

H. O. CLARK.  
PIANO ACTION.  
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995,439.

Patented June 20, 1911.

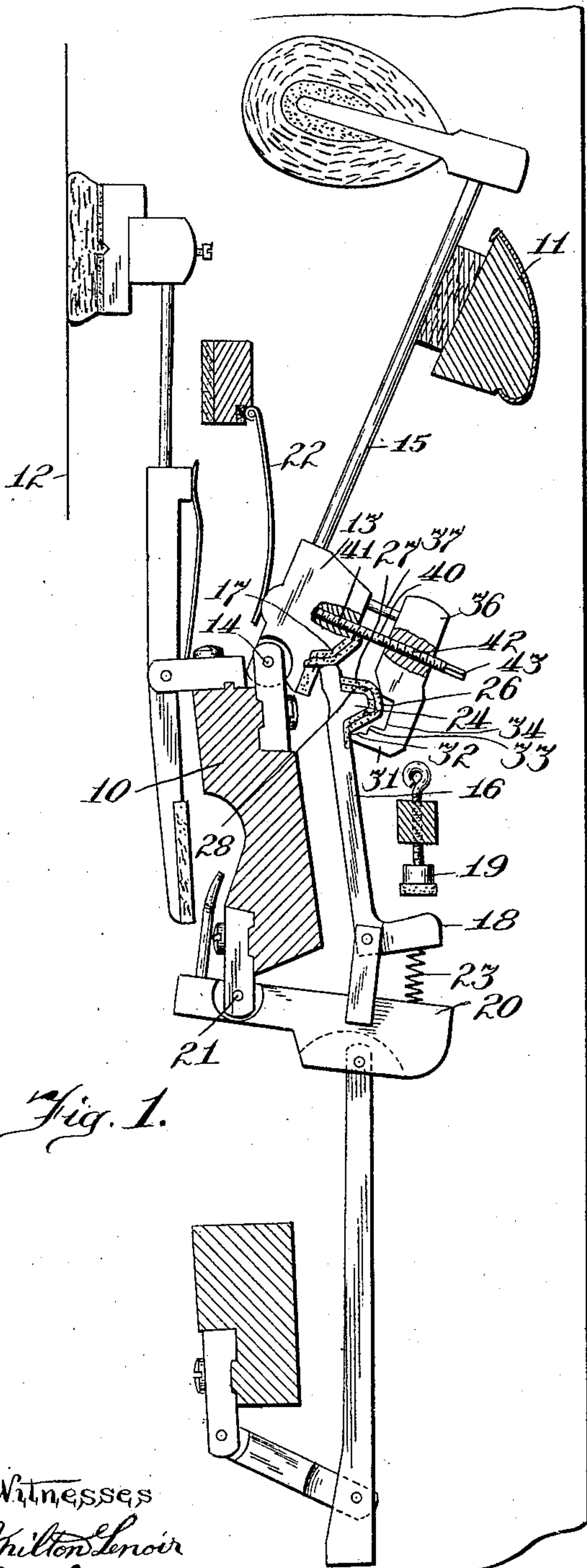


Fig. 1.

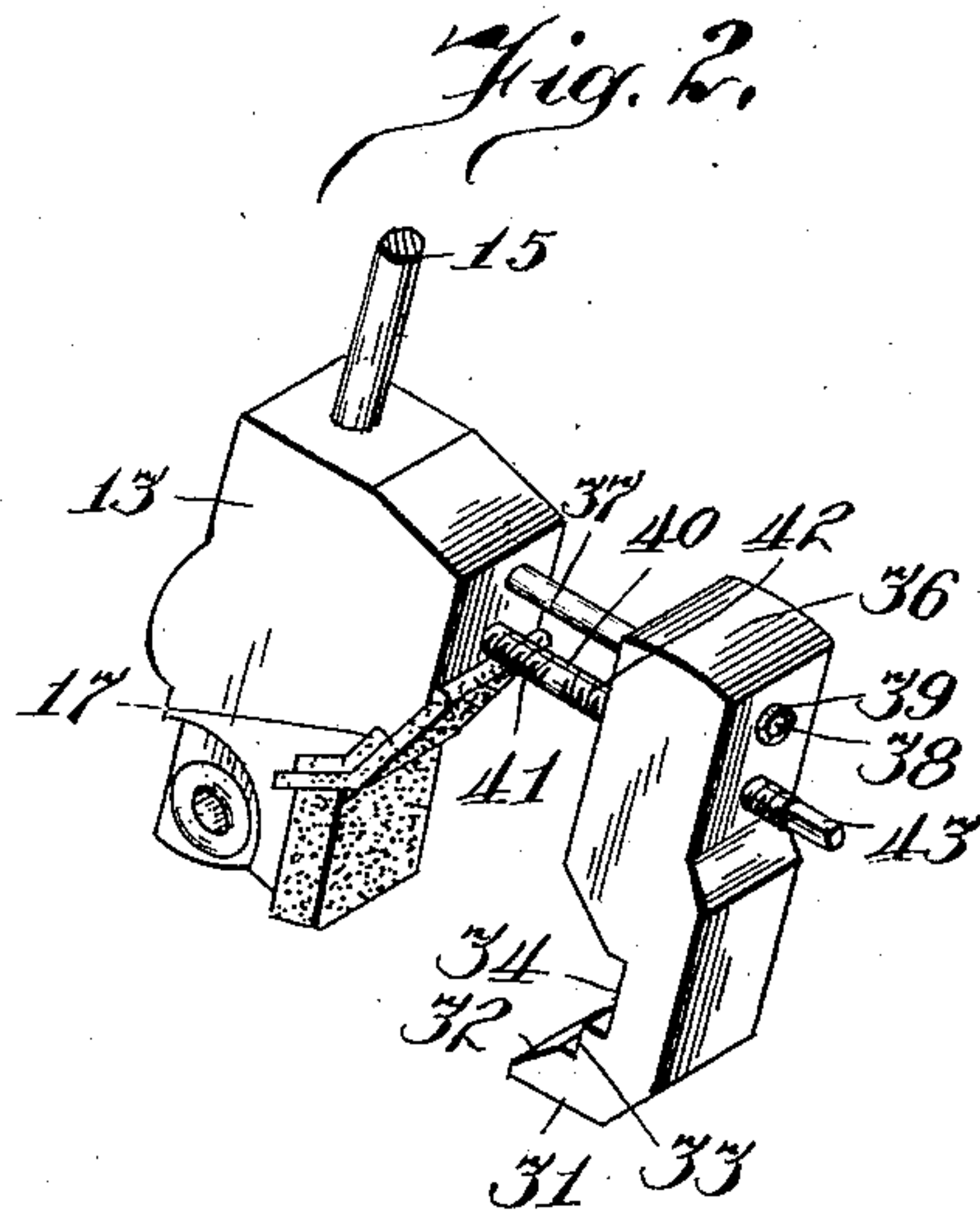


Fig. 2.

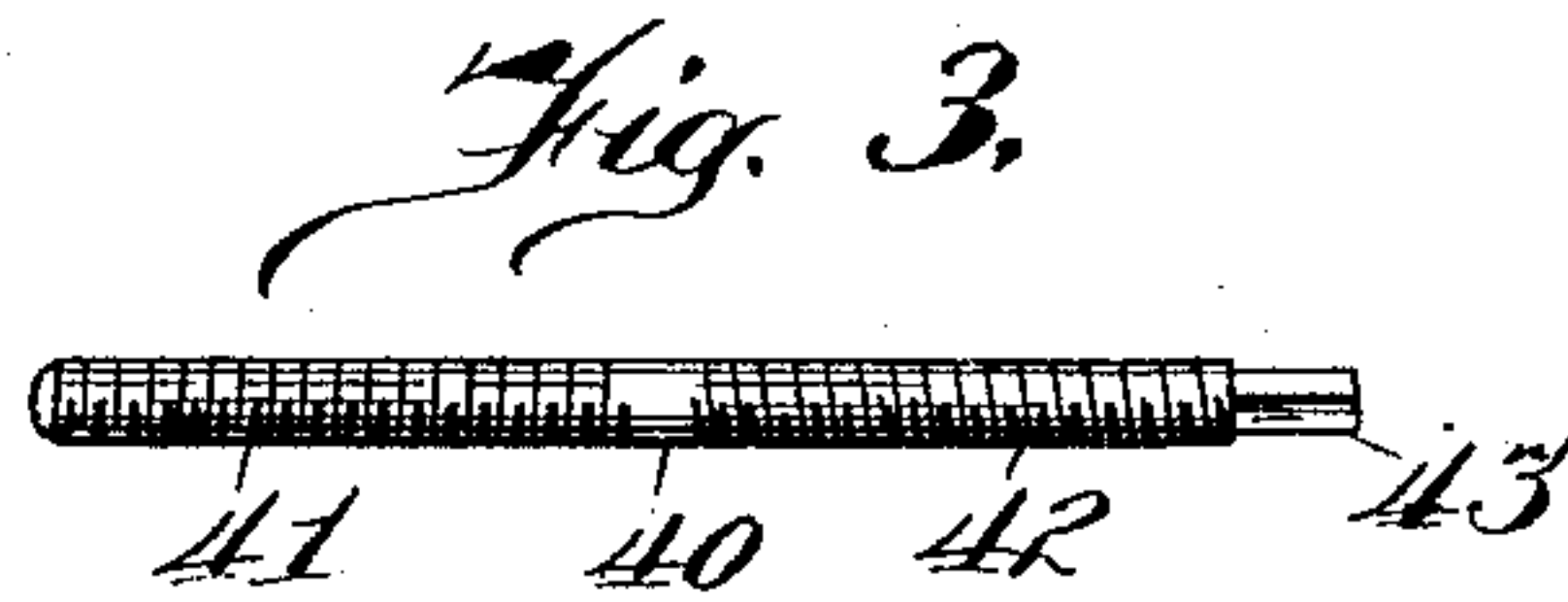


Fig. 3.

Witnesses  
Milton Lenoir  
J. S. Young.

Inventor  
Horace O. Clark.  
By  
Gillson & Gillson  
Attorneys



# UNITED STATES PATENT OFFICE.

HORACE O. CLARK, OF NEW YORK, N. Y.

PIANO-ACTION.

995,439.

Specification of Letters Patent. Patented June 20, 1911.

Application filed August 29, 1910. Serial No. 579,395.

*To all whom it may concern:*

Be it known that I, HORACE O. CLARK, a citizen of the United States, and resident of New York, county of New York, and State

of New York, have invented certain new and useful Improvements in Piano-Actions, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to piano actions and particularly to actions for upright pianos which are provided with a so-called inside check, provision being made for checking the hammer upon its rebound from the string through the engagement of a lug formed on the jack or fly with a check block carried by the hammer butt and having its operating or engaging face directed inwardly or toward the piano string. Such a piano action is shown in my Patent No. 954,170, dated April 5, 1910.

The present invention consists in improvements upon the piano action shown in my said patent and has for its object to provide a check block of improved construction and improved means for adjustably securing the check block to the hammer butt.

In the accompanying drawings: Figure 1 shows in side elevation the parts of a piano action embodying the improvements provided by the invention, details of the action frame of an upright piano being shown in cross section; Fig. 2 is a perspective view illustrating the hammer butt and the improved form of check block; and Fig. 3 shows an adjusting screw employed for securing the check block to the hammer body.

A detail of the action rail of an upright piano is illustrated in the drawings at 10. The hammer-rest-rail is shown in cross section at 11.

One of the piano strings is represented at 12 and the butt of one of the piano hammers is shown at 13. This hammer butt 13 is pivotally attached to the action rail 10 at 14, and carries the usual hammer shaft 15 adapted to swing in front of the piano string 12 upon the movement of the butt 13, and to bear against the hammer-rest-rail 11 when the parts are at rest.

A jack or fly is shown at 16. This member is preferably identical in construction with the corresponding part of the piano action illustrated in my Patent No. 954,170, being in the form of a bell-crank lever having arms of unequal length, the longer arm

being substantially vertical and the shorter arm, designated 18, being substantially horizontal. This jack or fly is carried in the usual manner by a jack lever 20 which is pivotally attached to the action rail 10 at 21. The higher end of the longer vertical arm of the jack 16 is adapted to engage a shoulder 17 of the hammer butt, when the jack lever 20 is raised, to throw the hammer against the string 12, and the shorter arm 18 of the jack lever is adapted to engage an adjustable fixed stop 19 for swinging the higher end of the vertical arm of the lever out of engagement with the hammer butt shoulder 17. A spring 23 preferably reacts between the jack lever 20 and the shorter arm 18 of the jack, and a second spring 22 bears outwardly upon the hammer butt 13. As in my patent previously referred to, both of these springs are preferably provided for the purpose of giving the piano action the familiar spring movement, but neither of them is essential to the operation of the parts in the intended manner.

An outwardly-facing lug 24 is formed upon the jack 16 adjacent its higher end. This lug is preferably tapered or wedge-shaped, having a blunt end 26. As shown, it is shod with a leather facing 27, a cushioning layer of felt 28 being interposed between the leather and the body portion of the jack lug.

As so far described the device is identical in construction with the piano action shown in my Patent No. 954,170.

In carrying out the present invention a check block 36 is provided for coöperating with the jack lug 24 to check the movement of the hammer upon its rebound from the string and to return the parts to their normal position of rest when the piano key (not shown) is released. This check block is provided with an inwardly-facing notch 34 for receiving the jack lug upon the rebound of the hammer from a heavy blow against the string, with a shoulder 33 below the notch for frictionally engaging the blunt end 26 of the jack lug upon the rebound of the hammer from a light blow against the string, and with a lip 31 extending beneath the jack lug 24 and having an inclined upper face 32. The check block 36 is slidably mounted upon a shaft 37 which projects outwardly from the hammer butt 13 through an aperture 38 in the check block, the aperture 38 being preferably bushed with felt 39.



For adjustably moving the check block 36 upon the shaft 37 and for fixedly securing the check block in adjusted position, a screw threaded shaft, generally designated 40, is employed. The shaft 40, most conveniently has oppositely threaded portions 41, 42, one of which enters the hammer butt 13 and the other of which passes through the check block 36. By turning the threaded shaft 40 in either direction this shaft is moved longitudinally by reason of its threaded engagement with the hammer butt 13. The check block 36 is moved in the same direction by reason of its having a screw threaded engagement with the shaft, which screw thread is formed oppositely to that which engages the hammer butt. In order that the threaded shaft 40 may be turned by means of a wrench (not shown) it is preferably provided with a squared end 43. For convenience in the manufacture and assembling of the parts the squared end 43 of the shaft is of less diameter than the threaded portion 42. This arrangement of parts permits the squared end portion 43 to be passed through an aperture in the check block 36, the walls of which aperture will be operatively engaged by the threaded portion 42.

I claim as my invention:

1. In an upright piano action in combination, a hammer having a pivoted butt, a jack coöperating with the hammer and having an outwardly projecting lug adjacent its higher end, a shaft projecting outwardly from the hammer butt, a check block slidably mounted on the shaft and coöperating with the lug on the jack, and an adjusting screw connecting the hammer butt and check block to slide the check block on the said shaft.
2. In an upright piano action in combination, a hammer having a pivoted butt, a jack located below the hammer butt and coöperating with it, said jack having an outwardly projecting lug adjacent its higher

end, a shaft projecting outwardly from the hammer butt, a check block slidably mounted on the shaft and coöperating with the lug on the jack and a second shaft having right and left screw threaded portions engaging respectively with the hammer butt and the check block.

3. In an upright piano action, in combination, a hammer having a pivoted butt, a jack located below the hammer butt and coöperating with it, said jack having an outwardly projecting lug adjacent its higher end, a shaft projecting outwardly from the hammer butt, a check block slidably mounted on the shaft and having a notch for receiving the lug on the jack upon the rebound of the hammer from a heavy blow, a shoulder for engaging the lug on the jack upon the rebound of the hammer from a light blow, and a lip extending beneath the lug on the jack, and a second shaft having right and left screw threaded portions engaging respectively with the hammer butt and the check block.

4. In an upright piano action, in combination, a hammer having a pivoted butt, a jack located below the hammer butt and coöperating with it, said jack having an outwardly projecting lug adjacent its higher end, a shaft projecting outwardly from the hammer butt, a check block slidably mounted on the shaft and having a notch for receiving the lug on the jack upon the rebound of the hammer from a heavy blow, a shoulder for engaging the lug on the jack upon the rebound of the hammer from a light blow, and a lip extending beneath the lug on the jack, and an adjusting screw connecting the hammer butt and check block.

HORACE O. CLARK.

Witnesses:

J. B. A. LONG,  
GEORGE P. BRAND.