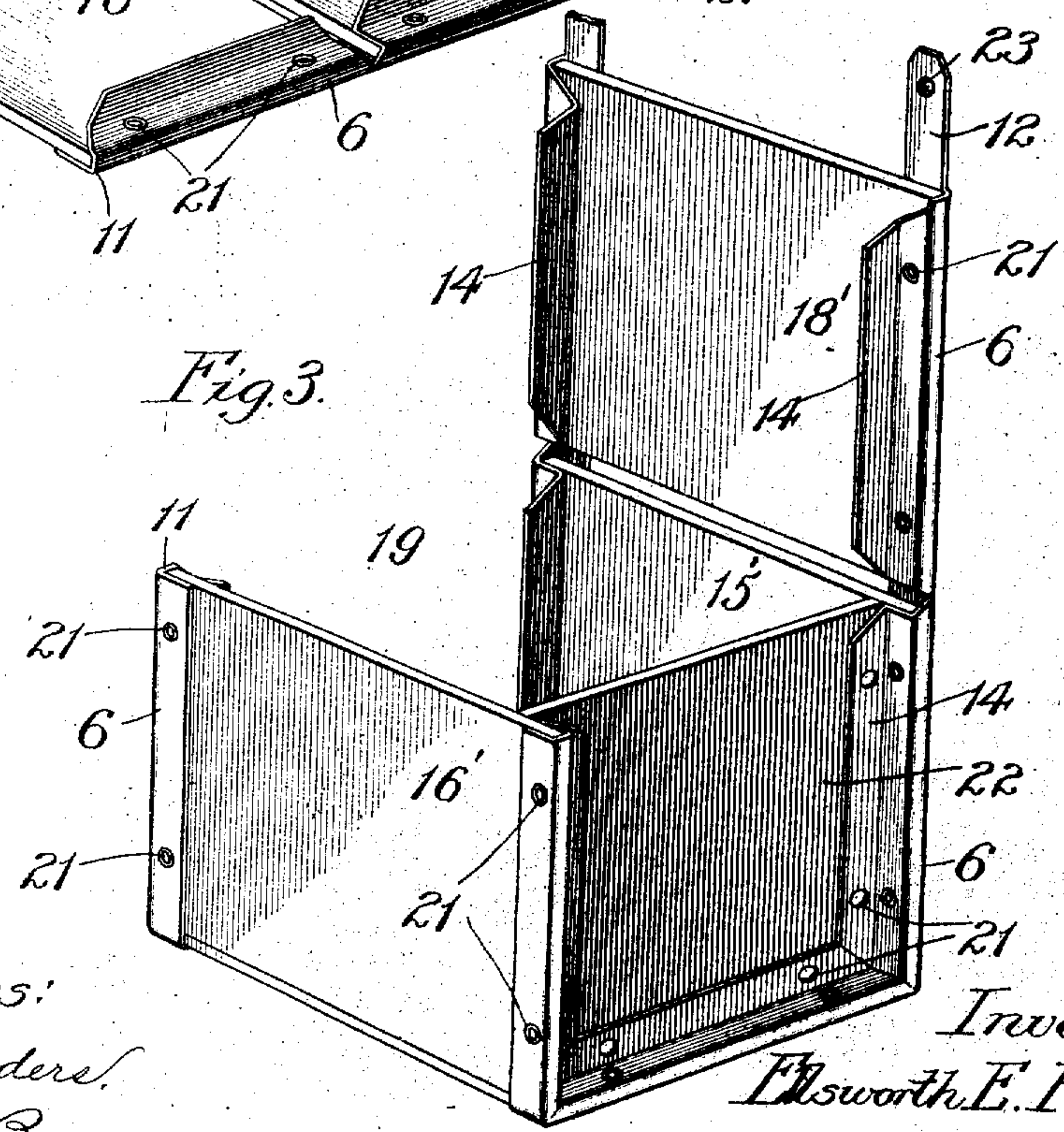
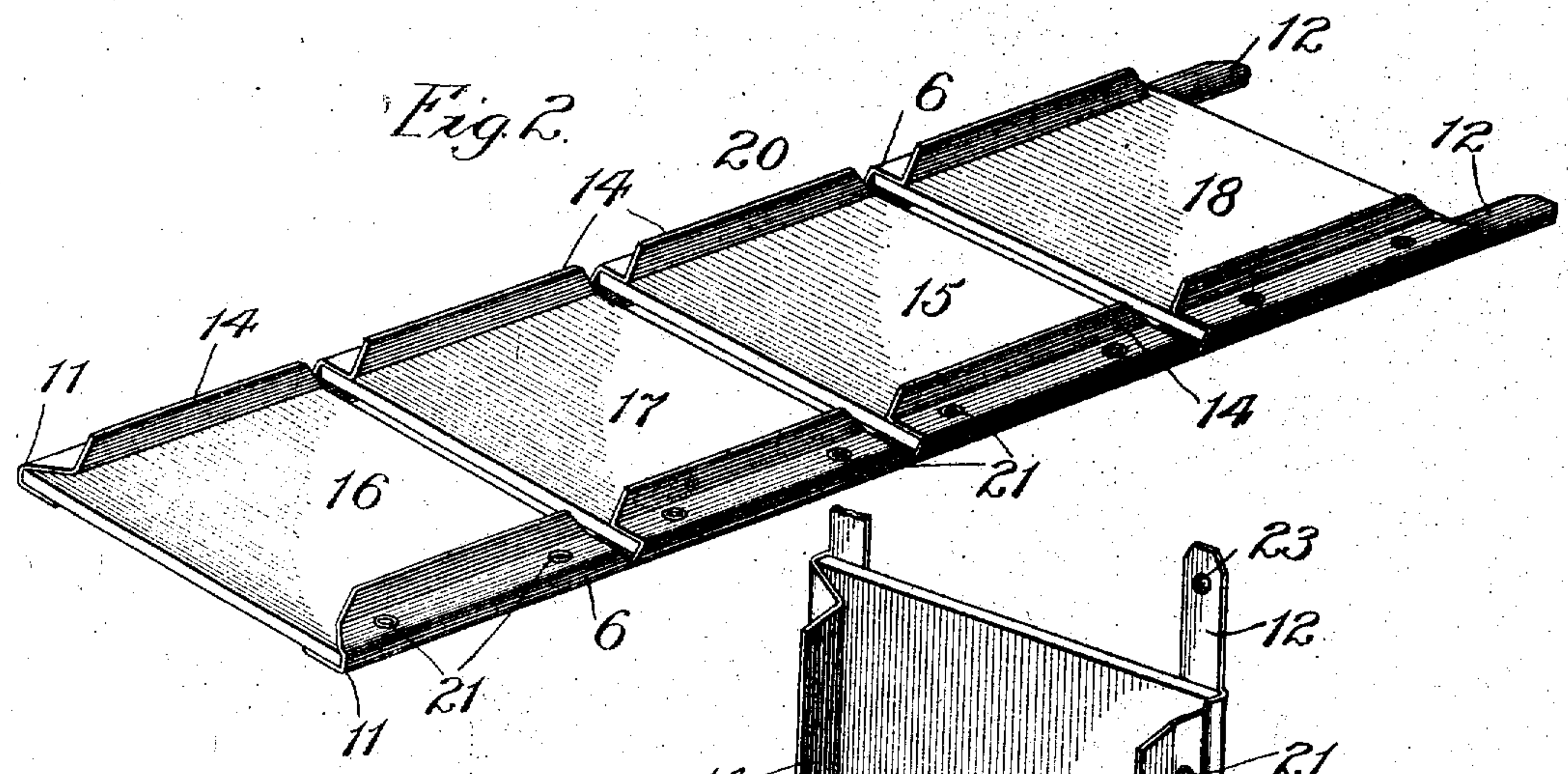
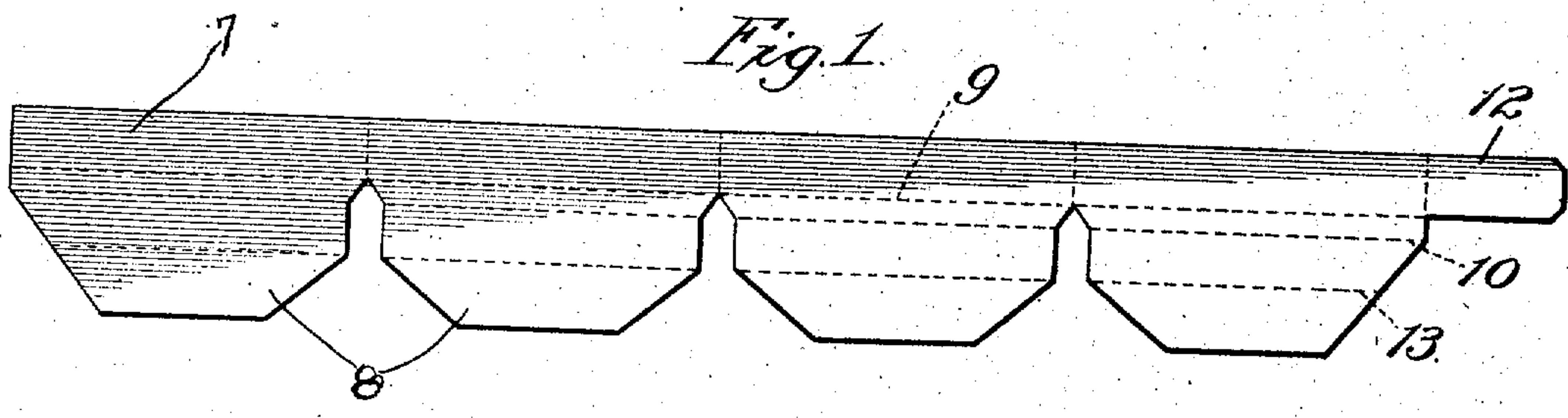


No. 881,785.

E. E. FLORA.
METAL BOUND BOX.
APPLICATION FILED APR. 26, 1907.

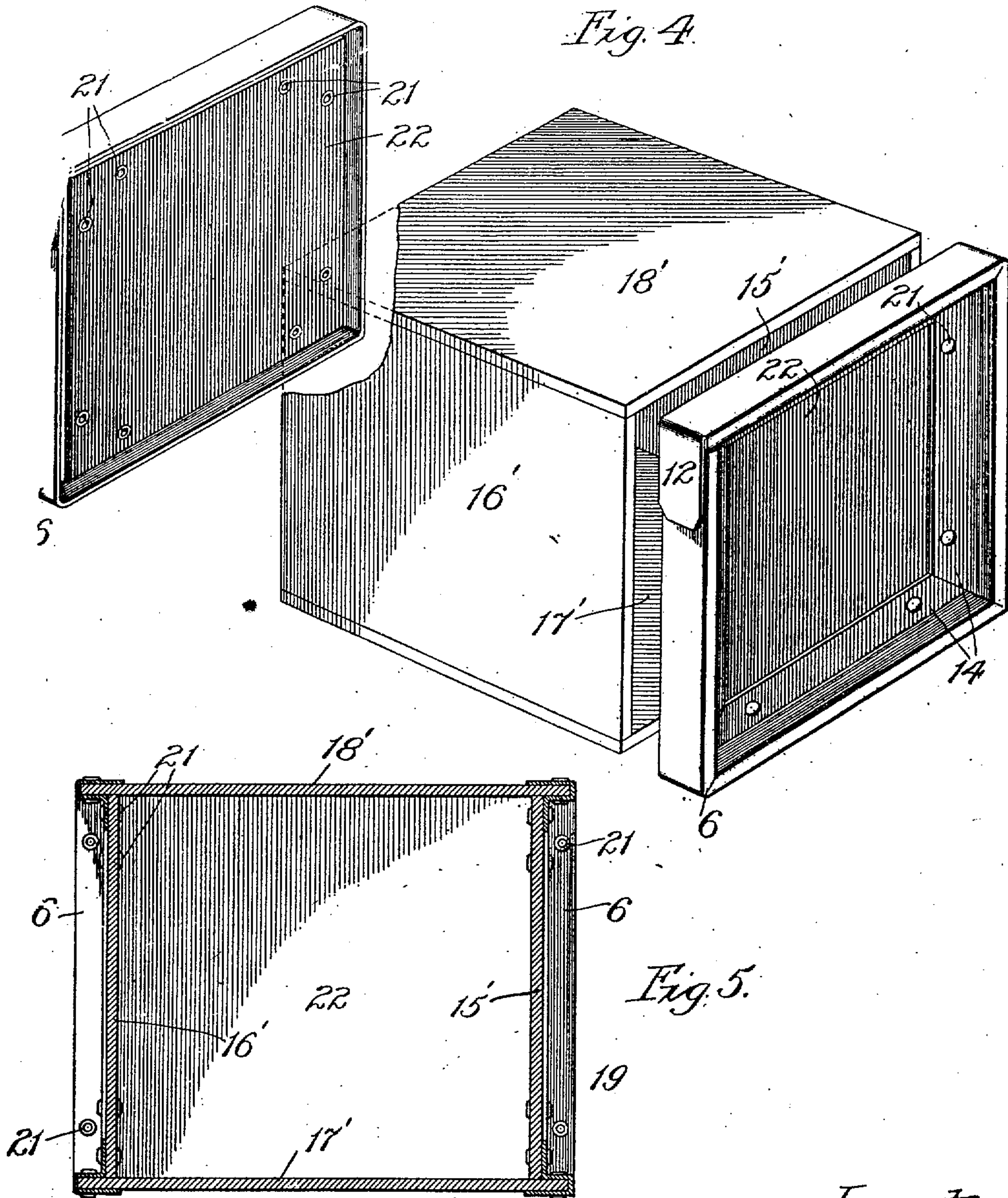
PATENTED MAR. 10, 1908.

2 SHEETS—SHEET 1.



Witnesses:
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J. D. 20 44. E. D. 10. 1.

UNITED STATES PATENT OFFICE.

SAMUEL GOLDFADEN, OF NEW YORK, N. Y.

STYLUS FOR TALKING-MACHINES.

No. 881,792.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed December 9, 1907. Serial No. 405,794.

To all whom it may concern:

Be it known that I, SAMUEL GOLDFADEN, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Stylus for Talking-Machines, of which the following is a full, clear, and exact description.

My invention relates to talking machines, and has for its object to provide a stylus which can be adjusted in numerous different ways so that it will always have a good point to trace the record, thereby actuating the diaphragm in such a manner that the sound waves produced will be even and the sounds harmonious and clear.

Another object is to provide auxiliary styli which are secured to the principal stylus, with means to secure one of the auxiliary styli in an operative position with one of its several points below the principal stylus.

Still another object is to provide means for rigidly securing the auxiliary styli to the principal stylus.

In this specification I will describe the preferred form of the invention but I do not limit myself thereto, as I consider myself entitled to all forms and embodiments of the invention which may be held to fall within the scope of the appended claims.

Similar reference characters refer to similar parts in all the figures, in which

Figure 1 is a front view of the stylus with one of the auxiliary styli secured with its point below the point of the principal stylus; Fig. 2 is a transverse sectional view on line 2—2 of Fig. 1; Fig. 3 is a sectional view on line 3—3 of Fig. 1; Fig. 4 is a sectional view similar to that shown in Fig. 2 but with the points of the auxiliary styli above the point of the principal stylus; Fig. 5 is a front view of a modification of the invention; and Fig. 6 is a side view of the same.

Referring to the drawings it will be seen that the shank 1 is that generally used and that it may be connected with the diaphragm of the talking machine in the customary manner. At the lower end of the shank there is a cross-bar 2 and below it a triangular principal stylus 3, having its point approximately in line with the axis of the shank

1. The auxiliary styli 4 are preferably two in number, one secured on either side of the principal stylus 3. There is a hole 5 in the principal stylus and vertical slots 6, in each of the auxiliary styli. A bolt 7 passes through the said slots in the auxiliary styli 4 and the hole in the principal stylus 3, and a nut 8 holds the auxiliary styli with reference to the principal stylus, in a predetermined position. It will be seen that by means of the slots 6 the auxiliary styli may be raised or may be lowered in accordance with the wishes of the operator. When one of the auxiliary styli is lowered, the bolt will be found to be approximately in the center of the auxiliary stylus which is triangular in form. It is, therefore, possible in this position to turn the auxiliary stylus 4 with the result that any of its three points may be brought in alinement with the axis of the shank 1.

The sides of the principal stylus 3 and of the auxiliary styli 4 are beveled, so that the angles formed by the sides will be pointed and will be adapted to travel in the groove of the record. At either end of the cross-bar 2, there is a standard 9, with a button 10 secured at its top. Wound around each of these standards 9, there is a spring 11 with an arm 12 projecting inwardly toward the shank. The spring is so wound that it has a tendency to press downwardly and it may be pushed toward either of the auxiliary styli 4, when it may be pushed thereover so that the auxiliary styli 4 will be held rigidly with reference to the principal stylus and the shank 1. This will prevent any lost motion between the auxiliary styli 4 and the shank 1.

In the modification shown in Fig. 5 I use a hard stone for the stylus, thereby making it unnecessary to provide for the several adjustments shown in the principal construction. In the modified form the stylus 13 is made of hard stone, triangular in form, with the edges beveled so that each of the three points may be used to trace the record. The triangular hard stone stylus is pivoted at its center to a body similar to the principal stylus in the principal construction, and it may be rotated, presenting any one of its three points in alinement with the shank 1, to be used on the record. The cross-bar 2 with

the standards 9, and the springs 11 with their arms 12, are the same as shown in the principal construction and are used in the same manner.

5 In the use of the invention, the auxiliary styli are secured with their points above the point of the principal stylus 3, and the point of the principal stylus 3 is used to trace the record. The stylus may trace the
10 record with either face forward or with either of its sides in a forward position. When the point of the principal stylus has been worn, one of the auxiliary styli is pushed down so that its point is below the
15 point of the principal stylus. This point may be used to trace the record with each of its four different sides in a forward position and when this point is roughened the auxiliary stylus may be rotated on the bolt
20 7 and another point be used in the same manner. When all the points of one auxiliary stylus have been worn, it may be pushed upwardly and its companion auxiliary stylus be used.

25 Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A stylus for talking machines, having a plurality of points adapted to trace the record, means to adjust the stylus so that one
30 point is substituted for another, and means which bears on the periphery of the stylus and thereby holds rigid the point which is in operative position.

35 2. A stylus for talking machines, having a plurality of points, a body having a shank adapted to be connected to the diaphragm of the talking machine, the stylus being pivoted to the said body, and means which
40 bears on the periphery of the stylus to secure it in a predetermined position.

3. A stylus for talking machines, having a plurality of points spaced apart on its periphery, a body having a shank adapted to be
45 connected to the diaphragm of the talking machine, the stylus being pivoted to the said body, and means which bears on the periphery of the stylus to secure it in a predetermined position.

50 4. A stylus for talking machines, having a plurality of points spaced apart on its periphery, a body having a shank adapted to be connected to the diaphragm of the talking machine, the stylus being pivoted to the said
55 body, means to secure the stylus against the said body, and means which bears on the periphery of the stylus and holds it rigid.

5. A stylus for talking machines, having a plurality of points, a body having a shank
60 adapted to be connected to the diaphragm of the talking machine, a slot in the stylus means to pivot the stylus to the said body in a plurality of positions along the said slot, and means to secure the stylus rigidly to the
65 said body.

6. A stylus for talking machines, having a plurality of quite distant points in substantially the same plane, a body having a shank adapted to be connected to the diaphragm of the talking machine, a slot in the stylus
70 through which it is pivoted to the said body, and means bearing on the periphery of the stylus which secures it rigidly to the said body.

7. A stylus for talking machines, having a plurality of edges at angles to each other, said edges being beveled to form sharp points at the apexes of the said angles. 75

8. A stylus for talking machines, having a plurality of points, a body having a shank adapted to be connected to the diaphragm of the talking machine, the said stylus being
80 pivoted on a bolt secured to the said body, and a spring by means of which the stylus may be held rigidly relative to the said body.

9. A stylus for talking machines, having a body with a hole therein, a plurality of styli, each having a slot therein, and a bolt which passes through the hole in the body and the slots in the styli, by means of which they are
85 secured together. 90

10. A stylus for talking machines, having a body with a hole therein, a plurality of styli each having a slot therein, a bolt which passes through the hole in the body and the slots in the styli, by means of which they are
95 secured together, and springs on the body which are adapted to press on the styli and hold them rigidly.

11. A stylus for talking machines, having a body with a hole therein, a plurality of styli, a plurality of points on each of the said styli, each stylus having a slot therein, a bolt which passes through the hole in the body and the slots in the styli by means of which they are all secured together, and means to hold the styli rigid relative to the
100 said body. 105

12. A stylus for talking machines having a plurality of points, a body having a shank adapted to be connected to the diaphragm of the talking machine, the stylus engaging the body, means to adjust the stylus so that one point can be substituted for another, and means which bear on the periphery of the
110 stylus to hold it rigid. 115

13. A stylus for talking machines, a shank connected therewith, and means to bear on the stylus at a distance from the shank to hold it rigid. 120

14. A stylus for talking machines, triangular in form with its edges beveled to form sharp points at the apexes of the angles.

15. A stylus for talking machines, triangular in form with its edges beveled to form sharp points at the apexes of the angles, a shank adapted to be connected to the diaphragm of the talking machine, the shank engaging the stylus, and means bearing on
125 the stylus to hold it rigid. 130

16. A stylus for talking machines, a shank adapted to be connected to the diaphragm of the talking machine, a body having a cross-bar means for securing the stylus to the
5 body, and a spring on the cross-bar adapted to bear on the periphery of the stylus.

17. A stylus for talking machines, a shank adapted to be connected to the diaphragm of the talking machine, the body having a
10 cross-bar, means for securing the stylus to

the body, and springs one on either end of the cross-bar, the springs bearing at different points on the periphery of the stylus.

In testimony whereof I have signed my name to this specification in the presence of 15 two subscribing witnesses.

SAMUEL GOLDFADEN.

Witnesses:

BENJAMIN P. FATARSKY,
EVERARD B. MARSHALL.