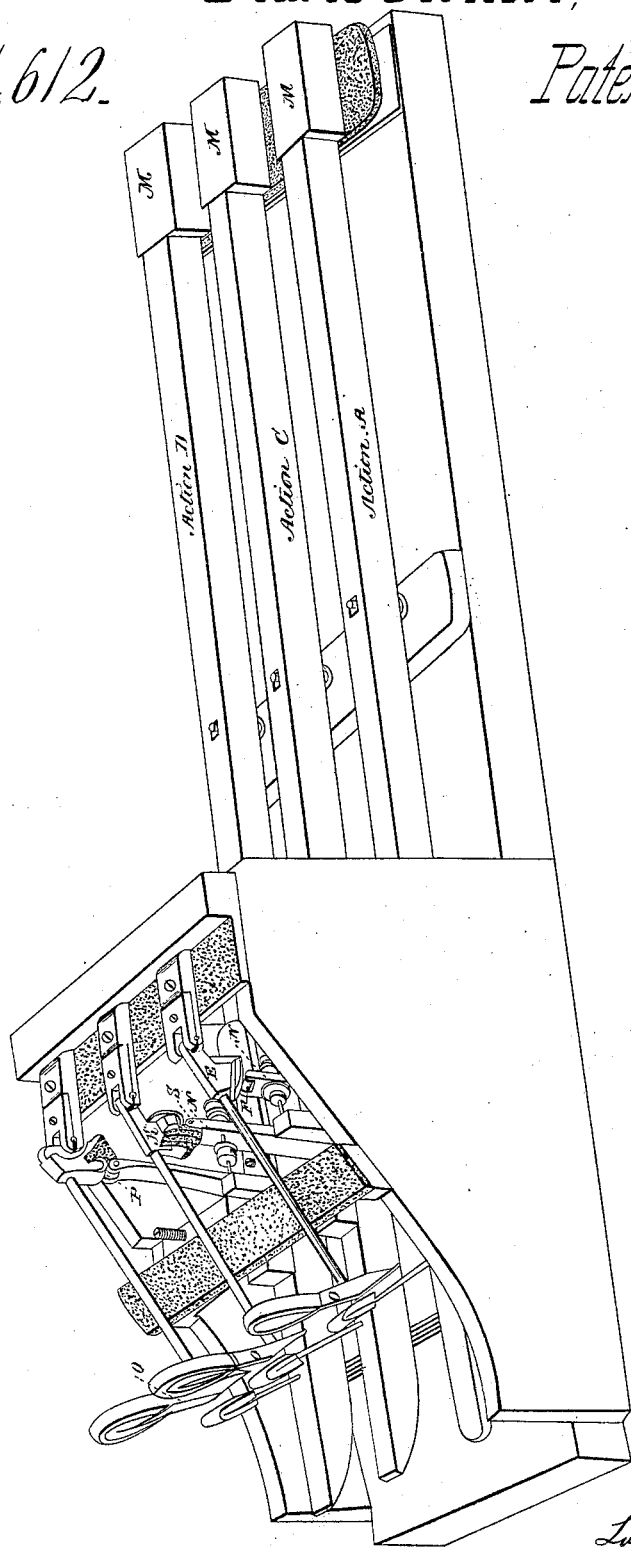


*L. Phillio,*

*Piano Action,*

*N<sup>o</sup> 4,612.*

*Patented July 2, 1846.*



*Inventor.*  
*Luther Phillio.*

# UNITED STATES PATENT OFFICE.

LUTHER PHILLIO, OF UTICA, NEW YORK.

## PIANOFORTE.

Specification of Letters Patent No. 4,612, dated July 2, 1846.

*To all whom it may concern:*

Be it known that I, LUTHER PHILLIO, of Utica, in the county of Oneida, in the State of New York, have invented a new and improved Action to Pianofortes; and I do hereby declare that the following is a full and exact description.

The nature of my invention consists in placing a roller in the top of the jack (N,) and bringing up the roller (F) against the shank (E) of the hammer (O,) as represented in action (A) and making the underside of the shank (E) parallel with the key (M,) and being about three fourths of an inch in length, and inclining the jack back about one degree that it may not slip off when the key (M) is first struck, and before the hammer (O,) begins to move. But when the hammer (O,) is moving upward, the underside of the hammer-shank (E) (where the roller plays,) becomes as the hammer rises, slanting downward to the point where it relieves or rolls off. It is therefore a matter of certainty that it will not slip or lose its hold until the proper time to relieve or roll off. Now by constructing the shank of the hammer so that its under-side will be parallel with the key, as represented at (E) and (K) (as may be seen in the accompanying drawings, the peculiar position, application and combination of the rollers and shanks, heretofore referred to, an advantage is obtained over all other actions in four important points viz. First. The greater power obtained in the stroke of the hammer. Second. Its greater velocity. Third. A greater distance is passed by the hammer in its stroke with the same distance of movement of the keys at (M). Fourth. The certainty of

the rollers (F,) and (S) holding on until the proper time to relieve or roll off.

Action (C,) is precisely the same as action (A) except the stop of the roller (S) on the jack (N,) at shank (K) is placed so as to bring the jack nearer to the place where it relieves. This view is presented to show that it will admit of this variation, the principle of action in the main being the same.

Action (D) is similar in its operation to action (A) and (C) or nearly so, except it relieves back instead of forward.

In order to enable others skilled in the art of making and using my invention, I construct my action in any of the known forms.

I construct my keys, hammers, rest pieces, jacks, regulating and gage screws, blocks and all other appendages as usual, in the same form and of the same material now in use.

What I claim as my invention and desire to secure by Letters Patent is—

Placing a roller in the upper end of the jack and its general application to the action of the pianoforte as hereinabove described, by which means I am able to produce the following important results viz: First, the greater power obtained in the stroke of the hammer; second, its greater velocity; third, a greater distance is passed by the hammer in its stroke, with the same given movement of the key; fourth, the certainty of the roller holding on until the proper time to relieve.

LUTHER PHILLIO.

Witnesses:

WILLIAM BAKER,  
JAS. C. DONULDSO.