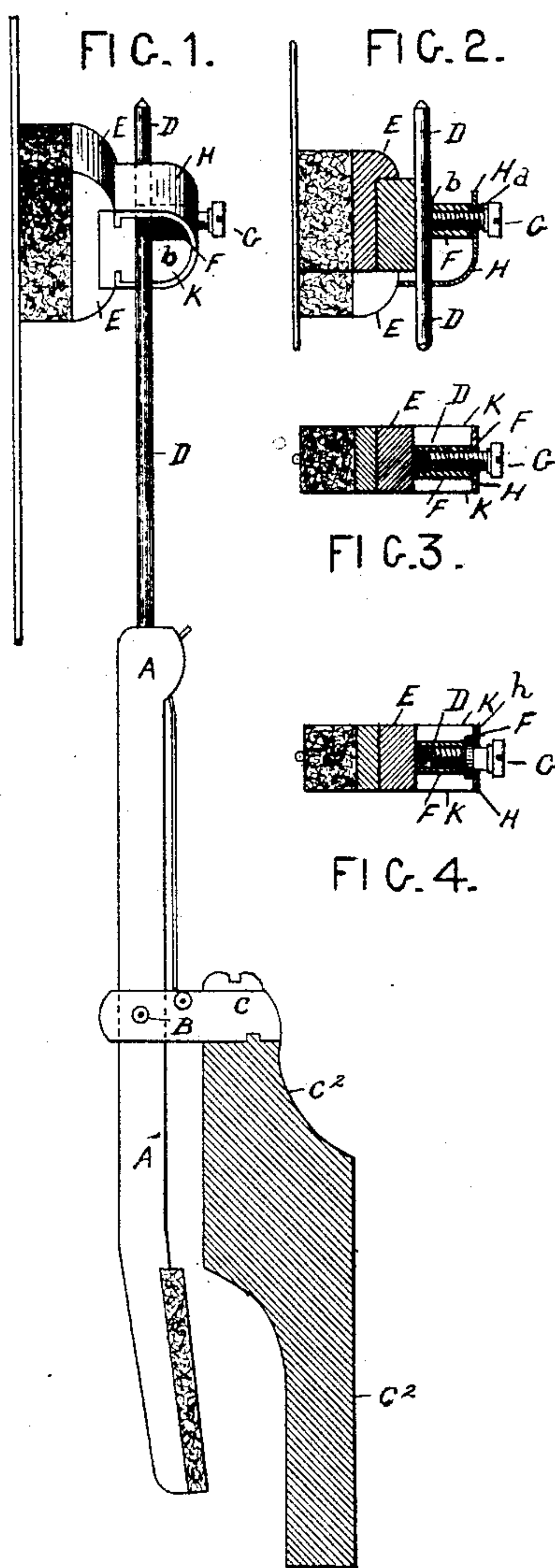


(No Model.)

W. P. HANSCOM.
PIANO DAMPER.

No. 470,619.

Patented Mar. 8, 1892.



WITNESSES.

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UNITED STATES PATENT OFFICE.

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PIANO-DAMPER.

SPECIFICATION forming part of Letters Patent No. 470,619, dated March 8, 1892.

Application filed March 23, 1889. Serial No. 304,524. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. HANSCOM, a citizen of the United States of America, and a resident of the city of Cambridge, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Attaching Damper-Heads of Piano-Forte and other Similar Actions, of which the following is a full, clear, and exact description

This invention in dampers of piano-forte and othersimilar actionsrelates to theattach-ment of the damper heads or blocks to the damper arms or levers through which from the operation of the action they are lifted from their rest on the strings of the piano-forte preparatory to the strike of the strings by the hammers and are returned to their rest on the strings directly after the strings are struck by the hammers to check or arrest or "damp," as it is termed, the vibration of the strings caused by the impact of the hammers thereon. As well known, the damper-levers are severally and in common secured to a fixed rail, known as the "damper-rail," of the action-frame, and they and the other parts of the action are in a coincident vertical plane, and they severally occupy determined and fixed positions relative to the lines of direction of the strings of the piano-forte, all of which necessarily requires that the damper-heads, usually of wood, shall not only be capable of adjustment lengthwise of the damper-levers, but also that they shall be attached to the damper-levers at varying angles of directions to present them to the strings the vibrations of which they are to damp in each instance in a plane of direction substantially coincident with the line of direction of the strings.

This invention in substance consists in the combination, with a damper-head, of a metal or other equivalent plug, which is bored or otherwise suitably prepared for the damper-stem of a damper-lever (otherwise of proper construction and arrangement) to be entered into and extend transversely through it, a yoke or stirrup, which is held on the damper-head and receives said plug extending end to end between it and the damper-head, and a set-screw, which is adapted to be screwed

into and out of the plug or of the stirrup, or of both, and thereby the damper-stem bound to or released from the damper-head, in the one instance fastening the damper-head to the damper-stem and in the other instance releasing the damper-head for it to be adjusted lengthwise or to be removed from or to be rotated upon for adjustment transversely as to the length of the damper-stem.

In the drawings forming part of this specification, Figure 1 is a side elevation of a damper-head and its lever in the combination of this invention. Fig. 2 is a central section of the damper-head and plug held and swiveled and in the direction of the damper-stem of the damper-lever, as illustrated, Fig. 1. Fig. 3 is a central transverse section of Fig. 2 at right angles to the damper-stem. Fig. 4 is a sectional view in detail, as hereinafter appears.

In the drawings, A is a damper-lever; B is the fulcrum-pin of damper-lever A, held on a flange C, secured to the damper-rail C'; D is the damper-stem of the damper-lever A; E is the damper-head of the damper-lever A, all, except as hereinafter described, the same as ordinary and well known.

F is the metal or other equivalent plug.

G is the set-screw, and H is a stirrup or yoke, making with the plug F one feature of this invention and severally held on the damper-head, as hereinafter appears.

The plug F, Figs. 1, 2, and 3, is placed in the stirrup or yoke H, held on the damper-head, and it extends end to end between the yoke and damper-head. The set-screw G passes loosely through the yoke H and screws into the screw-threaded core *d* of the plug, and thus it can be either brought to or released from bearing on the damper-stem D, which lies in and across the bore *b* of the plug, extending from opposite sides thereof and through the open sides K K of the stirrup or yoke H. The set-screw screwed in secures the plug and the head and its yoke all together and to the damper-stem and screwed out releases them, so that then the damper-head either can be moved lengthwise of or removed from the damper-stem or the yoke and head rotated upon the damper-stem, and thereby by rotation, which obviously is limited by the dimensions of the side openings

of the yoke, the damper-head can be adjusted as to its angle of direction on the damper-stem to suit the oblique line of direction of the strings the vibration of which the damper-head is to damp relative to the vertical plane of the damper-lever and the other parts (not shown) which with it make up the piano-forte action. The damper-head secured to the damper-stem through the medium of the metal plug in which the set-screw works, all as has been explained, avoids all danger of splitting the damper-head, so liable to occur when the screw is entered directly into the damper-head, as heretofore practiced.

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

1. In a damper for piano-forte and other similar actions, the combination, with the damper-head, of a yoke and a plug held on the head, the plug receiving the damper-stem, and a set-screw entering through said yoke

and into the plug for binding the damper-stem to and releasing it from the damper-head, substantially as described, for the purpose specified.

2. In a damper for piano-forte and other similar actions, the combination, with the damper-head, of a yoke held on the head, a plug located between the yoke and damper-head and receiving the damper-stem, and set-screw entering through said yoke and into said damper-stem for binding the damper-stem directly to and releasing it from the damper-head, substantially as described, for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM P. HANSCOM.

Witnesses:

ALBERT W. BROWN,
FRANCES M. BROWN.