

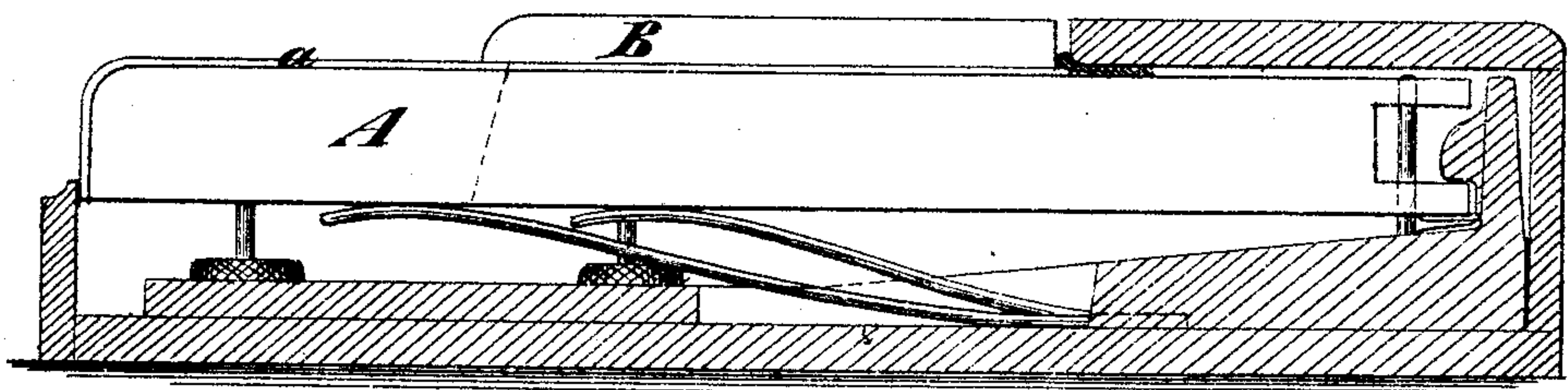
E. P. NEEDHAM.

Keys for Piano-Fortes, Organs, &c.

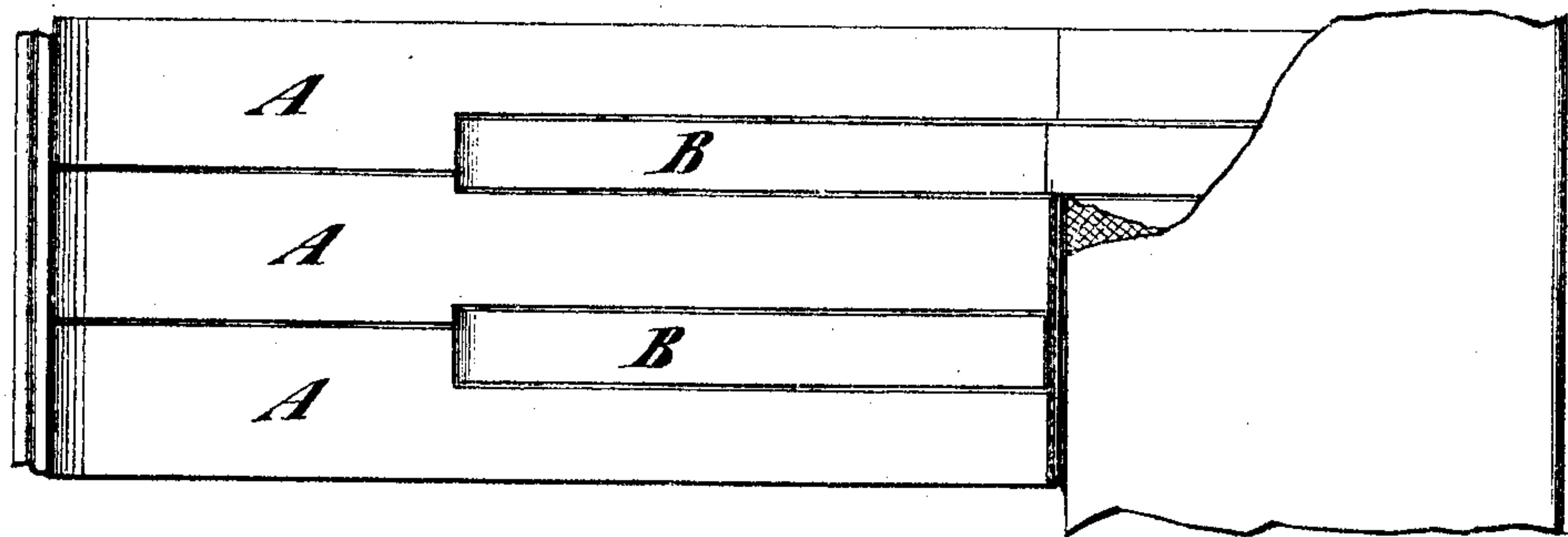
No. 140,528.

Patented July 1, 1873.

*Fig. 1.*



*Fig. 2.*



*Witnesses.*  
*John Becker*  
*Frederic Haynes*

*E. P. Needham*  
*by his Attorney*  
*Brown & Allen*

# UNITED STATES PATENT OFFICE.

ELIAS P. NEEDHAM, OF NEW YORK, N. Y.

## IMPROVEMENT IN KEYS FOR PIANO-FORTES, ORGANS, &c.

Specification forming part of Letters Patent No. **140,528**, dated July 1, 1873; application filed May 2, 1873.

*To all whom it may concern:*

Be it known that I, ELIAS P. NEEDHAM, of the city, county, and State of New York, have invented an Improved Key for Musical Instruments, of which the following is a specification:

This invention consists in a key for organs, piano-fortes, and other musical instruments having a rounded front edge and a veneer extending along its top, and over and along its front, whereby not only is a richness of appearance given to the key, but greater facility of performance in certain passages is afforded.

In the accompanying drawing, Figure 1 is a longitudinal section of the key-board of a piano-forte or organ, having its keys made according to my invention, and Fig. 2 is a top view of the same.

Similar letters of reference indicate corresponding parts in both figures.

A A represent the white keys of a piano-forte or organ, and B B the black keys. The keys A A have their front upper edges rounded, and their ivory veneers *a a* are made in a single piece, and extend continuously along their tops and are bent over their rounded edges, and cover also their fronts.

The appearance of the notes thus made is much richer than those commonly used, and moreover, owing to the absence of sharp corners at the sides of the front edges, facility is afforded to the performer in some passages, especially in runs and "trilling."

The ivory veneer has to be softened to enable it to be bent over the rounded edge of the keys, and this softening I accomplish as follows: The ivory is soaked in a solution composed of one part, by weight, of sulphurous acid, and ten parts, by weight, of water, and is allowed to remain till thoroughly softened. Then it is secured to the bodies of the keys in the usual manner by some adhesive substance, and is held till it hardens again.

What I claim as my invention is—

A key for organs, piano-fortes, and other musical instruments, having its upper front edge rounded off, and a veneer extending from its top continuously over such rounded edge and down its front, essentially as and for the purpose herein set forth.

E. P. NEEDHAM.

Witnesses:

HENRY T. BROWN,  
MICHAEL RYAN.