

No. 638,843.

Patented Dec. 12, 1899.

S. HOWARD.
AMERICAN ORGAN.

(Application filed July 1, 1899.)

(No Model.)

2 Sheets—Sheet 1.

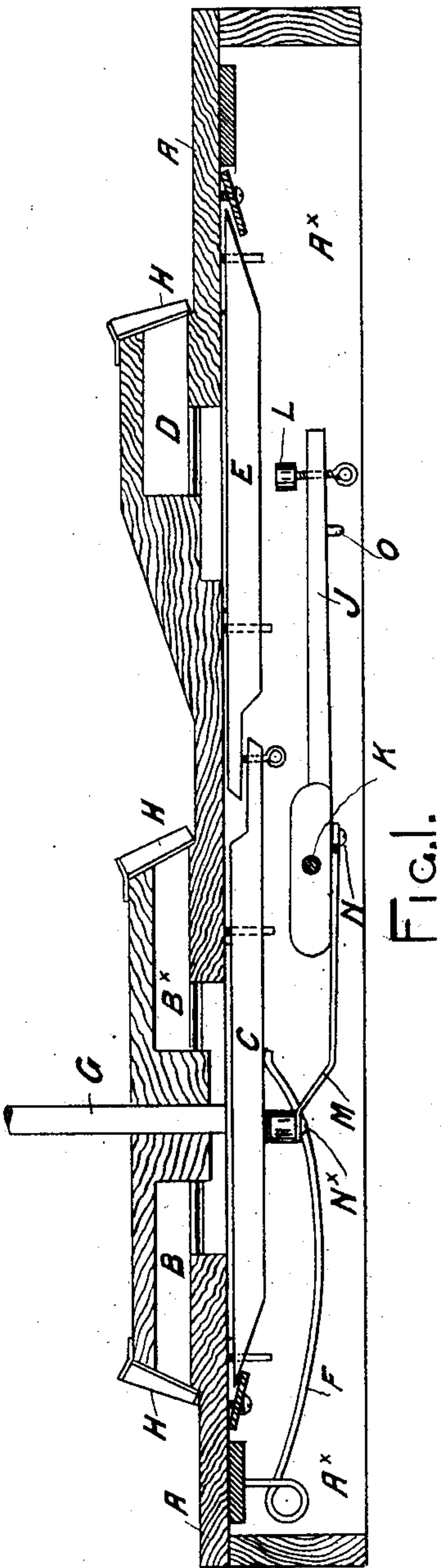


FIG. 1.

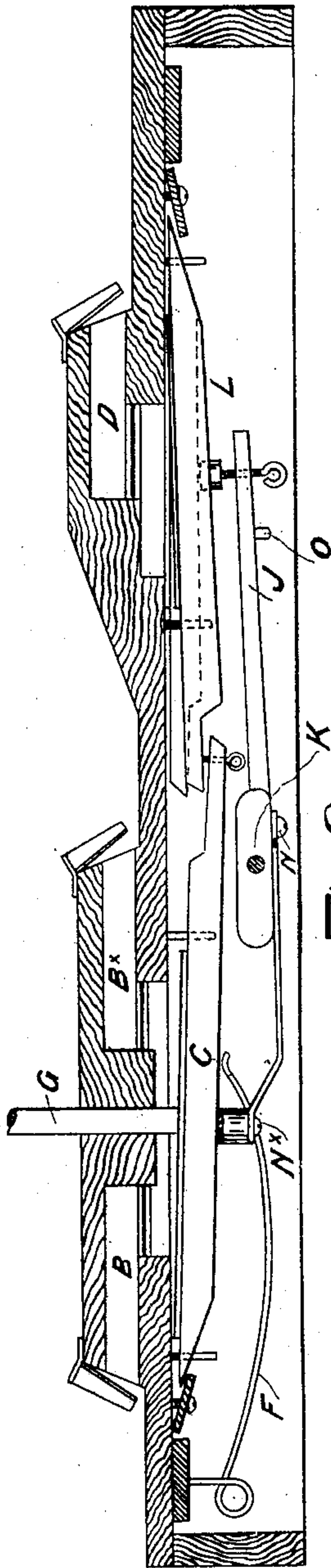


FIG. 2.

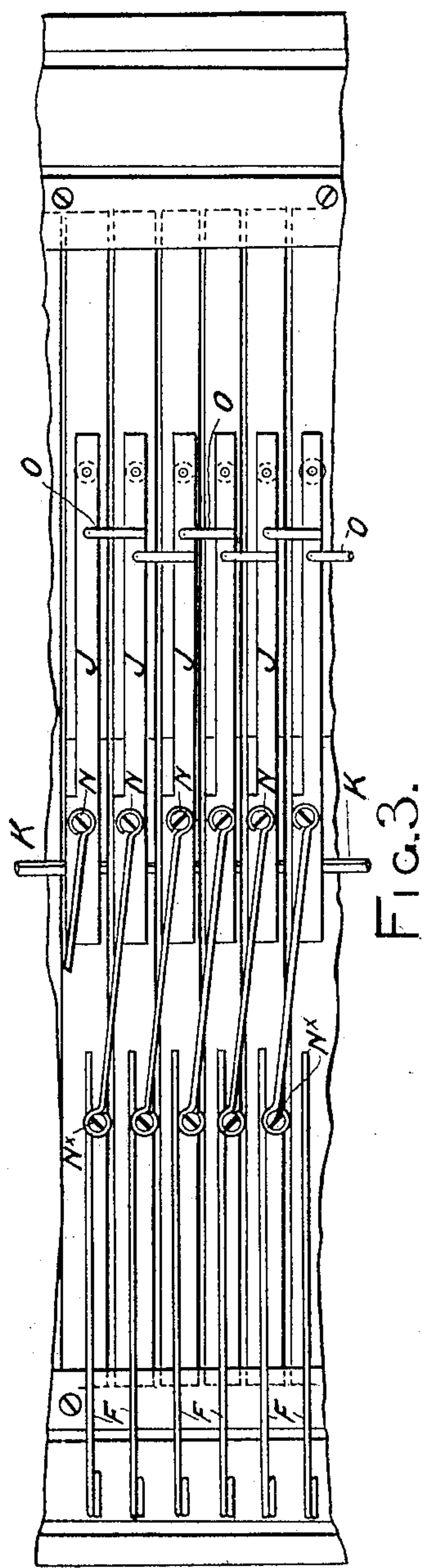


FIG. 3.

WITNESSES:
Edla L. Giles.
Odvinux

INVENTOR
Samuel Howard.
BY *Richard & Co.*
ATTORNEYS

No. 638,843.

Patented Dec. 12, 1899.

S. HOWARD.
AMERICAN ORGAN.

(Application filed July 1, 1899.)

(No Model.)

2 Sheets—Sheet 2.

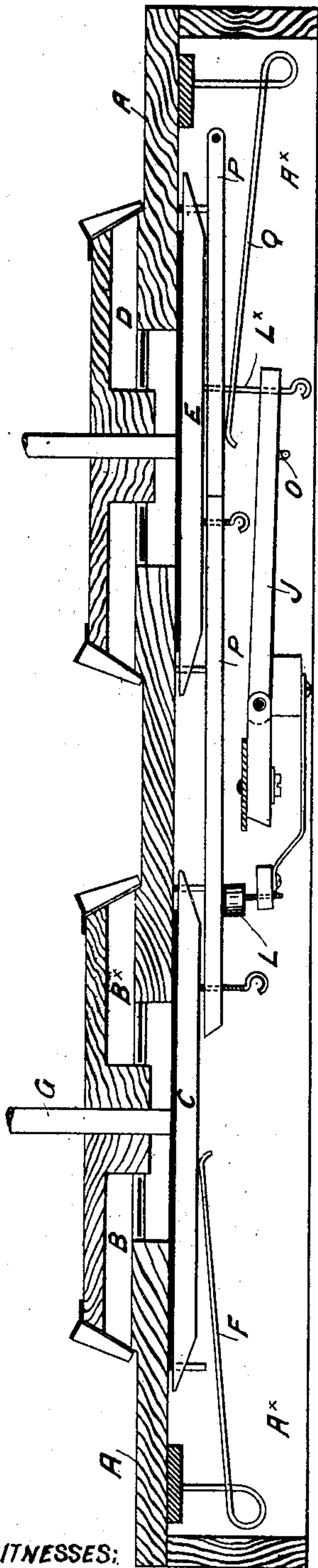


FIG. 5.

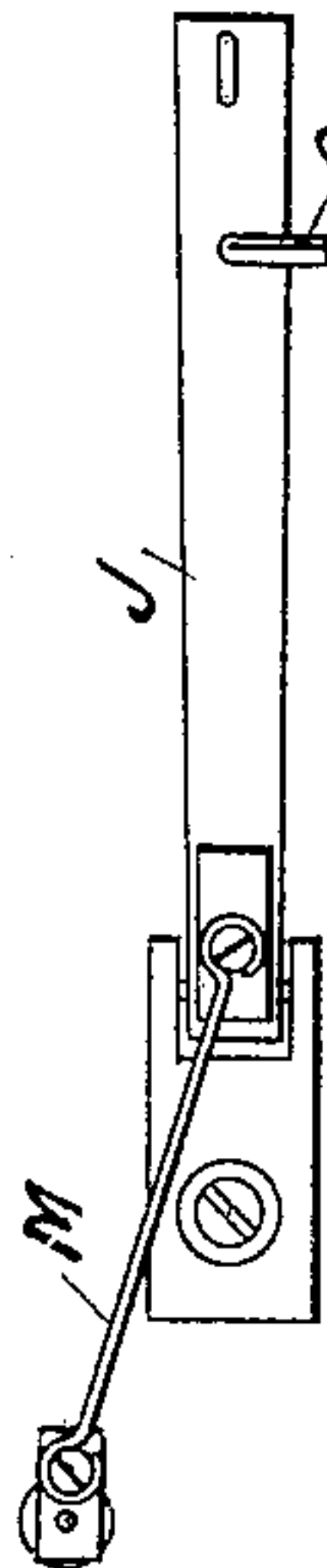


FIG. 4.

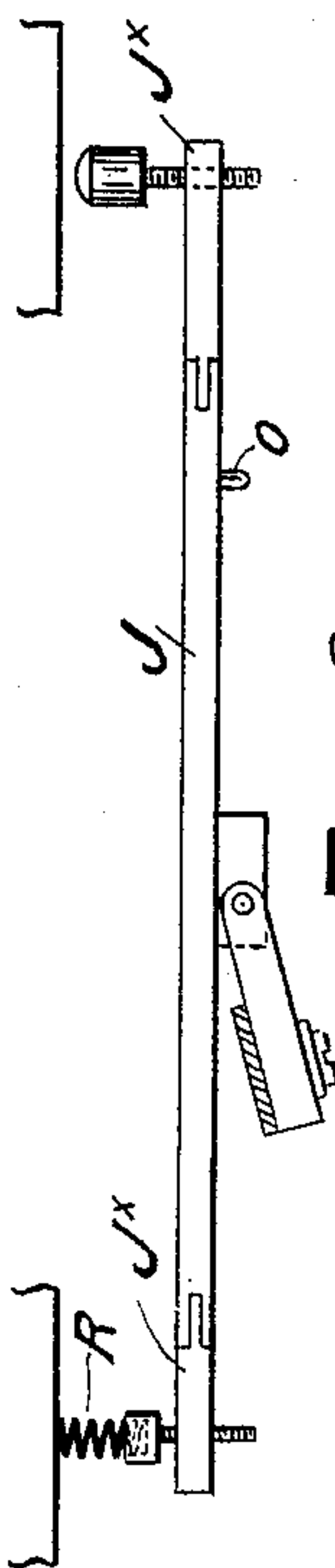


FIG. 6.

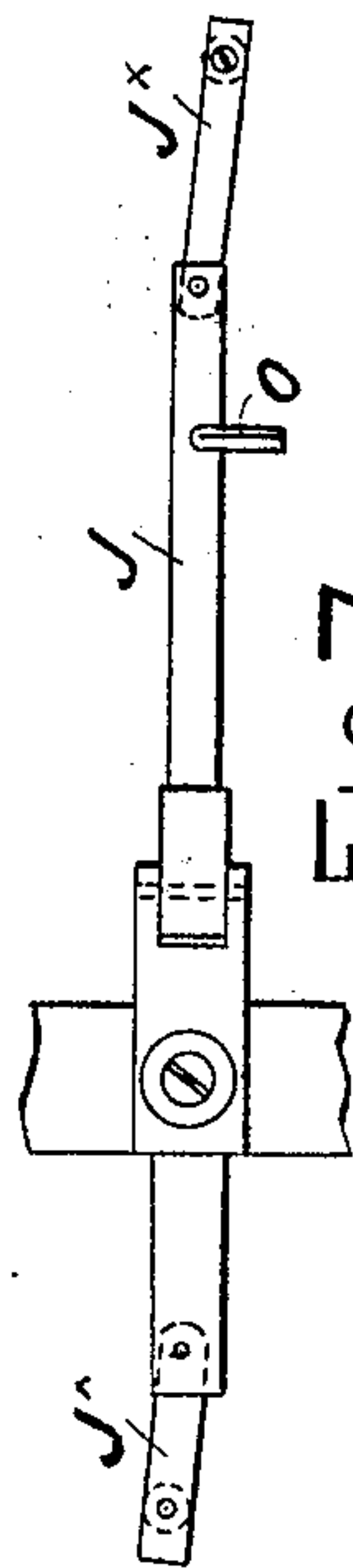


FIG. 7.

WITNESSES:

Ella L. Giles
Attorney

INVENTOR
Samuel Howard
BY *Richardson*

ATTORNEYS

UNITED STATES PATENT OFFICE.

SAMUEL HOWARD, OF MANCHESTER, ENGLAND.

AMERICAN ORGAN.

SPECIFICATION forming part of Letters Patent No. 638,843, dated December 12, 1899.

Application filed July 1, 1899. Serial No. 722,595. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL HOWARD, a subject of the Queen of Great Britain and Ireland, and a resident of Swan street, Manchester, England, have invented certain new and useful Improvements in or Relating to American Organs and the Like, of which the following is a specification.

This invention relates to American organs and like instruments operating by an exhaust action, and has for its object to provide simple and efficient means whereby the melody or bass of a tune played on such instruments may be brought into prominence without any special skill on the part of the player.

The invention consists in the arrangement and combination of parts hereinafter described, and particularly pointed out in the claims.

On the accompanying drawings, Figure 1 represents a transverse section through what is known as the "cavity-board" and "well" of an organ and shows the application of my invention to three sets or two banks of reeds in the treble and with the parts in the position they occupy when the organ is not being played. Fig. 2 represents a similar view, but with the parts in the position they occupy when the organ is being played and the melody is being emphasized. Fig. 3 represents an inverted plan of the same cavity-board and showing more clearly the juxtaposition of the several pallets and controlling mechanism for the treble sets of reeds. Fig. 4 represents an inverted plan of the controlling mechanism in the bass. Figs. 5, 6, and 7 represent modifications.

In accordance with my invention I employ a cavity-board A with two or more sets of reeds B B^x, controlled by the ordinary pallets C, and with at least one set of reeds D, controlled by another set of pallets E. With the sets or banks of reeds sufficiently close I so arrange the pallets C and E relatively to each other that the free ends of pallets C lie below and overlap the free ends of the pallets E. The pallets C are each held up by a strong wire spring F, and they in turn support the pallets E. The pallets C are operated by the plunger-rods G. With the mutes H opened, as shown in Fig. 2, and the said keys depressed the pallets C uncover the reeds B

B^x and allow such reeds to sound under the exhaust action of the bellows. Simultaneously pallets E in the absence of any other support fall away from their cavities and allow the extra set of reeds D to be sounded; but by the application of means which I will now proceed to describe only the pallet E, identified with the uppermost note of each chord, is allowed to fall, and the reed which such pallet controls in the set of reeds D is alone sounded, which, in conjunction with the sounding of the corresponding reed in either of the other sets of reeds B B^x, gives the desired prominence to the melody. The said controlling mechanism, which is placed within the well or space A^x beneath the cavity-board, consists of a series of levers J, mounted upon a fulcrum K, common to all, or each upon a separate fulcrum. One end of each lever lies immediately below one of the pallets E and is fitted with a small adjustable contact L, while the other end of each lever carries a wire or flexible extension M, affixed by set-screw N, fitted at its extremity with contact N^x and extending upward into contact with one of the pallets C, representing the next higher (treble) note to that represented by the pallet E of the reed D, under which the opposite end of the lever lies, as aforesaid. With the extremities of each lever and wire extension crossing over from one pallet of the reeds B B^x to the pallet E of the next lower note of the reeds D it will be seen that upon the depression of any one of the pallets C the lever J beneath it will be tilted on its fulcrum K and the contact L raised into touching contact with the pallet E immediately above it, (which, as aforesaid, represents the next lower note in the treble,) and thus prevent such pallet uncovering the reed-cavity and prevent the note being sounded. It will, however, also be seen that the pallet E corresponding to the pallet C which is depressed will be allowed to fall and uncover its reed-cavity, and consequently allow such note to be sounded.

To each of the levers J, I also apply a small finger or piece of bent or cranked wire O, adapted to extend beneath the next adjoining lever, as shown more clearly in Fig. 3, and in consequence of such bent wire the tilting of any one of the levers J upon its fulcrum K will cause all the levers below it (represent-

ing the lower treble notes) to be tilted with it, and consequently all the pallets E of the lower treble notes of the set of reeds D to be held up and prevented from uncovering their
5 cavities and the uppermost note to be alone sounded and the melody thereby emphasized.

In applying my invention to a set of reeds D in the bass the arrangement of pallets and levers is precisely similar to that aforesaid,
10 except that the ends of the levers J lie beneath the pallets E representing the higher instead of the next lower notes and the fingers O lie to the right instead of to the left or beneath the levers identified with the higher
15 notes.

In distinguishing between the treble and base I prefer to designate all the notes to the left of the key known as "middle C" as "bass" and all the notes to the right (including middle C) as "treble;" but I may vary such distinction. In lieu of lying below the levers J it will be obvious that the fingers O may lie above, provided they are the other side of the fulcrum K.

25 In applying my invention to instruments in which the sets or banks of reeds are some distance apart I prefer to employ the arrangement shown in Fig. 5, in which the pallets E are each supported by a hinged stem P, held
30 up in turn by a wire spring Q and caused to uncover their cavities by the action of pallets C upon the stems P. The pallets E simply rest upon the stems P and are in no way connected thereto, and to effect the muting of the
35 lower (treble) or higher (bass) notes of the reeds D, as aforesaid, by the depression of the pallet of the highest and lowermost notes of the reeds B B^x the contact L^x is used, adapted to project or lie between the stems and act
40 against the lower edges of the pallets E, and thus hold them to their cavities.

In Figs. 6 and 7 I show a slight modification of the levers J, in which a small coiled spring R takes the place of the wire extension M.
45 The part J is parallel with the pallets and carries two articulated extensions J^x for allowing of the crossing over of the extremities and convenient setting or adjustment of the parts. In these views I also show the lever
50 mounted on its own individual fulcrum to allow for repair or renewal without disturbing the other levers.

The object of using the wire extension M or coiled spring R is to insure that the distance between the contacts L or L^x and the

pallets E is such that the depression of the organ-keys shall bring the contacts beneath the pallets E quickly and then allow for the further and full depression of the key by reason of its yielding contact.

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

1. In American organs and the like operating on the exhaust principle, a well, or space below the cavity-board, two sets of reed-pallets overlapping each other within said well, springs for holding the pallets to their cavities, a set of levers within the organ-well capable of tilting under the depression of one of said sets of pallets and thereby holding up
65 the next adjoining pallet of the other set of pallets, and small fingers or lateral extensions for imparting the tilting movement of one lever to the next adjoining lever, substantially as and for the purposes set forth.

2. In combination in an organ operating on the exhaust principle, a cavity-board having a well or space below it, two sets of reed-pallets the pallets of one set operating when the corresponding pallets of the other set are operated, means for holding the pallets to their cavities, a set of levers within the organ-well tilting under the depression of one of said sets of pallets and holding up the next adjoining pallets of the other set of pallets,
85 and small fingers or lateral extensions for imparting the tilting movement of one lever to the next adjoining lever, substantially as described.

3. In combination, in an organ, the cavity-board having a well below it, two sets of reed-pallets the pallets of one set operating when the corresponding pallets of the other set are operated, means for holding the pallets to their cavities, a set of levers within the organ-well, resilient means between said levers and one set of pallets whereby the levers are tilted upon the depression of the pallets of said set and hold up the next adjoining pallet of the other set and lateral extensions on
100 the levers for imparting the tilting movement of one lever to the next adjoining lever, substantially as described.

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

SAMUEL HOWARD.

Witnesses:

GEOFFREY ANDREWS,
ARTHUR GRETRY.