

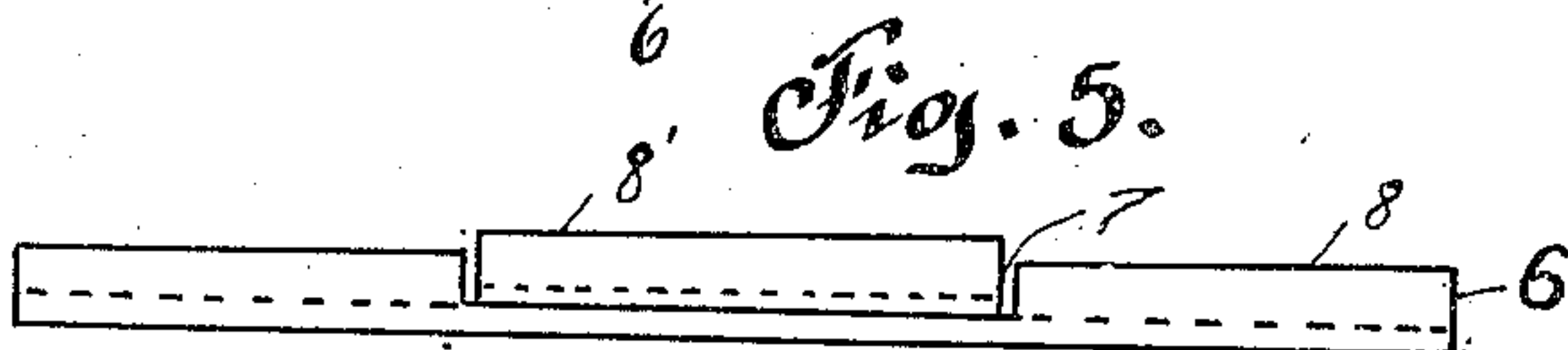
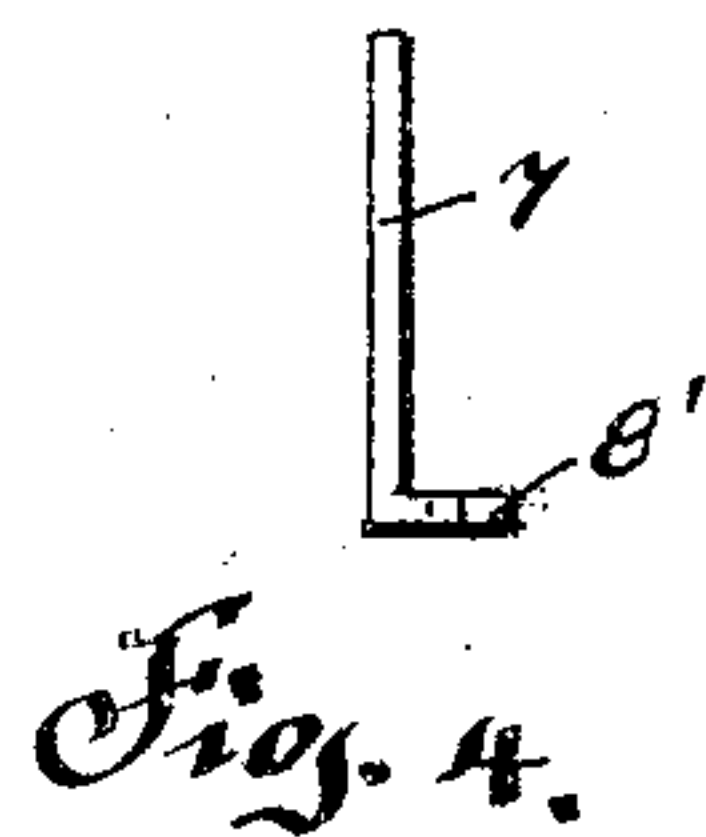
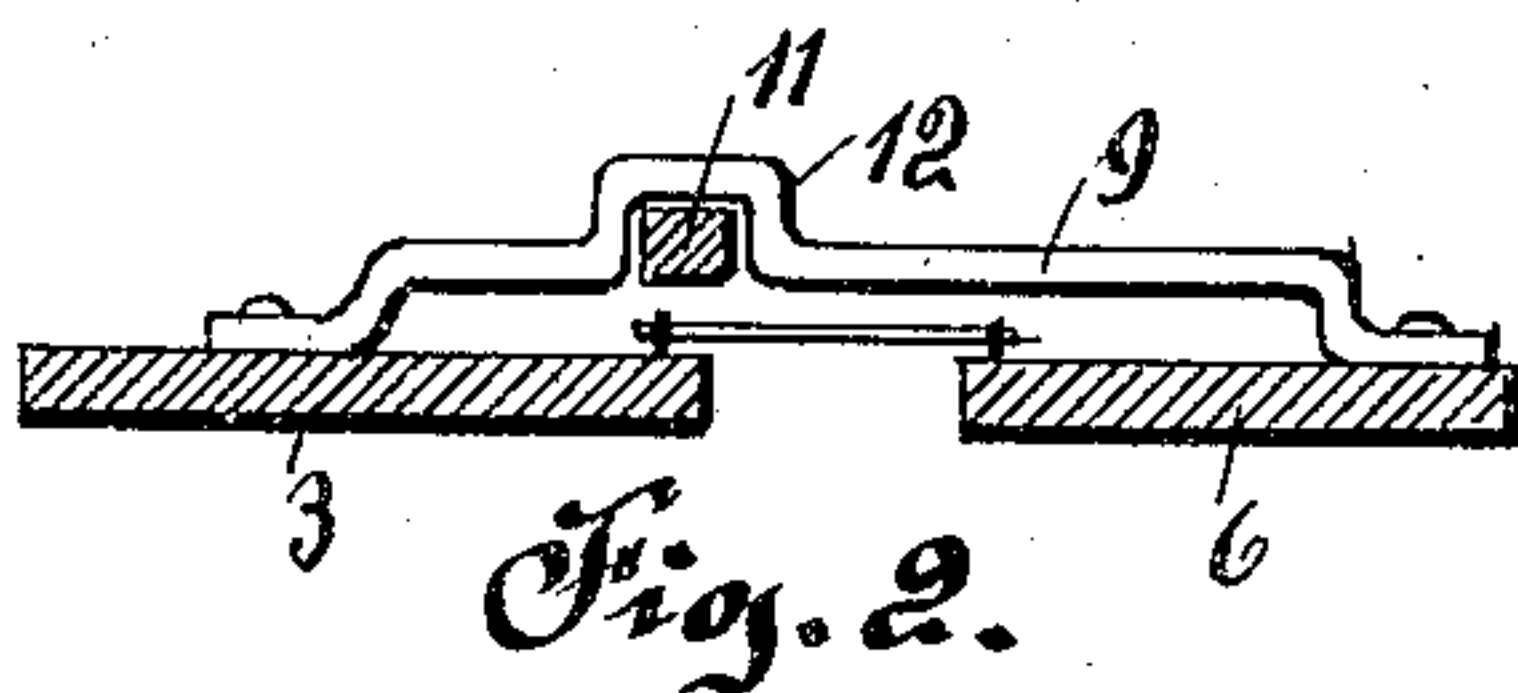
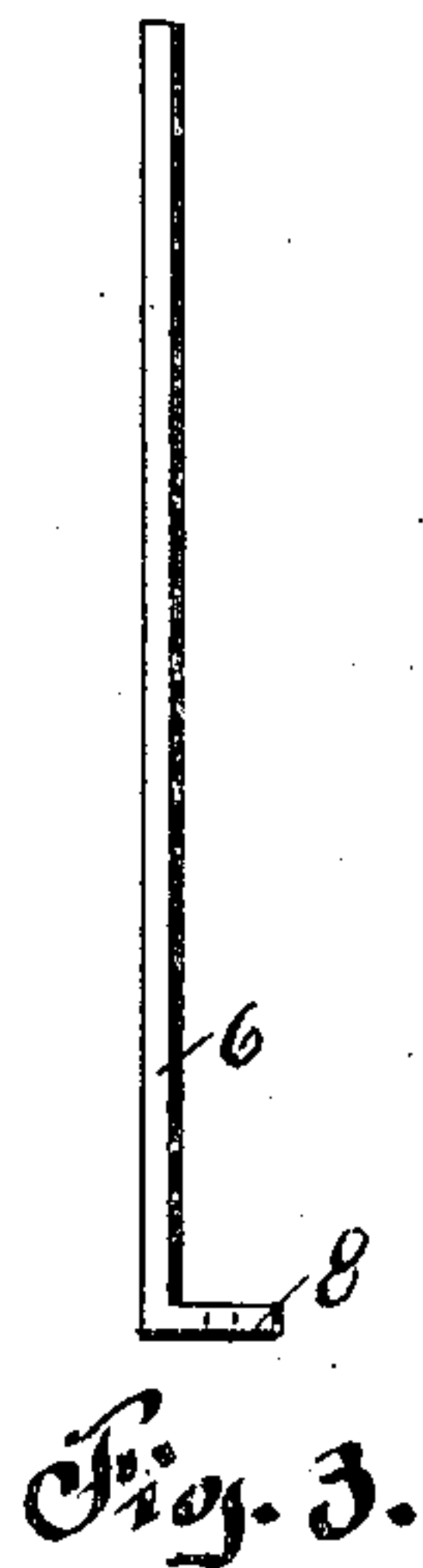
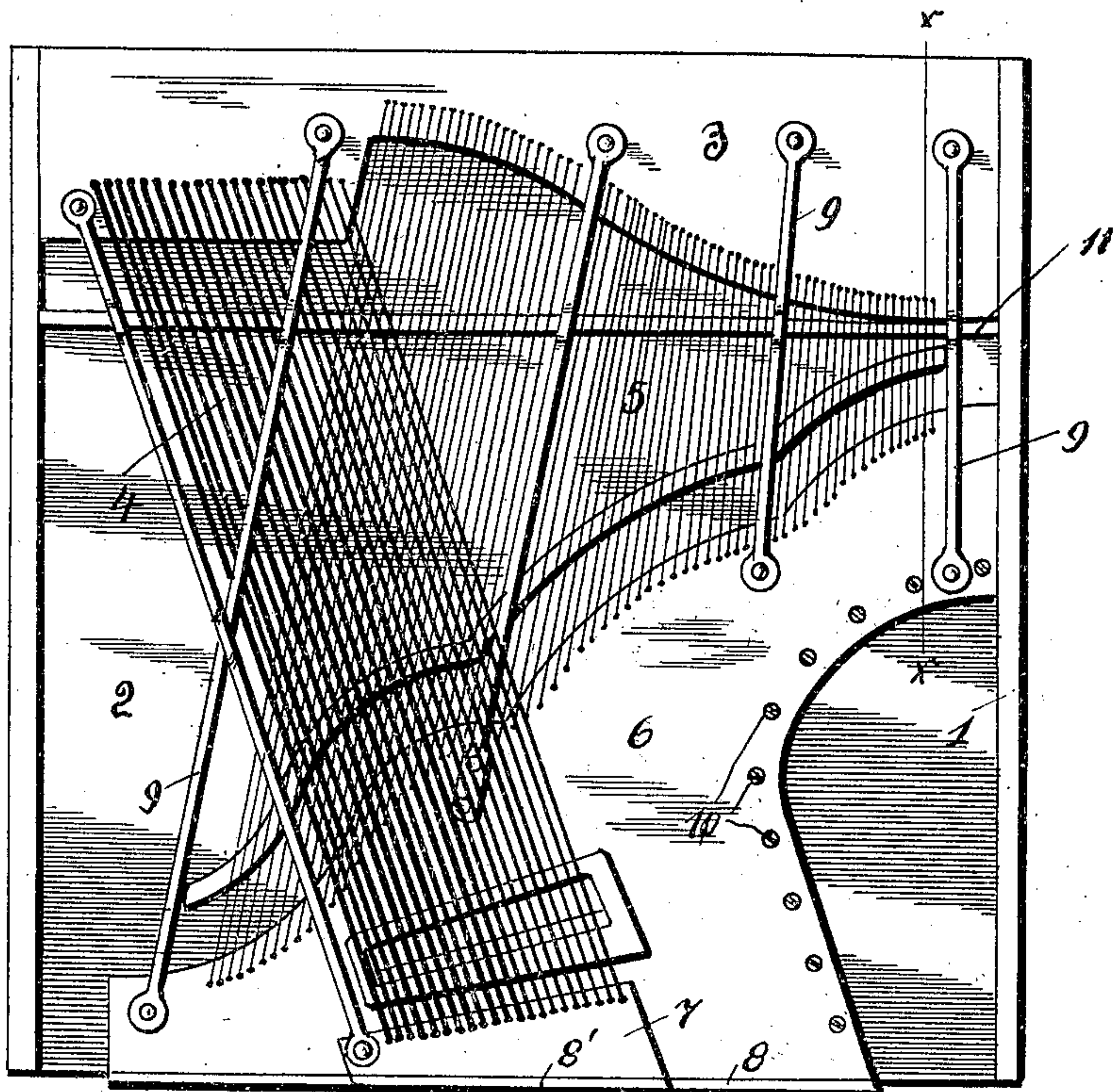
No. 833,923.

PATENTED OCT. 23, 1906.

F. GEHRING.

PIANO.

APPLICATION FILED JULY 14, 1905.



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UNITED STATES PATENT OFFICE.

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PIANO.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDERIC GEHRING, a native of Switzerland, residing at Waynesburg, in the county of Greene and State of Pennsylvania, have invented certain new and useful Improvements in Pianos, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in pianos, and more particularly to a novel form of plate adapted to be used in conjunction with the sounding-board of the piano or like instrument.

The object of my invention is to provide a novel construction and arrangement of parts which will obviate the harsh undesirable metallic tones produced by the metal, and especially by cast-metal frames, and the many advantages of which will be apparent to those skilled in the art of piano construction.

With the above and other objects in view, which will be more readily apparent as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts to be hereinafter more fully described, illustrated, and claimed.

The essential features of the invention are necessarily susceptible to various structural changes without departing from the general spirit of the invention, but a preferred embodiment of the invention is illustrated in the accompanying drawings, wherein—

Figure 1 is an elevation of a piano string-frame equipped with my improved plate. Fig. 2 is a sectional view on the line $x x$ of Fig. 1. Fig. 3 is an edge view of my improved plate. Fig. 4 is a similar view of an auxiliary plate. Fig. 5 is a longitudinal sectional view of my improved plate on an enlarged scale, and Fig. 6 is a bottom edge view showing the manner in which the flange of one of the plates is cut away to receive the other plate.

In the accompanying drawings I have illustrated an ordinary form of string-frame for an upright piano as equipped with my improved plate; but I desire it to be understood that the same can readily be used in connection with grand or other types of pianos.

The reference-numeral 1 designates the marginal flange of the back frame of a piano,

the body of the back frame not appearing in the drawings, as it is covered by the sounding-boards. On the sounding-board 2 rests a metallic string-plate 3, suitably fastened to the marginal flange 1 of the back frame.

The bass strings 4 and the treble strings 5 each have one end thereof secured to this string-plate 3. The opposite ends of these strings 4 and 5 are secured to my improved plates 6 and 7, the lower edges of which plates 6 and 7 are flanged, as at 8 8', and are suitably secured to the back frame of the piano. Instead of providing the plate 6 with a raised, arched, or cupola-shaped base-web, as is frequently done, I provide the auxiliary plate 7 to receive the overstrung bass strings 4 of the piano, said strings being preferably arranged above the treble strings 5 and at an angle thereto.

In order that the plate 6 may be strengthened and braced within the marginal flanges of the back frame of the piano, I employ brace-bars 9, which are secured to the plate 6 and the string-plate 3. The plate 6 may be further secured by screws 10 to the framework of the piano (not shown) to support the same. In connection with the brace-bars I employ a transversely-arranged brace 11. The brace-bars 9 are shouldered and cut away, as at 12, to span the brace 11. The brace 11 may be secured to the brace-bars in any desired manner.

An important feature of my invention resides in the composition of the plates 6 and 7, the brace 11, and the brace-bars 9. In the formation of the plates 6 and 7, which plates may be of various shapes and sizes, I preferably employ a high grade of steel as a foundation or core, and when the steel plate has been given the desired shape and size I plate or coat the same with a softer metal than the foundation or core—such, for instance, as tin, lead, copper, aluminium, or like metal—and I preferably coat the said steel plates, bar 11, and brace-bars 9 by electroplating them, though obviously other suitable or desired means may be employed to form the composite plates, brace, and bars.

In Fig. 5 of the drawings the plate 6 is shown in enlarged view with its coating of the softer metal, this view showing a sectional view of the finished or completed plate.

By employing the composite plates, as described, the tone-producing quality of the instrument has been found to be materially improved, the harshness thereof being practically eliminated.

What I claim is—

1. In a piano, the combination with the sounding-board and bass and treble strings, of composite plates having one end of said bass and treble strings respectively fastened thereto, said plates consisting of a steel foundation or core having a coating of softer metal.

2. In a piano, the combination with the sounding-board and the strings, of a string-plate to which one end of said strings are attached, composite plates having the other ends of the strings fastened thereto, said plates embodying a foundation or core of hard metal coated with a softer metal.

3. In a piano, the combination with the sounding-board and the strings thereof, of composite plates carried adjacent to said sounding-board and having one end of each string fastened thereto, each composite plate

consisting of a hard-metal foundation or core and a coating of softer metal.

4. The combination with the sounding-board of a piano and the strings, of a plurality of composite plates, supporting-strings above the sounding-board, each plate consisting of a hard-metal foundation or core, and an outer layer of softer metal.

5. A string-support for pianos, comprising a composite plate, said plate embodying a hard-metal foundation or core and an outer layer of softer metal, and means to secure strings to said plate.

6. A string-support for pianos consisting of sectional composite plates, each plate embodying a hard-metal core and an outer layer of softer metal, and means to attach strings to said plates.

In testimony whereof I affix my signature in the presence of two witnesses.

FREDERIC GEHRING.

Witnesses:

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