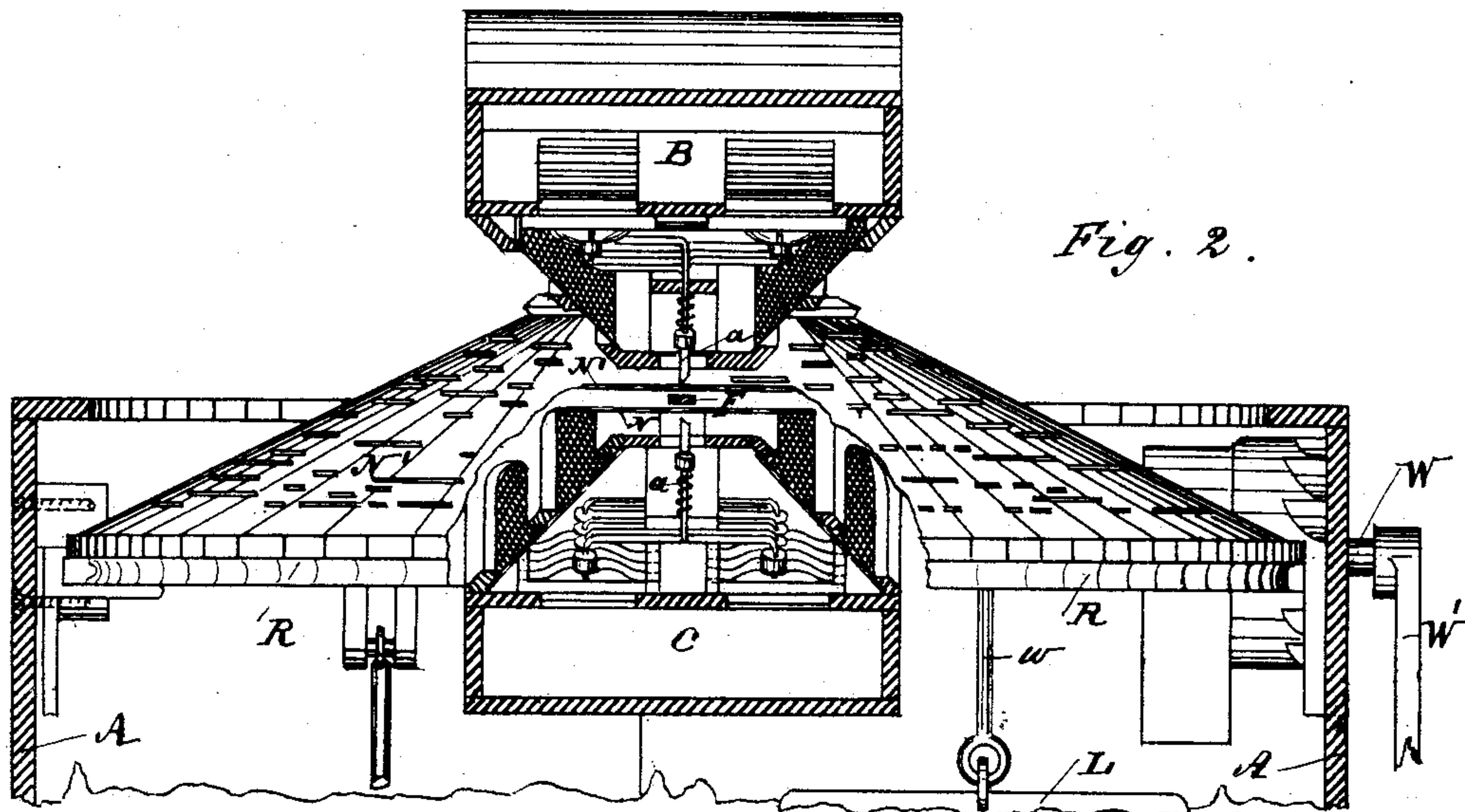
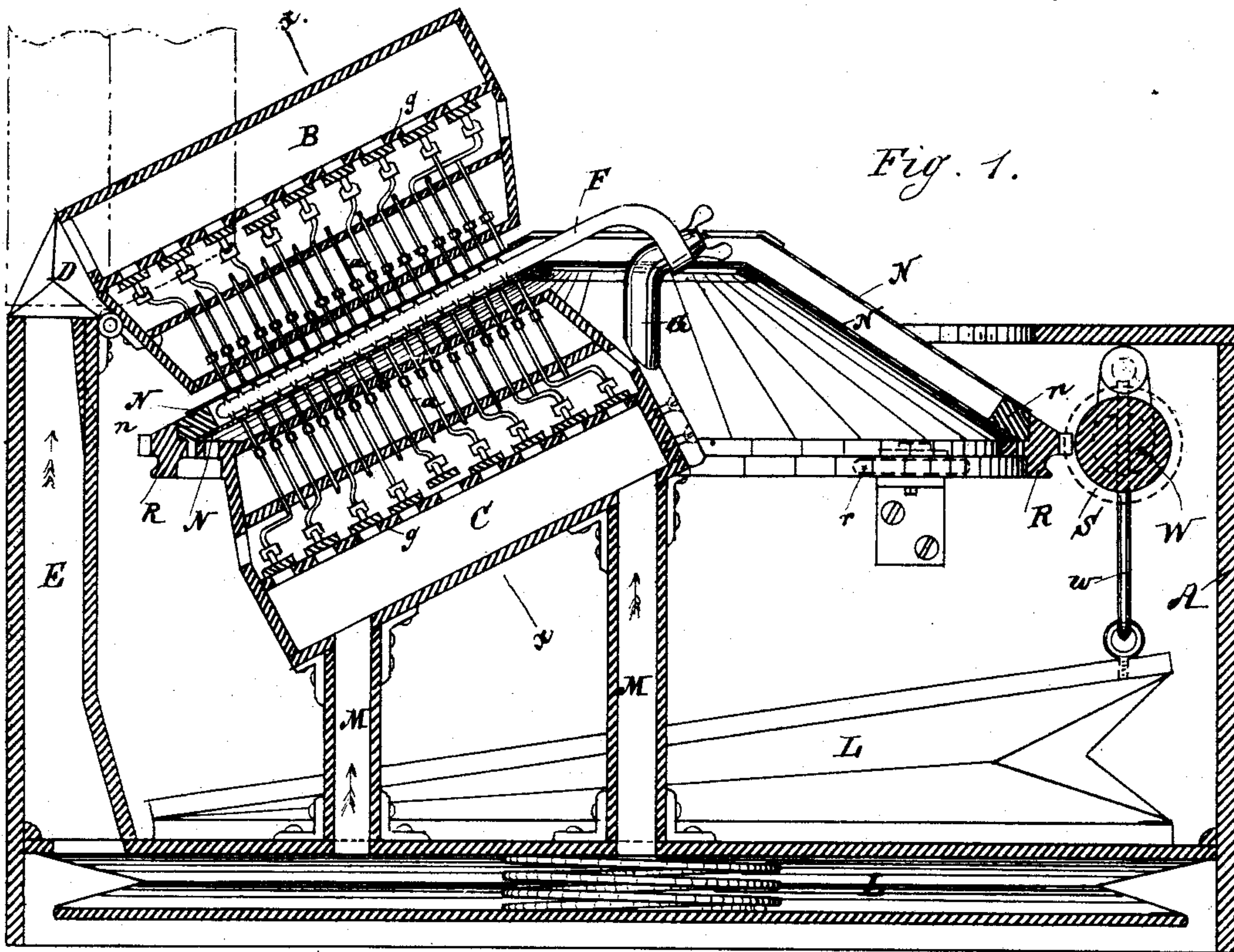


H. BURCKAS.
MECHANICAL MUSICAL INSTRUMENT.

No. 343,795.

Patented June 15, 1886.



Witnesses
Robert Roy
Chas. E. St. Louis

Hugo Burckas
Inventor. per Rader & Bepin
Attorneys

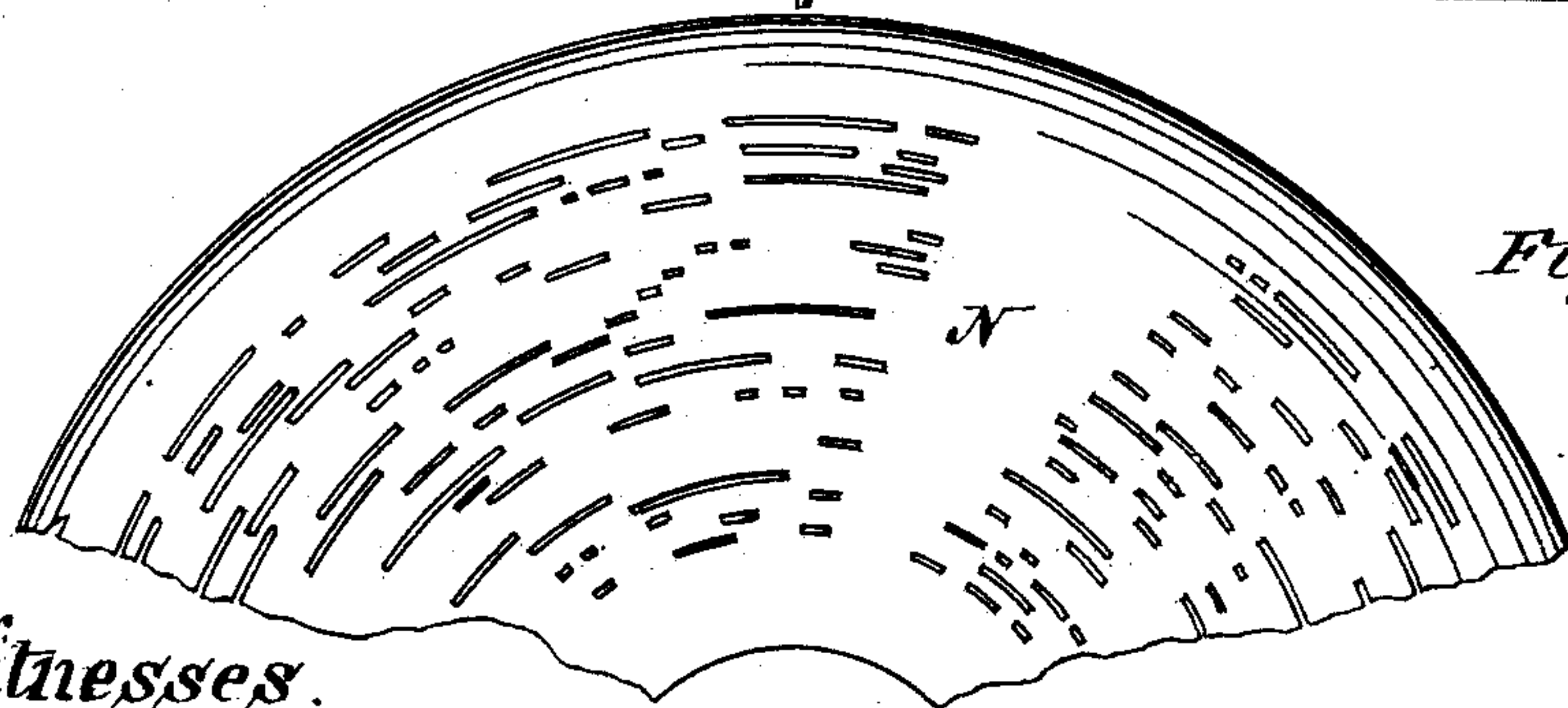
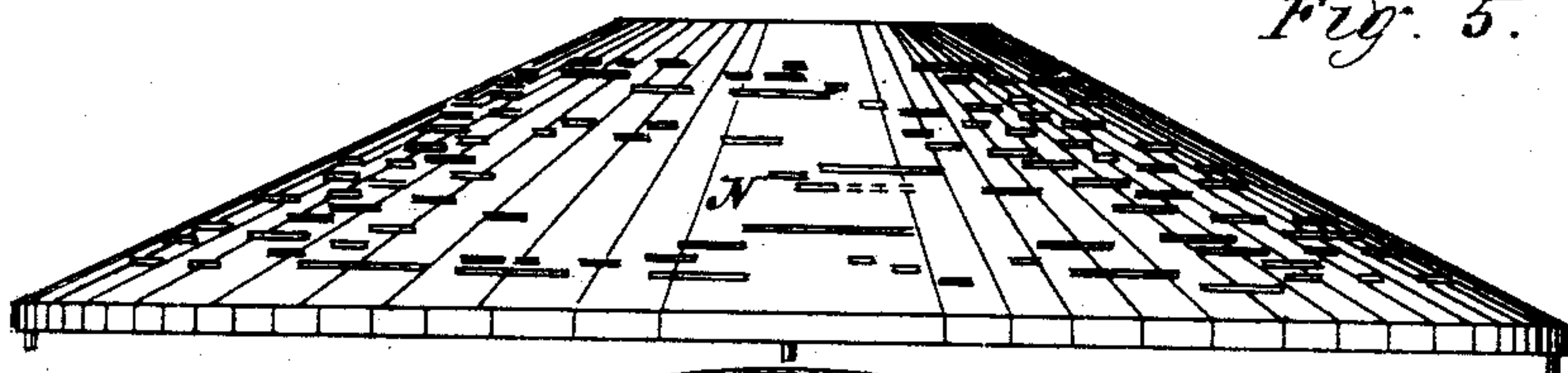
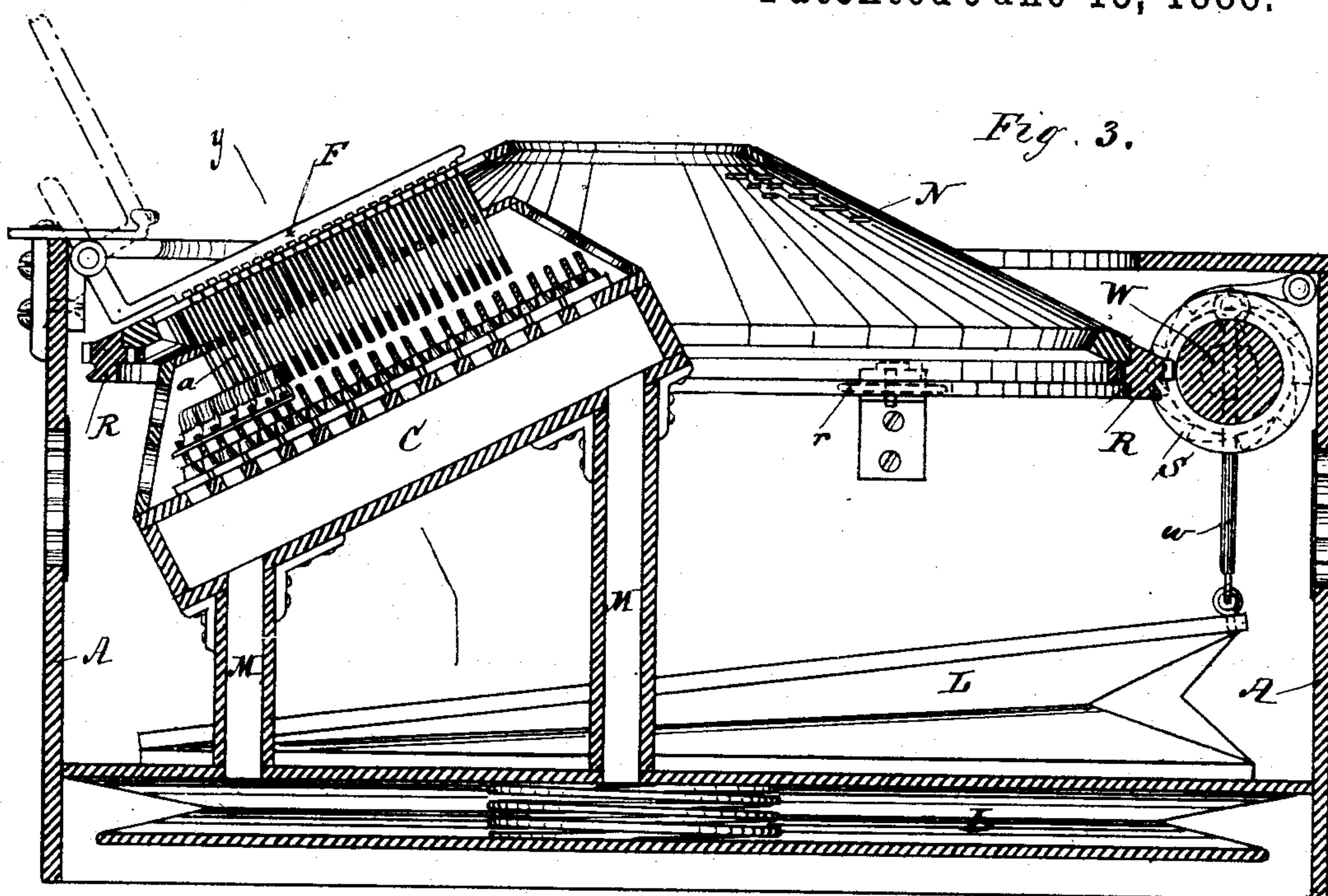
(No Model.)

5 Sheets—Sheet 2.

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Witnesses.

Robt Roy

H. E. O'Neil

Inventor.

Hugo Burckas
per P. P. P. & P. P.
Attorneys

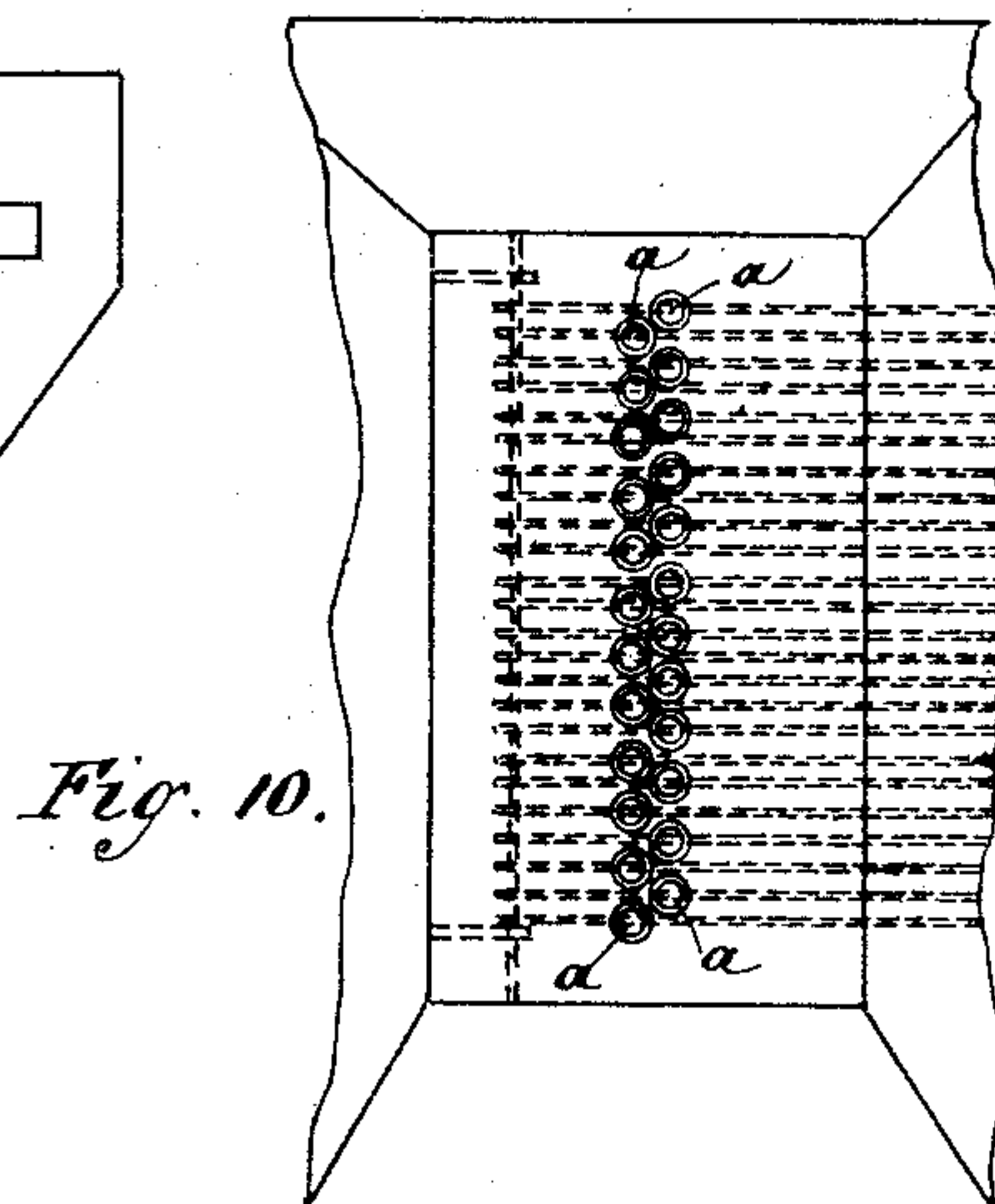
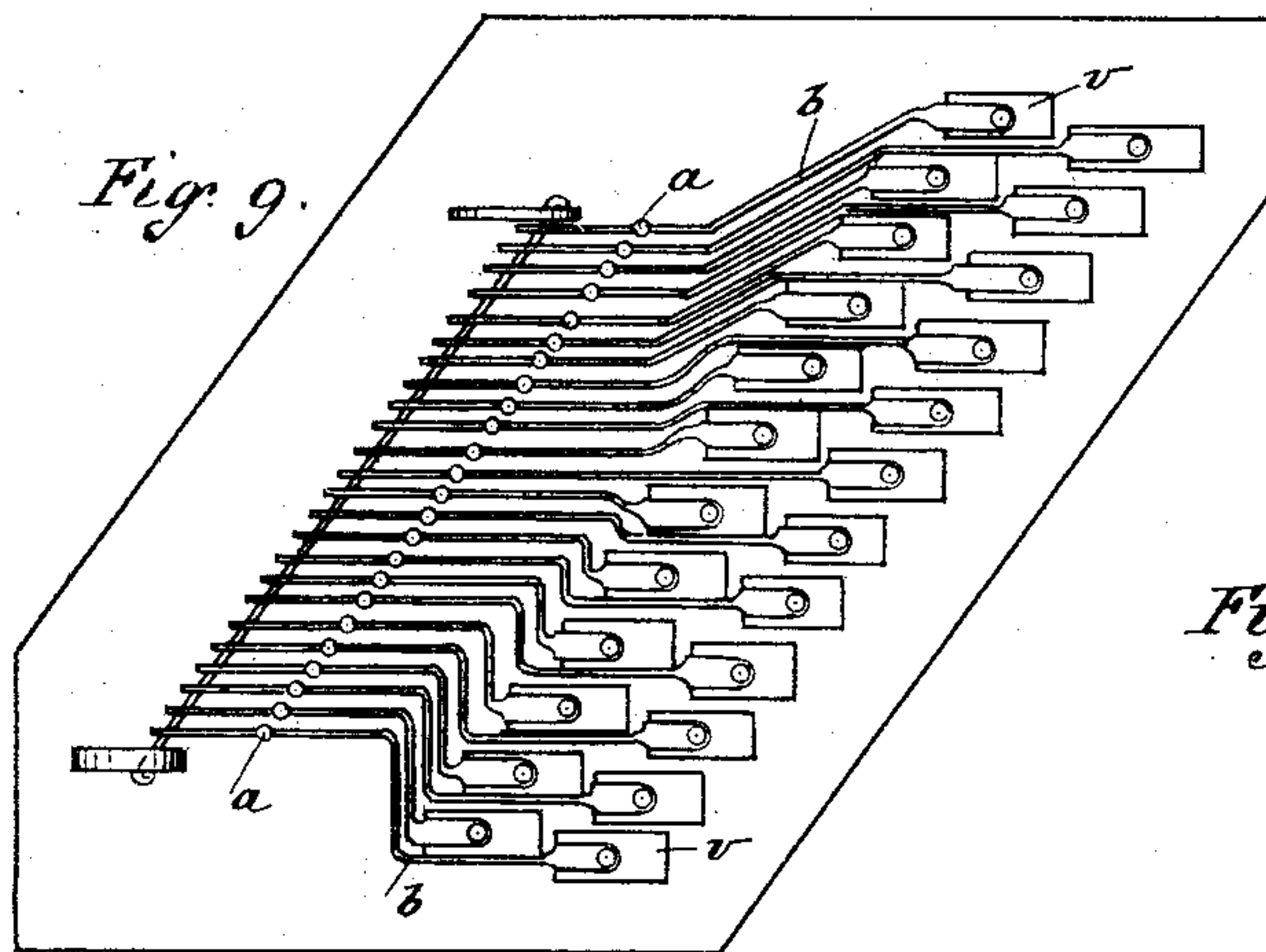
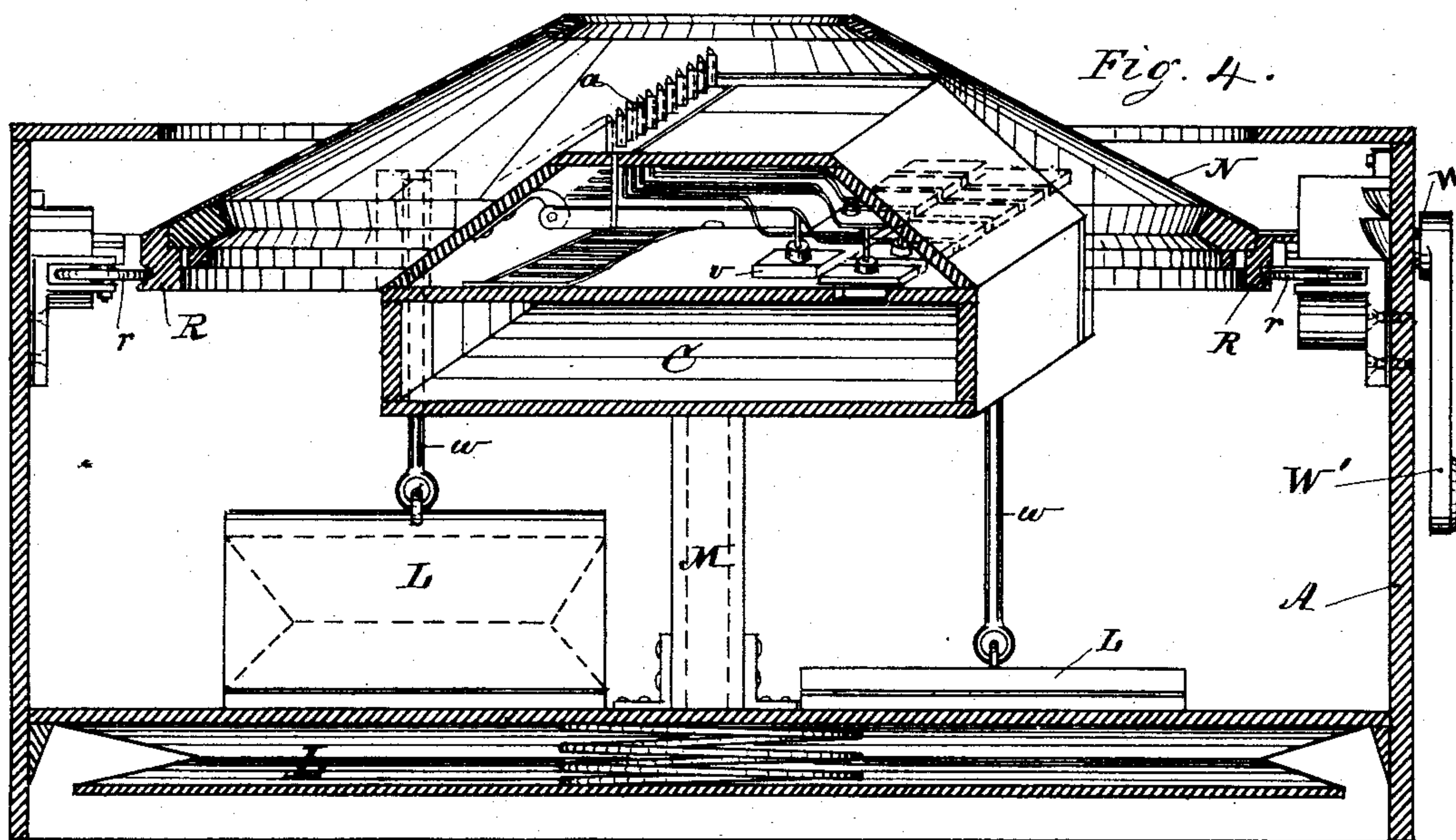
(No Model.)

5 Sheets—Sheet 3.

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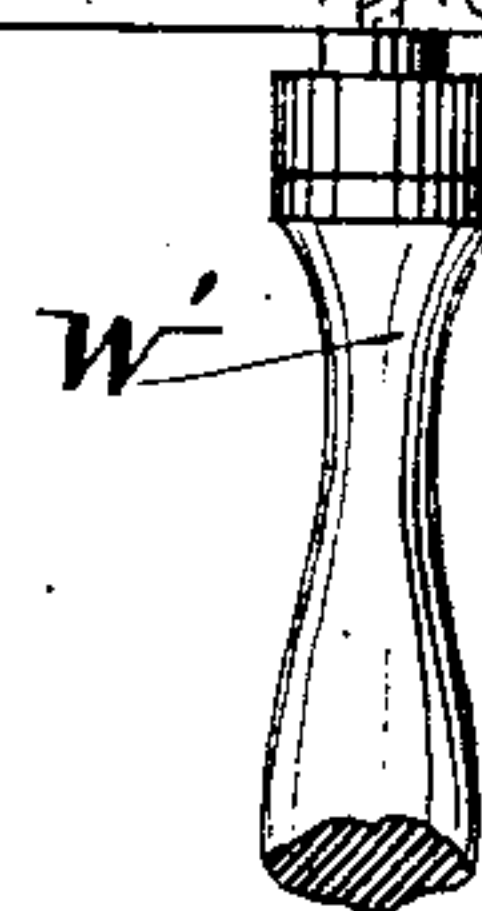
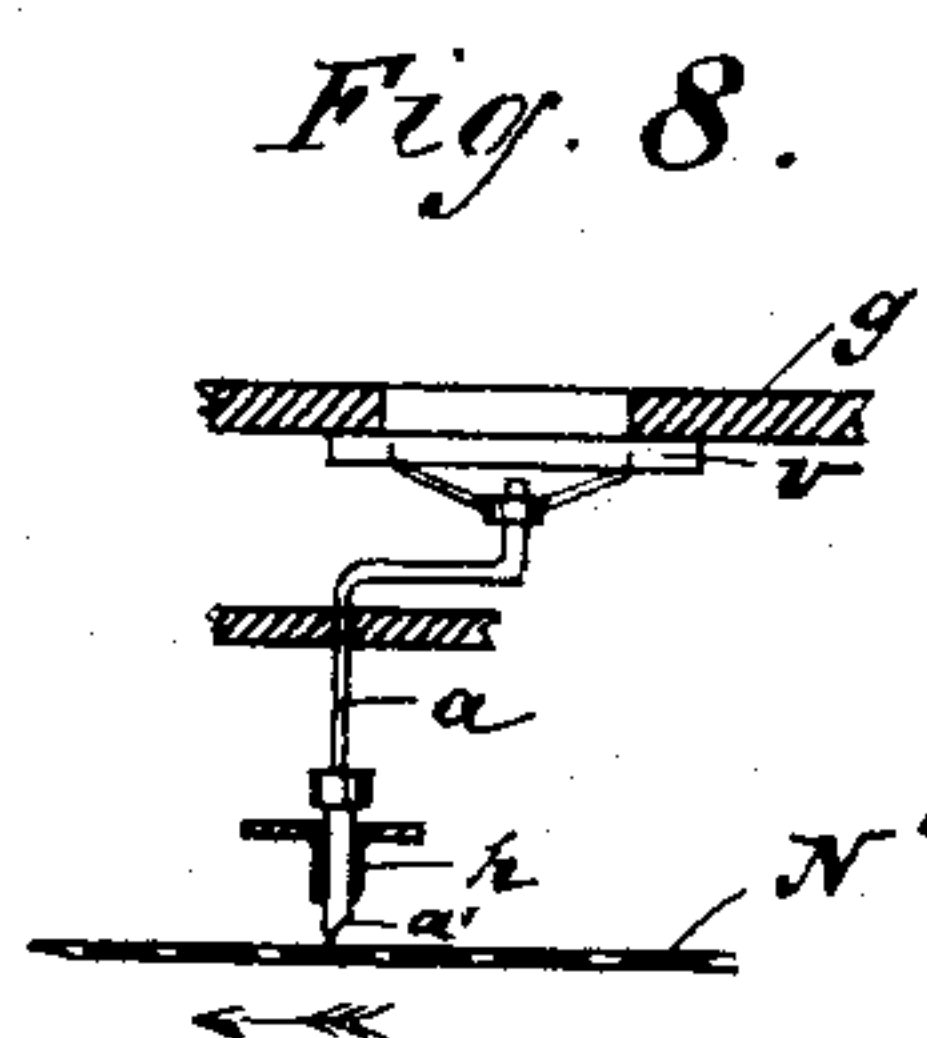
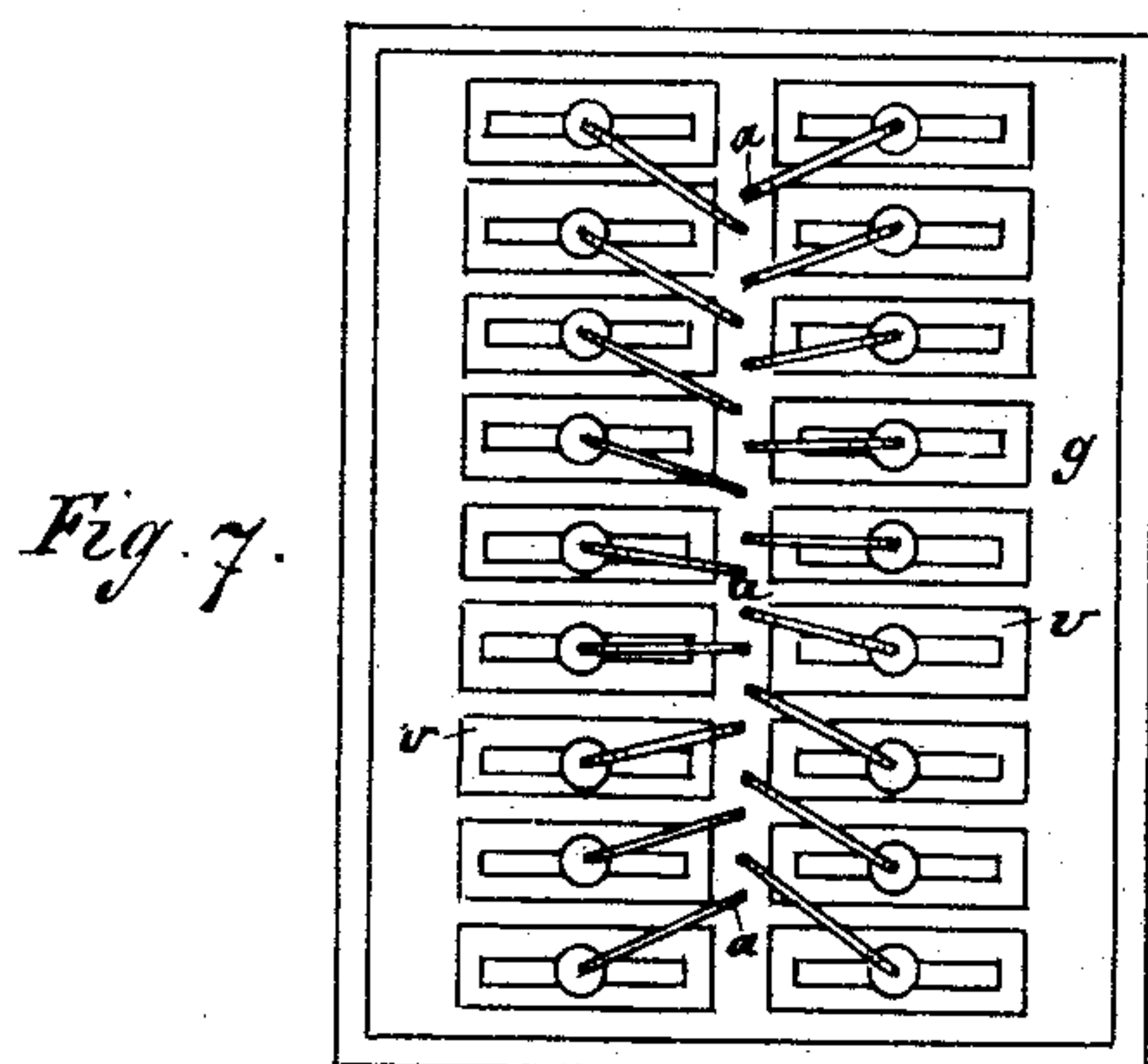
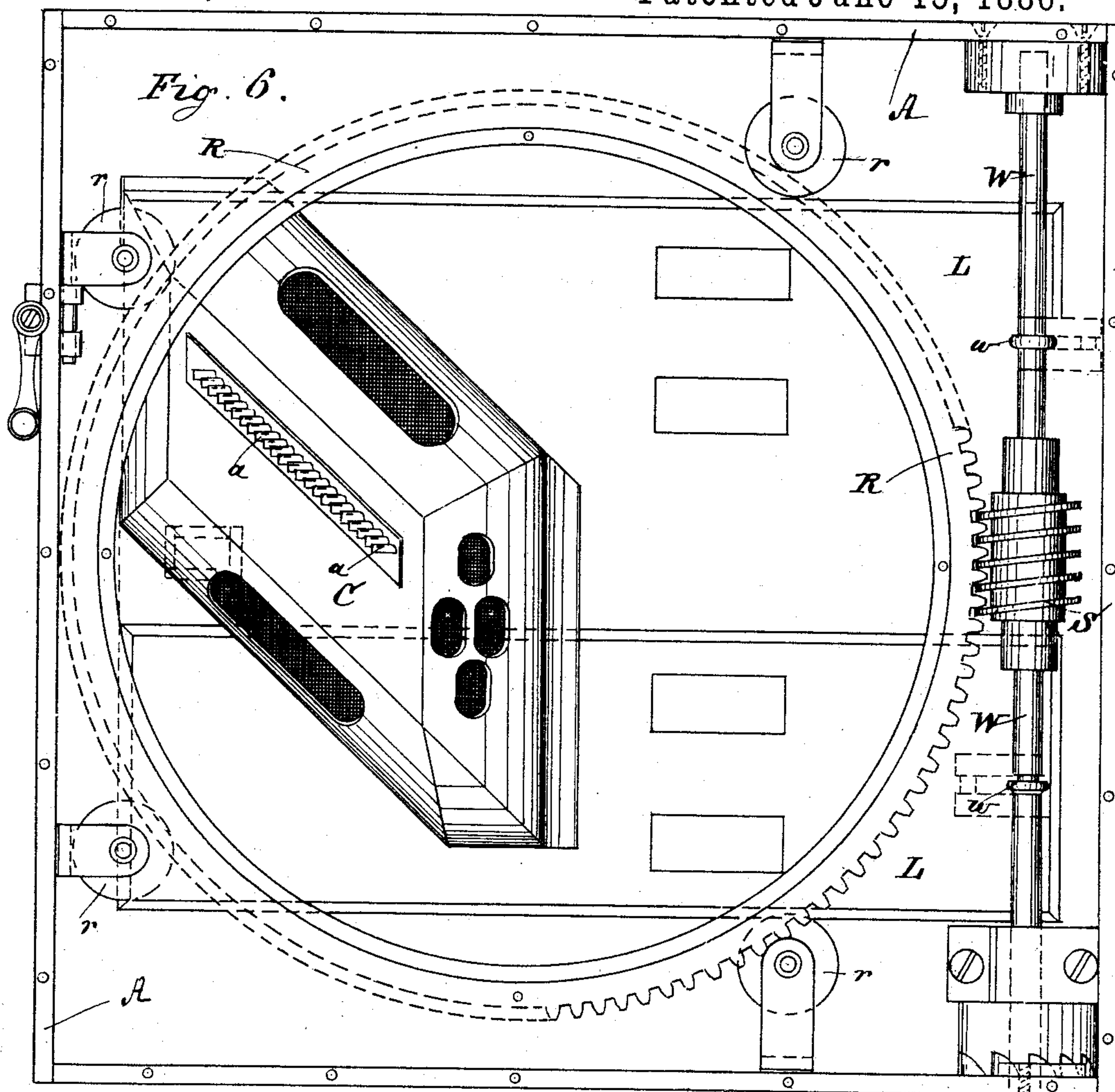
Witnesses.
Robt. Roy.
M. E. McHugh

Inventor
Hugo Burckas
per Rader & Brinck
Attorneys.

H. BURCKAS.
MECHANICAL MUSICAL INSTRUMENT.

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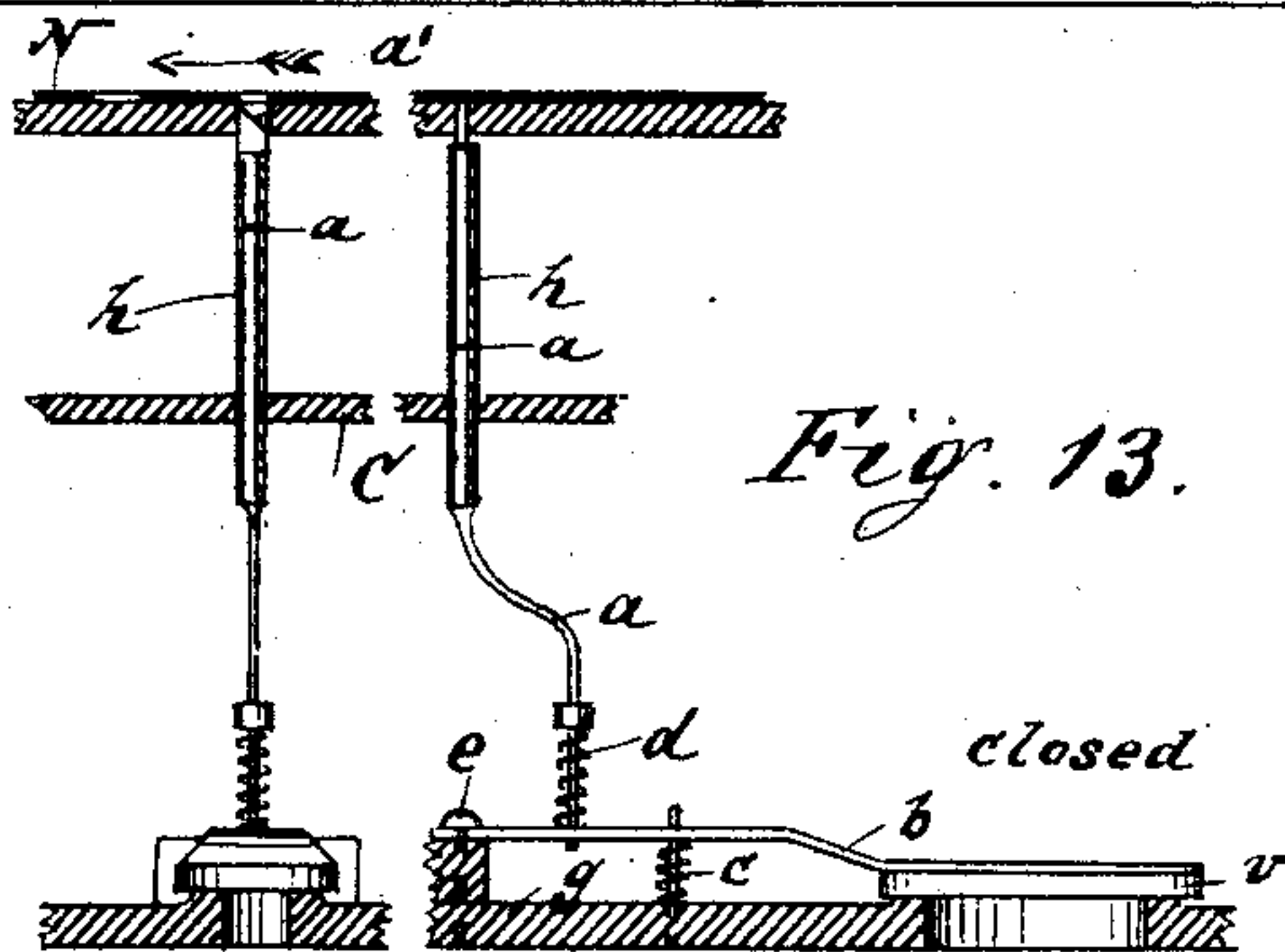
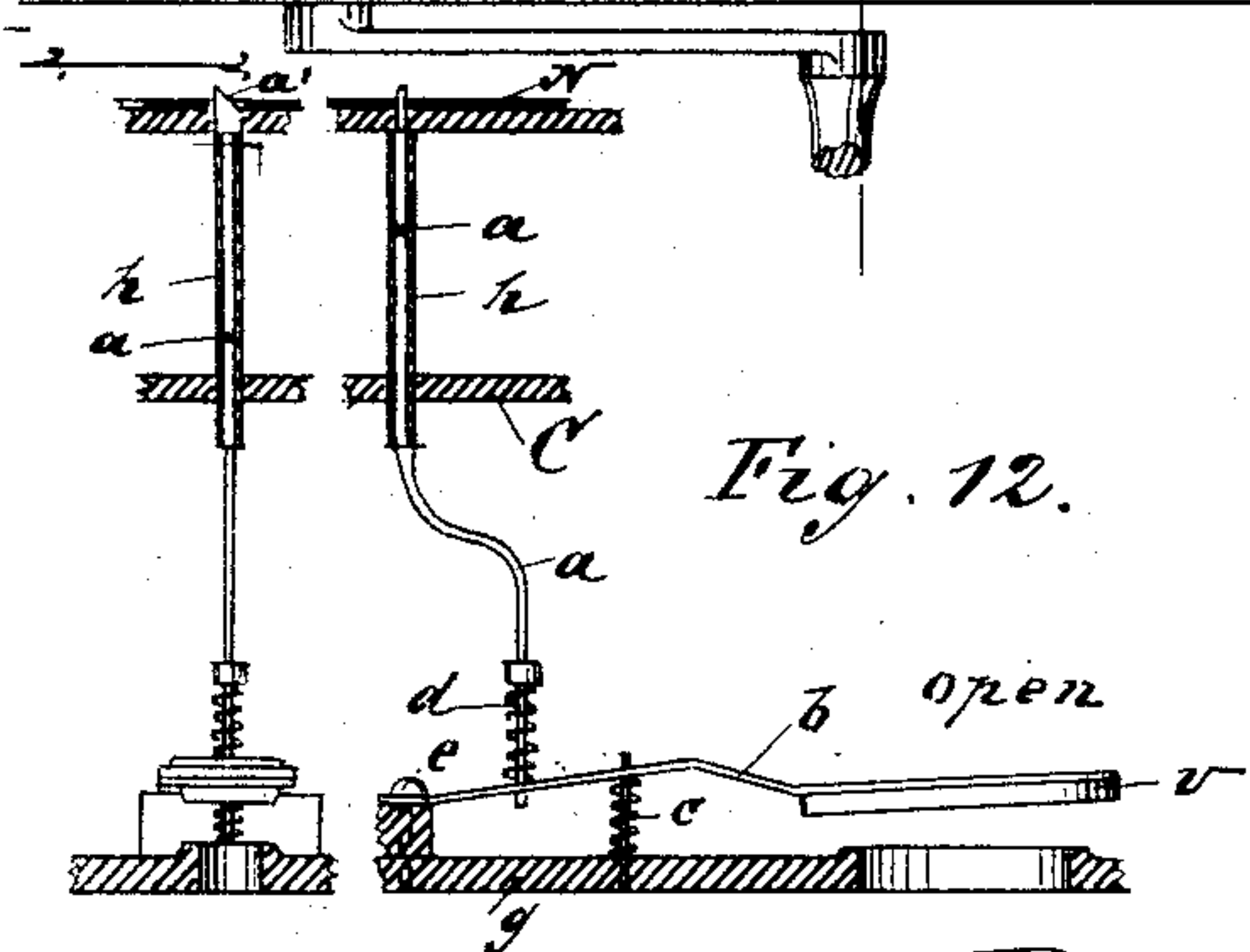
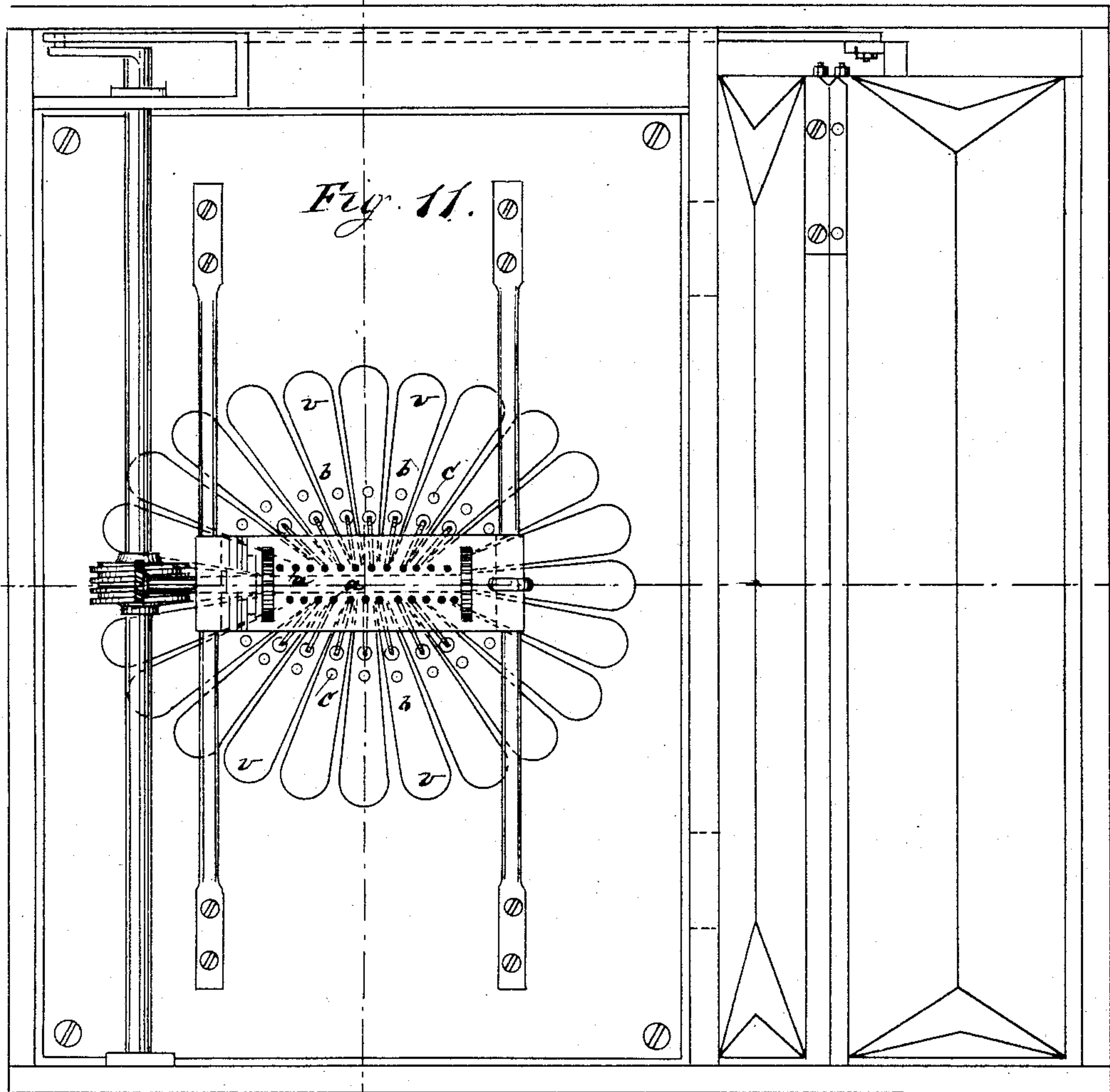
Witnesses.
R. E. Roy
Chas. E. Bush

Inventor.
Hugo Burckas
per R. E. Roy & Co.
Attorneys

H. BURCKAS.
MECHANICAL MUSICAL INSTRUMENT.

No. 343,795.

Patented June 15, 1886.



Witnesses.
Robt Roy.
W. E. D'Angelo

Inventor.
Hugo Burckas
per Rueder & Brinck
Attorneys.

UNITED STATES PATENT OFFICE.

HUGO BURCKAS, OF LEIPSIC, SAXONY, GERMANY.

MECHANICAL MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 343,795, dated June 15, 1886.

Application filed May 27, 1885. Serial No. 166,827. (No model.)

To all whom it may concern:

Be it known that I, HUGO BURCKAS, residing at Leipsic, Germany, have invented new and useful Improvements in Musical Instruments, of which the following specification is a full, clear, and exact description.

This invention relates to a novel construction of reed-instruments; and it consists in the elements of improvement hereinafter more fully pointed out.

In the accompanying drawings, Figure 1 is a section of a musical instrument embodying my invention. Fig. 2 is a cross-section at line *x x*, Fig. 1. Fig. 3 is a section of a musical instrument having only a single note-sheet. Fig. 4 is a cross-section at line *y y*, Fig. 3. Fig. 5 is a side view of a note-sheet, and Fig. 5* a plan of part of the same. Fig. 6 is a top view of the instrument with the note-sheet and its supporting-ring removed. Fig. 7 shows a plan of arrangement of the reed-valves in the upper box, and Fig. 8 the pins and rods for operating the same. Fig. 9 shows plan of arrangement of the reed-valves in the lower musical box. Fig. 10 shows a variation of arrangement of pins and levers for operating these valves. Fig. 11 shows plan of a different arrangement of the reed-valves. Figs. 12 and 13 show the arrangements of the rods and levers for operating the reed-valves, Fig. 12 showing the valves open, and Fig. 13 showing the same closed.

Similar letters represents similar parts in all the figures.

A represents the general casing, in which a ring, R, is arranged, supported in its circumference by rollers *r*, and provided with suitable teeth on its periphery, into which the worm S works to give an axial motion to said ring R. The worm S is placed upon a shaft, W, supported in the casing A, and operated by a handle, W'.

Upon the ring R two conical-shaped perforated music-sheets, N N', are placed, separated from each other by a ring, *n*, placed at their circumferences between the same.

In a line with the rods *a*, which operate the reed-valves, a bar, F, is arranged between the music-sheets N N', one end of which is attached to a bracket, G, fixed to the inner reed-box, C. Below the lower music-sheet, N, the reed-box C is arranged, and above the upper

music-sheet, N', a reed-box, B, is placed, attached by means of hinges to the casing A. By this arrangement of two music-sheets with two reed-boxes the capacity of the instrument is considerably increased without increasing materially the general dimensions of the instrument.

In the casing A the bellows L are situated, operated through the rod *w* from the shaft W. The air or wind produced by said bellows passes through the channels or tubes M M (which latter support likewise the reed-box C) into the air-chamber of the reed-box C, and through the passage-way or tube E into the air-chamber of the reed-box B. This chamber is connected with the tube E by means of a flexible tube, D, which allows the turning of this musical box B on its hinges.

In case only a single music-sheet is used, as shown in Fig. 3, a bar, F, is hinged to the casing A in a line with the pins *a*, bearing upon the music-sheet N.

The reed-boxes C and B contain the usual reed-valve, *v*, which may be arranged as shown in Figs. 7, 9, and 11, or in any other suitable cluster which may be found most convenient. These reed-valves are operated from rods *a*, connected either directly to the valves, as shown in Fig. 8, or said rods *a* are connected to spring-levers *b*, one end of which is attached by a screw, *e*, to the reed-plate *g*, and the other end is attached to the reed-valve, as shown in Figs. 12 and 13. The rods *a* are arranged either side by side, as shown in Fig. 9, or in a zigzag line, as shown in Figs. 10 and 11, at right angles with the surface of the music-sheet, and are guided by tubes *h*, attached to the ends of the reed-boxes C and B. The upper ends of these rods *a* are flattened, and the side, *a'*, next the way in which the music-sheet moves is made wedge-shaped, so that the end of the perforations, coming in contact with these wedge-shaped sides *a'*, will force the rod *a* out of the perforations toward the inside of the reed-box, and thus close the reed-valves. The spring-levers *b* are actuated by springs *c*, acting so as to force the same open, while the rods *a*, connected to the top of said levers *b*, keep the same closed, except when they enter one of the perforations in the music-sheet, whereby the reed-valves can open through the action of the spring *c*.

To prevent any unevenness of the music-sheet to effect the reed-valves when closed, the rods *a* are connected to the levers *b* by the introduction of an elastic piece, *d*, capable of being regulated. By this arrangement of operating the reed-valves by a direct-moving rod, *a*, acting at right angles to the surface of the music-sheet, either direct upon the reed-valves, as shown in Fig. 8, or through a spring-lever, *b*, as shown in Figs. 12 and 13, a greater number of reeds can be arranged in the music-box, and the same can be made considerably smaller than by the present arrangement of levers for operating the reed-valves.

I do not broadly claim a musical instrument having a double rest for the music-sheets, as such a construction is described in Patent No. 298,066, granted to G. H. Chinnock, May 6, 1884; but

I do claim—

1. The combination of ring R, adapted to carry perforated music-sheets N N', with the boxes B C, bellows L, and tubes connecting the bellows with said boxes, substantially as specified.

2. The combination of toothed ring R with

worm S, boxes B C, rod F, bellows L, and tubes E M, substantially as specified.

3. The combination of ring R, conical sheets N N', boxes B C, bellows L, tubes E M, and flexible joint D, substantially as described.

4. The combination of ring R, with conical sheets N N', and box C, which contains rods *a*, for operating the reeds, said rods being placed at right angles to the sheet, substantially as and for the purpose specified.

5. The combination of sheet N, supported by ring R, with box C, rod *a*, guide-tubes *h*, levers *b*, and reed-valve *v*, substantially as specified.

6. The combination of box C with rods *a*, having conical heads *a'*, and elastic piece *d*, with levers *b*, reed-valve *v*, reed-plate *g*, and with spring *c*, substantially as specified.

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

HUGO BURCKAS.

Witnesses:

EDMUND BACH,
HEINRICH LUSKE.