Nov. 17, 1931. O. GILBERT 1,832,379

PEG FOR STRING MUSICAL INSTRUMENTS

Filed Oct. 13, 1928

Fig. 1.

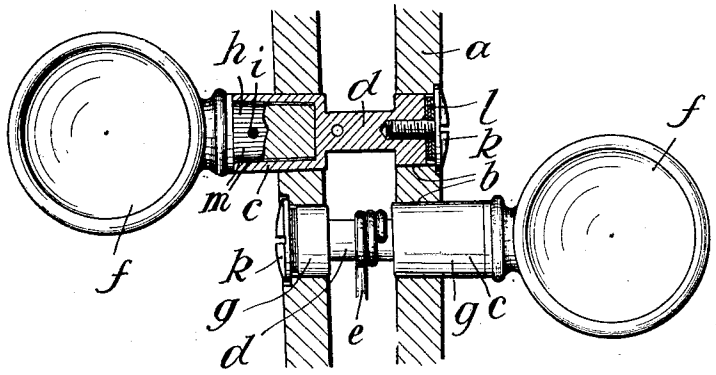



Fig. 2

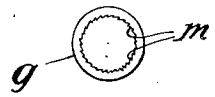
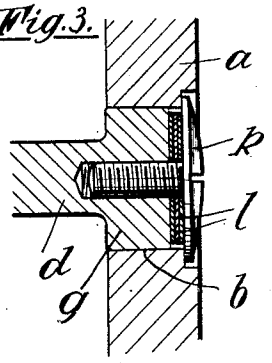



Fig. 3.




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# UNITED STATES PATENT OFFICE

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## PEG FOR STRING MUSICAL INSTRUMENTS

Application filed October 13, 1928, Serial No. 312,337, and in Germany September 13, 1928.

This invention relates to a peg for string instruments of any kind, specially violins, alto-violas, cellos, violas and the like. It is characterized in that the conical stem of the peg is made of metal and rotatably inserted in the two side walls of the peg-box of the instrument. By this arrangement an extremely good uniform friction and tight seat of metal on wood is obtained which ensures, specially also under climatically unfavourable conditions, permanently a uniform smooth rotation which cannot be obtained with the commonly used pegs. The duration of the peg is considerably increased as there is almost no wear compared with the commonly used pegs of wood rotating on wood. The conical sliding end portions of the peg are of greater diameter than the intermediate neck-shaped portion on which the end of the string is wound. By this arrangement a very finely staged tuning is obtained, specially for steel strings, as the string winds up on the intermediate portion of small diameter more slowly than on the commonly used pegs of uniform conicity. The turning requires further a minimum exertion of power, as the active lever arm of the pulling string is only about half so long as the outer braking portions. The peg cone need therefore be pressed into the peg box only with a fraction of the pressure necessary for the commonly used wooden pegs, in order to secure the same against backward rotation, The cone of the metal peg needs further not be so steep as the cone of the commonly used wooden peg, to give the same the necessary hold, whereby an increased resistance against back rotation is obtained already at slight counter pressure. To avoid the onerous pressing of the peg into the peg box during the tuning, a head screw or the like is arranged in the end of the peg, the head of said screw preventing slipping out of the peg. A number of thin intermediate discs or washers are inserted at the end of the peg and held by a counter screw. The fitting of the peg is effected in the simplest manner by inserting or removing one or several washers and by selecting washers of according thickness. When, after a certain time, the peg has no longer sufficient friction a washer is removed and the counter screw more tightened, whereby the friction of the peg in the peg box is regulated or increased. No readjusting is necessary when the peg rotation has been once correctly adjusted, as a metal cone is not influenced by climatic influences and no wearing worth mentioning is caused by friction. The handle of the peg is made of wood and fixed in the metal stem. As all parts of the peg, when the same is readily mounted, are solidly and rigidly connected the "idle run" which easily occurs with pegs of known construction and which makes accurate tuning impossible can never occur. For the same reason it is impossible that rattling or buzzing of loose parts occurs.

A peg constructed according to the invention is illustrated, by way of example, in the accompanying drawings, in which

Fig. 1 is a longitudinal section, showing the neck of the instrument in top plan view, the pegs inserted being shown the one in longitudinal section and the other in elevation.

Fig. 2 shows in end view the open end of the conical portion of the peg stem.

Fig. 3 shows in section, on larger scale, the head screw screwed into the end of the peg.

The neck of the instrument or peg-box $a$ has at predetermined distances apart two conical bores $b$ in which the pegs $c$ are inserted so that they can be rotated. The stem of each peg is made of metal according to the invention, so that friction of metal on wood is obtained, whereby a strong uniform friction is produced. The stem of the peg consists of two thick end portions $g$ and of a thin intermediate portion $d$ on which the string $e$ is wound. By the stepped peg a favourable lever power is obtained for stretching the strings. The head $f$ of the peg is made of wood and fixed in any convenient manner in the sleeve-like end portion $c$ of the peg. As shown in the drawings the part $c$ of the metal peg is sleeve-like. The inner boring of this part $c$ is also conical and has fine teeth $m$. The shank $h$ of the head $f$ is conical according to the boring of sleeve $c$ and pressed into the fine teeth $m$ so that the head $f$ is securely held in the stem. To

further secure the head in the stem a transverse bolt *i* may be driven through the sleeve-like part *c*. The peg is securely held in the peg-box *a* by a screw *k* with large flat head. Between the head of the screw and the end face of the peg thin washers *l* are inserted by means of which the rotation of the peg can be regulated. The head of screw *k* is sunk in the side wall of the peg-box *a* and the projecting rim of the screw head slides on the wall of the box, when the peg is being turned.

The metal part of the peg is preferably made of light metal so that the improved peg is not heavier than the commonly used wooden peg.

The head of handle *f* of the peg might also be of metal. If the peg and the head are made in one piece and of metal, a wooden disc may be inserted in the handle. The metal peg might be made of cast metal or turned from a solid block of metal.

I claim:—

A peg for string musical instruments made from a single piece of light metal, comprising in combination with the peg box, a conical stem of the peg rotatably mounted in the two side walls of said peg box, and having a reduced central portion for winding its string, interchangeable washers in the wall of said box, and a screw engaging in the outer end of said peg and on the outer wall of said peg box adapted to coact with said washers to determine the depth of engagement and regulate the movement of said peg in said box, and having an edge surface bearing against the outer wall of said peg box considerably smaller than its bearing surface on said washers, to prevent the automatic working loose of said peg in said peg box.

In testimony whereof I affix my signature.

OTTO GILBERT.