

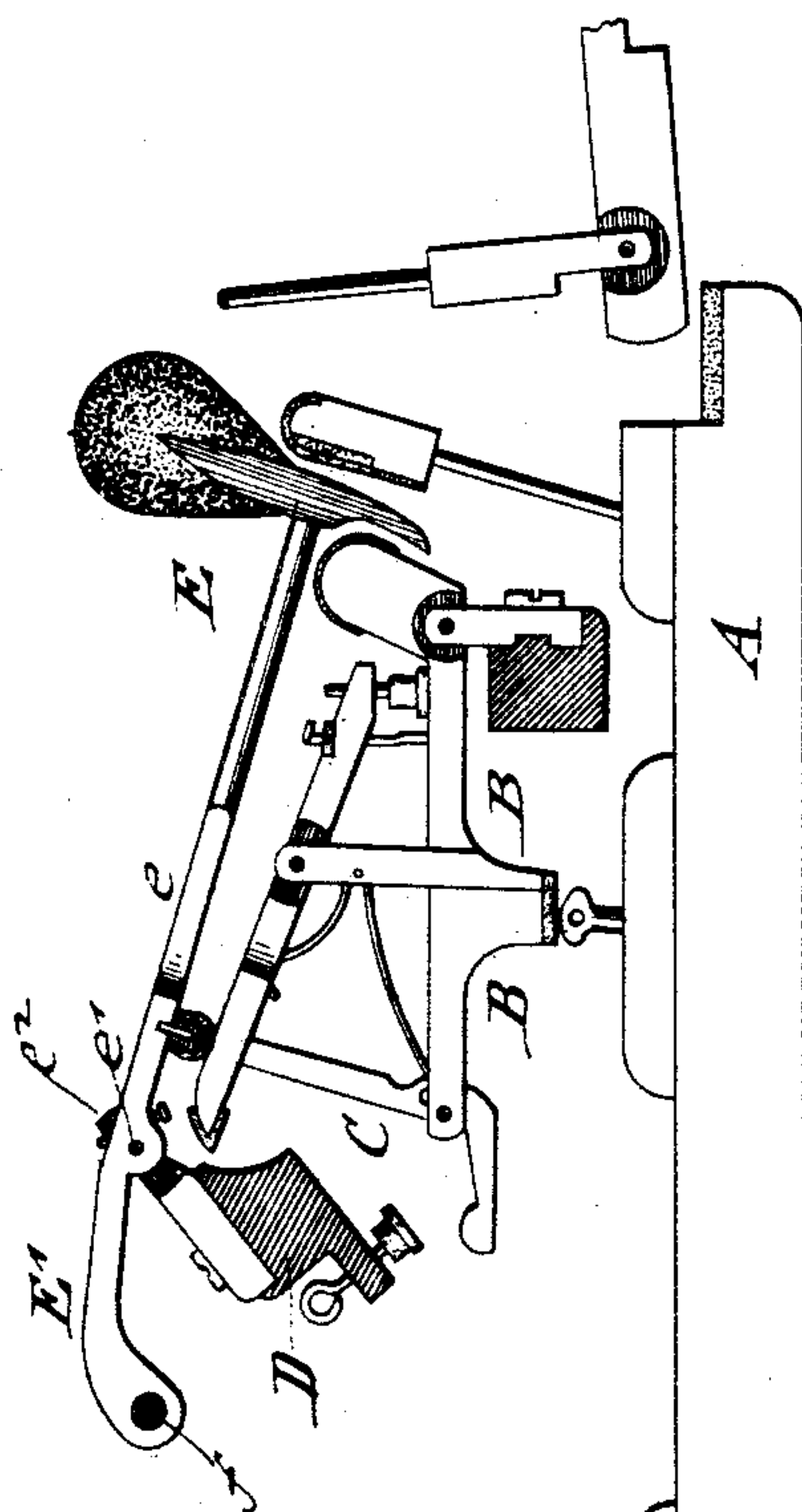
(No Model.)

S. HANSING.  
PIANO ACTION.

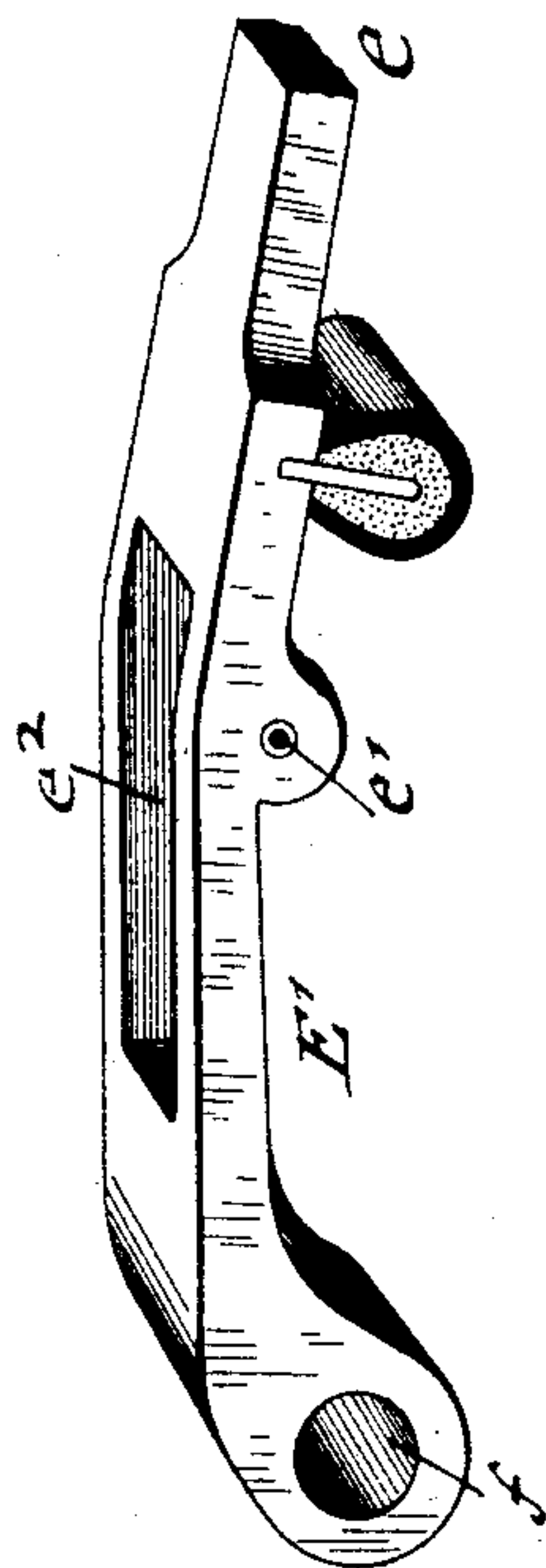
No. 404,704.

Patented June 4, 1889.

Fig. 1.



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**WITNESSES:**

Fr. W. Rosenbaum.  
Carl Karp

**INVENTOR**

INVENTOR  
*Siegfried Hansing*  
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# UNITED STATES PATENT OFFICE.

SIEGFRIED HANSING, OF NEW YORK, N. Y.

## PIANO-ACTION.

SPECIFICATION forming part of Letters Patent No. 404,704, dated June 4, 1889.

Application filed November 8, 1888. Serial No. 290,298. (No model.)

*To all whom it may concern:*

Be it known that I, SIEGFRIED HANSING, of the city, county, and State of New York, have invented certain new and useful Improvements in Grand-Piano Actions, of which the following is a specification.

Owing to the large and heavy felt heads of the hammers in grand-piano actions, not only the lifting of the hammer by the jack is rendered less easy, but also for the purpose of facilitating repetition a stiff wire spring is interposed between the jack-lever and the lifting-lever of the hammer, whereby a considerable part of the free rebounding motion of the hammer is lost. Another objection is that by the dropping of the heavy hammer-heads on the hammer-checks a peculiar rebounding influence is exerted upon the action, and that in addition thereto the key-levers have to be leaded for balancing the heavy hammer-heads, whereby the ready play of the action is impeded and the quick response of the action to the touch retarded.

This invention is designed to overcome the defects mentioned by counterbalancing the weight of the hammer-head by means of a balancing device applied to the hammer-butt; and the invention consists of a grand-piano action in which the shank of the hammer is extended beyond the hammer-pivot and provided with an enlarged eye that may be filled with lead for counterbalancing the felt head, whereby the heavy bass-hammers can be operated just as easily as the light hammers in the treble.

In the accompanying drawings, Figure 1 represents a side elevation of a grand-piano action with my improved balanced hammer. Fig. 2 is a perspective view of the balancing extension of the hammer, drawn on a larger scale.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the key-lever; B, the jack-lever; C, the jack; D, the hammer-rail, and E the hammer, the shank *e* of which is pivoted at its butt to the hammer-rail in the usual manner. The remaining accesso-

ries of the action are the same as in the well-known Erard grand-piano action, as my improvement is confined to the construction of the hammer. The hammer-shank *e* is extended to some distance beyond the hammer-pivot *e'*, the extension *E'* being provided at the rear end with a perforated enlargement or eye *f* and near the pivot *e'* with a slotted opening *e<sup>2</sup>* for the supporting-tongue *e<sup>3</sup>* of the hammer-rail. The eye *f* is leaded for balancing the heavier heads of the bass-hammers, while for balancing the lighter heads of the treble-hammers the lead filling can be reduced in size or entirely dispensed with. By the weighted extension *E'* of the hammer *E* the hammer-head is balanced to some extent, and thereby the motion of the hammer greatly facilitated, owing to the momentum imparted to the same by the extension *E'*. As the extension *E'* counterbalances the weight of the hammer-head, the heavier bass-hammers move as easily as the lighter treble-hammers, by which arrangement the free motion of the action is greatly facilitated, the leading of the key-levers dispensed with, and other defects inherent to the construction of the grand-piano actions heretofore in use almost entirely obviated.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a grand-piano action, a hammer the shank of which is extended beyond the pivot and provided with a perforated enlargement or eye at the rear end, substantially as set forth.

2. In a grand-piano action, a hammer the shank of which is extended beyond the pivot of the hammer-pivot, the extension being provided with a slotted opening and with a perforated enlargement or eye at the rear end, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

SIEGFRIED HANSING.

Witnesses:

PAUL GOEPEL,  
JOHN A. STRALEY.