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PATENTED JAN. 1, 1907.

J. H. DAWE.
INSTRUMENT FOR PLAYING ORGANS AND HARMONIUMS.
APPLICATION FILED DEC. 30, 1903.

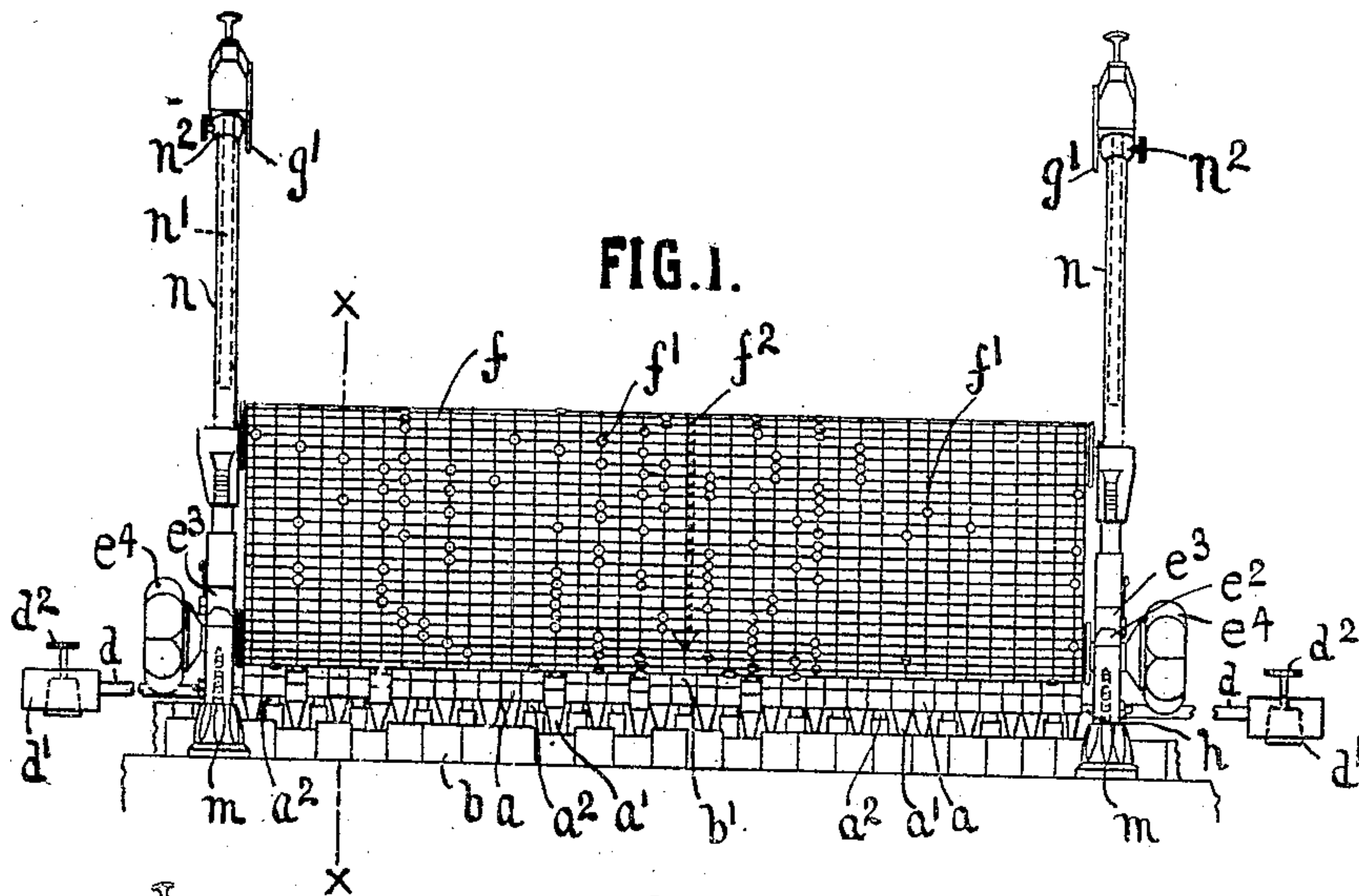


FIG. 2.

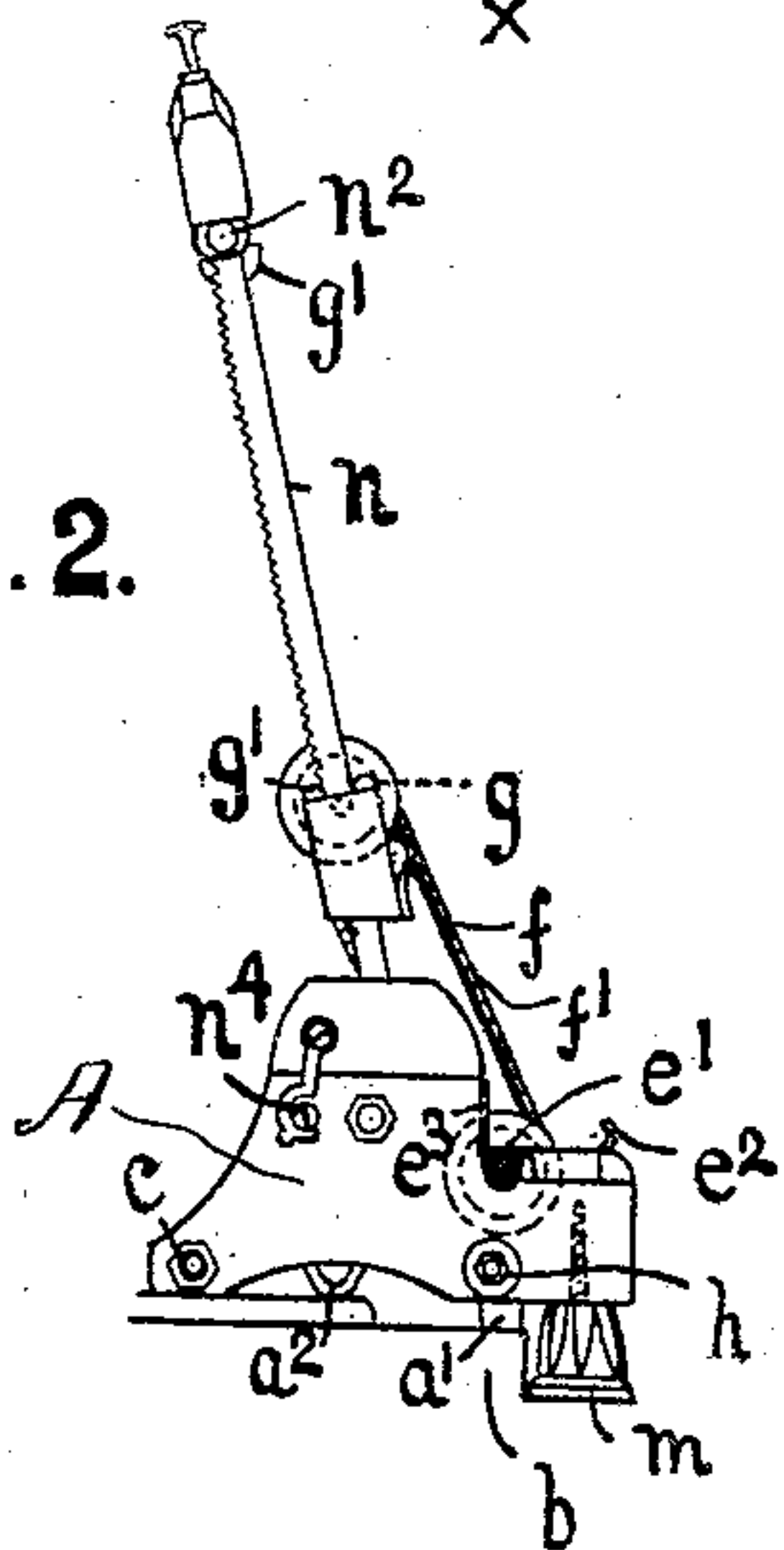


FIG. 3.

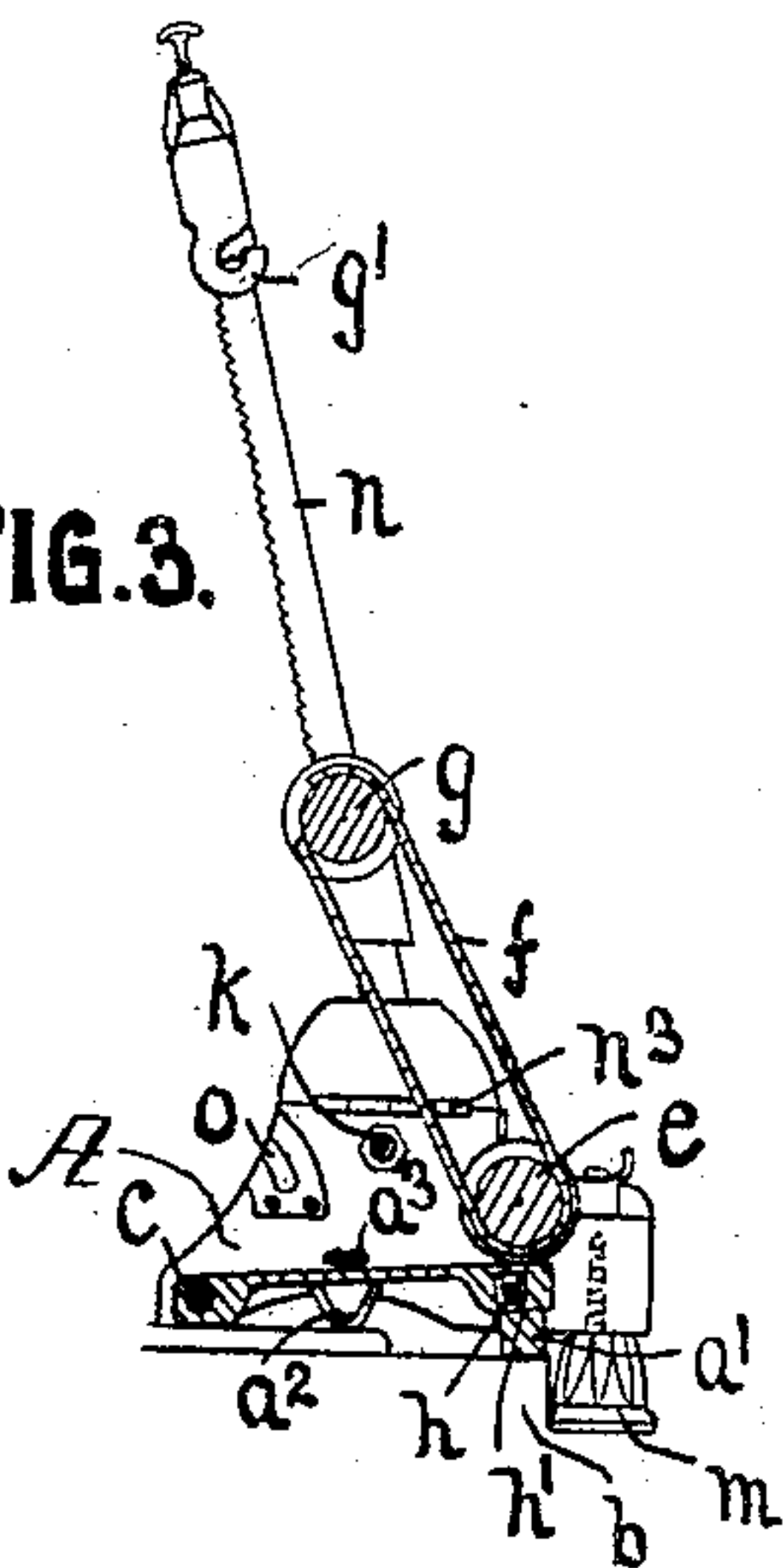


FIG. 6.

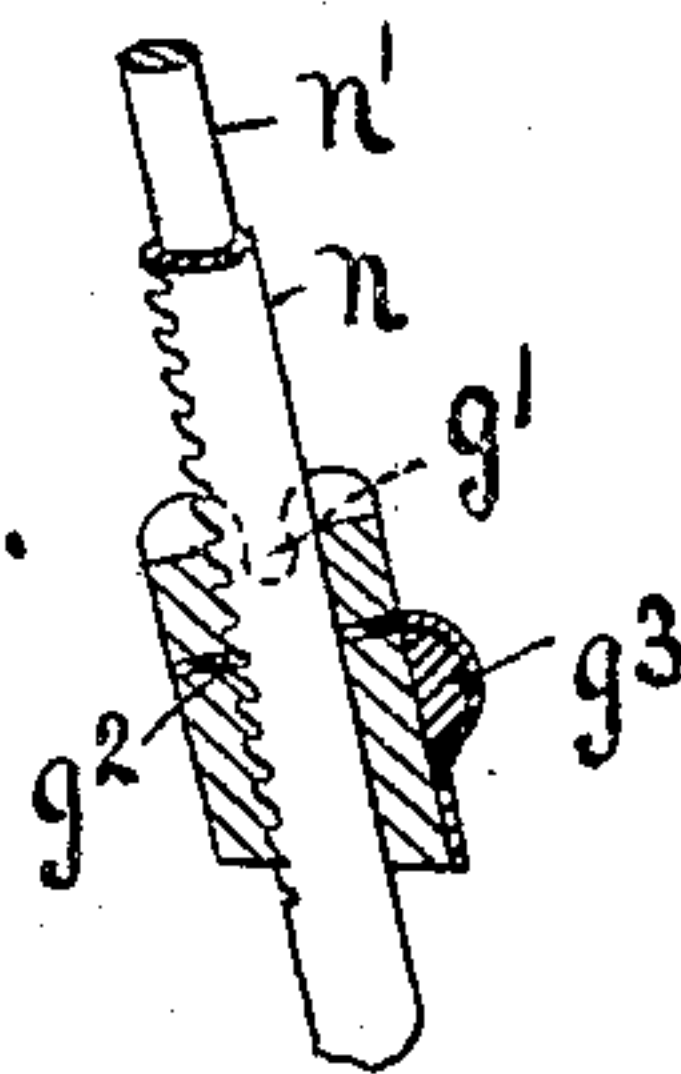


FIG. 4.

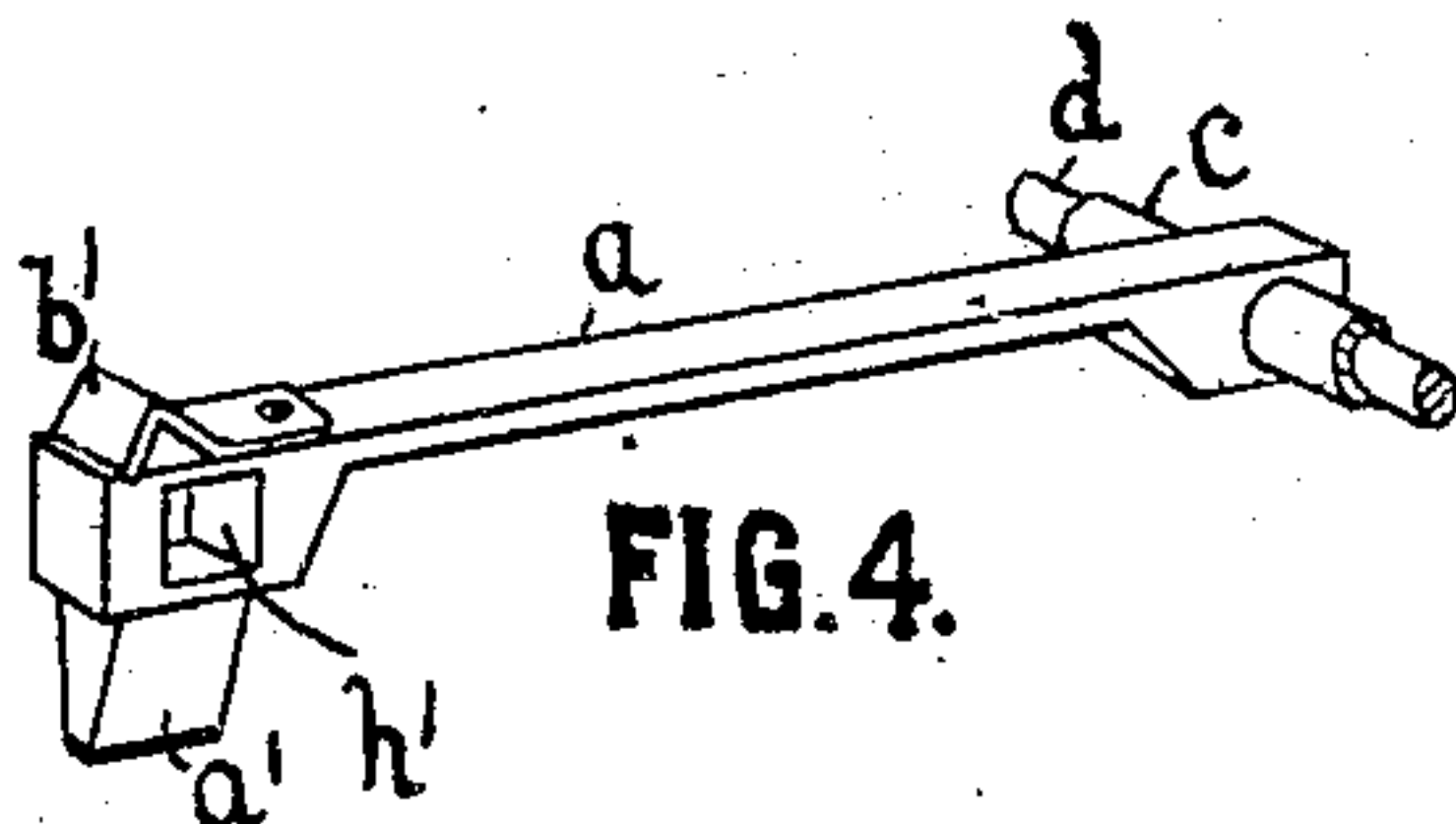
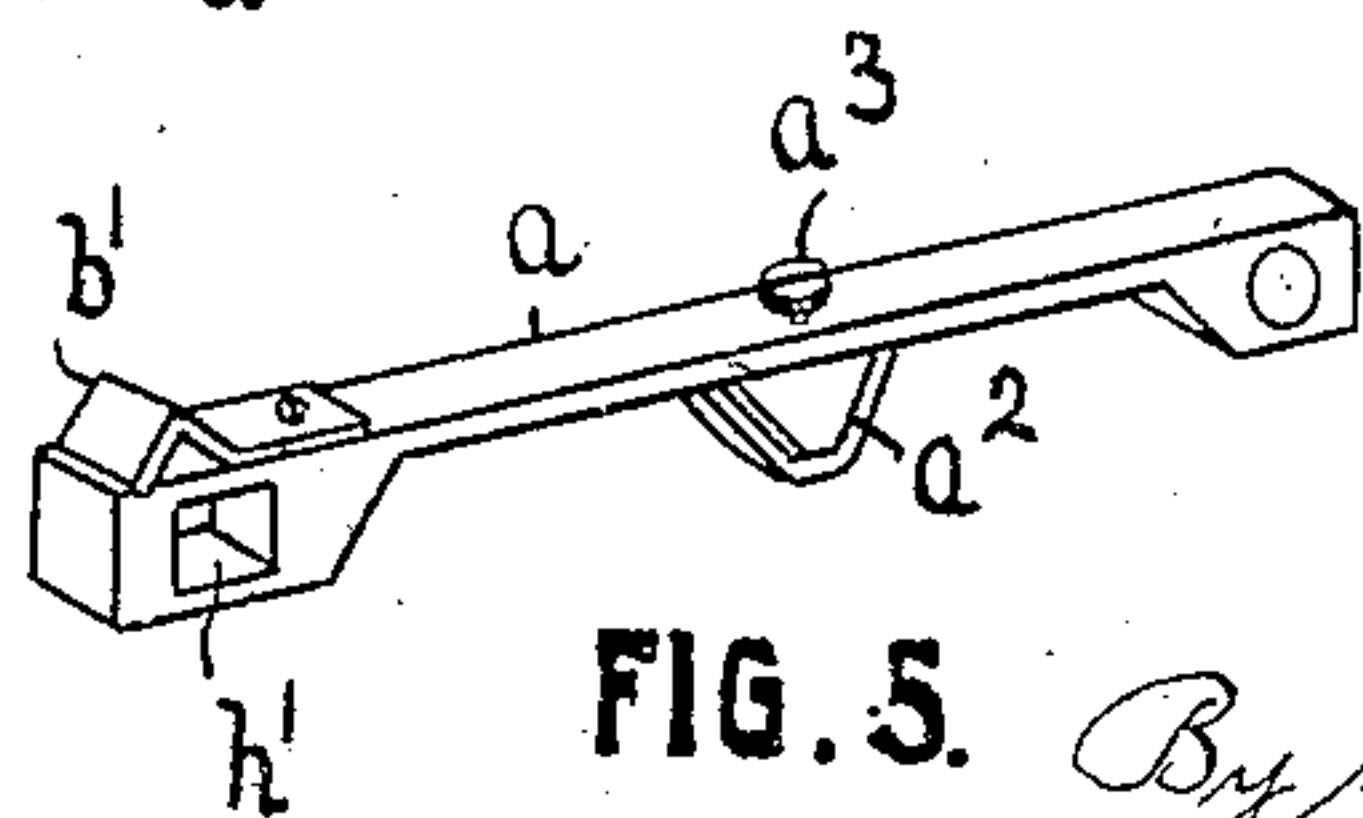


FIG. 5.



Witnesses.

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INSTRUMENT FOR PLAYING ORGANS OR HARMONIUMS.

No. 840,048.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed December 30, 1903. Serial No. 187,214.

To all whom it may concern:

Be it known that I, JAMES HENRY DAWE, bookkeeper, a subject of the King of Great Britain, and a resident of Seacombe, in the county of Chester, in the Kingdom of England, (whose post-office address is 51 Poulton road, Seacombe, aforesaid,) have invented certain new and useful Improvements in Instruments for Playing Organs or Harmoniums, (for which application has been made in Great Britain, No. 516, dated the 8th day of January, 1903,) of which the following is a specification.

This invention has for its object a mechanism which will fit any organ or harmonium and by which a non-musical person can play tunes thereon.

The principle of the invention lies in an endless sheet provided with suitable projections being caused to pass over strikers, which are thereby depressed and which in their turn depress the keys of the organ or harmonium. The projections on the sheet are so arranged as to depress the keys in a similar manner to that done by the fingers. The length or duration of the notes and the time are controlled by the person using the instrument as the same is worked by hand.

In order that the invention may be fully understood, reference will now be had to the accompanying drawings, in which—

Figure 1 is a front elevation of the instrument resting on the keys of an organ or harmonium. Fig. 2 is an end view of Fig. 1 with the knob e^4 removed. Fig. 3 is a sectional end view on the line $x\ x$ of Fig. 1. Fig. 4 is a detail view of a striker of the instrument as placed above a white key of the organ. Fig. 5 is similar to Fig. 4, but relates to a black key. Fig. 6 is an enlarged view of one of the sliding supports for the upper roller, shown partly in section.

In carrying out the invention a series of strikers a a little shorter than the keys b on the musical instrument are hinged on a hollow rod c , passing through bearings in the frame A of the instrument at each end. Two rods d slide in this hollow rod and carry adjustable feet d' , which rest on the side pieces of the keyboard. These feet d' are adjustable by means of set-screws d^2 or other suitable means. Some of the strikers a have hammers a' , which rest on the front ends of

the white notes, and the remaining strikers a have other hammers a^2 , adjustable by means of set-screws a^3 , which rest on the front ends of the black notes. They are adjusted so that the top of the front part of every striker a abuts against a roller e , placed along the keyboard in bearings in the frame A at each end when the strikers a rest on the organ or harmonium keys b in normal position.

The bearings for the roller e consist of a recess e' in the frame A of the mechanism, which recess is closed by a slide e^2 , which passes under a vertical metal plate e^3 . The roller e carries the sheet of prepared music f around it. The sheet of prepared music is endless and passes around a roller g above in bearings g' , adjustable on inclined rods n (shown in Fig. 6) by a ratchet arrangement g^2 , held in its normal position by an india-rubber or other spring g^3 . The rods n are preferably telescopic, so as to be adjustable for extra-large music-sheets. In this case the bearings g' are carried on the rod n' , adjustable in the rod n by means of a collar and set-screw n^2 . For convenience in packing, the rods n are made hinged at n^3 , so as to be capable of being folded over the instrument, and are held in the upright position by hooks or other devices n^4 , while the roller g can be packed in a slot o in the frame. A stay h is preferably passed through a hole h' in all the strikers, whereby the stroke of the striker is limited. Another stay k above the keyboard keeps the frame rigid, and the rollers also assist in doing this. The strikers a have a reverse V-shaped projection b' above, preferably covered with tin, the apex of each of which abuts against the music-roller. The sheet of prepared music is formed of cloth, paper, celluloid, or the like and has projections f' of felt or the like, suitably secured thereon, which when they come between the roller and the key press the latter down. The paper, celluloid, or the like of the sheet can be molded complete with the projections and either be solid or embossed.

In addition to the projections f' on the sheet f there may be a time-indicator, as indicated at f^2 , the time being given in the characters of staff or old notation, the character just passing over the top of the roller, together with the usual musical terms, giv-

ing the time required for the note or notes being played at that moment by the projections.

The mechanism as at present designed embraces three octaves and is arranged so that the first striker *a* on the left on the instrument acts upon the next F-key of the organ after the lowest base F. It will therefore be obvious that the instrument, although only embracing three octaves will be able to actuate five octaves on the organ by means of the octave-couplers. The instrument is of course not limited to any special number of octaves, the above being given by way of example.

The mode of action is as follows: The apparatus being fixed with its front adjustable feet *m* resting on or fitting over a projection permanently fixed on the front ledge of the organ-keyboard and the adjustable feet *d'* on the sliding rods *d* resting on the side pieces and its strikers *a* arranged relative to the keys *b*, as described, the sheet of prepared music *f* is placed round the lower roller *e* and the latter inserted in its bearings *e'*. These are then closed by means of the slide *e*². The other or upper roller *g* is then inserted in the sheet of music and placed in its adjustable side bearings *g'*, and these bearings are drawn up till the sheet is tight. If the strikers of the instrument do not fill the space between the music-roller and the organ-keys exactly, the strikers or feet are adjusted as required. The organist now blows the organ in the usual manner and slowly turns the lower music-roller *e* by knobs *e*⁴ at each end till the entire tune on the sheet has been run through, thus playing the instrument, at the same time watching the time-indicator or notation *f*².

I declare that what I claim is—

1. In apparatus for playing organs, harmoniums and the like, the combination of a series of strikers having hammers at the front and in the middle respectively according as they fall on the white keys or the black, and having a horizontal perforation *h'* through each striker and a rod *h* passing through all these perforations and confining the stroke of the striker to an amount limited by the perforation *h'*.

2. In a mechanism for playing organs, harmoniums and the like, the combination of a series of strikers having hammers at the front, and in the middle respectively according as they have to fall on the white keys or the black, and a device adapted to confine the stroke of all the strikers to the required limited amount, and to prevent them falling when removed from the keyboard.

3. In mechanism for playing organs, harmoniums and the like, the combination of two frames, playing mechanism carried by those frames, a device for rigidly holding the frames at a uniform distance apart adjust-

able feet on the frames resting on the front ledge of the instrument and other feet slidably adjustable on the side frames, both set of feet having screw adjustments as regards height.

4. In mechanism for playing organs, harmoniums and the like, the combination of the side frames, a lower roller in bearings therein, standard-rods fixed to the side frames having adjustable telescopic extensions adjustable bearings sliding on the standard-rods, and capable of being fixed in any position thereon, and bearings on the ends of the extension-rods, and a second roller capable of fitting either pair of bearings, with a tune-sheet, substantially as described.

5. In an apparatus for playing organs, harmoniums and the like, the roller-carrying device consisting of a hollow standard *n*, a bearing for the roller sliding thereon, a ratchet and pawl for holding the bearing at any position and height, a telescopic rod *n'*, a collar and set-screw for clamping the telescopic rod at any given height, and a second bearing *g'* on the top of this rod whereby when a short tune-sheet is to be played, the bearings sliding on the lower rods can be used, and when a long tune-sheet, the upper bearings are used.

6. In mechanism for playing organs, harmoniums and the like, the combination of a revolving musical device and strikers actuated by that revolving musical device, two side members and a spacing-tube forming a combined frame and capable of holding three octaves of strikers, two sliding rods fitting into the spacing-tube, sliding with an easy fit therein, and having adjustable feet on their ends bearing on the side pieces of the keyboard, substantially as described.

7. In mechanism for playing organs, harmoniums and the like, the combination of a lower roller, a pair of side frames carrying the same with a pair of rods carrying the upper roller in adjustable bearings, hinges connecting the rods so that they can either stand upright or be laid down horizontally toward each other, and means for locking the hinged rods in position whereby when the rollers are removed, the rods can be laid down laterally over the machine for packing and be erected in a moment for use.

8. In mechanism for playing organs, harmoniums and the like, the combination of a series of strikers *a*, a tube *c* to which said strikers are hinged, a frame *A* for the instrument, having bearings for said tube, rods *d* sliding in said tube, and adjustable feet *d'* carried by said rods.

9. In mechanism for playing organs, harmoniums and the like, the combination of strikers resting upon the forward ends of the keys of the said harmonium, each of the said strikers having near its forward end a hori-

zontal perforation, a rod of smaller diameter than the perforations passing through all of the perforations, for limiting the stroke of the strikers, and a revolving music device for pressing upon the forward ends of the said strikers.

10. In mechanism for playing organs, harmoniums and the like, the combination of strikers, a revolving music device for pressing upon the said strikers, the said strikers each having upon its lower side a hammer which rests upon the forward end of the corresponding key of the harmonium, the said hammer being located near the middle or at the forward end of the striker according as it rests upon a black or a white key of the harmonium, each of the said strikers having a blunt-edged projection at the very forward

end of the top of the striker farthest from its pivot and immediately below the revolving device, means for vertically adjusting those hammers which are at the middle of the strikers and which rest upon the black notes, each of the said strikers having a horizontal perforation near its forward end, and a rod of smaller diameter than the perforations passing through all of the perforations, for limiting the stroke of the strikers.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JAMES HENRY DAWE.

Witnesses:

WM. D. THOMPSON,
CHAS. LESLIE.