

(No Model.)

O. SPAETHE.

MECHANICAL MUSICAL INSTRUMENT.

No. 252,977.

Patented Jan. 31, 1882.

Fig. 1.

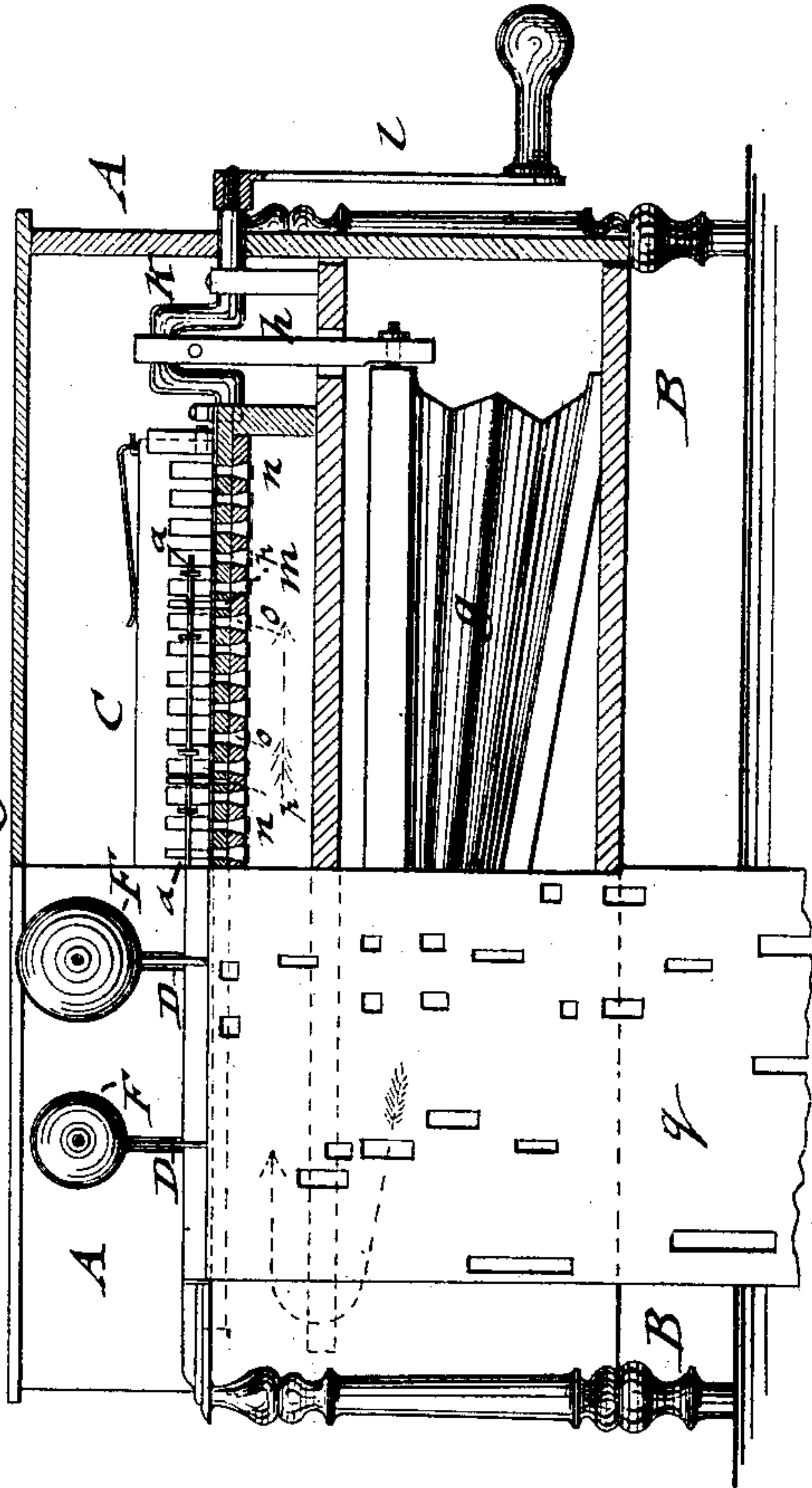


Fig. 2.

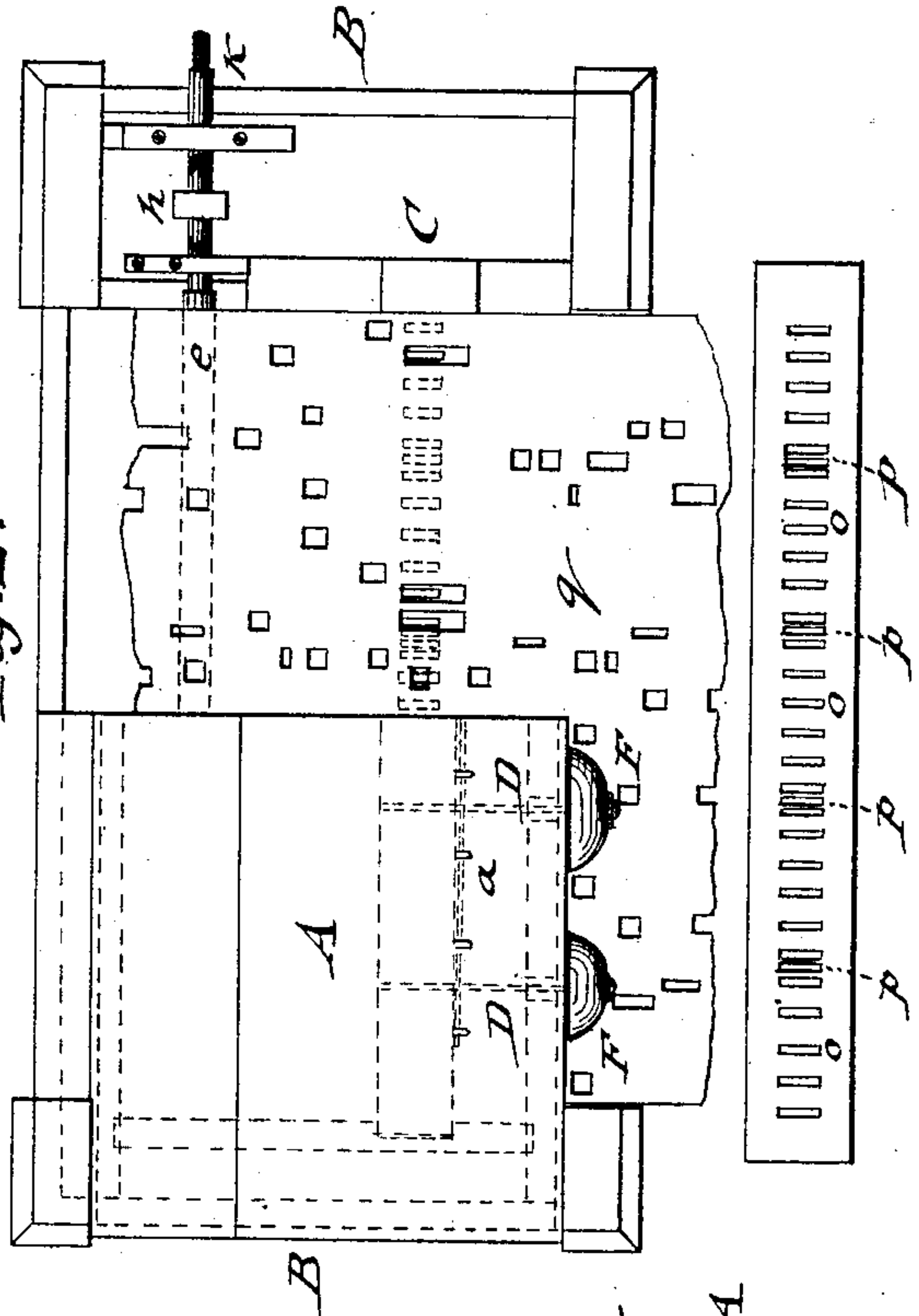


Fig. 3.

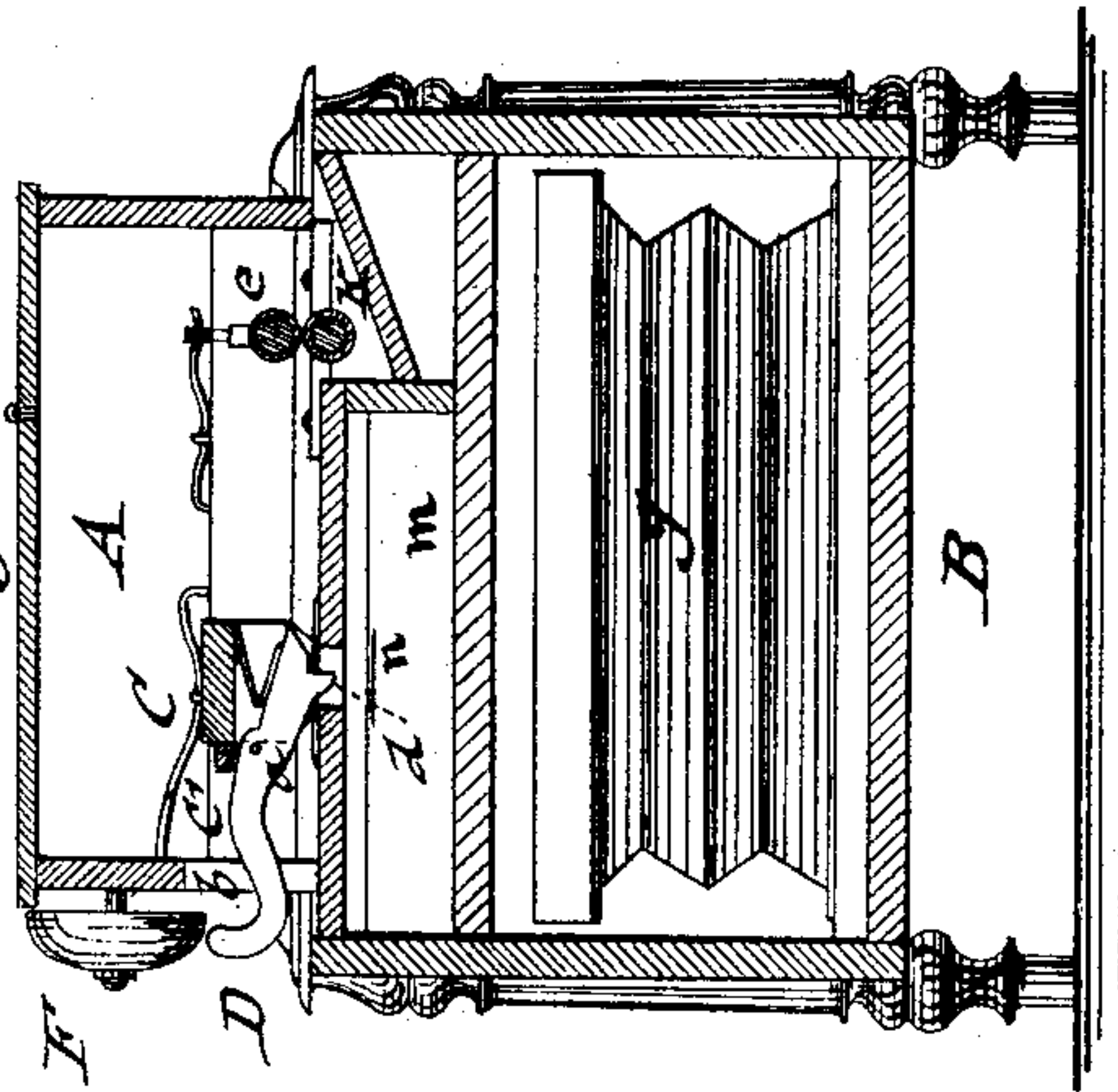
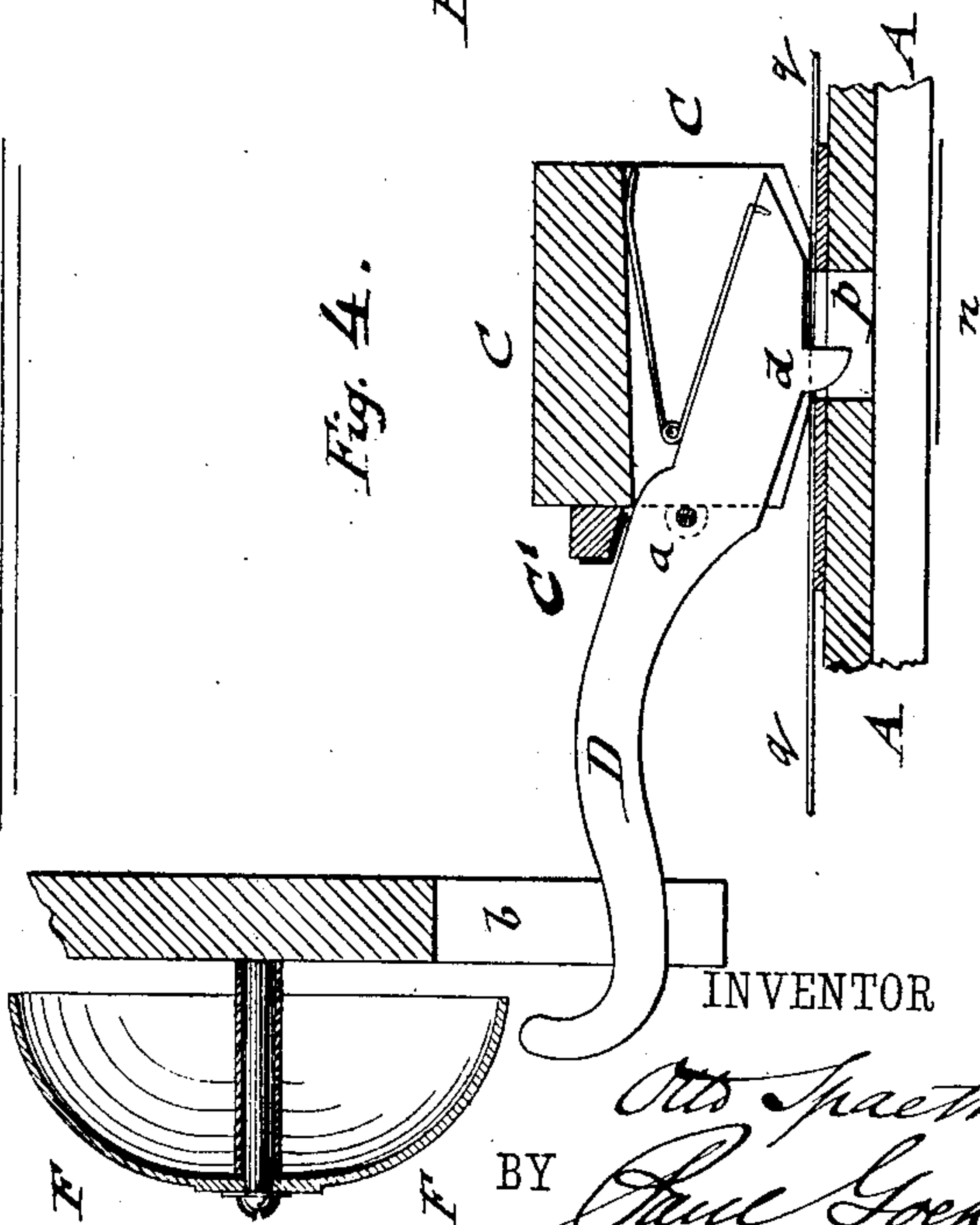


Fig. 4.



WITNESSES:

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OTTO SPAETHE, OF GERA, GERMANY.

MECHANICAL MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 252,977, dated January 31, 1882.

Application filed June 21, 1881. (No model.)

To all whom it may concern:

Be it known that I, OTTO SPAETHE, of Gera, in the Empire of Germany, have invented certain new and useful Improvements in Mechanical Musical Instruments or Melophones, of which the following is a specification.

This invention relates to a mechanical musical instrument of that class in which the operation of the sound-producing devices is controlled by a perforated sheet of paper, and more especially to an improved instrument of that class to which I have given the name of "melophone," in which the sounds are accompanied by the ringing of bells, whose actuating mechanism is also set in motion by said perforated sheet.

The invention consists of the connection with a musical instrument, the reeds of which are operated by means of compressed air and a perforated sheet of paper drawn through the instrument, of a series of bells and spring-acted hammers or tongues, the latter being provided with projecting noses, which are engaged by the perforations of the paper and dropped into narrow slots intermediately between the regular wind-openings of the reeds.

In the accompanying drawings, Figure 1 represents a side elevation, partly in longitudinal section, of my improved melophone. Fig. 2 is a plan view of the same, with parts removed. Fig. 3 is a vertical transverse section of the instrument on line *x x*, Fig. 1. Fig. 4 is a detail sectional side view of a bell and its actuating mechanism on an enlarged scale.

Similar letters of reference indicate corresponding parts.

By reference to the drawings it will appear that the instrument is composed of two main parts—a top part, A, and a bottom part, B. The top part, A, is connected by hooks or otherwise with the bottom part, B. Within the top part, A, is arranged a spring-cushioned rail, C, the lower part of which is recessed or slitted intermediately between the regular wind-recesses, so as to provide space for a series of spring-acted hammers or tongues, D, which are fulcrumed to a pivot-rod, *a*, at the rear end of the rail C, and extended through slots *b* of the end wall of the top part, A, to the outside, so as to strike, when actuated, a corresponding series of bells, F, of different sizes, which are se-

cured to fixed posts at the end wall of the top part, A. By the action of springs applied to the lower ends of the hammers or tongues D the downwardly-projecting noses with which the hammers are provided are caused to project into slots *p* of the top of the wind chest *m*, arranged in the bottom part, B. In the top part, A, is also arranged, in front of the rail D, a spring-pressed rubber-covered roller, *e*, which, in connection with a similar covered roll, *k*, of the bottom part, takes hold of the perforated sheet of paper *g* and pulls the same through between the top and bottom parts, A B. The bottom part, B, contains the bellows *g*, which are connected by a pitman, *h*, with a crank on the shaft of the roller *k*, which latter is operated by a crank-handle, *l*, connected to the outer end of its shaft. The air passes from the bellows *g* into the wind-chest *m*, as shown in Figs. 1 and 3, and from there to the reeds *n*, which are thus kept continually under air-pressure, as usual in instruments of this class. The air and the sounds are emitted through openings *o* at the top of the wind-chest *m*, intermediately between which the narrow slots *p*, for the noses of the hammers or tongues D, are arranged. When the perforated actuating-sheet is placed in position on the bottom part, B, and then the top part, A, placed thereon and secured tightly by its hooks or other fastening devices, the spring-pressed rail C, as well as the hammers or tongues D, press the sheet *g* firmly upon the openings *o* and *p*, while the rollers *e* and *k* take hold of the same for forward motion. By turning the crank-handle *l* the rollers *e* and *k*, as well as the bellows *g*, are set in motion, and consequently the perforated sheet moved forward, so that whenever the perforations of the sheet register with one or more of the openings *o*, the compressed air contained in the wind-chest is emitted through the opening *o* in proportion to the size of the perforations, so as to sound the reeds, while when the perforations of the sheet register with the slots *p* the hammers or tongues D sound the bells by the dropping of their noses into the slots *p*. In this manner the music played by the instrument is appropriately accompanied by the sounding of bells, which produces an exceedingly pleasing and striking effect.

Having thus described my invention, I claim

as new and desire to secure by Letters Patent—

In a mechanical musical instrument or melo-
phone, the combination, with the wind-chest *m*,
5 having openings *o* and intermediate narrower
slots, *p*, of a supporting-rail *C*, spring-actuated
levers *D*, having noses *d*, and bells *F*, substan-
tially as and for the purpose set forth.

In testimony that I claim the foregoing as
my invention I have signed my name in pres- 10
ence of two witnesses this 22d day of April,
1881.

OTTO SPAETHE.

Witnesses:

C. BRUNO,

NESTOR SCHMIDT.