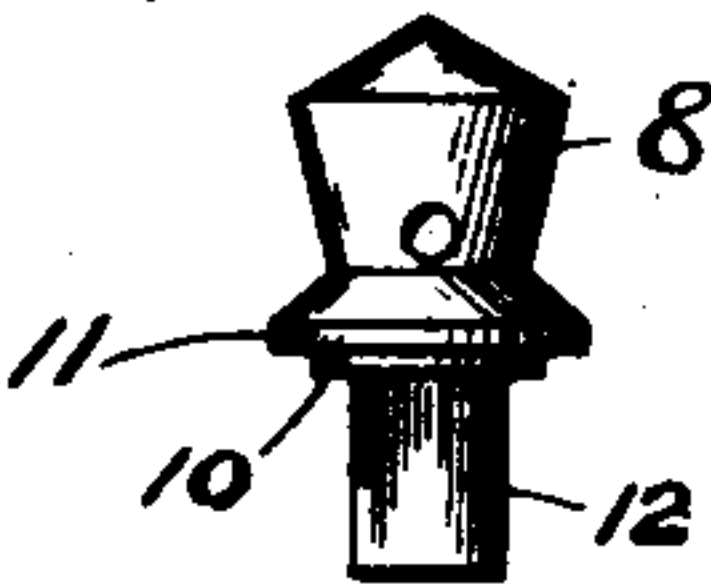
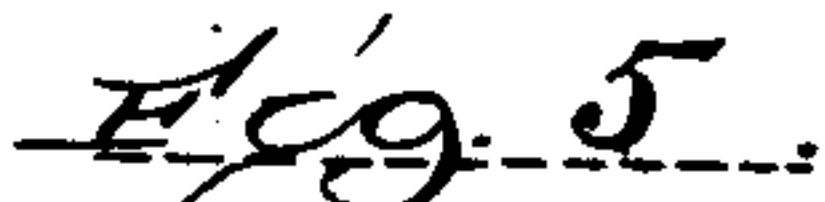
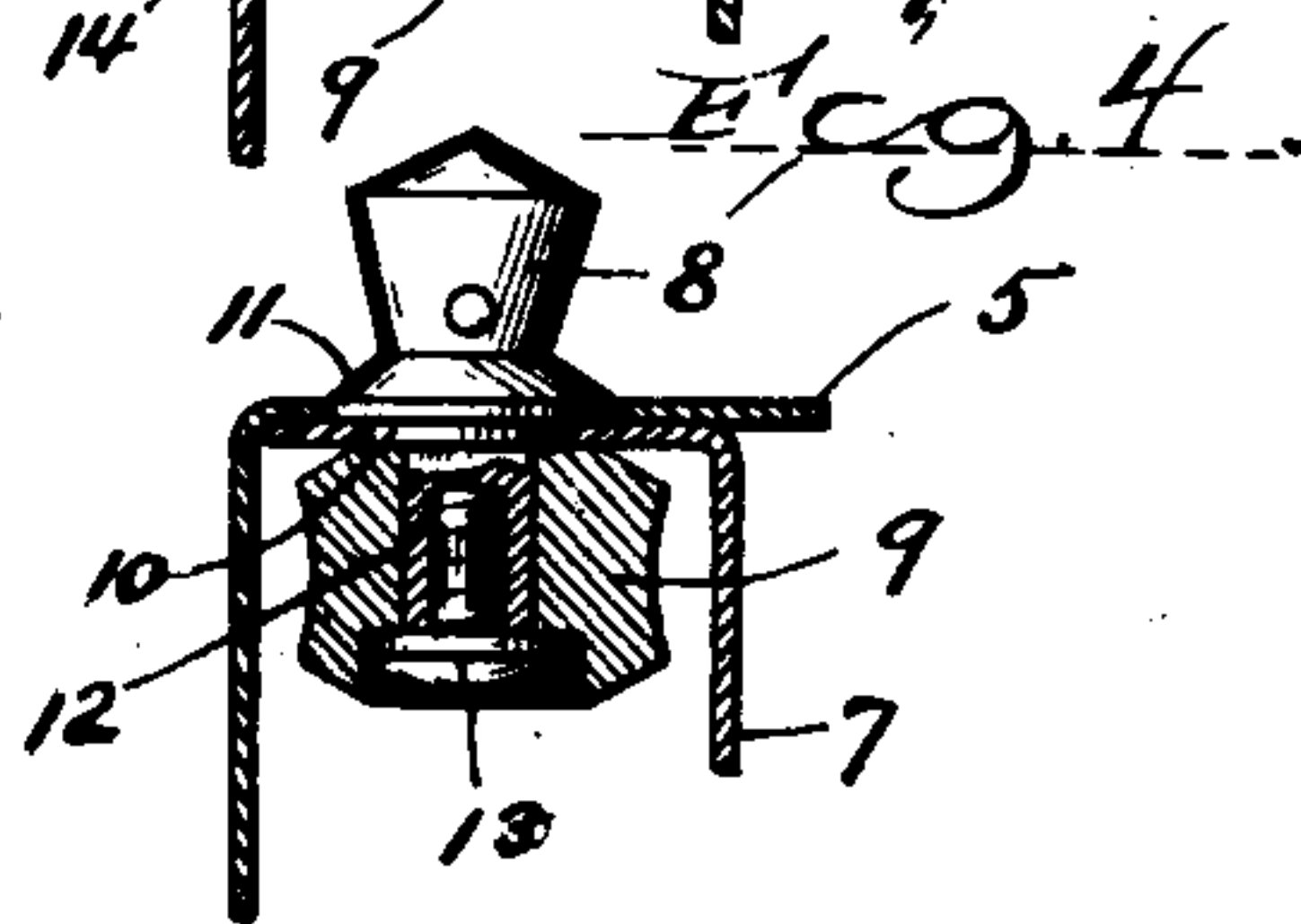
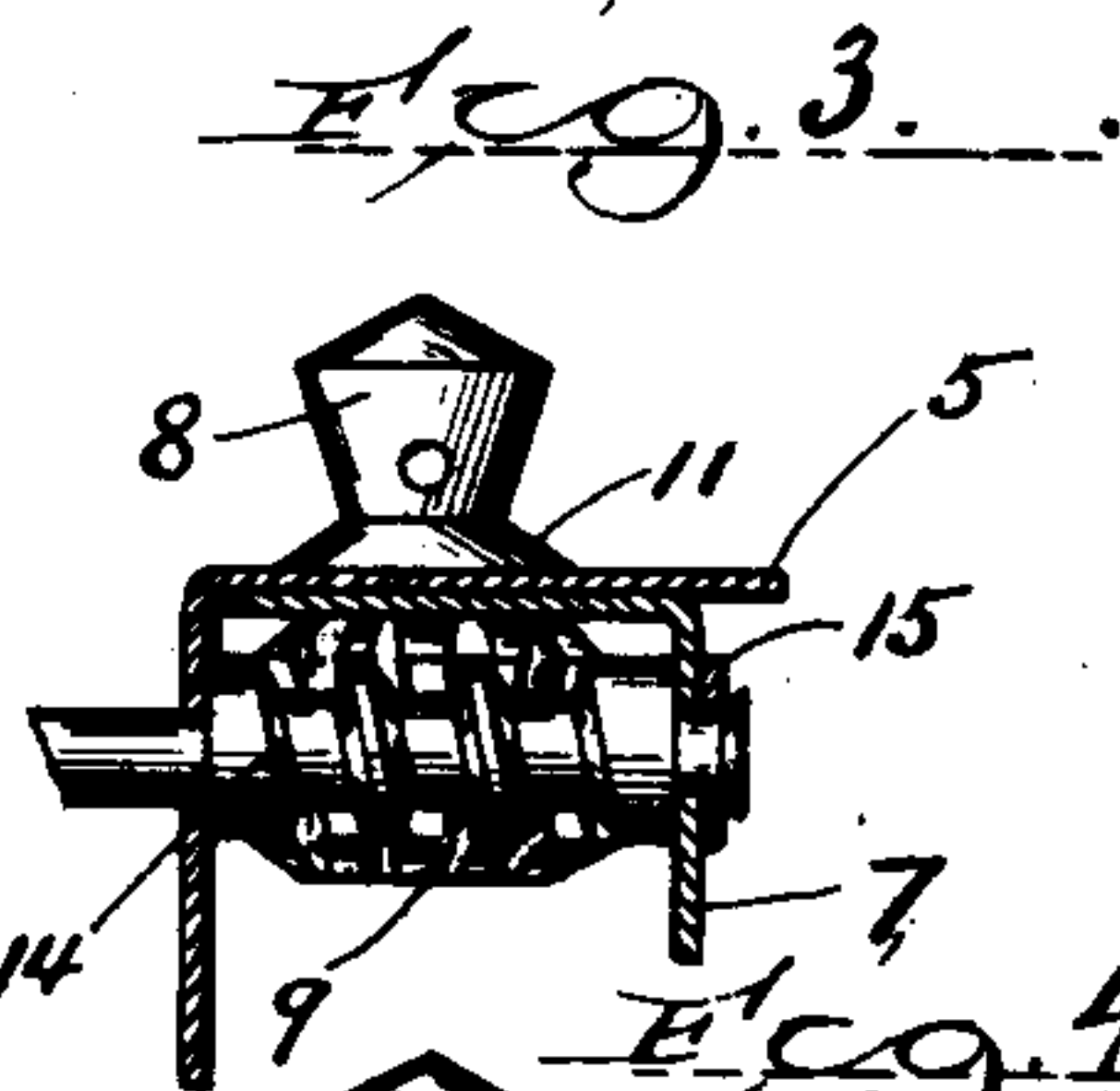
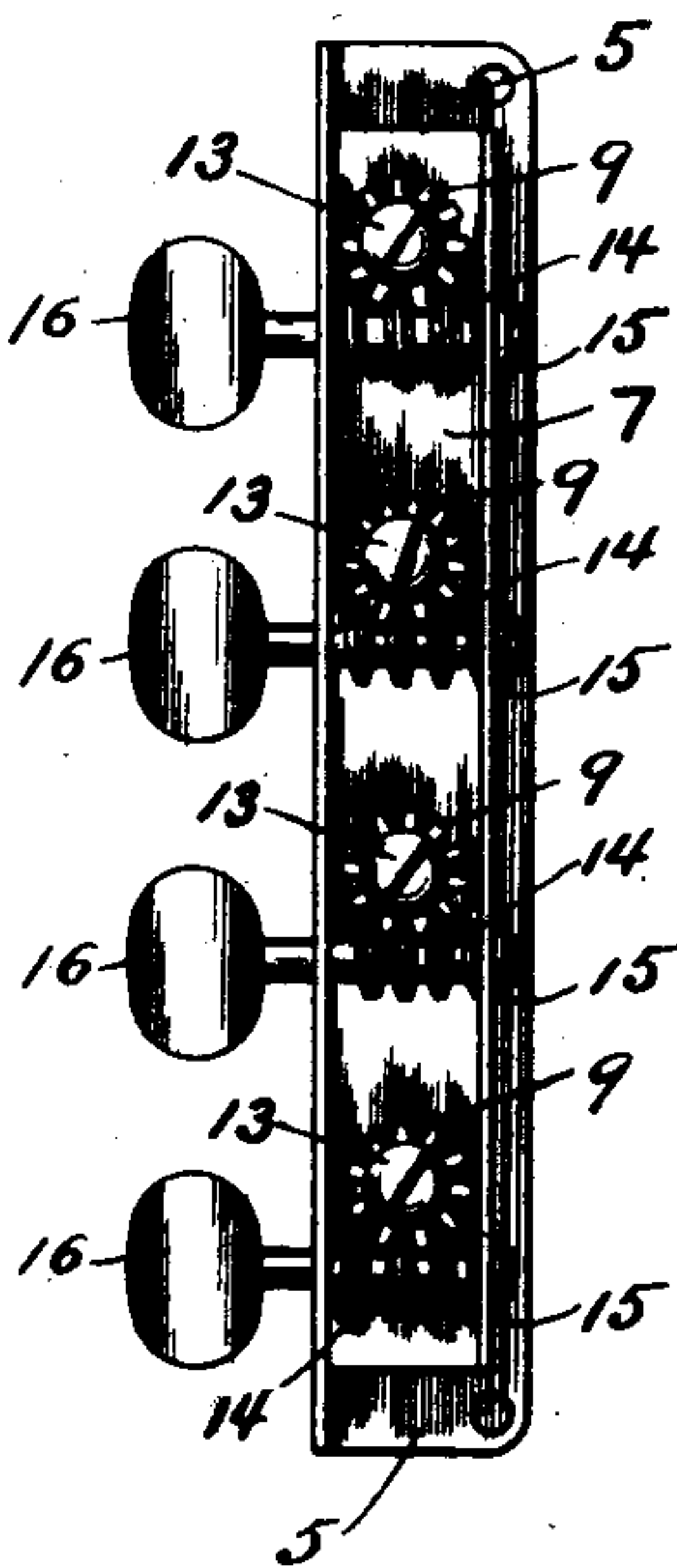
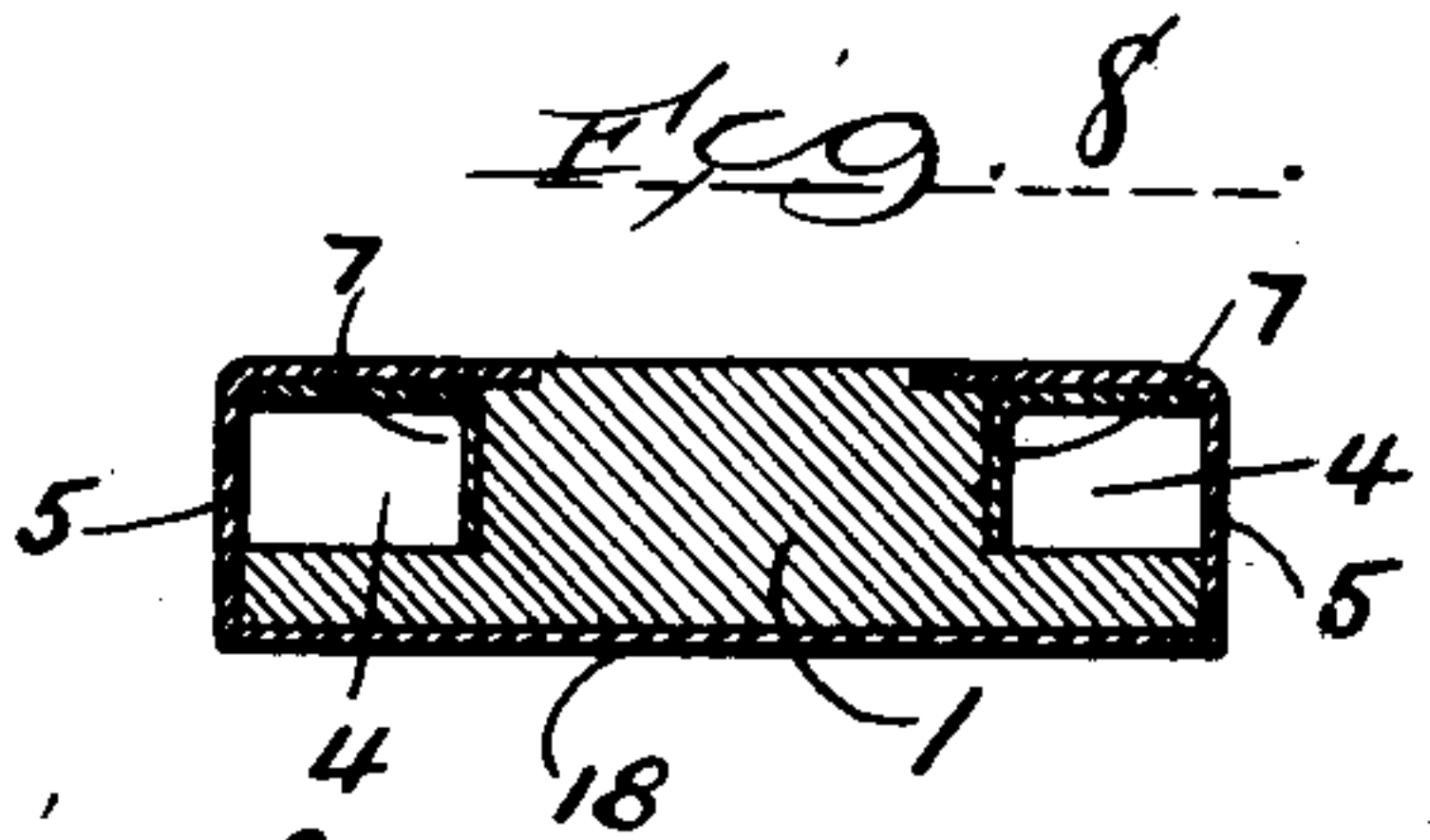
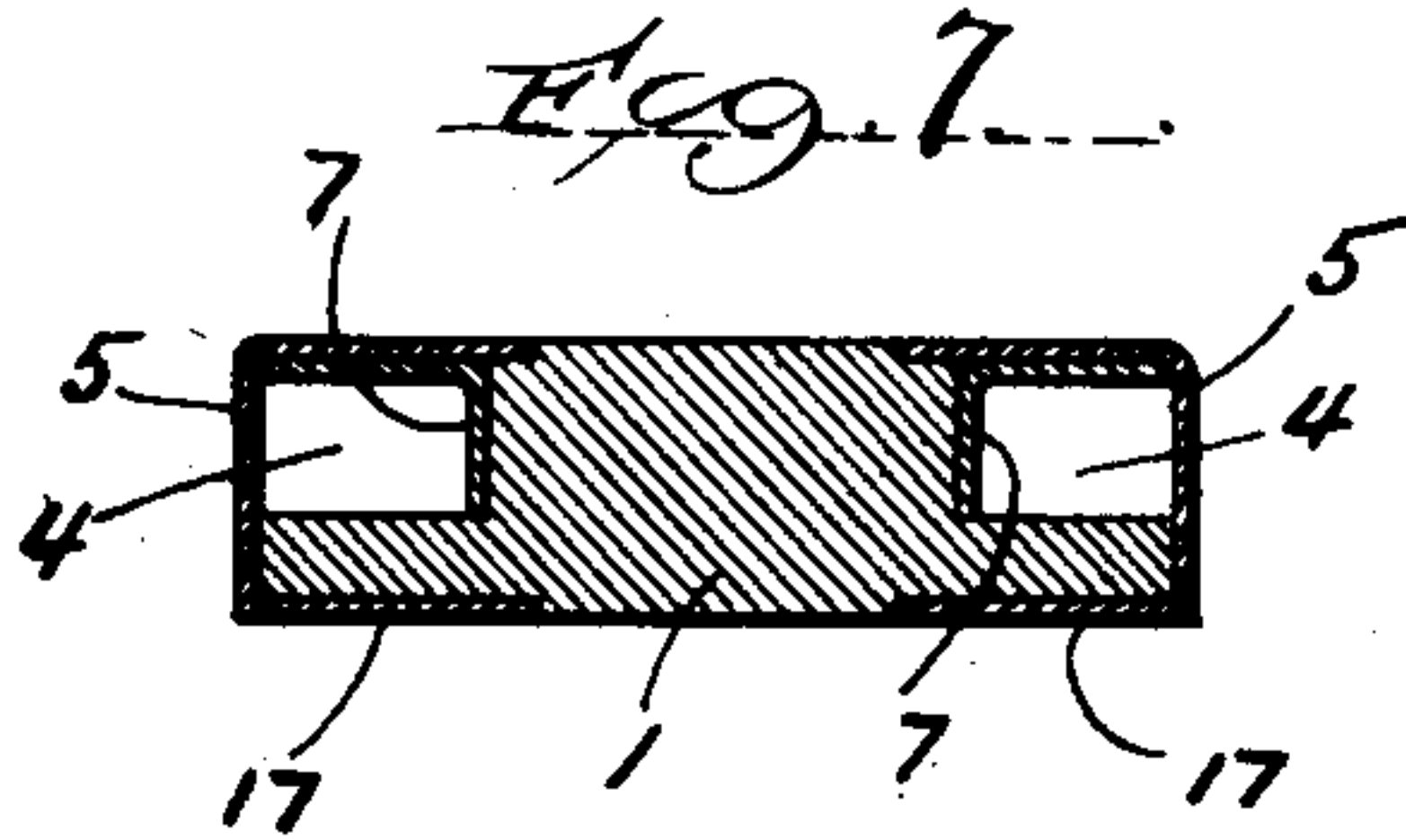
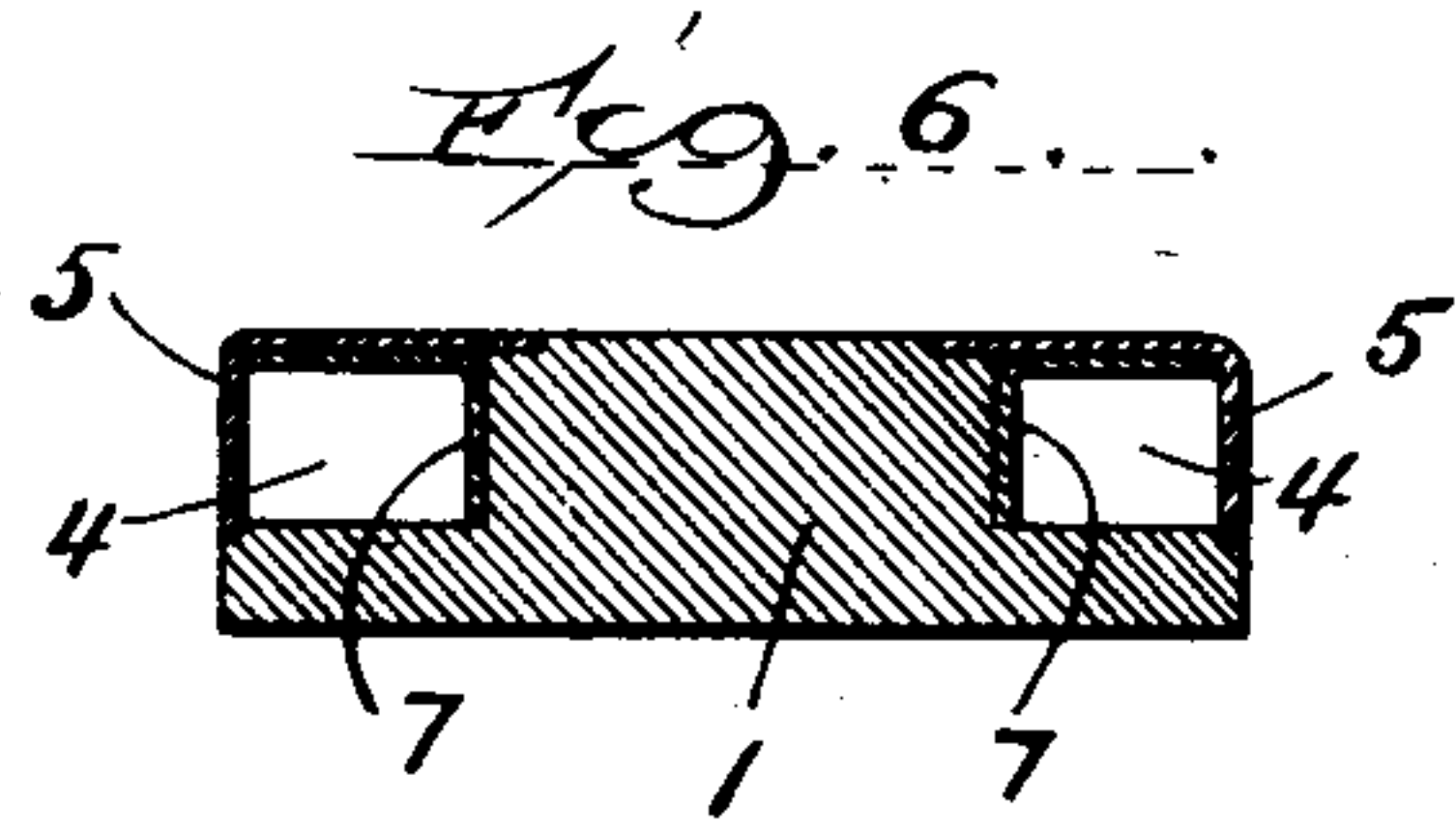
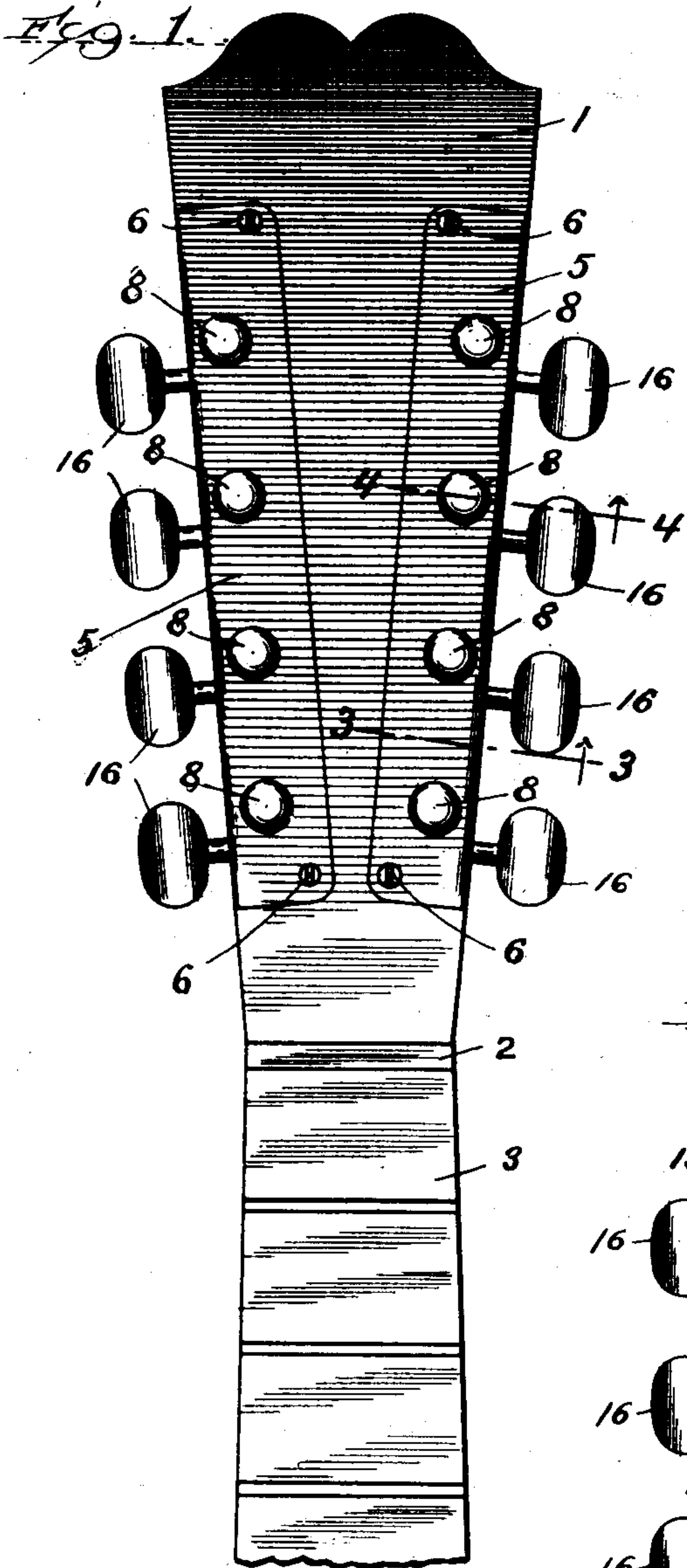


J. BRANDT.

HEAD PIECE FOR STRINGED MUSICAL INSTRUMENTS.

(Application filed Mar. 7, 1902.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN BRANDT, OF CHICAGO, ILLINOIS.

HEAD-PIECE FOR STRINGED MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 713,390, dated November 11, 1902.

Application filed March 7, 1902. Serial No. 97,056. (No model.)

To all whom it may concern:

Be it known that I, JOHN BRANDT, a citizen of the United States, residing in the city of Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Head-Pieces for Stringed Musical Instruments, of which the following is a specification.

My invention relates to improvements in head-pieces for stringed musical instruments, such as mandolins and guitars; and the objects of my invention are, first, to provide simple and durable means for mounting the tuning-pins; second, to combine and arrange the parts of the tuning-pin mechanism within a small and compact space to permit the construction of a narrow-headed instrument, and thereby facilitate the fingering of the frets at the head of the instrument, and, third, to provide surface-plates which may be readily secured to the instrument during manufacture and serve to protect the faces and corners of the head of the instrument. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a top view of the head of an instrument embodying my invention. Fig. 2 is a view from beneath, showing the assembled parts of the tuning mechanism. Figs. 3 and 4 are sectional views, on an enlarged scale, taken on the lines 3-3 and 4-4, respectively, Fig. 1. Fig. 5 is a side view of a tuning-pin. Figs. 6, 7, and 8 are sectional views taken transversely to the head of the instrument, showing modified forms of the corner-plate and also modifications in the under side of the instrument-head.

Similar numerals refer to similar parts throughout the several views.

The head portion 1 of the instrument connects at the neck 2 to the fret-board 3, as shown in Fig. 1. The recesses 4 are formed in the upper part of said head portion, at the lateral edges thereof, and form chambers for receiving parts of the tuning mechanism. The corner-plates 5 are strips of metal having rectangular bends, so that when inverted and placed over said recesses 4 said recesses are completely inclosed. Said corner-plates are of sufficient length and width to have a bearing along the top and side surfaces of the head portion and also extend beyond the ends

of the said recesses. Said plates are preferably let into the head portion, so as to be flush with the surfaces thereof, and are secured thereto with screws 6 or similar fastenings. The inner plates 7 are also rectangular angle-pieces and are so assembled relatively to said corner-plates that the upper leg of the inner plate is adjacent to and beneath the upper leg of the corner-plate, while the depending legs of said plates are parallel but non-adjacent to each other. The depending legs of said inner plates are preferably adjacent to the inner walls of the recesses 4. The plates 5 and 7 are held in their proper relative positions by means of the tuning-pins 8 in conjunction with the gear-wheels 9. The cooperation of the parts is best illustrated in Figs. 3 and 4. Said pins are provided with two annular portions 10 and 11, and plate 7 is apertured in such a manner as to receive the upper and greater annular portion 11. Said inner plate receives the annular portion 10 in a similar manner, so that when plates 5 and 7 are assembled and the tuning-pins inserted said plates are prevented from moving transversely to the axis of said pins. The shank 12 of each tuning-pin is polygonal in cross-section, preferably square, and fits into the gear-wheel 9, which is apertured to receive it. Said wheel is fastened to the shank of the tuning-pin by means of the tap-screw 13, and the parts are so proportioned that when assembled the annular portion 11 of the pin 8 bears upon the top of the inner plate 7, while the top of the gear-wheel 9 abuts against the lower surface of the annular portion 10. Said gear-wheel is of a diameter greater than the aperture in said inner plate, and therefore prevents the pin 8 from rising from its seat; but the said annular portion 10 is thicker than the inner plate 7, so that the tightening of the wheel 9 on the tuning-pin 8 does not prevent the free rotation of the pin in the plates 5 and 7. It will thus be evident that the plates 5 and 7 are positively held together without the use of extra parts and at the same time a firm bearing is provided for said pins. The tuning-pins are rotated and controlled by means of the worms 14, which have bearings in the depending legs of the plates 5 and 7, as best shown in Figs. 2 and 3. The portions within the bear-

ings are of reduced diameter, thereby forming shoulders on the worms which act as spreaders for holding said plates apart. By preference a washer 15 is placed over the portion of the worm projecting beyond the inner plate 7, and when the extremity of said worm is riveted over said washer said worm is permanently held in position within said plate, but is free to rotate therein. The said worms are rotated by means of the finger-pieces 16. The depending leg of the corner-plate may vary in depth. In Fig. 6 said leg is shown to cover the recess 4 and extend slightly below the same, so as to lap over onto the adjacent portion of the head of the instrument. In Figs. 7 and 8 said depending legs are shown to extend to the bottom of the head portion 1.

If desired, the face-plates 17 17 may be placed upon the under surface of the head portion 1, as shown in Fig. 7.

In Fig. 8 is shown another modification, in which the plate 18 extends entirely across upon the under surface of said head portion.

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

1. In a head-piece for stringed musical instruments the combination of a tuning-pin, a gear-wheel secured to said pin for controlling the same, a worm for operating said gear-wheel, and two plates forming bearings for said worm, portions of said plates lying in contact with each other; and the head of the tuning-pin and said gear-wheel being located on opposite sides of the contacting portions of said plates.

2. In a head-piece for stringed musical instruments the combination of a tuning-pin having annular portions of different diameters; a corner-plate apertured to receive one of the annular portions of said pin; an inner plate apertured to receive a second and smaller one of the annular portions of said pin, said corner and inner plates having their apertured portions in contact with each other; a gear-wheel secured to said pin beneath said plates at a portion of said pin having a further reduced cross-sectional area whereby said pin is retained in position within said inner plate; and means for operating said gear-wheel.

3. In a head-piece for stringed musical instruments, the combination of a tuning-pin, a gear-wheel secured to said pin for controlling the same, a worm for operating the said gear-wheel, and two angle-plates forming bearings for said worm, the upper legs of said plates making surface contact with each other and the head of the tuning-pin and said gear-wheel being located on opposite sides of the contacting portions of said plates.

4. In a head-piece for stringed musical in-

struments, the combination of a tuning-pin having annular portions of different diameters; an outer angle-plate apertured to receive one of the annular portions of said pin; an inner angle-plate apertured to receive the second and smaller one of the annular portions of said pin, said angle-plates having their apertured portions making surface contact with each other; a gear-wheel secured to said pin beneath the said plates and a portion of said pin having a further reduced cross-sectional area whereby said pin is retained in position within said inner plate; and a worm for operating the said gear-wheel, said worm having bearings in the portions of said angle-plates depending from the contacting portions thereof.

5. In a head-piece for stringed musical instruments, the combination of two plates each having substantially rectangular bends, one leg of each plate being in contact with a leg of the other of said plates and said plates having their remaining legs non-adjacent but parallel; a tuning-pin; and a worm and gear for operating said pin, said non-adjacent legs of said plates affording bearings for said worm.

6. In a head-piece for stringed musical instruments, the combination of two plates each having substantially rectangular bends, one leg of each plate being in contact with a leg of the other of said plates, and said plates having their remaining legs non-adjacent; an instrument-head having a recess wherein the inner of said plates is inclosed, the outer of said plates completing the corner of said instrument-head; a tuning-pin penetrating the contacting portions of said plates; and means for operating said tuning-pin.

7. In a head-piece for stringed musical instruments, the combination of two plates having substantially rectangular bends, one leg of each plate being in contact with a leg of the other of said plates, and said plates having their remaining legs non-adjacent, but extending in the same direction from the said contacting portions; a tuning-pin penetrating the contacting portions of said plates; a gear-wheel secured to said pin; a worm for operating said wheel; apertures in the non-adjacent legs of said plates; and bearings on said worms supported within the apertures in said plates, said bearings having reduced diameters, whereby the portion of said worm extending between the non-adjacent legs of said plates constitutes a spreader for preventing the nearer approach of said non-adjacent legs.

JOHN BRANDT.

Witnesses:

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