

(No Model.)

A. VERNAZ.
MEANS FOR MAKING SPROCKET WHEELS OF MUSICAL INSTRUMENTS
ENTER PERFORATIONS OF NOTE PLATES.

No. 565,650.

Patented Aug. 11, 1896.

Fig. 1.

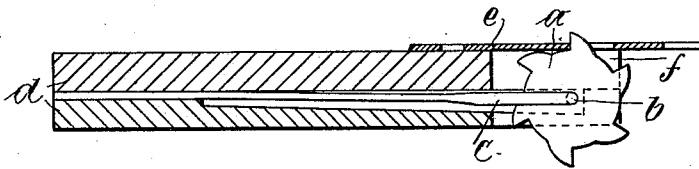


Fig. 2.

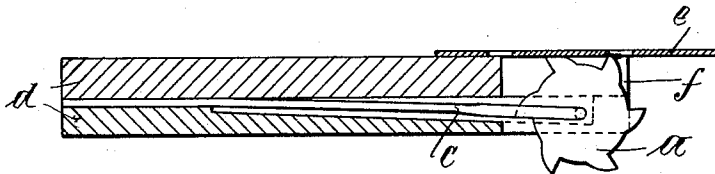


Fig. 3.

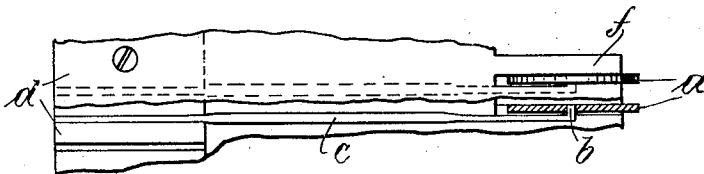


Fig. 4.

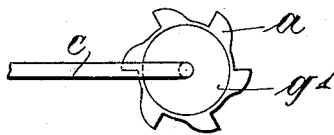
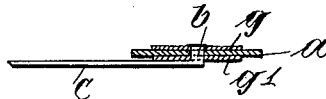


Fig. 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

ALEXIS VERNAZ, OF STE. CROIX, SWITZERLAND, ASSIGNOR TO MERMOD FRÈRES, OF SAME PLACE.

MEANS FOR MAKING SPROCKET-WHEELS OF MUSICAL INSTRUMENTS ENTER PERFORATIONS OF NOTE-PLATES.

SPECIFICATION forming part of Letters Patent No. 565,850, dated August 11, 1896.

Application filed April 7, 1896. Serial No. 586,611. (No model.)

To all whom it may concern:

Be it known that I, ALEXIS VERNAZ, a citizen of the Republic of France, and a resident of Ste. Croix, Canton of Vaud, Switzerland, have invented certain new and useful Improvements in the Means for Making the Sprocket-Wheels of Musical Instruments Enter the Perforations of Note-Plates, of which the following is an exact specification.

This invention refers to musical instruments of that kind in which the reeds or tongues are operated from a perforated note plate or disk by the mediation of star-wheels or sprocket-wheels. My improvements in musical instruments of said kind relate to the means for making each star-wheel or sprocket-wheel enter the perforations of the note-plate; and my improvements consist in arranging each sprocket-wheel separately in an elastic or yielding bearing that allows the sprocket-wheel to give way after one or the other of its teeth has left a perforation of the note-plate or when the sprocket-wheel is acted on as a whole by a non-perforated portion of the said note plate or disk.

The objects of my improvements are, first, to simplify the arrangement as much as possible without interfering in the least with the accurate working of the instrument, and, second, to prevent the sprocket-wheels from making undue movements, so as thereby to prevent the occurrence of a disturbing noise. I attain said objects by arranging each sprocket-wheel separately upon a pivot that is provided at the free end of an elastic or yielding bar or spring. All said springs are arranged within and are held by a plate that is furnished with projections taking each between two of said sprocket-wheels. Said springs are bent in such a manner that each sprocket-wheel is pressed with its free surface or side against its respective projection of the said plate.

In order to make my invention more clear, I refer to the accompanying drawings, in which similar letters denote similar parts throughout the different views, and in which—

Figure 1 is a vertical section through the plate aforementioned and showing one of the elastic bars and the sprocket-wheel held

by the same. Fig. 2 is a similar view, the elastic bar and the sprocket-wheel being in another position. Fig. 3 is an upper plan view of a portion of the plate, partly in section, and showing some of the projections that take between the sprocket-wheels. Fig. 4 is a side view of a slightly-modified form of construction, showing a sprocket-wheel and a portion of the elastic bar holding the same; and Fig. 5 is a plan view of the parts shown in Fig. 4.

Referring to Figs. 1 to 3, *d* designates a bipartite plate, the two parts of which are situated one above the other. The lower part of said bipartite plate is provided with a number of parallel grooves that contain each a spring *c*. The plate *d* is furnished with a corresponding number of projections *f*. The springs *c* aforementioned take with their free ends into the spaces left between said projections. Each spring is provided with a pivot *b*, that serves as a bearing for a sprocket-wheel *a*. The latter is pressed by the spring *c* not only upward, (against the note-plate *e*,) but sidewise, too, (against the respective surface of the projection *f*.) If, therefore, the parts be in the position shown in Fig. 2, the sprocket-wheel *a* and the spring *c* are depressed by a non-perforated portion of the note-plate *e*. If, now, the next perforation arrives over the next tooth of the sprocket-wheel that tooth will be caused to enter the respective portion of the note-plate under the pressure of the spring *c*, and the sprocket-wheel will therefore be in such a position that it is able to be rotated by the moving note plate or disk. (Compare Fig. 1.) As soon as the respective tooth of the sprocket-wheel has left said portion of the note-plate the whole sprocket-wheel, together with its spring, is again depressed, (compare Fig. 2,) and remains in this position until another perforation arrives over the next following tooth. Owing to the spring *c* pressing the sprocket-wheel not only upward, but sidewise, the sprocket-wheel cannot make any other movements than are caused either by the spring or by the note-plate, and the occurrence of undue and disturbing noises is therefore fully hindered.

In the modified form of construction shown

in Figs. 4 and 5 the movable or rotary sprocket-wheel *a* is arranged between two circular plates *g g'*, that are fixed to the pivot *b* in such a manner that they cannot turn upon said pivot. The plates *g g'* serve as checks for the sprocket-wheel *a*; that is to say, said plates press the sprocket-wheel *a* between themselves and hinder the same from any undue quick or spontaneous motion upon the pivot *b*. When making use of this arrangement, I do not make use of projections such as *f*, as said check-plates *g g'* are intended as a substitute for said projections.

I am well aware that sprocket-wheels with yielding bearings have been known prior to my invention, and I therefore do not claim such an arrangement, broadly; but

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In a musical instrument having tongues, sprocket-wheels for operating said tongues, and a perforated note plate or plates for operating said sprocket-wheels, the combination with the latter, of springs *c*, pivots *b* provided one at each spring, and being each adapted to support a sprocket-wheel; and means for supporting said springs, substantially as described.

2. In a musical instrument having tongues, sprocket-wheels for operating said tongues, and a perforated note plate or plates for operating said sprocket-wheels, the combination with the latter, of springs *c*, pivots *b* provided one at each spring, and being each adapted to support a sprocket-wheel; and a plate *d* adapted to support said springs; said plate having projections *f* taking each between two of said sprocket-wheels; said springs being each bent laterally so as each to press its sprocket-wheel against the respective projection of the said plate, substantially as described.

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

ALEXIS VERNAZ.

Witnesses:

BENJAMIN H. RIDGELY,
NATHAN SEELEY.