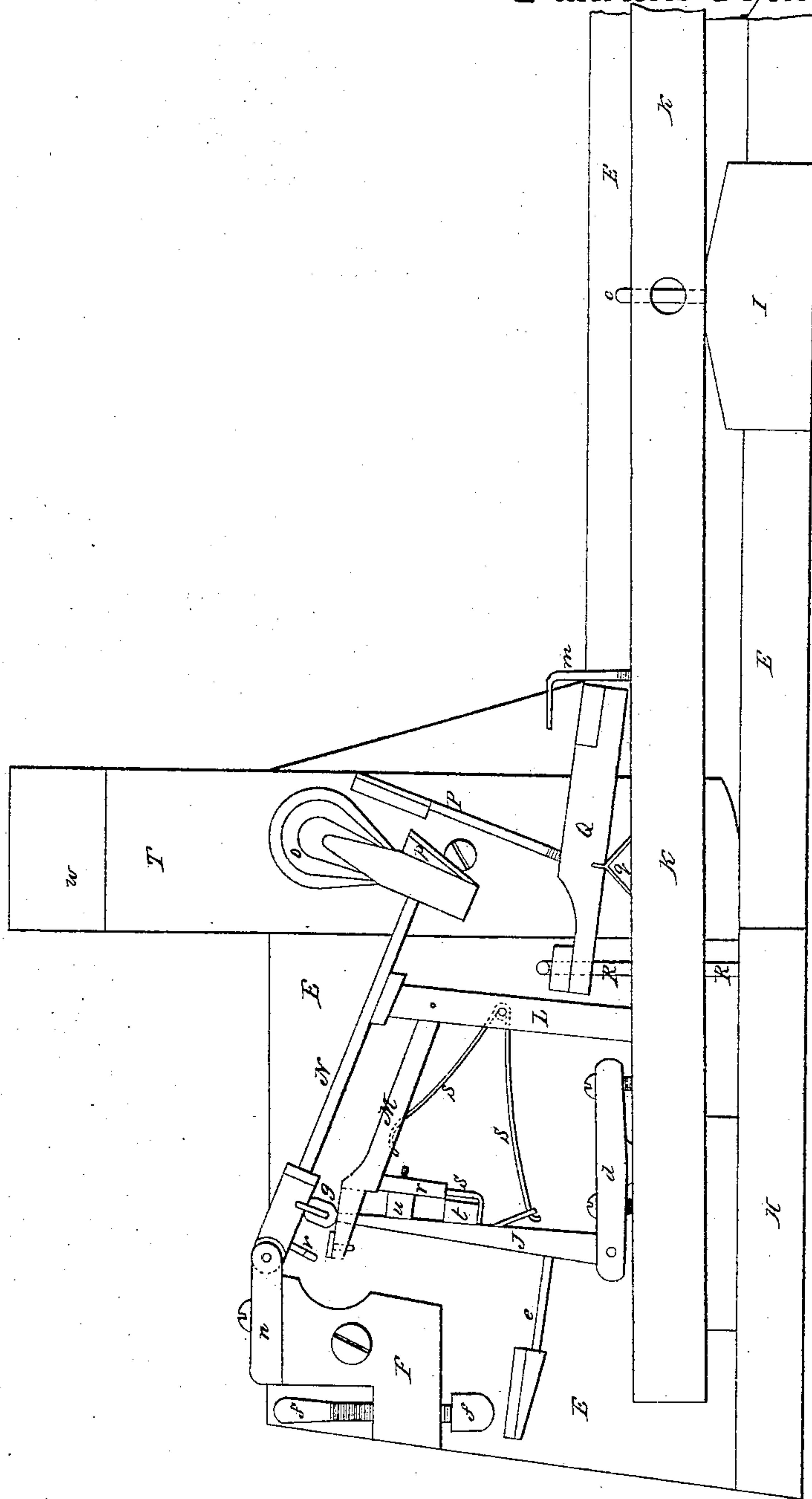


N<sup>o</sup> 17148.

*Patented Apr. 28, 1857.*



# UNITED STATES PATENT OFFICE.

DANIEL F. HAASZ, OF PHILADELPHIA, PENNSYLVANIA.

## ACTION FOR GRAND PIANOS.

Specification of Letters Patent No. 17,148, dated April 28, 1857.

*To all whom it may concern:*

Be it known that I, DANIEL F. HAASZ, of the city of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in the Action of Grand Pianos; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention relates to improvements in the action of grand pianos for which a patent was granted to me on the fourth day of March A. D. 1856, and consists in so constructing and arranging the action (as fully set forth hereafter) that the hammer strip, described in the specification of said patent, may be entirely dispensed with, thereby affording an opportunity of removing each key separately from its position in the key frame when the latter is removed from the piano.

In order to enable others skilled in the art to make and use my invention I will now proceed to describe its construction and operation.

The accompanying drawing which forms a part of this specification represents in section sufficient of the grand piano to show my improvements.

E is the key frame similar in form and construction to that described in my patent of March 1856.

F is the hammer beam which, together with the cross pieces H and I, and another cross piece under the ends of the keys, serve to connect the opposite sides of the key frame together. K is a portion of one of the keys of the instrument resting on the cross bar L, and having its center or vibration on the pin *c*. To the back end of the key is attached a piece *d* to one end of which is jointed the check J, and from the latter projects the reliever *e* so situated as to come in contact with the end of the regulating screw *f* in the hammer beam F, during the movement of the action. To the key K is also secured the hammer supporter L which takes the place of the continuous and stationary hammer strip described in my above mentioned patent. To the supporter L is jointed the lever M on the end of which is a slot to allow for the free play of the end of the check J which is arranged to strike the projections *g*, in the hammer N one end of which is jointed to an attachment *n* on

the beam F the opposite end being furnished with a padded striker *o* of the usual form, and a padded projection *p* adapted to receive the end of the arrester P, the latter being attached to the lever Q which is attached to and vibrates on the leather joint V on the key. The movement of the lever Q is confined at one end by the bent wire *m* attached to the key, and at the opposite end by another bent wire R so attached to the connecting strip H of the key frame, as to be easily turned, and its bent end freed from contact with the end of the lever Q. From the lever M projects the piece *r* furnished with an adjustable block *u* for regulating the vibrating movement of the check J, and also furnished with an adjustable wire *s*, the bent portion of which passes under the projection *t* on the check J, and serves, together with the projection *v* on the hammer N, to limit the movements of the lever M. S, a spring attached to the supporter L, serves to depress the lever M and to restore the check J to its former position after the key K is released from the fingers of the performer. The block T is merely introduced in order that the hammer may strike the under side of its projection *w*, as it would the string, and thereby illustrate the working of the action.

The operation of the various parts described and illustrated will be too well understood to need further description. On removing the key frame with the whole of the action from the piano in the manner described in my patent of March 1856, it was desirable to frequently take out each of the keys separately, great difficulty attended this, as my action was formerly arranged, on account of the arrester, supporter, and other portions of the action being attached to the hammer strip. By connecting the arrester P and its vibrating block Q immediately to the key K and by further attaching the supporter L, with portions of the action connected with the same, also to the key the removal of each key may be accomplished with the greatest ease. Thus when the whole key frame with its actions has been removed free from the strings, all that is necessary is to turn the wire R, so that its bent portion may be free from the lever Q, after which the hammer N is raised then the end of the key elevated so high as to be free from the pin *c* when the key with its action is at once free.



I do not desire to claim that portion of the above described parts which bears directly on the immediate action of the check J on the hammer as that portion is similar  
5 to the French action known as Erard's. But

What I do claim and desire to secure by Letters Patent is

1. Attaching the supporter L to the key, and the lever M and spring S, to the supporter in the manner and for the purpose  
10 herein set forth.

2. The arrester P with the lever Q as

connected to the key in combination with the adjustable wire R as attached to the key frame the whole being arranged and constructed substantially as herein set forth and  
15 for the purpose specified.

In testimony whereof, I have signed my name to this specification before two subscribing witnesses.

D. F. HAASZ.

Witnesses:

L. C. SCHERER,  
WILLIAM E. WALTON.