

(No Model.)

A. STREICHER.

STRING PEG DEVICE FOR MUSICAL INSTRUMENTS.

No. 548,475.

Patented Oct. 22, 1895.

Fig. 1.

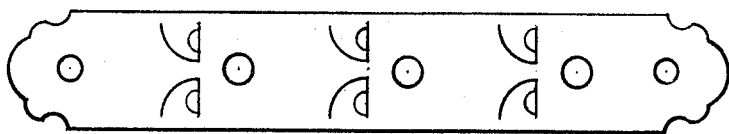


Fig. 2.

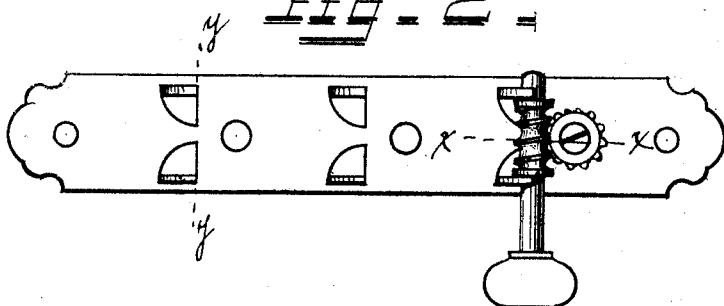


Fig. 3.

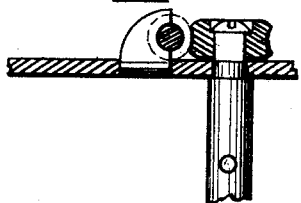


Fig. 4.



Fig. 5.

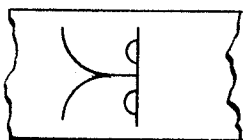
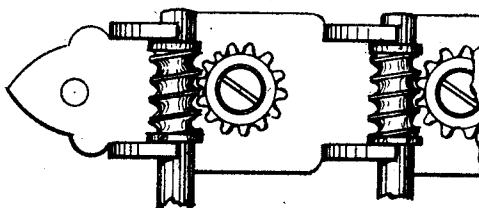


Fig. 6.



Witnesses:
Thos. M. Chuck
Frank M. Dorman.

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UNITED STATES PATENT OFFICE.

ALOIS STREICHER, OF CINCINNATI, OHIO, ASSIGNOR TO THE JOHN CHURCH COMPANY, OF SAME PLACE.

STRING-PEG DEVICE FOR MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 548,475, dated October 22, 1895.

Application filed March 18, 1895. Serial No. 542,172. (No model.)

To all whom it may concern:

Be it known that I, ALOIS STREICHER, a citizen of the United States, residing at Cincinnati, Ohio, have invented new and useful Improvements in String-Peg Devices for Musical Instruments, of which the following is a specification.

My invention relates to the screw-peg devices employed on guitars, mandolins, and other stringed instruments for regulating the tension of the strings and the pitch of the tone produced, these devices being generally known in the trade as "patent heads;" and it consists in an improved construction by which the cost of manufacture is reduced and a superior and more durable and efficient article is produced wherein there are no separate parts to become loose and rattle, and repairs are much facilitated.

To this end my invention consists in a so-called "head" embodying a homogeneous plate of metal in which the string-pegs are journaled, provided with bearing-lugs for the screw-shaft struck up from the same plate of metal and fitted with the screw, string-peg, and worm-gear, all as hereinafter described.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a blank of sheet metal showing the initial cuts made by the die-punches in the act of forming the lugs. Fig. 2 is a plan of the plate as completely formed, showing one of the screw-gears and pegs in place. Figs. 3 and 4 are sections on the lines xy of Fig. 2, showing position, form, and relation of the lugs; and Fig. 5 is a plan view of a portion of a blank, showing the cuts for the tongues merged at the center. Fig. 6 is a plan view of a modification of structure.

Referring now to the drawings, A designates the plate of sheet metal upon which the pegs and screw-gears are mounted. It is intended to be formed complete in one or at most two operations in a suitably-formed die-press (not shown) by dies suitably constructed to, first, in addition to cutting the marginal contour of the plate, as shown, punch the semicircular hole; second, form the lines of cut $b' b^2 b^3$, (meeting at b^2), leaving the metal intact between the terminals $b' b^3$ of the cut,

and, thirdly, bend downward the tongue b , formed by the cut, so as to stand outward perpendicular to the general plane of the plate, as shown in Figs. 2, 3, and 4. These tongues b are arranged oppositely in pairs, as shown, preferably leaving a central portion b^4 of the plate intact between each two tongues of a pair in order to maintain the general strength of the plate. This, however, is not absolutely essential, as the cuts $b^2 b^3$ may merge toward the point b^2 , and the opposite cuts $b' b'$ meet centrally at b^2 , all as shown in Fig. 5, if preferred, thus somewhat simplifying the cutting-die and also somewhat enlarging the tongues b , but at the expense, to some extent, of the base-plate, which is thus deprived of the central bridge b^4 , separating the aperture produced by cutting and forcing out the tongues. In front of and midway between the tongues b the plate is perforated, as at c , for the string peg or post p , which is preferably constructed as follows: The string-peg is larger in diameter than the perforation c , and is therefore turned down to form a shank c' , exactly fitting the perforation c in diameter and length, leaving a squared projection c^2 above the plate to receive the worm-wheel w , which is held in place by a screw s threaded axially into the end of the peg and securing the worm-wheel rigidly thereto.

The worm-wheel and squared projection of the post may be so made as to secure a wedge fit, in order to constitute the lower face of the worm-wheel a projecting shoulder at one side of the plate to correspond with the turned shoulder formed by reducing the shank c' at the other, the object being to secure an accurate and permanent bearing for the peg in and upon the plate to resist all stresses and maintain an easily-operative relation without rattling, &c.

The plate is usually made of brass or composite metal containing copper, which acquires hardness by bending, so that the tongues b acquire hardness by the operation of forming. There are thus formed upon the plate and projecting above its face two opposite lugs or tongues b , with corresponding open semicircular recesses a , adapted to receive a screw-shaft turned from a single piece

strikes in order to limit the movement of the latter.

The parts being constructed and arranged as described, the operation of the controller is as follows: The current from the feed-wire passes by way of the roller f , segment d^6 , lever d , roller d^2 , and one of the contact members b , to a return-wire a^6 , leading to the rheostat. The contact members b are arranged to correspond to the plugs of the rheostat, so that the position of the roller d^2 upon the particular contact member b shall control the particular plug through which the current passes into and out of the rheostat. In Fig. 1 the member indicated by the symbol x is the one where the least current is to pass, and the member indicated by the letter y is the one through which the maximum of the current is to be introduced by the way of the rheostat to the motor, the intermediate members being connected to intermediate plugs of the rheostat that are graduated from one another, as is common. The segment d^6 takes the current from the truck f , the contact members b taking current from the roller d^2 . The roller d^2 and the contact members b are so constructed and spaced that the roller does not leave one member before it has made contact with a succeeding member, in order to prevent sparking. When the roller is pushed so that it connects the last member y of the members b , the arm of the roller strikes the stop s to prevent the segment from leaving the truck and the roller from leaving a contact member. When, however, the roller is pushed toward and beyond the particular member b that is designated by the symbol x , it does not encounter the stop s' until the roller has left the contact member b and the segment d^6 has broken contact with the truck f . By this means the circuit is broken in two places simultaneously. Instead of the feed-wire of lever d taking the current from the truck by means of the segment b^6 and the truck f , we may connect the feed-wire, as shown in dotted lines in Fig. 1, with a segment r , secured to the framework, and make contact between the lever d and this segment by means of a roll r' , that may be connected

with the roller d^2 in any desired way, or we may make use of both devices for connecting the roller d^2 with the feed-wire.

Having thus explained the nature of our invention and described a way of constructing and using the same, though without attempting to set forth all the forms in which it may be made or all the modes of its use, what we claim, and desire to secure by Letters Patent, is—

1. In an electric controller, in combination, a feed wire terminal, spring pressed contact members, a pivoted lever, having at one end a part arranged to engage said terminal, and a roller upon the opposite end of said lever arranged to engage said contact members, substantially as and for the purpose set forth.

2. In an electric controller, in combination, a truck arranged as a feed wire terminal, a series of spring pressed contact members, a pivoted lever having a segment at one end arranged to engage said truck, a roller carried by the opposite end of said lever and arranged to engage said contact members, substantially as and for the purpose described.

3. In an electric controller, in combination, a truck arranged as a feed wire terminal, a series of spring pressed contact members, a pivoted lever having a segment at one end arranged to engage said truck, a roller carried by the opposite end of said lever and arranged to engage said contact members, stops s, s' , one of said stops being so arranged with respect to the length of said segment and the location of said terminals that it is not engaged by said lever until the circuit has been broken between the roller and terminals and between the segment and truck, substantially as and for the purpose set forth.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, this 18th day of May, A. D. 1893.

DANIEL J. McLANE.
GEORGE W. McCLINTOCK.

Witnesses:

A. D. HARRISON,
A. H. ABELL.