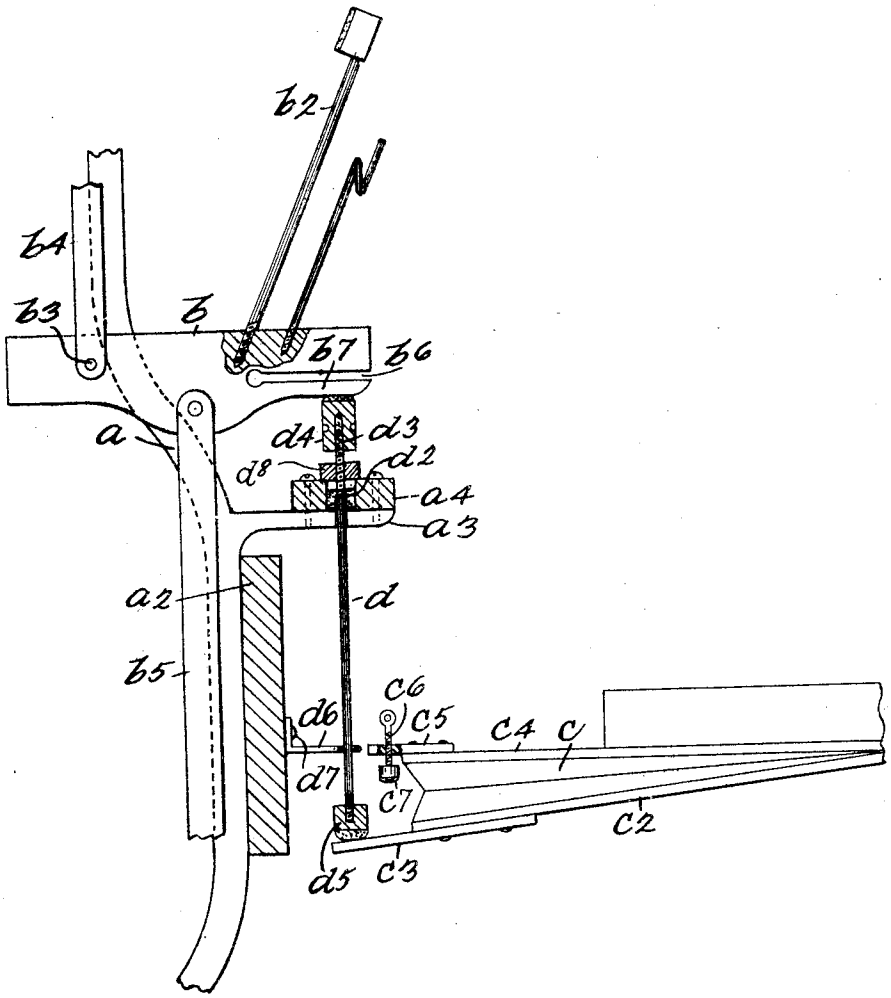
No. 799,902. PATENTED SEPT. 19, 1905.

J. HATTEMER & J. C. FRANKÉ.

PIANO.

APPLICATION FILED OCT. 1, 1904.



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PIANO.

No. 799,902. Specification of Letters Patent. Patented Sept. 19, 1905.

Application filed October 1, 1904. Serial No. 226,732.

To all whom it may concern:

Be it known that we, JUSTUS HATTEMER and JOSEPH C. FRANKÉ, citizens 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.

The object of this invention is to provide a new and useful improvement in combination manually and mechanically operative pianos wherein the mechanical operation of said pianos 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-movable rods or abstracts, a further object being to provide abstracts which are independently mounted between each of the pneumatics and the corresponding wippen of the piano-action and operate said wippen when said pneumatic is operated, a further object being to provide an abstract of this class which is connected with and removable with the piano-action independently of the pneumatic-action, a still further object being to provide such an abstract which is simple in construction, positive in action, easily adjusted, and comparatively inexpensive.

Abstracts as heretofore employed have been connected with the pneumatic-action and removable therewith, and when the pneumatic-action is to be placed in position for use with relation to the piano-action the proper alinement and adjustment of said abstracts has been a difficult operation; but with our abstract, when once adjusted, the pneumatic-action may be removed and replaced as often as desired and the relative position of the abstract with relation to the pneumatic-action is maintained.

Our invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, the several parts thereof being indicated by suitable reference characters, said drawing being a sectional view of a portion of the piano-action and a corresponding portion of the pneumatic-action and showing but one pneumatic and one abstract in operative connection therewith.

In the drawing forming part of this specification we have shown at a a portion of the usual or any desired piano-action frame or support, said frame carrying a transverse member a^2, preferably composed of wood, and arranged above said transverse member a^2 and connected with the frame a is a bracket a^3, which supports a supplemental transverse member a^4, and mounted on the supports a in the usual or any desired manner is the piano-action, only part of which is shown at b, said part being commonly known as a "wippen." The wippen b carries the usual arm and back-check b^2 and is pivotally connected at b^3 with the piano-action, part of which is shown at b^4, all in the usual manner, and depending from and pivoted to the wippen b is a vertical rod b^5, which is in operative connection with the 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 end of the wippen b in connection with which the rod or abstract d operates is also slotted longitudinally and horizontally, as shown at b^6, and this forms a bottom finger b^7, on which the rod or abstract d operates, and this produces a spring or resilient effect in the operation of the wippen b and the rod or abstract d, which facilitates said operation and renders the same more effective.

Mounted independently of the piano-action and above the keys of the piano are a plurality of pneumatics c of the usual construction and but one of which is shown, and said pneumatics are connected with vacuum-chambers and valve-passages of the usual pneumatic-action, said vacuum-chambers and valve-passages not being shown in the drawing, as they form no part of this invention, and connected with the bottom member c^2 of the pneumatic c is a finger c^3, and connected with the top member c^4 of said pneumatic is a finger c^5, through which passes a screw-threaded post c^6, provided with a felt-covered head c^7 at the bottom thereof, and when said screw-threaded post is revolved in either direction the padded head c^7 is raised or lowered correspondingly, and in this way the movement of the pivoted member c^2 of the pneumatic c is limited.

Vertically arranged in the supplemental transverse member a^4, connected with the piano-action frame, is a vertically-movable rod or abstract d, which operates in a felt bushing d^2 in the transverse member a^4 and is provided at the top thereof with a screw-thread d^3, adapted to engage a corresponding thread in a head d^4, arranged directly beneath the wippen b, and when said head d^4

is revolved or rotated in either direction it is raised or lowered on the abstract d and adjustment thereof with regard to the wippen b is accomplished.

Permanently secured to the bottom of the abstract d is a head d^5, which normally rests on the finger c^3 of the pneumatic c, and the lower end of the head d^5, as well as the upper end of the head d^4, are preferably provided with a felt pad, as usual in devices of this class, and said abstract also operates in a support d^6, which is secured to the transverse member a^2, as shown at d^7, and it will be seen that when the head d^4 of the abstract d is properly adjusted the operation of the pneumatic c also operates the wippen b, and the abstract d 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. The rod or abstract d is also provided above the member a^4 with a threaded adjusting button or nut d^8, by means of which the position thereof with reference to the finger c^3 and the wippen b may be regulated at all times.

Although we have shown but one pneumatic, wippen, and abstract, it will be readily understood that a plurality of each of these is employed, there being one of each for each of the keys of said 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 the corresponding portions of the piano-action will be actuated independently of the keys of said piano.

It will be understood that we do not limit ourselves to the exact methods of supporting the abstracts in or on the piano-action support, the feature of this invention being to provide an abstract which is independent as to the direct connection of the piano-action or the pneumatic-action, but which is connected with and removable with the frame which supports said piano-action, and said abstract may be supported in any desired manner.

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

1. In a mechanically-operated piano, a piano-action comprising a wippen, an abstract the upper end of which has a loose thrust engagement with the wippen so that the latter may move away from the abstract, a combined support for said piano-action and abstract, and a pneumatic-action having a loose thrust engagement with the lower end of the abstract so that the abstract may be removed with said support without requiring any manipulation for disconnecting the abstract from the pneumatic-action.

2. In a mechanically-operated piano, a piano-action comprising a wippen, an abstract one end of which has a loose thrust engagement with the wippen, so that the latter may move away from said end, a combined support for said piano-action and abstract, and a pneumatic-action having a loose thrust engagement with the other end of the abstract, so that the abstract may be removed with said support without requiring any manipulation for disconnecting the abstract from the pneumatic-action.

3. In a mechanically-operated piano, a piano-action, an abstract one end of which has a loose thrust engagement with a member of said piano-action, so that said member may move away from said end of the abstract, a combined support for said piano-action and abstract, and a pneumatic-action having a loose thrust engagement with the other end of the abstract, so that the abstract may be removed with said support without requiring any manipulation for disconnecting the abstract from the pneumatic-action.

4. In a mechanically-operated piano, a piano-action, a wippen in said piano-action, a frame or support for said piano-action, an abstract carried by said frame or support and bearing on said wippen, and a pneumatic supporting and adapted to operate said abstract, substantially as shown and described.

5. In a mechanically-operated piano, a pneumatic-action, an abstract the lower end of which rests on said pneumatic-action, a piano-action operated by the upper end of the abstract, and a support for said piano-action, provided with means for guiding and holding the said abstract between its ends.

6. In a mechanically-operated piano, a support, an abstract mounted to slide therein, a pneumatic-action engaged by one end of the abstract, and a piano-action engaged by the other end of the abstract.

In testimony that we claim the foregoing as our invention we have signed our names, in presence of the subscribing witnesses, this 29th day of September, 1904.

JUSTUS HATTEMER.
JOSEPH C. FRANKÉ.

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