

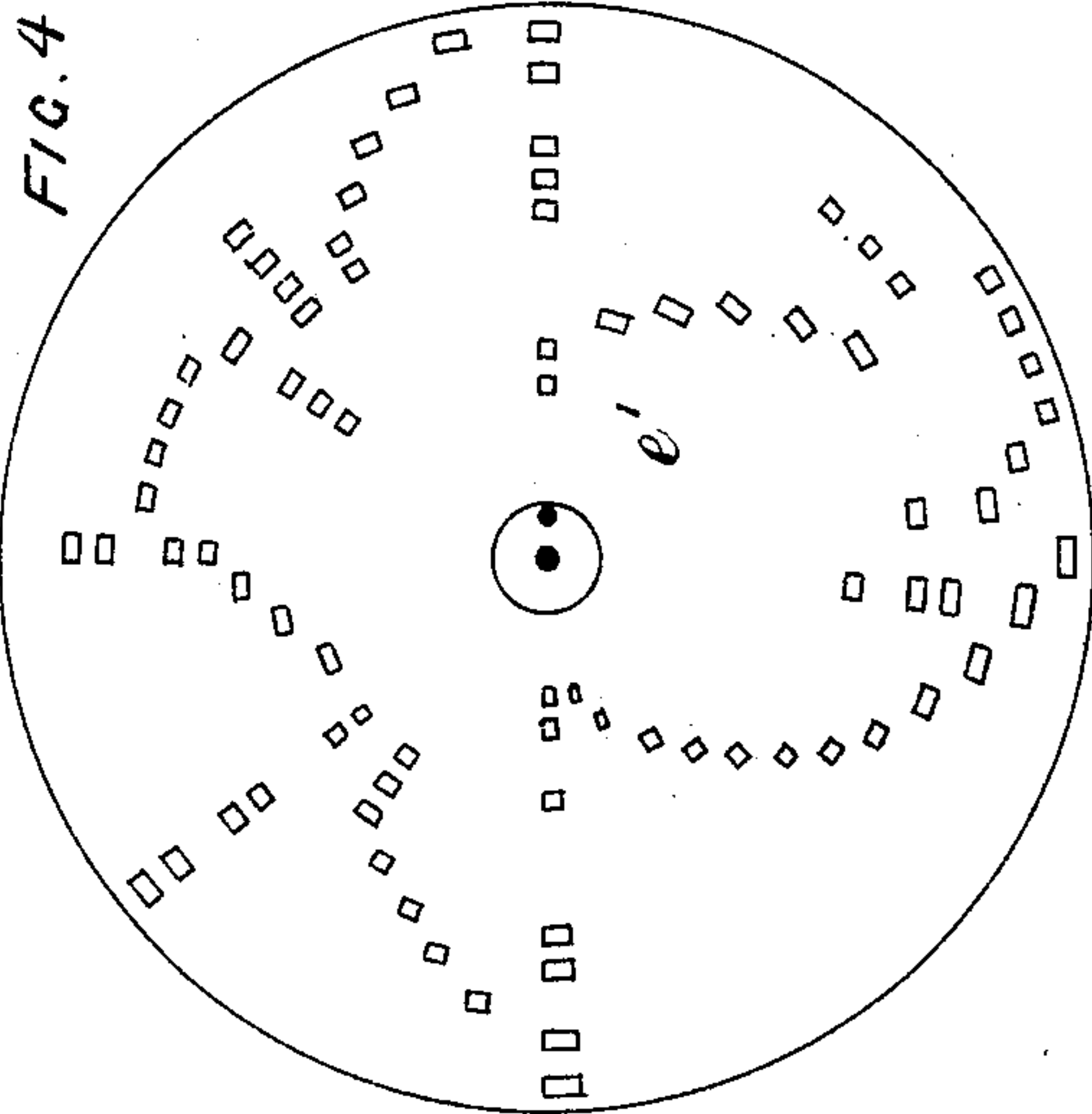
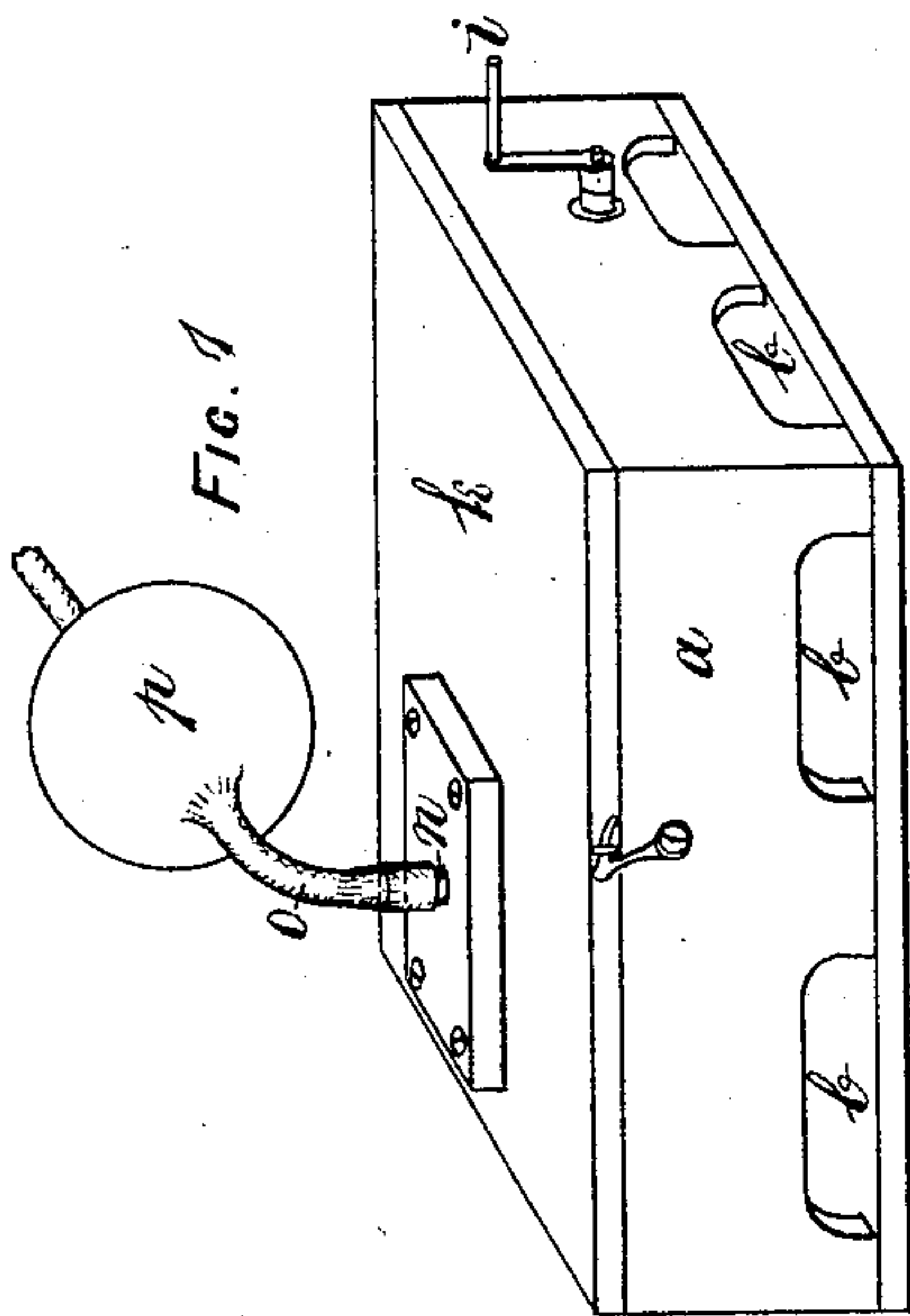
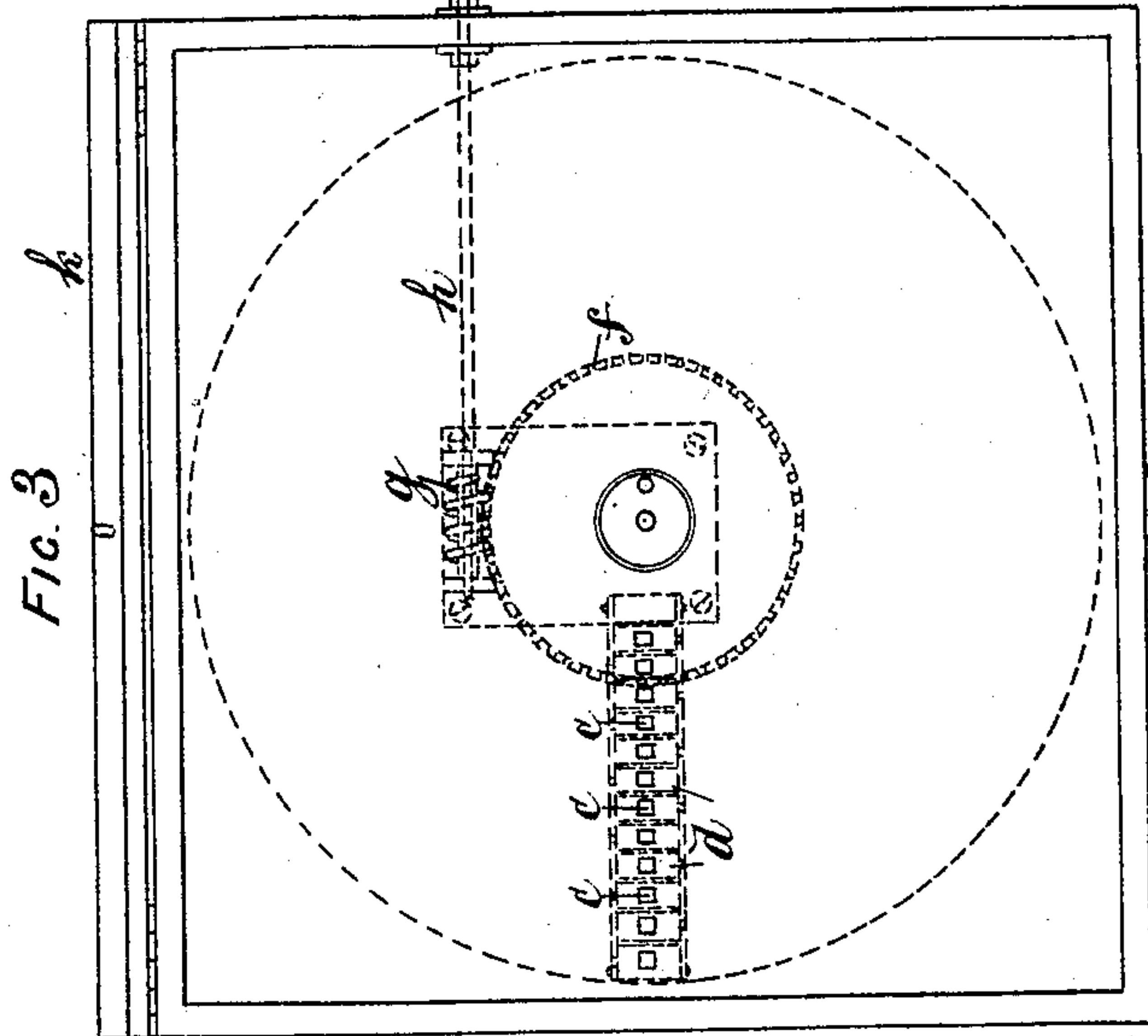
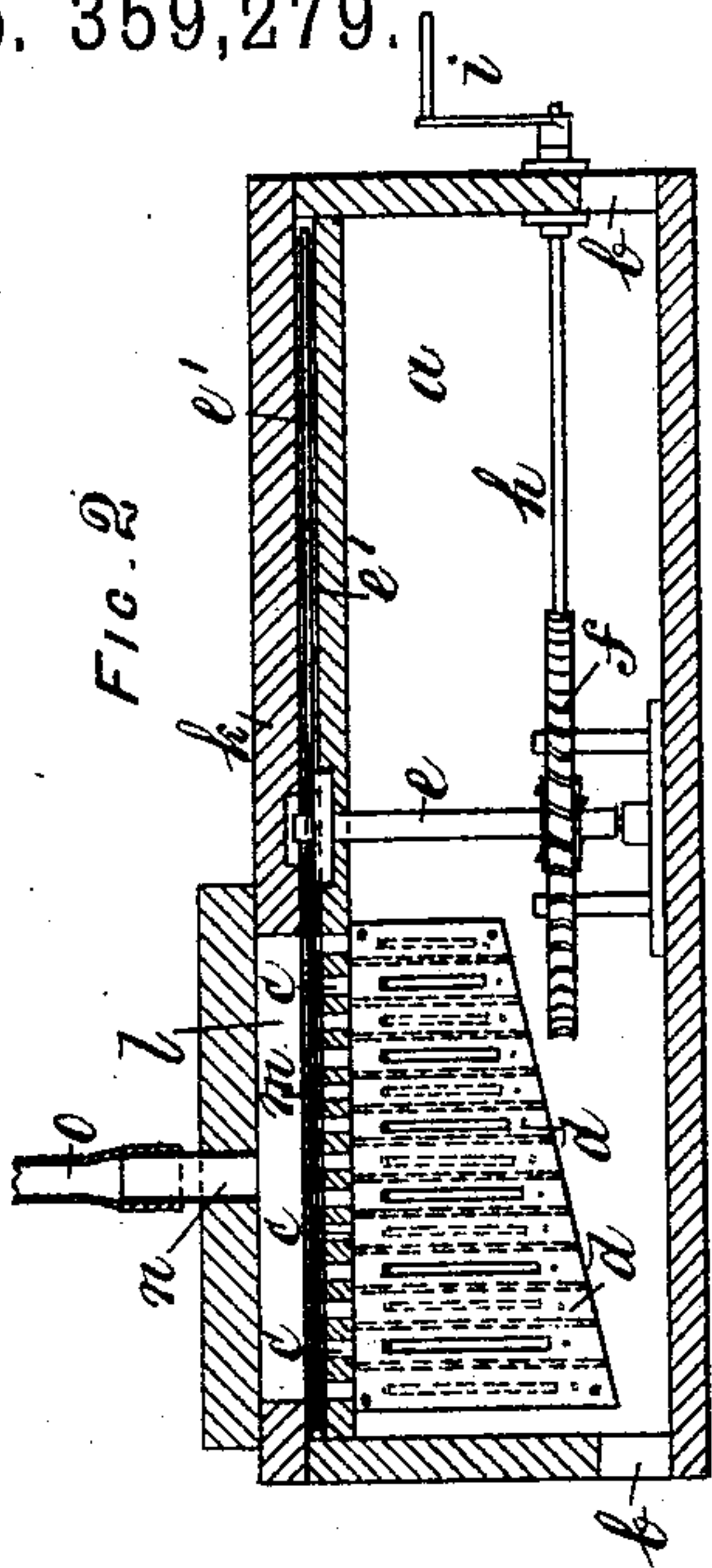
(No Model.)

E. PARR.

AUTOMATIC MUSICAL INSTRUMENT.

No. 359,279.

Patented Mar. 15, 1887.



Witnesses:
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UNITED STATES PATENT OFFICE.

ELLIS PARR, OF LONDON, COUNTY OF MIDDLESEX, ENGLAND.

AUTOMATIC MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 359,279, dated March 15, 1887.

Application filed May 25, 1886. Serial No. 203,211. (No model.) Patented in England September 17, 1885, No. 11,052; in Belgium February 17, 1886, No. 53,118; in Germany February 19, 1886, No. 8,270; in France February 20, 1886, No. 161,642, and in Austria-Hungary June 24, 1886, No. 7,963.

To all whom it may concern:

Be it known that I, ELLIS PARR, merchant, a subject of the Queen of Great Britain, residing at London, in the county of Middlesex, England, have invented certain new and useful Improvements in Automatic Musical Wind-Instruments, (for which I have received Letters Patent in Great Britain September 17, 1885, No. 11,052; in France February 20, 1886, No. 161,642; in Belgium February 17, 1886, No. 53,118; in Austria-Hungary June 24, 1886, No. 7,963, and in Germany February 19, 1886, No. 8,270;) and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the drawings accompanying the same.

My invention relates to improvements in automatic musical wind-instruments in which tunes are played by means of air acting upon vibrating tongues or reeds, the proper order and combination of notes to produce any particular tune being produced by means of changeable disks or strips of properly-perforated material, such as paper.

The objects of my improvements are, first, to provide a simple method of making such instruments by which the tunes played can be very easily changed, and, second, to obtain any desired expression in the tune while being played. I obtain these objects by the devices illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the entire instrument. Fig. 2 is a vertical section through the center, and Fig. 3 a plan with the lid open. Fig. 4 represents separately one of the movable perforated disks.

Similar letters refer to similar parts in the several figures.

a is a box or case, of wood, metal, or other suitable material. This box has openings below or at the sides, as shown at *b b b*, and its top or upper surface, which is shown sunk slightly below the sides, has a series of small openings, *c c c*, made through it, radiating from the center, as shown in Figs. 2 and 3. Each of these openings *c* communicates with a tube or chamber, *d d*, containing a vibrating reed or tongue, or other device, by which a musical note is

produced when air is blown into the chamber. These chambers *d* are fixed below the openings *c*, so that if air is forced into either of the latter from above a corresponding musical note is produced by the vibrating tongue or equivalent device below.

In the center of the box I arrange bearings, in which revolves a vertical spindle, *e*, the upper end of which projects through the top of the box, and is made square or provided with one or more projections or pins, as shown, upon which is fitted the loose disk *e'*, of card, wood, metal, or other material, and the lower end of the spindle *e* is provided with a toothed wheel, *f*, driven by an endless screw, *g*, upon an axis, *h*, turning in bearings and having a handle, *i*, at its end, which projects through the side of the box, so that by turning the handle the disk can be made to revolve at any desired speed.

k is a movable lid or cover to the box *a*, and upon one side of this cover is made a radial channel or groove, *l*, which, when the lid *k* is closed, is exactly above the row of holes *c*, the movable disk *e'* being interposed between them, and I fix upon the lower side of the lid *k*, round the channel or groove *l*, a piece of cloth or leather, *m*, which, when the lid *k* is closed, presses with moderate force against the disk *e'*, so as to make a sufficiently air-tight joint between them. A tube, *n*, communicates with the channel or groove *l* through the lid *k*, and a flexible tube, *o*, preferably provided with an elastic expanding part, *p*, is fitted upon the tube *n*. The disk *e'* is perforated with holes suitably arranged and proportioned, (as indicated in Fig. 4,) so that when it is made to revolve by the handle *i* and air is blown through the tubes *o* and *n* into the channel *l* the holes *c* are uncovered and the air admitted through them into the chambers *d* at the proper times and in the proper combination to produce the desired tune. A thin strip of cloth, leather, or other material is also fixed upon the top of the box round the holes *c*, holes being made through it corresponding with the latter, and a sufficiently air-tight joint is thus made upon each side of the disk *e'*.

When it is desired to change the tune, the lid *k* is opened, and the disk *e'* can be instantly

removed and another substituted having different perforations.

5 The elastic expanding part *p* upon the tube *o* causes the supply of air to continue while the performer is taking breath for a fresh supply, and a valve may be arranged outside the part *p*, to prevent the return of the air. The lid or cover *k* need not close the whole of the top of the box *a*, but need only be large enough
10 to carry the cloth or leather which surrounds the groove or channel *l*. The holes *c* may influence levers operating valves which admit air to the chambers *d*, instead of admitting such air directly, as described.

15 I am aware that prior to my invention musical instruments have been made in which tunes are played by means of revolving disks and that musical instruments have also been used in which such tunes are produced by
20 means of air blown into chambers uncovered by a flexible perforated band passing over

moving cylinders or drums; but such instruments have been heavy, expensive, and complicated, and I do not claim such combination, broadly; but

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

The flexible tube *o*, having the expanded part *p*, in combination with the lid *k*, having on its inner side the channel *l*, with which said tube communicates, the circular rotary perforated disk *e'*, the chambers *d*, having holes
30 *c*, over which said disk turns, the spindle *e*, and gearing for operating said spindle, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ELLIS PARR.

Witnesses:

ARTHUR E. EDWARDS,
EDWD. N. HOBBS.