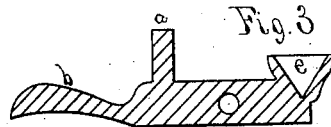
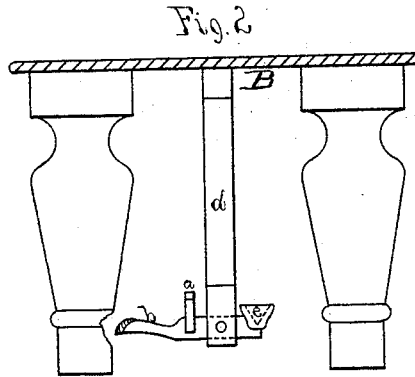
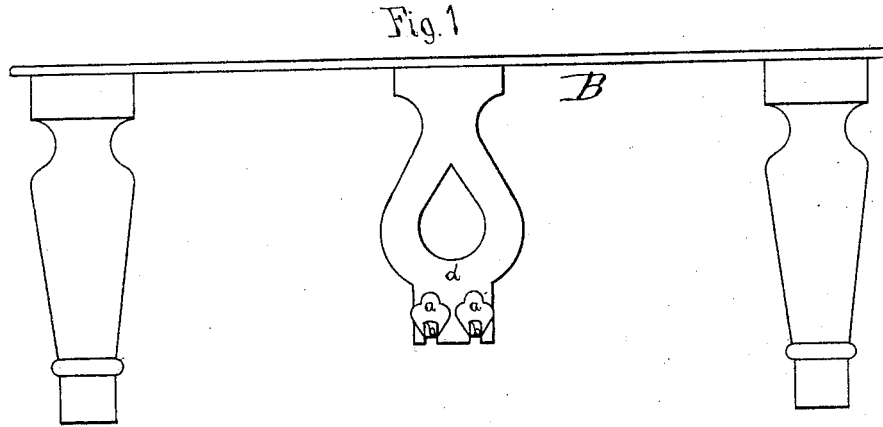


W. F. ULMAN.
PIANO-FORTE PEDAL.

No. 169,931.

Patented Nov. 16, 1875.



Witnesses.
John E. Crane
Wm. D. Brown

Inventor.
W. F. Ulman

UNITED STATES PATENT OFFICE.

WILLIAM F. ULMAN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN PIANO-FORTE PEDALS.

Specification forming part of Letters Patent No. **169,931**, dated November 16, 1875; application filed February 2, 1874.

To all whom it may concern:

Be it known that I, WILLIAM F. ULMAN, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Piano-Fortes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 represents a front view, and Fig. 2 a cross-section; and Fig. 3 is a part in detail.

This invention relates to that part of a piano known as the pedal or pedal-foot, and to that kind of pedal-foot which is pivoted near its center to the harp or pedal, and which extends both forward and to the rear of the latter, the forward part being the operating-foot, and the rear part the connection for the strut-rod, which operates the damper and harp attachment by endwise pressure, and not to the short pedal-foot, which is pivoted at its rear end to the harp or pedal, and which extends only forward of the latter, and which has, of necessity, a forward draft-rod for operating the damper and harp attachments by drawing them downward, instead of pushing a different part of each upward.

This invention has for its object to fully protect the harp or pedal from injury by the foot of the operator when pressing on the pedal-foot to operate the damper and harp attachments by the rear strut-rods pushing upward.

This invention consists in the combination, with a centrally-pivoted pedal-foot, *b*, such as herein described, of a toe-guard, *a*, rising from the top of the foot a little forward of the pedal *d*, to which the feet are pivoted, so that, when the pedal-feet are moved by the operator, his boot-toes shall not come in contact with the finished face of the harp or pedal to chafe, wear, or injure it. The guards, being in-

terposed between the operator's boot-toes and the pedal, take all the wear, pressure, or friction which would deface the pedal.

In the drawings, *d* represents the pedal, harp, or frame, depending from the bottom B of the case, and to this pedal the feet *b* are pivoted in the usual way. A little forward of the pedal-frame, and connected with each pedal-foot, and rising above it, is a toe-guard, *a*, of suitable dimensions, to cover that part of the face of the pedal-frame which would be liable to be defaced by the boot-toes of the operator. The toe-guard protects the harp or pedal-frame.

This toe-guard may be plain or ornamental, and, if desired, it may be movable and adjustable on the pedal-foot.

On the rear end of each pedal-foot I arrange a deep conical step, *e*, to receive and retain the lower ends of the rods which operate the damper and harp attachments. These rods are liable to get displaced; but the conical steps retain the lower ends of said rods always in position, whether shortened by compression, or by reason of the actuating-springs becoming slackened or losing their effective power, or for any other known cause.

Each step *e* may be formed in one with its pedal-foot, or applied thereto and adjusted in any convenient way.

I claim as my invention—

The combination, with a centrally-pivoted pedal-foot, *b*, such as herein described, of a toe-guard, *a*, rising from the top of the foot a little forward of the pedal *d*, substantially as shown and described, and for the purpose herein specified.

WILLIAM F. ULMAN.

Witnesses:

JOHN E. CRANE,
WM. S. BROWN.