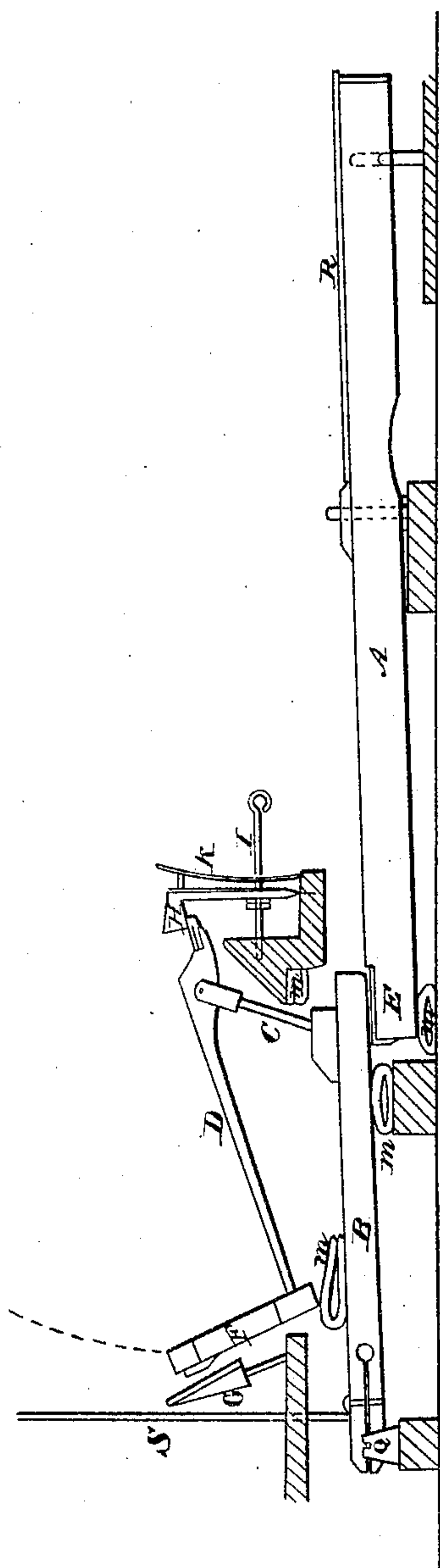


*J. J. Wise,*  
*Piano Action,*  
*No. 1,205,* *Patented June 27, 1839.*



*Witnesses*

*Sam. Duvoisy*  
*William W. Walker*

*Inventor*

*John J. Wise*

# UNITED STATES PATENT OFFICE.

JOHN J. WISE, OF BALTIMORE, MARYLAND.

## IMPROVEMENT IN THE ACTION OF PIANO-FORTES.

Specification forming part of Letters Patent No. 1,205, dated June 27, 1839.

*To all whom it may concern:*

Be it known that I, JOHN J. WISE, of the city of Baltimore, in the State of Maryland, have invented a new and useful Improvement in the Action of the Piano-Forte, applicable to the upright as well as to the horizontal square piano-forte and grand piano-forte, called "Wise's Detached Composite Action," of which the following is a full and exact description.

The action of a piano-forte is understood by all acquainted with the instrument to mean the combination of mechanical parts by which a touch on the key is made to produce the stroke of the hammer on the wire which gives out the sound. There are various kinds of action or different combinations of parts or modes for producing the same result. Among the best, perhaps, is the German action, which differs from all the others and is in many respects peculiar to itself. The German action is so well understood by piano-makers and performers on the instrument that I shall describe it for the purpose of more satisfactorily identifying to the minds of others acquainted with the subject my own invention by showing wherein the latter differs from the German action. In all actions there are parts in common. In the German action the key is a long lever having its fulcrum between its extremities. One end presents itself in the key-board and is that which is touched by the fingers of the performer. The other end, which is inside the instrument, carries what is called a "capsel" or "upright," forked at the top. On the inner sides of the fork and opposite are indented small female centers to receive the corresponding centers of a small shaft or axis, upon which the hammer-handle is supported. The hammer is thus attached to the key, and when the key is struck by the performer the capsel is raised, and the shortest end of the hammer-handle being caught or retained by a peculiar contrivance called the "catch" and prevented from rising with the capsel. The other end of the handle rises with it, and the hammer at the extremity of such end is thrown briskly against the string and the required sound is produced.

To the above arrangement of parts in a German piano there are serious objections which my improvement removes by a mode

peculiar to itself. For instance, the hammer, being attached to the key and at the longest end of the lever, any wear and tear in the fulcrum of the key or shrinkage of the wood by loosening the key makes the hammer and its parts or fixtures unsteady, the hammer striking uncertainly upon the string and at times striking the string adjoining the proper one, and the older a German piano gets and the more it is used the more is this perceptible; nor can the key which has gotten loose be taken out and replaced without removing the whole machinery attached to it. The difficulty here suggested is experienced, indeed, in some of the best German pianos when quite new, it being necessary that the keys or levers be fitted loose, that a free motion may not be obstructed by a change of the weather and dampness. Another objection to the construction of the German piano is that the contrivance by which the stroke of the hammer is regulated is out of the way and cannot be got at without taking the piano to pieces. The objectionable parts of the German action here presented I propose to avoid by my improvement.

My improvement consists in combining and arranging the mechanical parts constituting the action in the following manner: In the first place, my key is a single stick with nothing attached to it. (See A in the drawings.) In the second place, my capsel or upright to carry the hammer, which is made in other respects like that of the German piano, instead, as is the case in that piano, of being attached to the end of the key is attached to the end of a lever B, whose fulcrum Q is at the back of the piano, which end of the lever B projects over the inner arm of the key at E and is raised by it when the key is pressed down, and the same effect is produced as in the German piano, the catch H operating in the same way, except that in my piano the position of the hammer-handle is reversed, the catch being nearer the key-board than the hammer is, while in the German piano the hammer is nearer the key-board than the catch is. Now it will be seen at once that my key is wholly separated from the rest of the action. It has nothing attached to it. It may be taken out at pleasure and a new key put in should it get too loose, and



let it get ever so loose it cannot disturb the accuracy of the stroke of the hammer on the string. Whether the end of the key acts on the center of the lever B or on the right or left of the center line, the only force that it exerts on B is to raise it perpendicularly without deranging its position sidewise or the position or the stroke of the hammer that is attached to it. My key, too, being a simple stick, is less liable to wear and tear than if it had the hammer and its accompanying parts attached to it.

As already remarked, the hammer in the German piano is nearer the key-board than the catch is. In my piano its position is reversed. This enables me to place the screw by which the catch is regulated where it can be easily got at. In the German piano it is at the bottom of the instrument. In my improvement the owner of the instrument may regulate the catch. In a German piano the instrument must be taken to pieces for the purpose. This regulating-screw has been made heretofore accessible by other piano-makers, but not in connection with the German action or in the same combination or arrangement of parts that my improvement exhibits.

What I claim as new and my improvement, and desire to secure by Letters Patent, is—

The combination of the detached key A with the lever B, having its fulcrum at the back of the piano and projecting over the inner end of the key, by which it is raised when the key is pressed down, and having the capsel or upright which carries the hammer attached to the end projecting over the key, instead of being attached to the key, as in the German action, and, in combination with the above, the placing of the catch H, which operates in the same manner as in the German action, nearer the key-board than the hammer is, the position of the hammer-handle being reversed, which is the opposite of the German action, and also combining with this arrangement the regulating-screw I, as described in the specification, the whole being combined and operating as herein set forth.

JOHN J. WISE.

Witnesses:

T. HANSON BELT,  
JAS. S. WHITE.