(No Model.)

# S. B. DIETZ, Jr.

## KEY FOR MUSICAL STRINGED INSTRUMENTS.

No. 504,024. Patented Aug. 29, 1893.

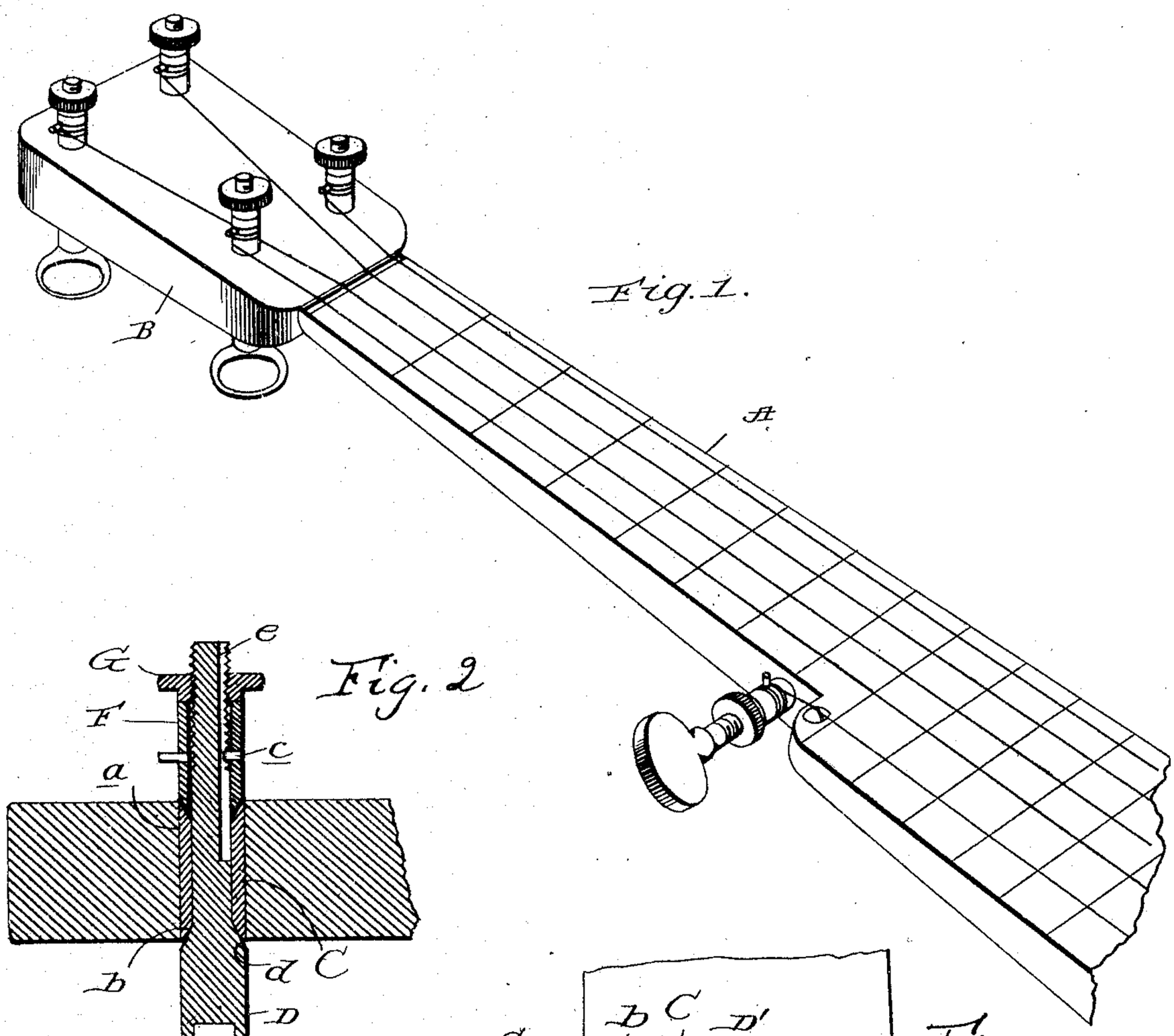


Fig. 1.

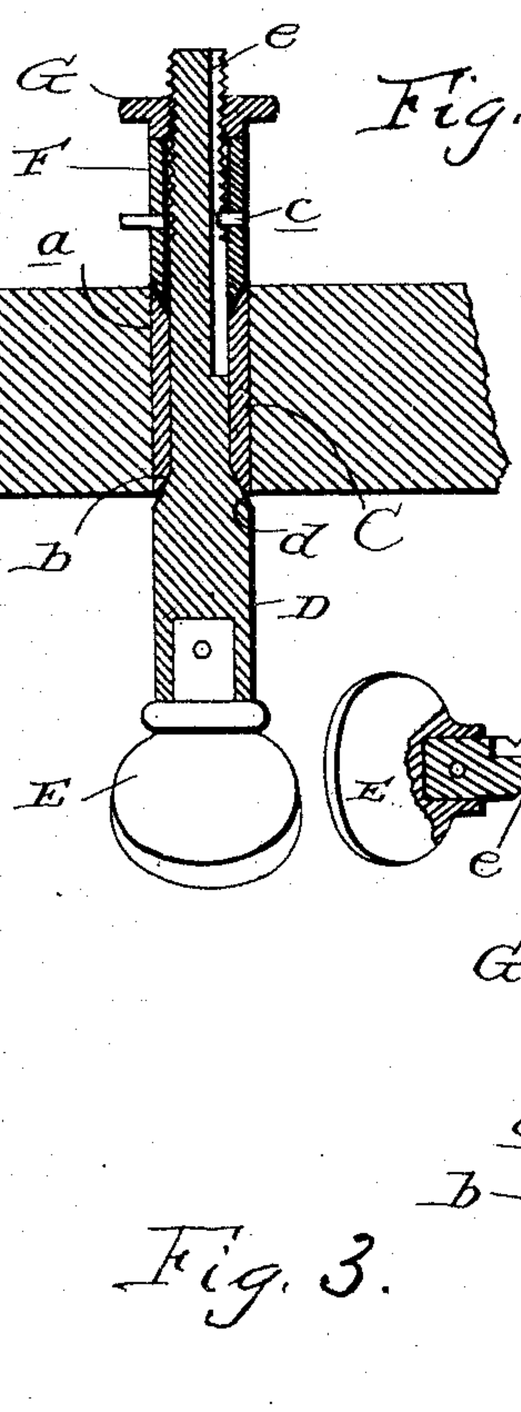


Fig. 2

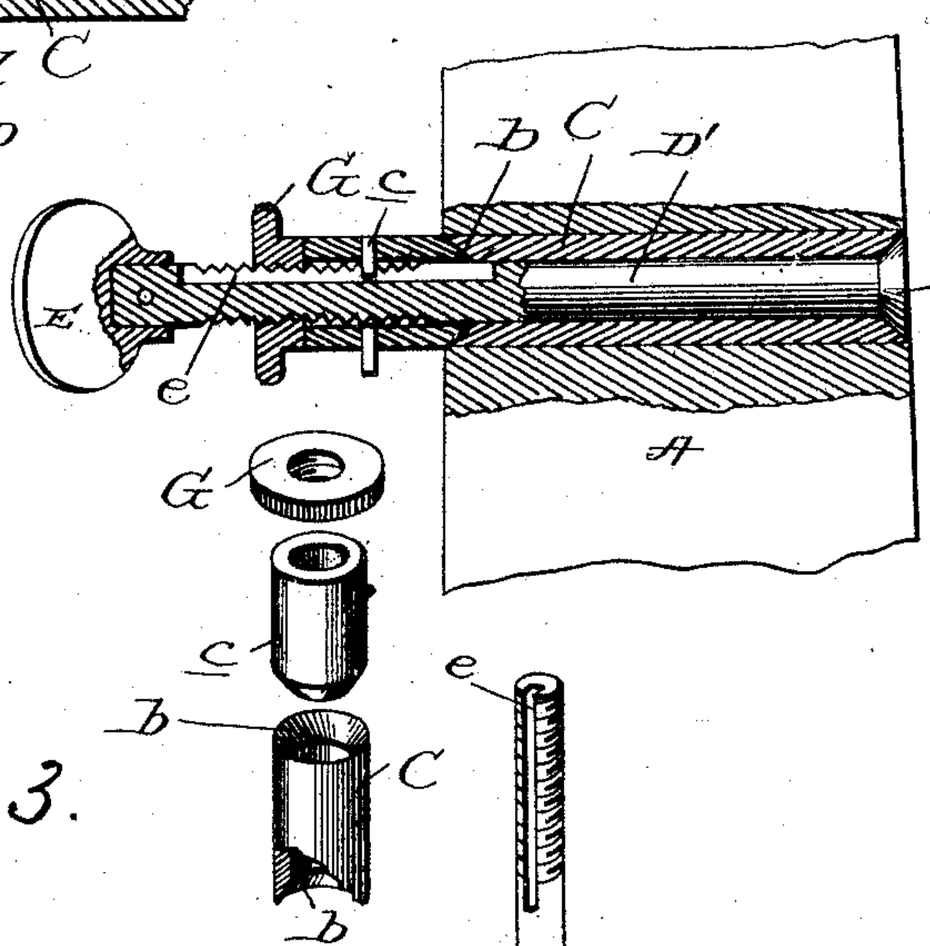


Fig. 4.




Fig. 3.

Witnesses.
C. H. Raeder
R. F. Matthews

Inventor
Sydenham B. Dietz Jr.
By
James J. Sheehy
Attorney

# UNITED STATES PATENT OFFICE.

SYDENHAM B. DIETZ, JR., OF WASHINGTON, DISTRICT OF COLUMBIA.

## KEY FOR MUSICAL STRINGED INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 504,024, dated August 29, 1893.

Application filed April 21, 1893. Serial No. 471,335. (No model.)

*To all whom it may concern:*

Be it known that I, SYDENHAM B. DIETZ, Jr., a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Keys for Musical Stringed Instruments; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in tuning pegs, or keys, for stringed musical instruments; such as banjos, guitars, violins, and the like, and may be advantageously used upon pianos, and it has for its general object to remedy the objectionable casual loosening of the strings of such instruments, by providing a tuning peg, which, when adjusted to tighten a string and gain the desired tone, will not be liable to casual rotation or loosening.

Other objects and advantages will appear from the following description and claims, when taken in connection with the annexed drawings, in which—

Figure 1, is a perspective view of the neck and head of a banjo, provided with my improvements. Fig. 2, is a detail sectional view taken through the head of the banjo and one of my improved pegs or keys. Fig. 3, comprises perspective views of the several parts of my improved peg, and Fig. 4, is a section taken through the neck of the banjo, illustrating the modified construction of peg for tuning the short "E" string.

Referring by letter to said drawings:—A, indicates the neck of a banjo or kindred instrument, and B, indicates the head thereof, both of which may be of the ordinary or any approved form and construction. The head B, is provided with a series of transverse apertures *a*, which are designed to receive the bushings C, of my improved pegs or keys, of which any desired number may be employed. These bushings C, are preferably formed from metal and are fixed in the head B, and they have their ends beveled outwardly, as illustrated at *b*, for a purpose presently to be explained.

D, indicates the shank of the peg, to which the handle piece E, is fixed, and F, indicates the sleeve through the medium of which a string is connected to the shank. This sleeve F, is mounted upon the reduced portion of the shank, and is provided with a stud *c*, which engages the spline groove *e*, of said shank, whereby it will be seen that while said sleeve is fixed to turn or rotate with the shank, yet it may be moved longitudinally upon the same, for a purpose presently described.

The inner end of the sleeve F, and the shoulder *d*, of the shank D, are beveled inwardly as better shown in Fig. 2, to engage the beveled ends of the bushing C, and by reason of this construction it will be seen that when the parts are brought into contact by turning the nut G, up on the threads of the shank, a large friction surface will be afforded and the shank and the sleeve will be fixed with respect to the bushing, and will be effectually held against casual rotation. Thus a string connected to the sleeve will be securely held at the desired tension until the nut G, is loosened, which is an important desideratum, as is obvious.

In order to tune a string through the medium of one of my improved pegs, it is simply necessary after the nut G, has been turned to a certain point to turn the shank D, and sleeve F, until the string is sufficiently tight, when the friction in the beveled or conical bearings will hold the key in such position.

The construction of peg illustrated in Fig. 4, which is designed to tune the short E-string of the instrument, is similar to the construction shown in Fig. 2, with the exception that the shank D′, is provided with a beveled head *d′*, instead of a shoulder and the sleeve F, and nut G, are mounted between the hand piece E, and the neck of the instrument instead of upon the extended end of the shank. This modified construction is also similar in principle and is operated in the same manner as the head pegs; it being simply necessary to loosen the nut when the shank is to be rotated, and tighten said nut when the shank is to be locked with respect to the bushing.

While I have described the bushing C, of my peg in combination with the shank and sleeve F, I do not desire it understood that said bushing is essential to a successful oper-

ation of the device, as I have found from experience that the shank may be journaled in an aperture formed in the head or neck of an instrument and may be fixed with respect thereto by beveling the ends of the aperture in a manner similar to the beveled ends of the bushing, so as to gain the increased friction surface. It is also obvious that the spline groove may be dispensed with and the threaded shank flattened on one side, in which case, the bore of the sleeve would be correspondingly flattened and in such cases, the stud or pin *c*, would be dispensed with.

It will be noted from the foregoing description when taken in connection with the drawings that my improved peg is very simple and durable; that it may be readily placed in position upon a banjo head or neck; and that it is positive in its action and its efficiency is consequently not affected by changes of temperature, all of which are important advantages. It will also be observed that after the key has been adjusted in its bearing or bushing, it is not necessary every time the key is tuned or a string tightened, to either tighten or loosen the nut as the friction obtained by the beveled surfaces of the contacting parts will be sufficient to keep the key from casually turning or working loose; the function of the nut being mainly to tighten or adjust the key as the parts become loose from use and wear and to permit of the parts being separated in placing them on an instrument.

Having described my invention, what I claim is—

1. In a tuning peg, the combination of a threaded shank, a sleeve fixed to rotate with the shank and having a longitudinal movement thereon, and a nut engaging the threads of the shank and adapted to move the sleeve; the said shank and sleeve being provided with beveled surfaces to engage a bushing or bearing, substantially as and for the purpose set forth.

2. In a tuning peg, the combination with a bushing having its ends beveled; of a shank journaled in the bushing and having threads and also having a beveled surface to engage one end of the bushing, a sleeve fixed to rotate with the shank and having a longitudinal movement thereon and also having one of its ends beveled to engage the beveled end of the bushing, and a nut engaging the threads of the shank and adapted to move the sleeve, substantially as and for the purpose set forth.

3. In a tuning peg, the combination with a bushing adapted to be fixed in the neck or head of a banjo and having its ends beveled; of a threaded shank journaled in the bushing and having the beveled shoulder *d*, and also having a spline groove *e*, a sleeve mounted on the shank and having its inner end beveled and also having a stud in engagement with the groove *e*, of the shank, and a nut mounted on the shank and adapted to adjust the sleeve F, substantially as and for the purpose set forth.

4. As an improved article of manufacture, a tuning peg or key, having a shoulder, a shank extending from the shoulder, and having a portion of its length threaded, and a slidable sleeve arranged on the shank and having its inner end beveled, and a nut for adjusting said sleeve on the shank, substantially as specified.

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

SYDENHAM B. DIETZ, JR.

Witnesses:
EDWIN F. CAMPBELL,
HELEN V. DIETZ.