

UNITED STATES PATENT OFFICE.

GUSTAVE LYON, OF PARIS, FRANCE.

PIANOFORTE-ACTION.

SPECIFICATION forming part of Letters Patent No. 495,745, dated April 18, 1893.

Application filed April 27, 1892. Serial No. 430,939. (No model.) Patented in France August 26, 1891, No. 215,747.

To all whom it may concern:

Be it known that I, GUSTAVE LYON, a citizen of the Republic of France, residing at Paris, in the Department of the Seine, France, have invented certain new and useful Improvements in Pianoforte-Actions, (for which I have obtained a patent in France, No. 215,747, dated August 26, 1891,) of which the following is a specification.

10 This invention relates to piano-forte actions, and contemplates a simple construction wherein the striking movement of the hammer will be positive, and repetitions of the same easily effected with but a comparatively
15 slight release of the key.

In the accompanying drawing, the figure discloses a detail longitudinal sectional view of so much of a piano-forte action as is necessary to illustrate my invention.

20 Above the key A in the rear of the fulcrum pins of the same, a rocking bar B, is pivotally hung at its rear end to the hammer rest S, said bar B being provided with a depending heel *b* which normally rests on a cushioned
25 bearing located on the key and rendered adjustable through the medium of a screw *a*. Pivotally mounted in the outer free end of the lever B, is the lower end portion of a vertical escapement lever C, said lower end hav-
30 ing an inward extension *c*, upon which bears the end of a curved leaf spring R, secured to a fixed part of the apparatus and normally tending to restore and maintain the escape-
35 ment lever in the position represented. The escapement lever C, is provided with a forwardly extending horizontal tail piece adapted to contact, when said lever has reached a certain position in ascending, with a depend-
40 ing stop V preferably adjustable as shown. The rod of the hammer M, is seated in the hinged butt N, the latter being provided in its under side with a nose *n*.

The parts thus far described, are those which pertain to the striking operation of the ham-
45 mer which is a positive one. The repetition movement is effected through the agency of a short horizontal lever P, pivoted at its forward end to the escapement lever C, said lever P being normally supported in the posi-
50 tion shown by a leaf spring F. Depending from the butt N is a T shaped metal pin T

with which the upper face of the lever P is adapted to be brought in contact. Mounted in the rear portion of the key A, is the ham-
mer check E. The construction is such that
55 when the key A, is depressed, the escapement lever C, is caused to rise and through its end contact with the nose of the butt, throws up the hammer M. Before however, the hammer strikes the strings, the tail piece D, abuts
60 against the contact V, and thereby vibrates the escapement lever C, upon its pivot and moves its end out of contact with the nose *n*. The hammer under the velocity or impulse acquired, strikes the string and is then free
65 to fall back and rest upon the check E, which has been elevated with the rear portion of the key. Simultaneously with the movement of the escapement lever C, and the descent of the butt N, the pin T, is brought in contact
70 with the short lever P, and which slightly yields under the action of its spring F. Now as the depression of key A, is relieved to a slight extent, the support of the check E, is withdrawn from the hammer and the latter
75 under the force exerted by the spring F, on the lever P, will rise in proximity to the string. The hammer being thus in an elevated position and the end of the escapement lever C, having fallen by reason of the slight move-
80 ment of the key, the escapement lever again returns to its position beneath the nose of the butt in engagement therewith, the reaction of the short lever P, moving in contact with the pin T, contributing to this result. All the
85 parts therefore are in a position for striking and the key can be operated to cause the hammer to rapidly and successively strike the string, although said key may only have been permitted to rise to a slight extent after the
90 initial depression. The short lever P, never acts as a check but comes into play when the check support is withdrawn from the hammer, the key being depressed sufficiently to raise the hammer far enough to allow the es-
95 capement lever to move under and in contact with the nose of the butt. As will be readily understood, the several bearing portions are suitably cushioned.

I claim—

In a piano-forte action the combination with the hammer supporting rail and a key pro-

vided with the hammer check of a pivotally hung bar B, actuated by said key, and carrying the spring yielding escapement lever engaging the nose of the hinged hammer butt, 5 a stop for vibrating said escapement lever before the hammer completes its throw and a supplemental spring yielding lever P, to contact with a projection of the butt, when the escapement lever is out of contact therewith, said lever P with its spring being carried directly by the escapement lever at the upper end thereof, substantially as set forth. 10

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Witnesses:

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