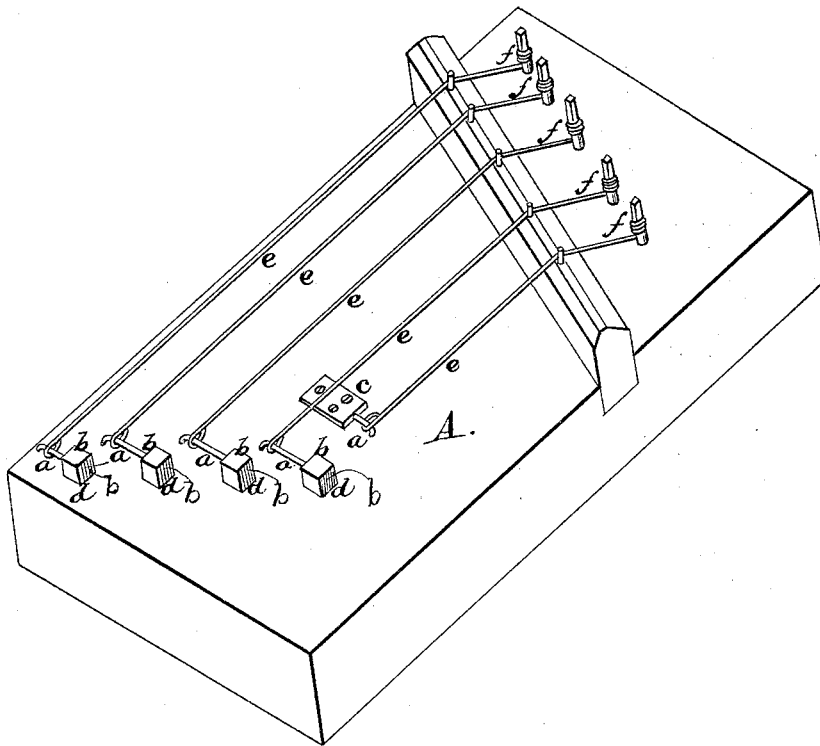


*L. Ricketts,*  
*Stringing Pianos,*  
*N<sup>o</sup> 3,643.      Patented June 24, 1844.*



# UNITED STATES PATENT OFFICE.

LOVERING RICKETTS, OF BALTIMORE, MARYLAND.

## PIANOFORTE.

Specification of Letters Patent No. 3,643, dated June 24, 1844.

*To all whom it may concern:*

Be it known that I, LOVERING RICKETTS, of the city of Baltimore, in the State of Maryland, have invented a new and useful Improvement in Pianofortes, Harps, and all other Musical String Instruments; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view.

*Construction.*—I construct my springs *a* of steel or any other elastic metallic substance, which I either drill at right angles into metallic butts or tenons *b b* or have the spring and butt in one piece flattened at one end so that they may be screwed on as shown at *c*, or inserted permanently or removable at pleasure into cast boxes or mortises *d, d*, made in either the long block *A*, or the end block, or, metallic plate commonly used in the piano forte, with the surfaces of which when the butts or tenons *d, d* are inserted or are screwed on; the springs *a, a*, lie parallel and may be made any length required as the strings *e, e*, pass over the same bridges that pianos are furnished with, which prevent any interference of the springs *a, a*, or the common hitch pins with the vibration of the strings their position in either of the above named blocks or plate is entirely immaterial as these springs are intended for an improved substitute for the common hitch pins used.

My springs may be applied to the piano

or any other musical string instrument without interfering with their general construction.

*Operation.*—After the springs *a, a*, are inserted or attached to the long block *A*, or either the end block or metallic plate, the strings *e, e*, are fastened to the springs *a, a*, and passed over the first and second bridges as is usual in all pianos and then around the rasp or screw pins *f, f*, by which the strings *e, e*, are strung and the instrument tuned. The effect of the springs *a, a*, is to give elasticity to the strings *e, e*, and to prevent them from contracting or expanding so as to put the instrument to which the are attached out of tune for in the first case the springs *a, a*, will give sufficiently to accommodate themselves to the contraction by being drawn toward the rasp or screw pins *f, f*, and in the latter will return so as to overcome any expansion that may occur.

What I claim as my invention and desire to secure by Letters Patent of the United States is—

The application of my metallic springs to the piano, harp and all other musical string instruments as an improved substitute to the common hitch pins now used and for the purpose of giving elasticity to the strings and for keeping them in tune for a long period of time.

LOVERING RICKETTS.

Witnesses:

JONATHAN JACKSON,  
GEORGE RIGGS.