

J. F. WHITE.
Key-Board Attachment for Musical Instruments.
No. 227,083. Patented April 27, 1880.

Fig 1.

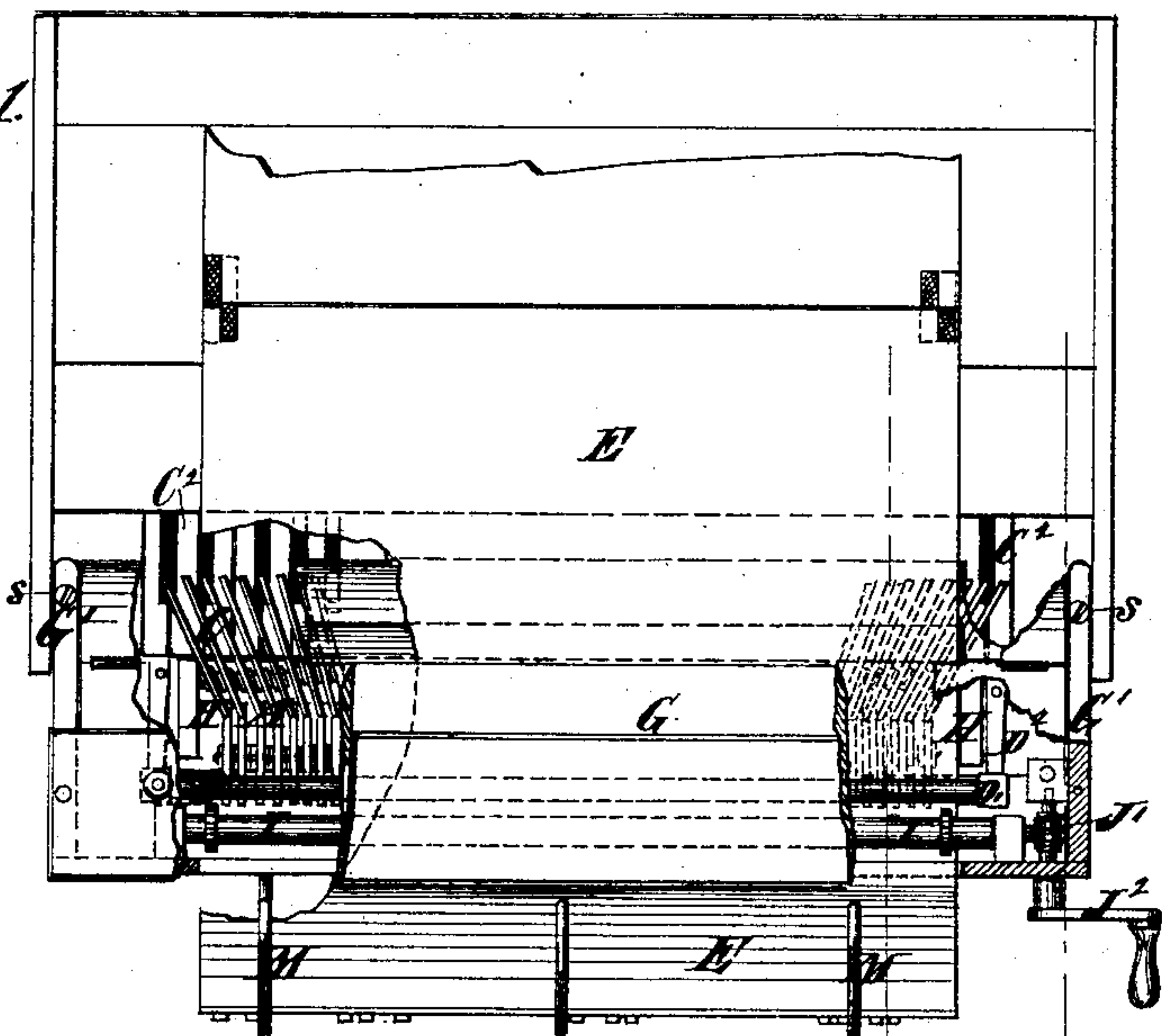


Fig 2.

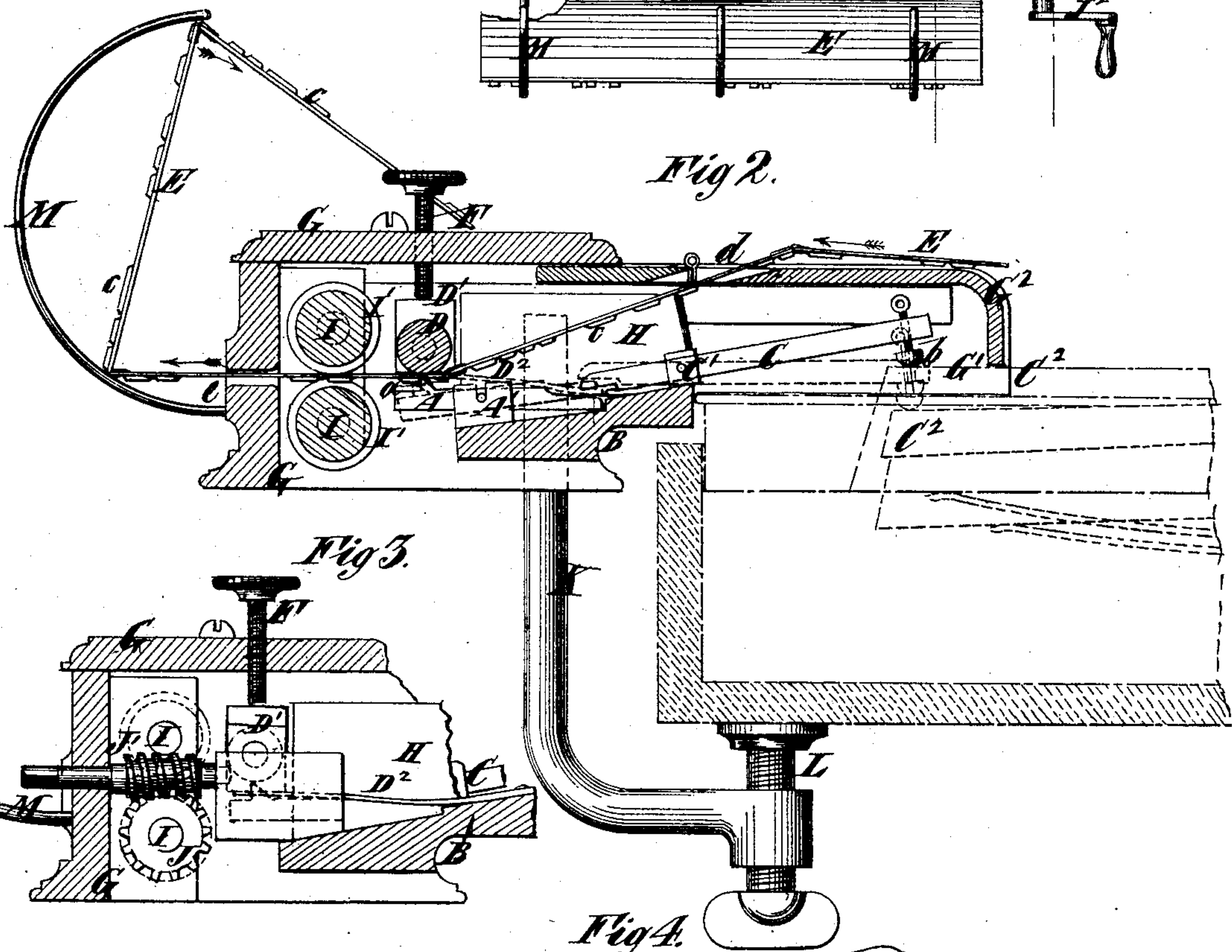


Fig 3.

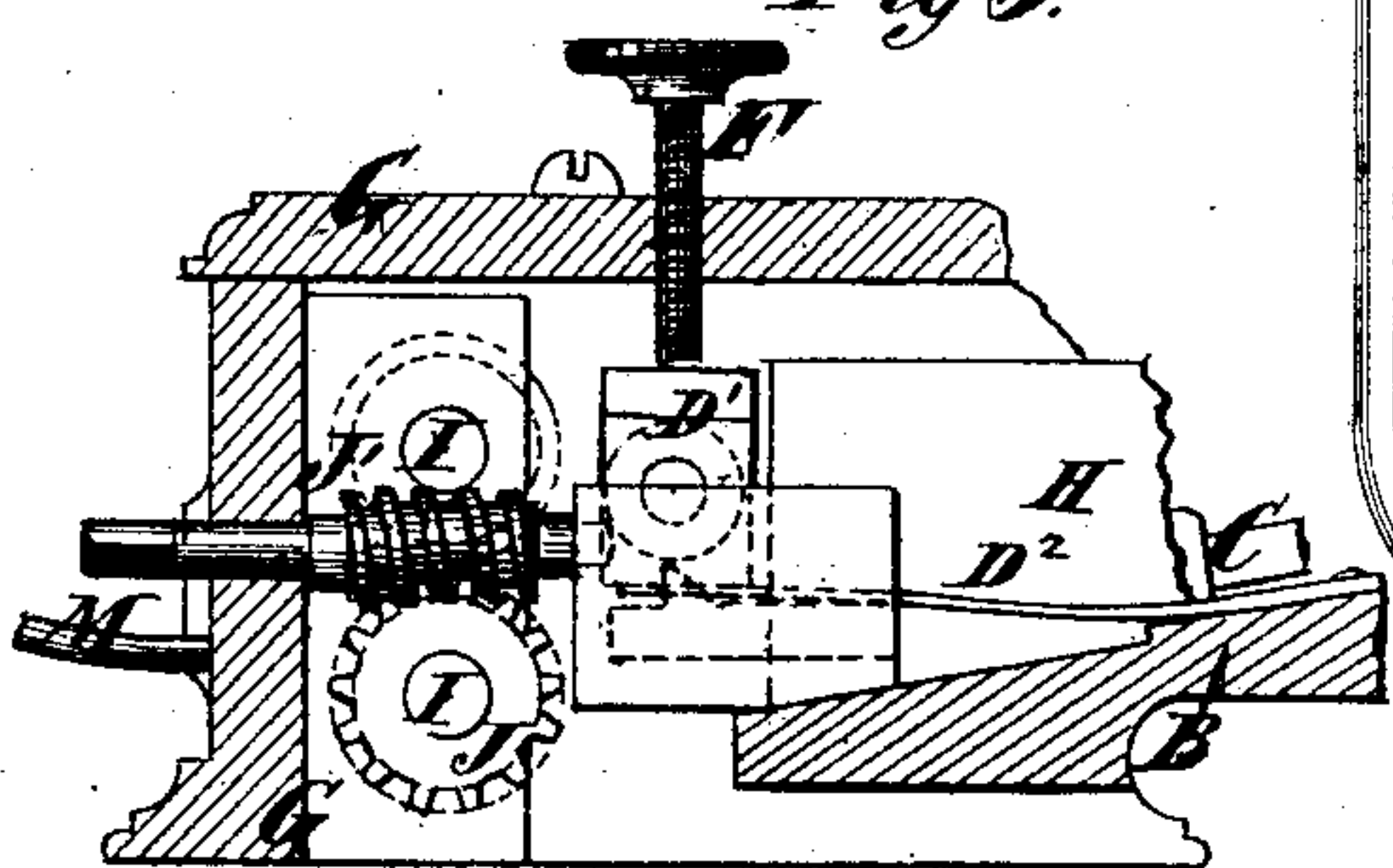
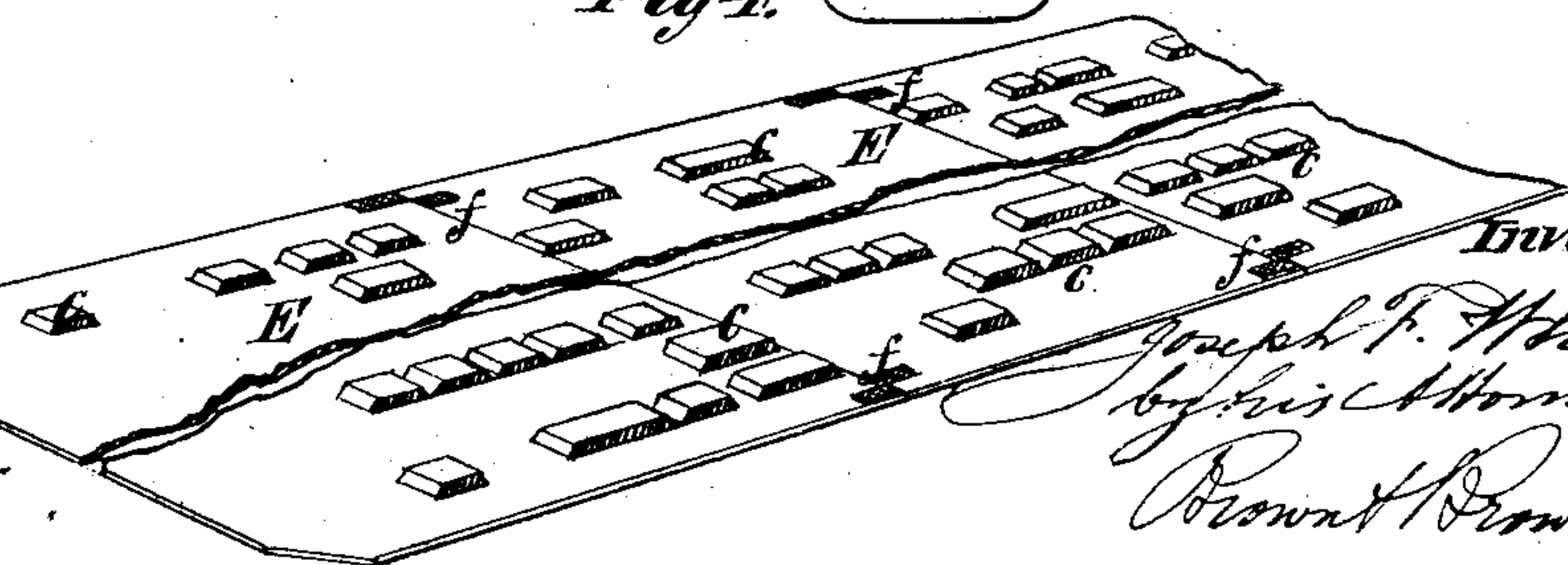


Fig 4.



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KEY-BOARD ATTACHMENT FOR MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 227,083, dated April 27, 1880.

Application filed December 4, 1879.

To all whom it may concern:

Be it known that I, JOSEPH F. WHITE, formerly of Brattleborough, in the county of Windham and State of Vermont, but now of the city, county, and State of New York, have invented certain new and useful Improvements in Attachments for Musical Instruments and their Appurtenances, of which the following is a specification.

My invention relates to attachments which are adapted to be secured to organs or other musical instruments having manual key-boards, and which comprise a series of key-depressing levers which are actuated by a traveling music sheet or card, preferably having projections upon its faces.

My invention consists in various details of construction and combinations of parts, whereby I produce a simple and compact attachment, which is complete in itself and can be applied to work the manual key-board of any organ or similar instrument with very little trouble.

In the accompanying drawings, Figure 1 represents a plan of an attachment embodying my invention, portions of the case being broken away the better to illustrate the construction. Fig. 2 represents a transverse section through such attachment on a larger scale, comprising also a portion of an organ or piano. Fig. 3 represents a similar section of a portion of such attachment; and Fig. 4 represents a perspective view of a music sheet or card embodying my invention, the middle part being removed to economize space.

Similar letters of reference designate corresponding parts in all the figures.

A designates a series of parallel levers designed to be equal in number to the keys of a piano or organ to which the attachment is to be applied, arranged in a position approximately parallel with said keys, and supported in fulcrum-pieces A', secured to the upper side of a bridge-piece or beam, B. Near one end of the levers A are projections *a*, on the upper sides thereof, and the other ends of said levers act upon secondary levers C, which are fulcrumed at C', and are preferably provided near their outer ends with adjustable hammers or push-pieces *b*, for acting upon the keys

C² of the musical instrument. These hammers or push-pieces are here represented as adjustable by means of screw-threads, so that they may be adjusted to suit different instruments.

The levers C are also arranged in a position approximately parallel with the keys, and, as represented in Fig. 1, the secondary levers C are preferably made diverging from the middle of the attachment, so as to reduce the length of the attachment or width of music-sheets to be used therewith, for the sake of compactness.

D designates a presser-roller, under which the music sheet or card E passes, and which presses the same down, so that the projections *c* of the latter act upon the projections *a* on the levers A and depress the latter. In order to permit the yielding of the presser-roller, it is represented as held in bearing-blocks D', which are supported on springs D², and in order to limit the upward movement of said roller I employ thumb-screws F, which are inserted through the case G and impinge upon the bearing-blocks D'.

As the two series of levers and the music sheet or card which passes over them are all arranged in planes approximately parallel with the keys C², the attachment may be made very compact, occupying but little space and easily transported.

H designates guides, which are arranged one on each side of the music sheet or card, and prevent its lateral displacement.

I designates feed-rollers arranged in front of the presser-roller D, and adapted to grasp the music sheet or card between them and feed it through the attachment. These rollers are here represented as made of unyielding material, such as wood, and provided with yielding surfaces, represented as consisting of rings I, of india-rubber or other elastic material, which secure a firm hold upon the music card or sheet, while the space between the rings affords provision for the free passage of the projections on the sheet. The yielding surfaces enable music sheets or cards of different thicknesses to be used without adjusting the rollers. One of the feed-rollers—in this instance the lower one—is provided with a worm-wheel, J, and J' designates a screw or

worm engaging with said wheel, and the shaft of which extends through the case G at the front of the attachment, where a handle, J², can be readily applied to turn it and produce the feed of the music sheet or card.

The case G, which incloses the mechanism of the attachment, is provided with end pieces, G', which rest upon the key-blocks of the musical instrument, and K designates holders or clamps for securing the attachment in place. Screws s may, however, be employed in lieu of said clamps. These clamps consist of curved rods, the upper ends of which fit snugly in holes in the case G, so that they may be adjusted to suit the cases of musical instruments of different dimensions. At the lower end the holders or clamps extend inward under the instrument and are provided with thumb-screws L. When these screws are tightened the upper ends of the clamps K are caused to bind in the holes to prevent their longitudinal movement; but when the screws are loosened the clamps may be readily adjusted up and down.

The case G has a hinged portion, G², which extends over the key-board of the musical instrument and can be raised to have access to the levers C, for adjusting the hammers or push-pieces b.

At the top of the case G is an inclined slot, d, for the introduction of the music sheet or card E, from whence it passes under the presser-roller D, between the feed-rollers I, and out through an opening, e, at the front of the case, which is in a horizontal plane approximately coincident with the meeting surfaces of the feed-rollers I.

At the front of the case G are guides or holders M, consisting of curved arms fixed in the case, and serving to guide the music-sheet to the top of the case as it passes from the opening e, and give it an upward and backward direction.

As here represented, the music sheet or card E is constructed in sections, (see Fig. 4,) which are united by means of bands or tapes f, which pass from one side of one section to the opposite side of the adjoining section. This construction enables a music-sheet of great length to be folded into a small compass, so that it may be readily carried without being bent so as to injure or impair it.

I am aware that attachments for musical instruments have been used which were adapted to rest upon the key-blocks thereof and be secured thereto by clamps and set-screws, and hence I do not claim this, broadly, as my invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. An attachment for a musical instrument adapted to be operated by a traveling music sheet or card, and provided with an inclosing-case constructed to rest upon the key-blocks of such instrument, so as to cover the keys, and with screws s, for securing it to the key-

blocks of said instrument, substantially as specified.

2. The combination, with the case G, provided with end pieces, G', for resting upon the key-blocks of a musical instrument, of the curved holders or clamps K, fitting loosely and adapted to be adjusted longitudinally in holes in said case, and provided at their lower ends with thumb-screws, which serve to cause the upper portions of said clamps to bind in the holes in the case, substantially as and for the purpose specified.

3. In an attachment for a musical instrument adapted to be operated by a music sheet or card having projections upon its face, the combination, with two series of levers adapted to be depressed by said projections for acting upon the keys and arranged in a position approximately parallel with said keys, of a pair of feed-rollers, between which the music sheet or card passes, and an adjustable presser-roller, independent of said feed-rollers, for holding the music sheet or card against said levers and rotating as the sheet or card passes under it, substantially as specified.

4. In an attachment for a musical instrument adapted to be operated by a music sheet or card having projections upon its face, the combination, with levers adapted to be depressed by said projections, of an adjustable presser-roller for holding the music sheet or card against said levers, spring-bearings for said roller, and screws for adjusting the same from outside the case, substantially as specified.

5. In an attachment for a musical instrument, the combination of a traveling music sheet or card, feed-rollers between which the sheet or card passes, and two series of levers arranged below said sheet or card, the said sheet or card and said levers all being arranged in planes approximately parallel with the keys of the instrument, one series of said levers being parallel with each other and adapted to be depressed by said music sheet or card, and the other series of said levers diverging and acted upon by the first said levers for actuating the keys of the instrument, substantially as specified.

6. In an attachment for a musical instrument, the combination of a traveling music sheet or card, feed-rollers between which the music sheet or card passes, and two series of levers arranged below said sheet or card, the said sheet or card and said levers all being arranged in planes approximately parallel with the keys of the instrument, one series of said levers being parallel with each other and adapted to be depressed by said music sheet or card, and the other series of said levers diverging and acted upon by the first said levers for actuating the keys of the instrument, and provided at their ends with adjustable hammers or push-pieces for impinging upon said keys, substantially as specified.

7. A musical-instrument attachment adapted to be operated by a traveling music sheet or

card and inclosed in a case which is provided with an inclined slot at the top for the entrance of said music sheet or card and an opening at the front for its exit, substantially as specified.
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8. In an attachment for a musical instrument adapted to be operated by a traveling music sheet or card, the combination, with the case of said attachment, having an opening

at the front for the exit of said music sheet or card, of curved guides for giving the music sheet or card an upward and backward direction as it issues from said case, substantially as specified.

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