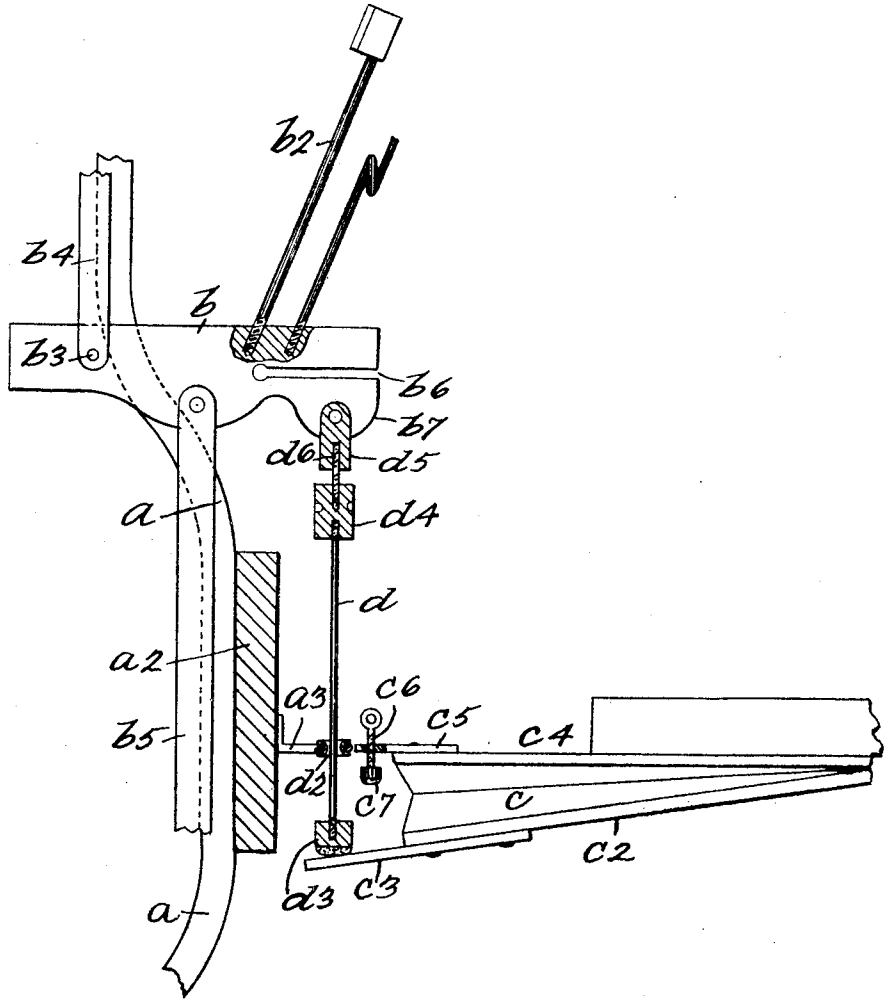
No. 799,904. PATENTED SEPT. 19, 1905.

J. HATTEMER.

PIANO.

APPLICATION FILED OCT. 1, 1904.



WITNESSES

J. D. Landon

F. A. Stewart

INVENTOR

Justus Hattemer

BY Edgar Tate & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

JUSTUS HATTEMER, OF NEW YORK, N. Y., ASSIGNOR TO HARDMAN, PECK & COMPANY, OF NEW YORK, N. Y., A CORPORATION.

PIANO.

No. 799,904. Specification of Letters Patent. Patented Sept. 19, 1905.

Application filed October 1, 1904. Serial No. 226,734.

To all whom it may concern:

Be it known that I, JUSTUS HATTEMER, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Pianos, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to pianos, and particularly to what are known as "combination manually and mechanically operated pianos," wherein the mechanical operation is accomplished by means of a plurality of pneumatics, said pneumatics being in operative connection with the piano-action through a corresponding number of vertically arranged and movable rods or abstracts, a further object being to provide abstracts which are in operative connection with the piano-action or the wippens thereof and which are moved vertically by the pneumatic and operated thereby, a further object being to provide an abstract of this class which is suspended from a corresponding wippen and the length of which is vertically adjustable, which is removable with the piano-action, and which is simple in construction and positive in operation, easily adjusted, and comparatively inexpensive; and with these and other objects in view the invention consists in the construction, combination, and arrangement of parts hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts are indicated by suitable reference characters, said drawing being a sectional view of a portion of the pneumatic-action and showing but one pneumatic and one abstract in operative connection therewith, together with one wippen and the framework or a part thereof which supports the piano-action.

In the drawing forming part of this specification I have shown at a a portion of the usual framework which supports the piano-action, said framework being provided with a transverse member a^2, preferably composed of wood, and the member a^2 is provided with a forwardly-directed bracket or support a^3, and mounted on the support a in the usual or any desired manner is the piano-action, only part of which is shown at b, said part consisting of what is known as a "wippen." The wippen b carries the usual arm or back-check b^2 and is pivotally connected at b^3 with the piano-action, part of which is shown at b^4, all these parts and the arrangement thereof being of the usual form, and depending from and pivoted to the wippen b is a vertically-arranged rod b^5, which is in operative connection with a corresponding key of the piano, (which is not shown,) and when said key is operated the rod b^5 is forced upwardly and the wippen b and back-check b^2 thereof are operated. The forward end of the wippen b is slotted longitudinally and horizontally, as shown at b^6, and this forms a bottom finger b^7, with which is connected an abstract-rod d, and the slitting or slotting of the end of the wippen so as to form the finger b^7 gives to said wippen in the operation of the parts a spring or resilient effect which facilitates said operation and renders the same more effective.

Mounted independently of the piano-action and above the keys or keyboard are a plurality of pneumatics c, of the usual form and but one of which is shown, and said pneumatics are connected with the vacuum-chambers and valve-passages of the usual pneumatic-action, said vacuum-chambers and valve-passages not being shown in the accompanying drawing, as they form no part of this invention. Connected with the bottom movable member c^2 of the pneumatic c is a finger c^3, and connected with the top stationary member c^4 of said pneumatic is a finger or plate c^5, through which passes a screw c^6, provided at its lower end with a felt-covered head c^7, and the screw c^6 is designed to limit the vertical movement of the finger c^3, and the turning of said screw in either direction will regulate, as will be understood, the movement of the bottom member c^2 of the pneumatic and the finger c^3 connected therewith, according to the direction in which the screw c^6 is turned.

The abstract-rod d passes through the bracket or support a^3 and through a felt bushing d^2 secured therein, and said abstract-rod is provided at its lower end with a cushioned head d^3 and at its upper end with a block d^4, and pivoted to the finger b^7 of the wippen b is a block d^5, in which is secured a supplemental coupling finger or rod d^6, which is threaded into the block d^4, and the turning of the rod d and the block d^4 will adjust the said rod d with reference to the wip-

pen b. It will be understood that the rod d and its connected parts, including the block d^5, constitute a complete abstract, which is suspended from the finger b^7 of the wippen b and which normally rests on the finger c^3 of the pneumatic c, as shown in the drawing, and the length of this abstract may be adjusted by turning the rod d, the said length being shortened or lengthened, according to the direction in which said rod is turned, and it will be seen also that the abstract being connected with the frame of the piano-action remains in the piano-action when the pneumatic-action is removed and is removable with the piano-action.

Although I have shown but one pneumatic, wippen, and abstract, it will be readily understood that a plurality of each of these devices are employed, there being one of each for each of the keys of the piano, and if the piano be manually operated the corresponding portions of the piano-action are actuated independently of the pneumatic-action, and if the pneumatic-action be operated a corresponding portion of the piano-action will be actuated independently of the keys of the keyboard.

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

1. In a piano of the class described, a pneumatic, a wippen, and an abstract having two alining end portions, one of which engages the pneumatic and the other the wippen, an intermediate connecting member to adjust said end portions toward or from each other, and a stationary guide for one of said end portions.

2. In a piano of the class described, a pneumatic, a wippen, an abstract comprising two alining end portions, one of which is pivoted to the wippen, and the other engages the pneumatic, an intermediate connecting member for adjusting said end portions toward or from each other, and a stationary guide for one of said end portions.

3. In a piano of the class described, a pneumatic, a wippen, an abstract having alining end portions engaging the wippen and pneumatic respectively, the inner ends of said portions being screw-threaded, a nut screwed on said inner ends and connecting the end portions adjustably, and a stationary guide for one of said end portions.

4. In a piano of the class described, a pneumatic, an abstract having two end portions one of which is engaged by the pneumatic, an action member engaged by the other end portion of the abstract, means for adjusting one end portion lengthwise of the other, and a stationary guide for one of said abstract portions.

5. In a piano of the class described, a pneumatic, an extensible abstract one end of which engages said pneumatic, an action member engaged by the other end of the abstract, and a stationary guide for said abstract.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 29th day of September, 1904.

JUSTUS HATTEMER.

Witnesses:
F. A. STEWART,
C. J. KLEIN.