

(No Model.)

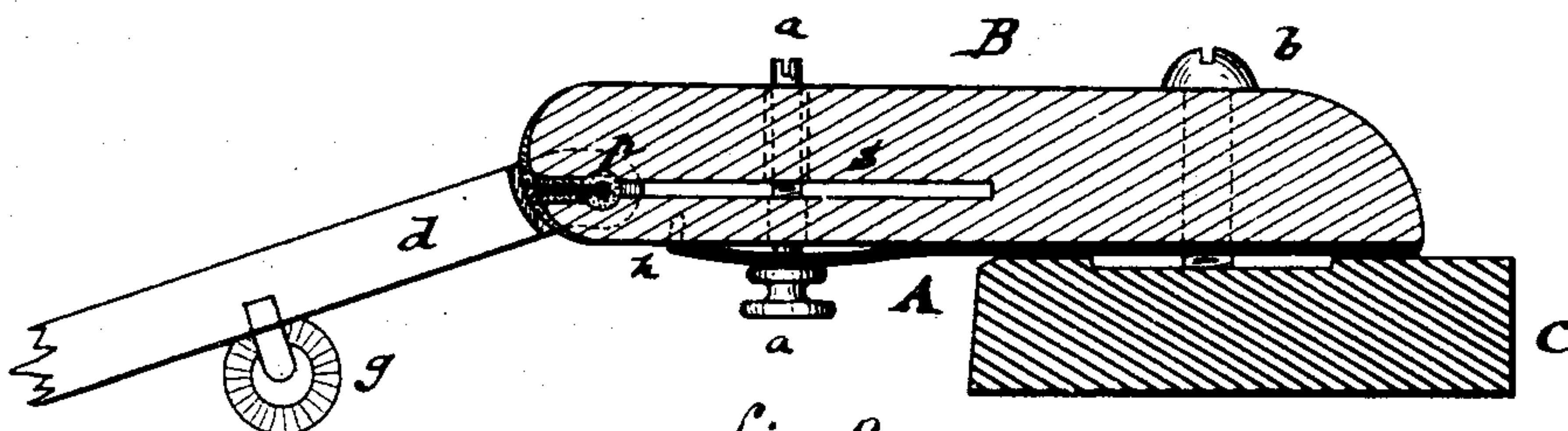
F. L. BECKER.

PIVOT JOINT FOR PIANO ACTIONS.

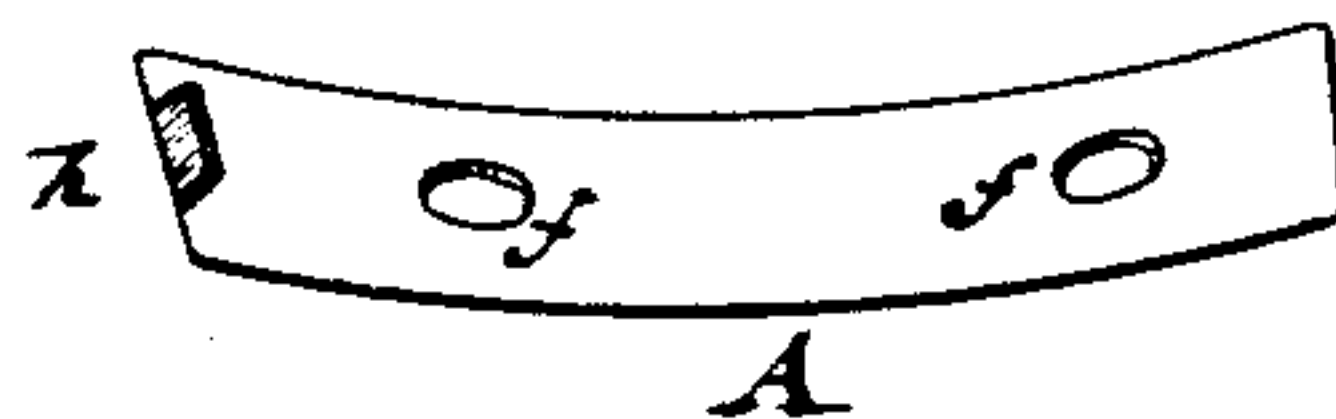
No. 285,785.

Patented Oct. 2, 1883.

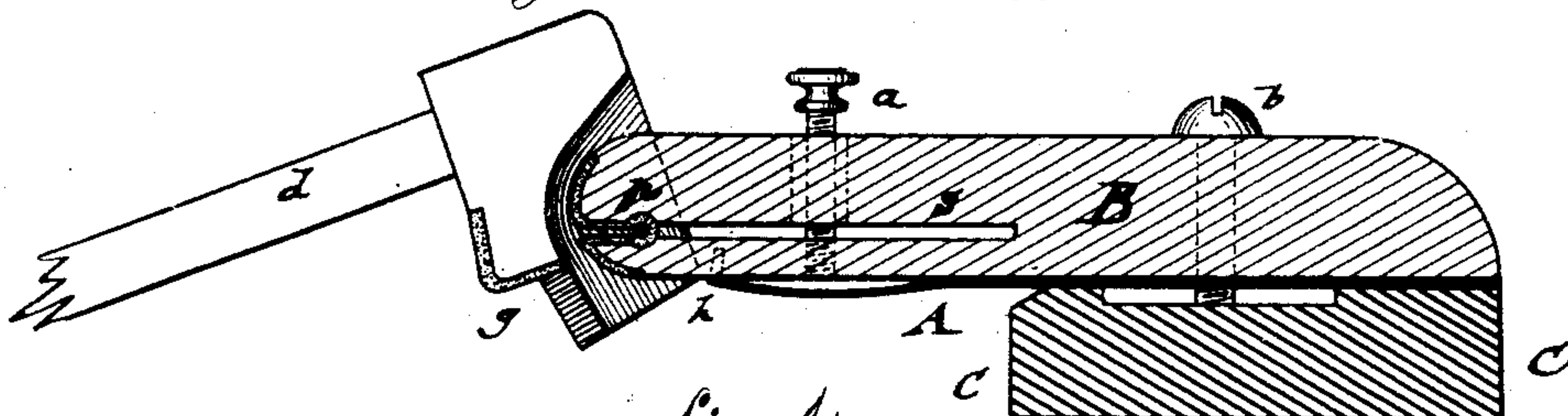
*Fig. 1.*



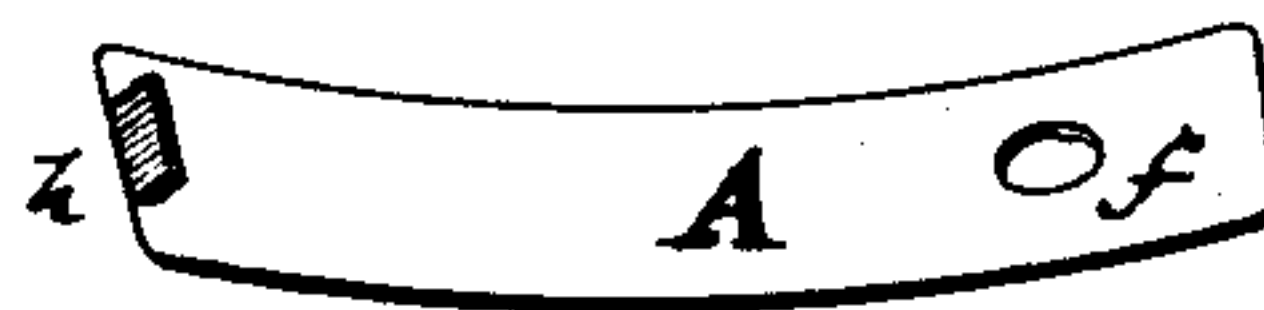
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



WITNESSES:

*John H. Rosenbaum*  
*Otto Risch*

INVENTOR

*Francis L. Becker*

BY

*Paul Goppel*

ATTORNEY

# UNITED STATES PATENT OFFICE.

FRANCIS L. BECKER, OF NEW YORK, N. Y.

## PIVOT-JOINT FOR PIANO-ACTIONS.

SPECIFICATION forming part of Letters Patent No. 285,785, dated October 2, 1883.

Application filed August 28, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, FRANCIS L. BECKER, of the city, county, and State of New York, have invented certain new and useful Improvements in Pivot-Joints for Piano-Actions, of which the following is a specification.

This invention relates to piano-actions having self-adjusting pivot-joints, whereby a uniform pressure is exerted upon the pivot of the hammer-butt, and the tightening and loosening effects incident to sudden changes of temperature and other causes are avoided.

The invention consists in a peculiar construction and combination of parts, as hereinafter described and claimed.

In the accompanying drawings, Figure 1 represents a vertical longitudinal section of a pivot-joint for the hammer-butts of grand pianos. Fig. 2 is a perspective view of the spring employed for the same. Fig. 3 is a vertical longitudinal section, showing the pivot-joint of a hammer-butt for square pianos. Fig. 4 is a perspective view of the spring for regulating the same.

Similar letters of reference indicate corresponding parts.

A in the drawings represents the regulating-spring, B the hammer-butt, and C the hammer-rail, of my improved spring-joint for piano-actions. The spring A is provided with one or two screw-holes, *j*, and with a hook, *h*, at one end, which is preferably let into a depression at the inner side of the hammer-butt. The hammer-butt B is secured by a butt-screw, *b*, to the hammer-rail C, which is preferably depressed below that part of the butt resting thereon, so as to form at each side of the depression two rests or seats for the hammer-butt. A button-screw, *a*, is attached to one of the jaws of the slitted hammer-butt, and serves as a means for pulling or pushing the jaws apart to enter or remove the hammer-pivot. The shank *d* of the hammer, which carries the hammer-shoulder *g*, is connected by the pivot *p*, that is set transversely across

the butt-slit *s* into a hole of the slitted hammer-butt, said pivot-hole being lined by the usual cloth bushing, as shown clearly in Figs. 1 and 2. The effect of the spring upon the hammer-butt will be an equal unchanging pressure upon the pivot, so that no further regulating is required after the same has been once properly adjusted. For taking the hammer out of its bushing, the screw-button *a* is pulled or pressed down, whereby the slitted ends of the butts will be spread apart, so that the pivot may be removed. It is replaced in the same manner without altering the tension of the spring. The spring also serves to keep the hammer-butts securely in position on the hammer-rail, even in case the wood should shrink. The spring is made of equal thickness throughout, but with an increased tension in the hammer-butts of the bass-strings.

A piano-action provided with spring-joints of this character, when once properly adjusted, will never be too tight, nor rattle, whereby the expensive repairs and adjustment of the actions are obviated, and pianos furnished that are less affected by change of temperature and climate, and give greater satisfaction to their owners.

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

The combination of a hammer-rail, a hammer-butt secured to said rail, provided with a slitted outer end, a hammer pivoted in said slitted outer end, and a spring, the inner end of which is clamped between said butt and rail, while the outer free end bears against the lower jaw of said slitted butt, substantially as described.

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

FRANCIS L. BECKER.

Witnesses:

PAUL GOEPEL,  
SIDNEY MANN.