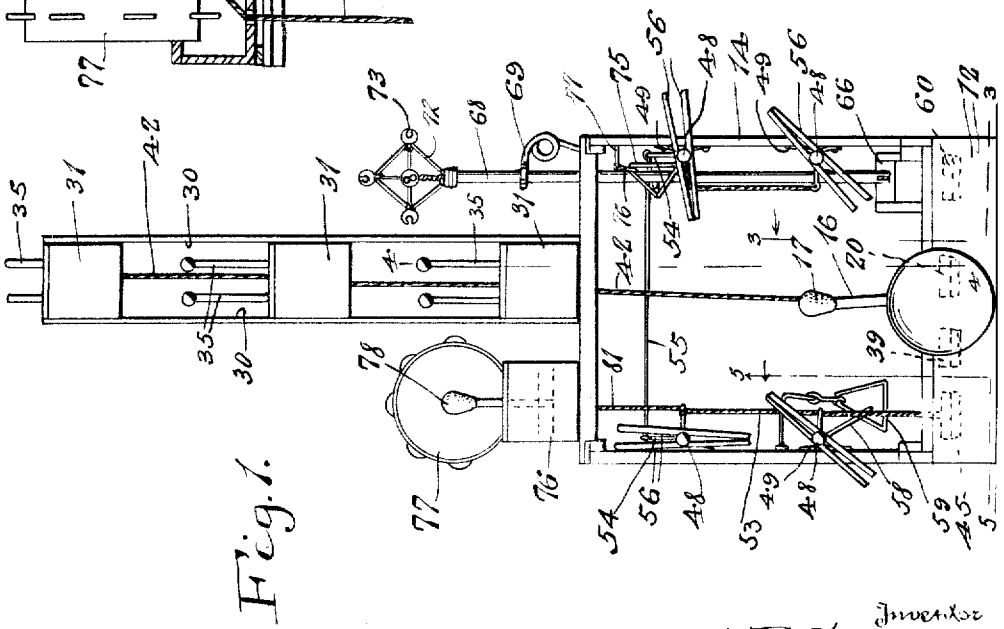


Fig. 1.

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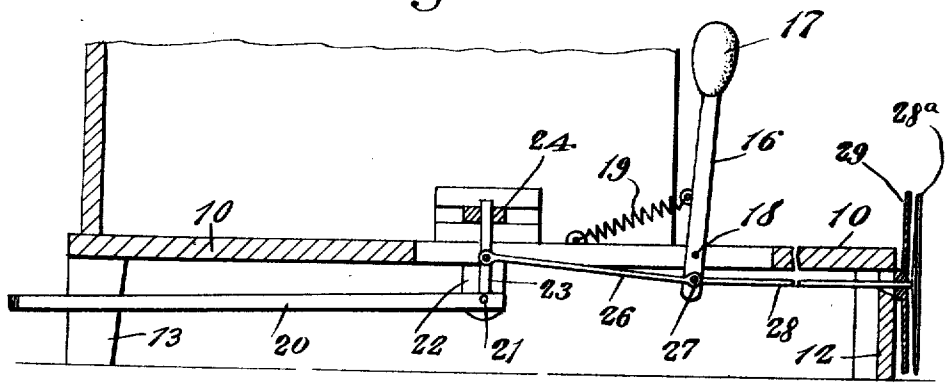
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3 SHEETS—SHEET 2.

Fig. 3.



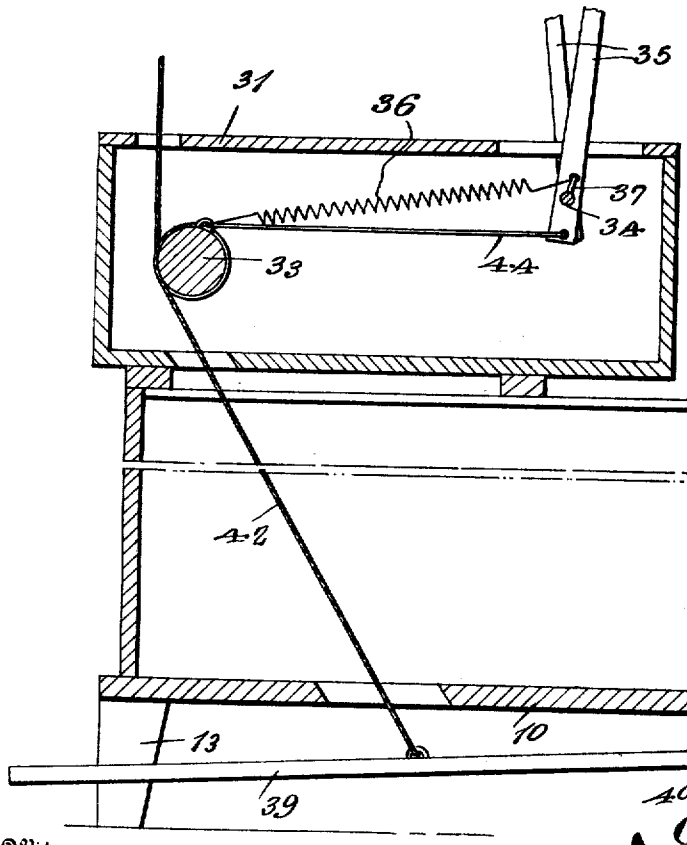




Fig. 4.

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3 SHEETS—SHEET 3.

Fig. 5.

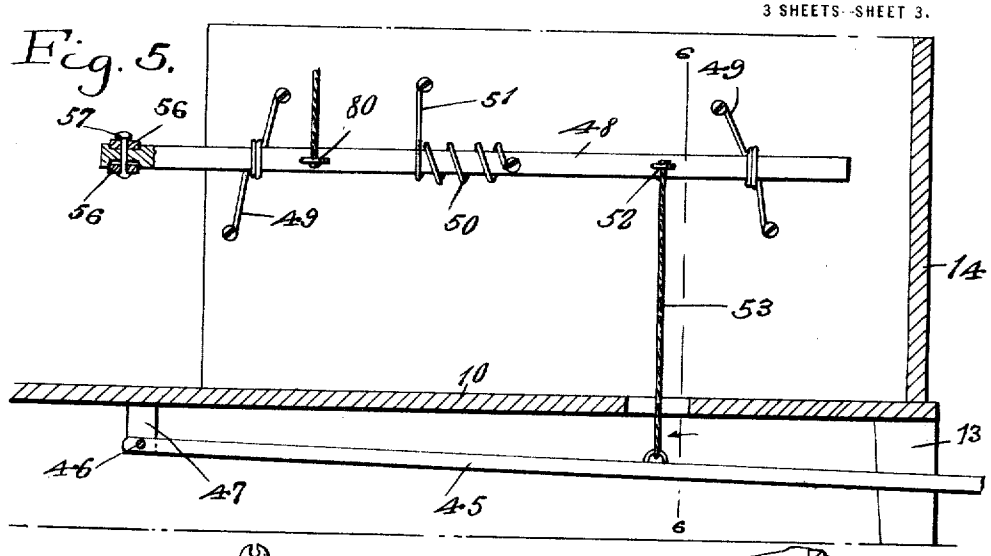



Fig. 7.

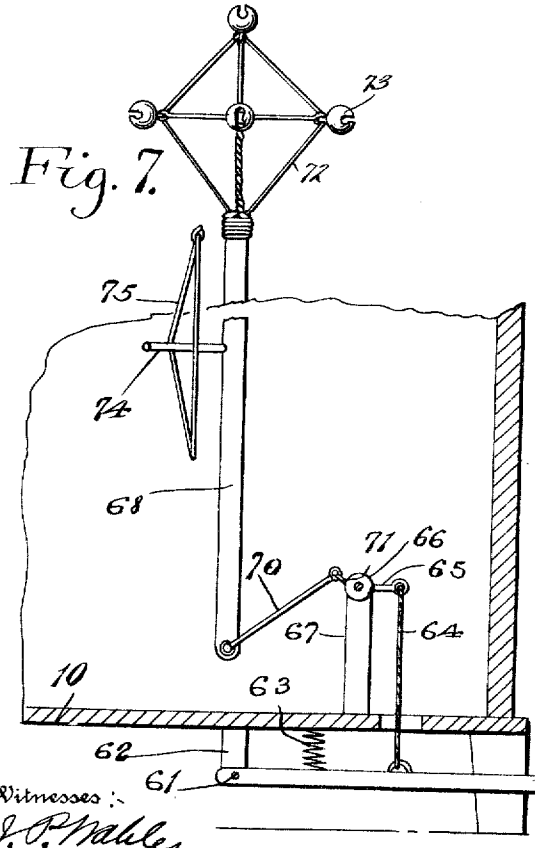
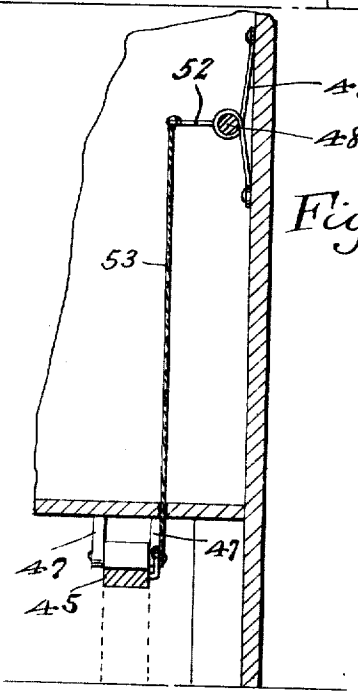



Fig. 6.




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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

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## ORCHESTRION.

1,305,942. Specification of Letters Patent. Patented June 3, 1919.

Application filed December 29, 1917. Serial No. 209,500.

*To all whom it may concern:*

Be it known that I, GEORGE P. SMITH, a citizen of the United States, residing at Boley, in the county of Okfuskee and State of Oklahoma, have invented certain new and useful Improvements in Orchestrions; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has for its object to provide an improved orchestrion, including a plurality of musical instruments and pedal operated means for playing or operating the various instruments.

Another object is the provision of an orchestrion including, among other musical instruments, a series of snare drums and pedal operated means for vibrating the sticks upon the drum heads in a manner closely resembling the manipulation of the sticks by an experienced drummer.

Another object is the provision of an orchestrion including pedal operated means for playing or operating various combinations of instruments, such as bone clappers, triangles and a tambourine.

With these and other objects in view, the invention consists in the novel construction, combination and arrangement of parts as will be hereinafter specifically described, claimed and illustrated in the accompanying drawings, in which:

Figure 1 represents a front elevation of the orchestrion, partly broken away,

Fig. 2 represents a side elevation thereof,

Fig. 3 represents a fragmentary vertical sectional view in the plane of the line 3—3 of Fig. 1,

Fig. 4 represents a fragmentary vertical sectional view in the plane of the line 4—4 of Fig. 1,

Fig. 5 represents a fragmentary vertical sectional view in the plane of the line 5—5 of Fig. 1,

Fig. 6 represents a fragmentary sectional view on the line 6—6 of Fig. 5,

Fig. 7 represents a fragmentary vertical sectional view taken in approximately the plane of the line 3—3 of Fig. 1 and looking in the opposite direction from Fig. 3.

Fig. 8 is a detail of the tambourine and the means for operating the same, partly in section.

Referring to the drawings in detail, wherein similar reference numerals designate corresponding parts throughout the several views, the numeral 10 indicates a platform, which is supported upon side members 11 and front and rear members 12 and 13, respectively. A housing 14 having an open front is supported upon the platform 10 and constitutes a support for several of the various musical instruments comprising the orchestrion.

As shown in Fig. 2, the front end of the platform 10 projects forwardly of the housing 14 and is designed to support a bass drum, which is indicated in dotted lines in that figure. A bass drum stick 16, carrying a head 17 at its upper end, is pivotally supported at 18 in the front portion of the platform 10, and the upper terminal thereof is normally retained in rearwardly extended position by the tension of a contractile spring 19, which connects the medial portion of the drum stick with the platform 10. A pedal 20 is pivotally secured at 21 in a depending bracket arm 22 attached to the platform 10 and projects rearwardly from the rear end of the platform 10 into such position as to be conveniently operated by the foot of the player. The pivoted terminal of the pedal carries an outwardly directed arm 23, which is movably engaged in a cross head 24, slidably supported in guides 25 secured in spaced relation upon the platform 10. The arm 23 is connected intermediate its ends with a connecting link or rod 26, which is pivotally attached at 27 to the bass drum stick 16 at a point below the pivotal axis of the latter, whereby upon depression of the pedal 20 the arm 23 and link 26 are moved rearwardly, thus swinging the upper terminal 17 of the drum stick against the head of the bass drum 15. The lower terminal of the drum stick 16 is further provided with a forwardly projecting rod 28, which extends through the front supporting member 12 for the platform and through a relatively stationary cymbal 29, and carries a cymbal $28^a$ which is adapted to be reciprocated horizontally during swinging movement of the drum stick 16. The relatively stationary cymbal 29 is se-

cured to the front supporting member 12 and is adapted to be struck by the relatively movable cymbal 28ª during rearward movement of the latter to produce a sound resembling the clash of cymbals.

A pair of uprights 30 are secured in spaced relation upon the top of the housing 14 and support a plurality of drum stick boxes 31, which are arranged one above the other between the uprights 30. As clearly shown in Fig. 2, the boxes 31 project forwardly of the uprights 30 and each box is adapted to support a snare drum 22, which are indicated in dotted lines in Fig. 2.

Within each of the boxes 31, at a point adjacent the rear end, is journaled a roller 33. A shaft 34 is also journaled in each box 31, at a point adjacent the forward end thereof, and supports a pair of drum sticks 35, which are adapted to be swung forwardly against the head of the adjacent drum 32 when the shaft 34 is oscillated. The drum sticks 35 are normally retained in rearwardly extended position and in spaced relation to the heads of the drums 32 by springs 36, which are connected at one end to the drums or rollers 33 and are attached at their opposite ends to a pin 37 secured to each shaft 34. The drum sticks 35 of each pair are preferably arranged in spaced relation on the shafts 33, as shown in Fig. 2, so as to strike against the head of the adjacent drum in rapid succession. A pedal 39 for simultaneously actuating several drum sticks 35 is pivotally secured at 40 to a bracket 41 depending from the platform 10 and a cable or other flexible element 42 is secured to the pedal 39 at a point rearwardly of its pivotal axis. The cable 42 extends upwardly through openings formed in the platform and the top and bottom of the boxes 31 and is passed one or more times about each of the several rollers 33, being secured at its upper end to the uppermost roller. When the pedal 39 is depressed each of the several rollers 33 is given a rotary movement which is transmitted to the snare drum sticks 35 by members 44 connecting the lower terminals of the drum sticks 35 with the upper portions of the rollers 33. When the pedal 39 is released the drum sticks 35 are restored to their normal position by the tension of the springs 36.

The two pedals 20 and 39 are arranged side by side under the platform 10 and the rear terminals thereof project beyond the rear end of the platform 10 so as to be conveniently actuated by the operator.

A third pedal 45 is arranged under the platform 10 to the left of the pedal 39 and is pivotally supported at 46 in a depending bracket 47 attached to the platform 10.

A plurality of horizontally disposed shafts 48 are journaled inside of the housing 14 and are supported in bearing members 49 secured to the inner surfaces of the opposed side walls of the housing. One end of a coil spring 50 having widely spaced convolutions is secured at one end to each shaft 48, and is fastened at its opposite end, as at 51, to the inside of the wall of the housing 14, whereby when the shaft is rotated in either direction it is returned, when released, to its original position. The shafts 48 are arranged one above the other inside the housing 14 and each of the shafts on the left-hand side of the housing 14 is provided with an inwardly directed arm 52, which is connected by a cable 53 with the pedal 45 at a point rearwardly of the pivotal axis of the latter. Upon depression of the pedal 49 the shafts 48, which are connected therewith by the cable 53, is oscillated and the oscillatory movement of these shafts is transmitted to the shafts on the opposite side of the housing 14 by arms 54 and a link 55.

The ends of the shafts 48 project forwardly of the open end of the housing 14 and each supports a pair of relatively movable bone clappers 56, which is loosely pivoted to the shaft by a pin 57.

During the simultaneous oscillation of the several shafts 48 the opposed terminals of the several clappers 56 are struck together and when the pedal 45 is released the shafts are vibrated by the springs 50 for a brief period subsequent to the release of the pedal.

The lower left hand shaft 48 is provided with an inclined arm 58, which is arranged to strike against a triangle 59 supported in the front end of the housing 14 to sound the triangle during oscillation of the shaft.

A fourth pedal 60 is arranged under the platform 10 to the right of the bass drum pedal 20 and is pivotally supported at 61 in a depending bracket 62, carried by the platform. The pedal is normally retained in elevated position by the tension of a spring 63 and is attached to a flexible connecting element 64, which extends upwardly through an opening in the platform 10 and is attached at its upper terminal to an angularly directed arm 65, carried by a shaft 66, which latter is rotatably supported in bearing members 67 arranged upon the platform 10. A rod or shaft 68 is resiliently supported in a vertical position by a spring hanger 69 attached to the top of the housing 14, permitting the rod or shaft 68 to vibrate vertically and horizontally. The extreme lower terminal of the rod or shaft 68 is connected by an adjustable connecting member 70 with an arm 71 carried by the shaft 66. Adjacent its upper terminal the rod or shaft 68 is provided with a plurality of radiating and upwardly directed arms 72, supporting a group of bells 73, which

are sounded during vibration of the rod or shaft 68.

A forwardly directed arm 74 is secured to the rod 68 and extends through a triangle 75, which it is adapted to engage and sound during vibration of the rod 68. The triangle 75 is supported by a link 76 that is connected to the right-hand side of the housing 14, by an arm 77.

A box 76 is supported upon the top of the housing 14 and supports a preferred type of tambourine 77, which is adapted to be engaged or struck by a clapper 78 pivotally secured at 79 in the box 76. The lower left hand bone clapper actuating shaft 48 is provided with an inwardly directed arm 80, which is connected by a flexible connection 81 with the clapper 78 at a point above the pivotal axis of the latter, whereby when the shaft 48 is oscillated by an actuation of the pedal 45 the clapper 78 is struck against the tambourine 77, simultaneously with the operation of the several pairs of bones 56 and the triangle.

What I claim is:—

1. In an orchestrion, a series of shafts, pairs of loosely pivoted clappers carried by the shafts, means connecting the several shafts to transmit rotary motion of one to the others of the series, a pedal, and means connecting said pedal with one of the series of shafts to rotate the same.

2. In an orchestrion, a pivoted pedal, a plurality of clappers, shafts supporting the clappers, an arm carried by one of the shafts, a triangle in position to be struck by the arms, means connecting said pedal with one of the shafts to rotate the latter, means for transmitting the rotary movement of said shaft to the other shaft, a stationary tambourine, and means operated by the pedal to strike the tambourine.

3. In an orchestrion, a platform, a shaft rotatably supported on the platform, spring means normally resisting rotational movement of the shaft in either direction, clappers pivotally secured to the shaft, and pedal operated means for rotating the shaft.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE P. SMITH.

Witnesses:
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M. H. MARTIN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."