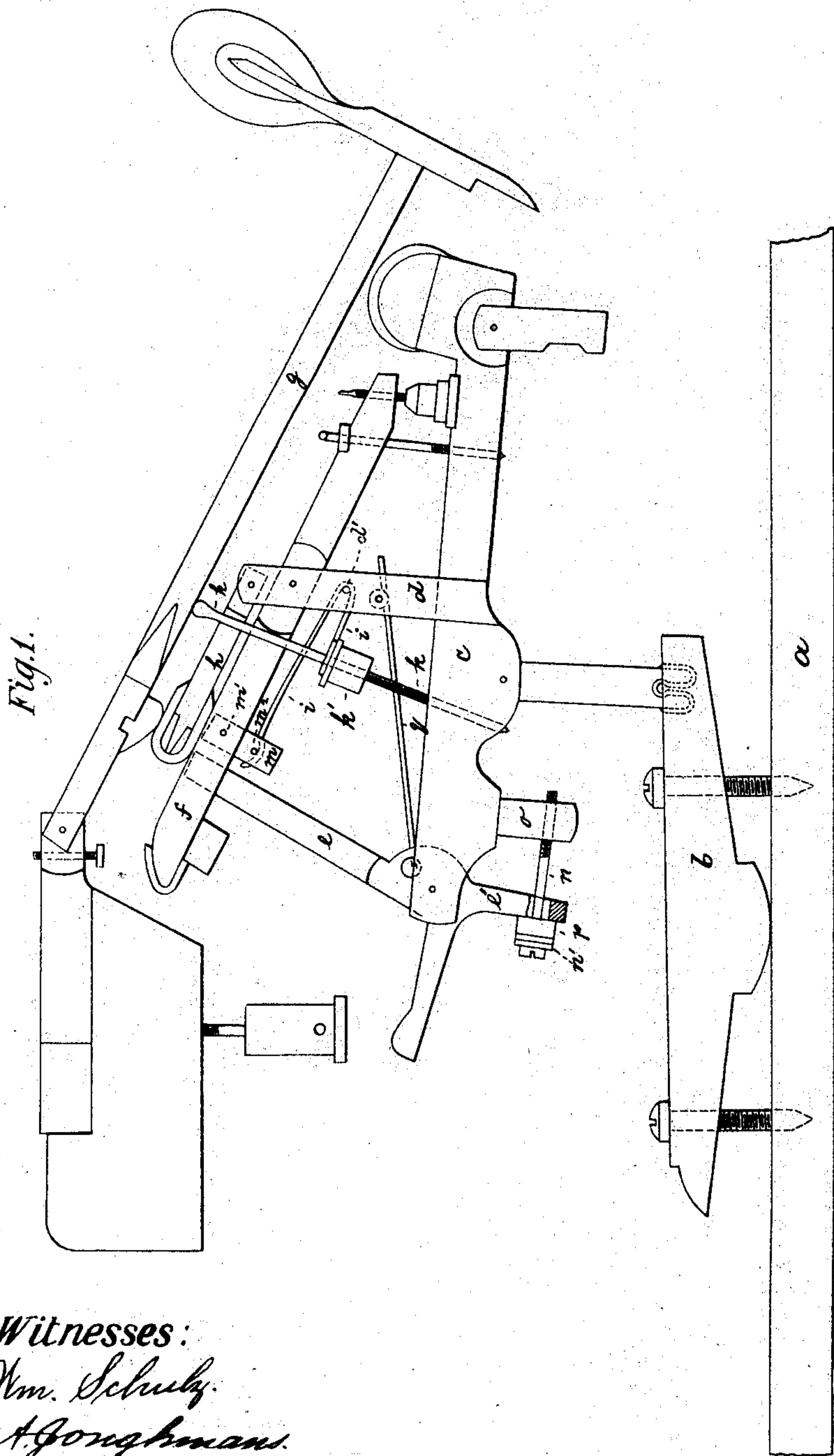


(No Model.)

J. HERRBURGER.  
PIANO ACTION.

No. 506,366.

Patented Oct. 10, 1893.



Witnesses:  
Wm. Schuch.  
A. Goughman.

*Inventor:*  
*J. Herrburger,*  
*per Roeder & Bries*  
*attorneys*

# UNITED STATES PATENT OFFICE.

JOSEPH HERRBURGER, OF PARIS, FRANCE.

## PIANO-ACTION.

SPECIFICATION forming part of Letters Patent No. 506,366, dated October 10, 1893.

Application filed May 31, 1893. Serial No. 476,033. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH HERRBURGER, a citizen of France, and a resident of Paris, France, have invented certain new and useful  
5 Improvements in Piano-Actions, of which the following is a specification.

This invention relates to an improved action for grand pianos and more particularly to means for regulating the spring of the repeating lever, and means for connecting the spring to such lever and means for regulating the inclination of the jack.

In the accompanying drawings: Figure 1 is a side elevation partly in section of my improved action for grand pianos and Fig. 2 an  
15 elevation of the pivoted block *m*.

The letter *a*, represents the key of a grand piano action. *b*, is the rocker, *c* the rider, *d*, the rider flange, *e* the jack, *f* the repeating  
20 lever, *g* the hammer and *h*, the interposed repeating finger, if the latter is employed. All these parts are of the ordinary or any suitable construction.

The first part of my invention relates to the  
25 construction of the spring *i*, for lifting the repeating lever *f*. This spring I make of bent form, connecting one end to the lever *f*, and the other end to an adjusting screw *k*, while at its bend it embraces a pivot *d'*, of the rider  
30 flange *d*. The adjusting screw *k*, engages at its lower end a tapped opening of the rider *c*, while its upper end is headed so as to be readily revoluble by a proper tool. This headed  
35 end extends upward between the hammer shanks and may be easily reached, even when the action is set up in the instrument. Upon the screw shank *k*, I secure a button or nut  
40 *k'*, upon which the lower end of the spring *i*, bears. It will be seen that by revolving the screw shank *k*, the tension of the spring *i*, may be easily regulated.

The second part of my invention relates to the means for attaching the spring *i*, to the repeating lever *f*. Within a slot of such lever is hung upon pivot *m'*, a freely vibrating  
45 block *m*. This block is slotted at its lower end, the slot being bridged by a cord or noiseless pin *m<sup>2</sup>*, around which the upper end of spring *i*, is bent. Owing to the centering of the block *m*, any friction of the spring at its  
50 working end is avoided and consequently all danger of producing a squeaking noise is averted. For regulating the slant of the jack, I may provide it below the rider *c*, with a  
55 slotted extension *e'*. Through this slotted extension there extends a screw *n*, engaging a tapped opening of a block *o*, depending downwardly from the rider *c*. Between the  
60 head *n'*, of screw *n*, and the extension *e'*, a cushion or washer *p*, is interposed. The jack spring *q*, will hold the extension *e'*, permanently in contact with the washer. When the screw *n*, is revolved, the slant of the jack  
65 is at once changed, as will be readily understood.

What I claim is—

1. The combination of a repeating lever, rider and rider flange, with a screw shank engaging the rider and with a bent spring which is pivoted to the rider flange and en-  
70 gages the repeating lever and the screw shank, substantially as specified.

2. The combination of a repeating lever with a block pivoted thereto and with a lever spring engaging such pivoted block, substan-  
75 tially as specified.

Signed at Paris, France, this 8th day of May, A. D. 1893.

JOSEPH HERRBURGER.

Witnesses:

J. MIGNAL,  
A. WEYL.