

(No Model.)

P. EHRLICH.

MUSIC SHEET FOR MECHANICAL INSTRUMENTS.

No. 546,133.

Patented Sept. 10, 1895.

Fig. 1.

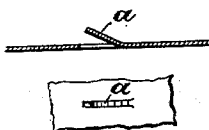


Fig. 2.

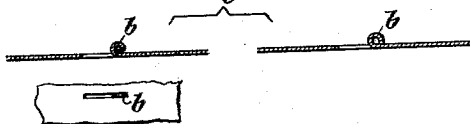


Fig. 3.



Fig. 4.

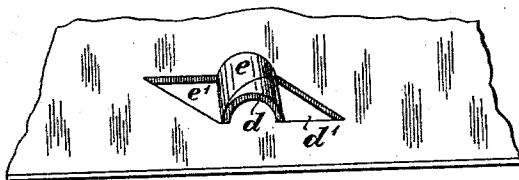
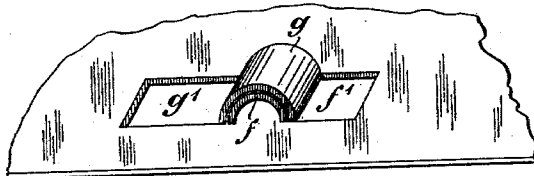


Fig. 5.



Witnesses:

*F. B. Keefe*

*L. C. Hills*

Inventor:

*Paul Ehrlich*

by *Manuel D. Bailey*  
his attorney

# UNITED STATES PATENT OFFICE.

PAUL EHRLICH, OF GOHLIS, GERMANY.

## MUSIC-SHEET FOR MECHANICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 546,133, dated September 10, 1895.

Application filed April 13, 1895. Serial No. 545,623. (No model.) Patented in Germany November 8, 1892, No. 79,765; in England May 29, 1893, No. 10,518, and in Austria-Hungary August 1, 1893, No. 22,849 and No. 38,065.

*To all whom it may concern:*

Be it known that I, PAUL EHRLICH, a subject of the King of Saxony, residing at Gohlis, near Leipsic, in the Kingdom of Saxony, German Empire, have invented new and useful Improvements in Music-Sheets for Mechanical Instruments, (for which I have obtained a patent in Germany, No. 79,765, dated November 8, 1892; in Great Britain, No. 10,518, dated May 29, 1893, and in Austria-Hungary, No. 22,849 and No. 38,065, dated August 1, 1893,) whereof the following is a specification.

This invention relates to music-sheets of circular or other shape, by means of which tunes are produced in mechanical musical instruments; and the object of my invention is to overcome the objections arising from the wear and tear of the portions of the said music-sheets that work or strike against the sounding devices of the instruments, and at the same time to avoid as far as possible sharp points in the sheets in order to facilitate packing. For this purpose the music-sheet is made of sheet metal or other sufficiently strong material, and tongues corresponding to the order of the notes are punched or cut therein, so that they are still adherent to the sheet. By then turning backward each tongue ears are formed, which, after being fixed in any suitable manner—for instance, by soldering—present solid projections firmly adherent to the sheet. The tongues may be punched or cut in the sheet in any suitable manner or shape—for instance, triangular or square tongues are punched therein—so that two adjacent tongues turned backward in opposite directions to overlap each other form, when soldered or otherwise secured together, a strong stud presenting no sharp edges; or I may punch in the sheet so as to form for each projection a double tongue, one being bent backward to form an ear and the other being bent against the upturned end of the former, so as to secure it in place. The sheets so produced can be used for instruments the sounding devices of which are tongues, reeds, pipes, or any other devices to which such sheets can be applied. The invention can of course be

employed for sheets the perforations of which allow the ends of the levers of sounding devices to move for sounding, and in this case the solid tongues increase the durability of the edges of the perforations.

In order that my said invention may be fully understood, I shall now proceed more particularly to describe the same, and for that purpose shall refer to the several figures on the annexed sheet of drawings.

Figures 3, 4, and 5 of the accompanying drawings represent some of the forms of tongues, ears, or projections which may be provided on the music-sheets, Figs. 1 and 2 referring to the mode of construction of the tongue shown in Fig. 3.

Referring now to Figs. 1, 2, and 3 of the drawings, projections are formed by narrow strips *a* from the sheet, as shown in section and plan in Fig. 1, so as to remain attached thereto at one end and bent out of the plane of the said sheet. By curling the said strip backward it forms a firm ear-shaped projection *b*, as shown at the left hand of Fig. 2. The inside of the strip *b*, bent over as at the right hand of Fig. 2, may be filled in with solder or other like material, and also, if desired, strengthened in like manner at the sides, so that the whole is firmly secured to the sheet, as shown at *m m* in Fig. 3, and in either case a strong projection, free from sharp corners, is formed.

In the arrangement shown in Fig. 4, triangular or wedge-shaped strips *d e* are stamped out of the sheet, leaving spaces *d' e'*, and bent round, so that the tapering sides of the said strips abut against one another, and these can then be united together by soldering or the like. A still stronger projection or ear may be formed, as shown in Fig. 5, in which arrangement rectangular tongues *f g* are stamped out of the sheet, leaving spaces *f' g'*, and these tongues are bent backward in semicircular form, so that one overlaps the other. They can then be secured by solder, cement, or the like.

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

A music sheet of sheet-metal, having projections formed by cutting the sheet and turning or coiling over the cut portions, the ears produced thereby being filled with solder or  
5 other like material and means provided, to strengthen, if desired, the side corners *m*, substantially as and for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

PAUL EHRLICH.

Witnesses:

RUDOLPH FRICKE,

OTTO DOEDERLEIN.