A. KRAUTH.

MUSIC STAND.

APPLICATION FILED AUG. 23, 1917.

1,312,485. Patented Aug. 5, 1919.



Fig. 1.

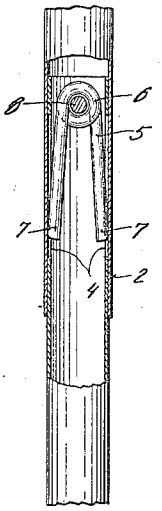


Fig. 2.

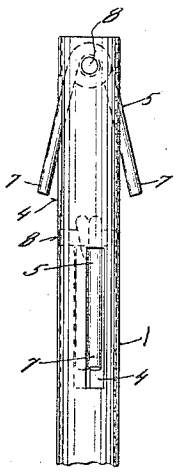


Fig. 5.

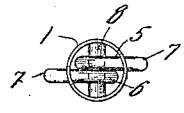


Fig. 3.

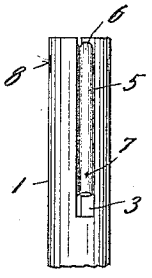


Fig. 4.

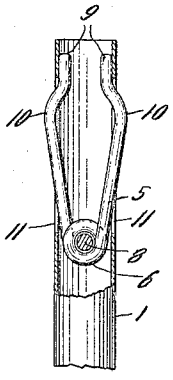


Fig. 7.

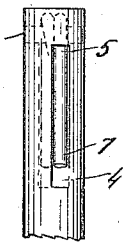


Fig. 6.

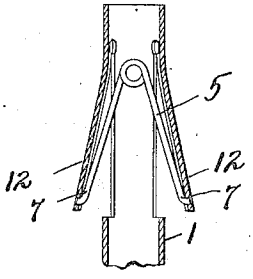


Fig. 8.

Witnesses

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UNITED STATES PATENT OFFICE.

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MUSIC-STAND.

1,312,485. Specification of Letters Patent. Patented Aug. 5, 1919.

Application filed August 23, 1917. Serial No. 187,855.

To all whom it may concern:

Be it known that I, ALBERT KRAUTH, a citizen of the United States, and residing at Hamilton, in the county of Butler and State of Ohio, have invented new and useful Improvements in Music-Stands, of which the following specification is a full disclosure.

My invention relates to a longitudinally adjustable support member of telescopic tubular structure adapted to be used for supporting a music rack, or to other similar usage where longitudinal adjustment is required.

The object of the invention is to provide a simple, cheap and efficient structure, with tension means automatically operating to firmly hold the telescopic members in adjusted position; and yet yielding under extra pressure to enable the telescopic action of the members.

One of the objects is to provide tension means which will automatically equalize tension at opposite sides of the tube; and to provide tension means swivel-supported in a manner to prevent any binding due to inequality of pressure or irregularity of position.

Other features and objects of the invention are readily comprehended from the following description of the accompanying drawings and in the drawings like characters of reference denote corresponding parts throughout the several views of which:

Figure 1 is a plan view of the end portion of two telescoping tube sections, detached, with the end of the insert tube section provided with my improved tension or function means.

Fig. 2 is a view partly in section of the two tube sections telescopically engaged.

Fig. 3 is an end elevation of the insert tube section.

Fig. 4 is a side elevation of the same.

Fig. 5 is an elevation of the end of the insert tube section modified and providing two tension and friction devices.

Fig. 6 shows a modified form of end of insert tube provided with my improved tension devices.

Fig. 7 is a partly sectional view of a modified form of tension devices.

Fig. 8 is a sectional view of the end of a tube with another modified form of tension devices.

The inner tube member 1 telescopically enters the outer tube member 2, the fit being snug, and yet enabling free telescopic action. It is not essential that both members be hollow, or tubular, or that the cross section be circular, though the invention has most advantageous application to the telescoping tube species.

The tension member is carried in the end of the inner tube, and the tube end may be cut out at each side full length of the tension member, as at 3, Fig. 4, or the cut out portions may be along the lower or limb portions of the tension members, as shown at 4, Fig. 6.

The tension member 5 consists of resilient wire looped at an intermediate portion to form a swivel eye 6, and the diverging spring limbs 7, normally spreading apart a distance greater than the tube diameter, but compressible into the tube diameter.

A diametrical pivot 8 is secured in the tube and extending transversely to the orifice 3 or 4, the limbs 7 extending outwardly through these diametrically disposed orifices or slots in the opposite walls of the tube.

In this simplest form, (Fig. 1), the tubes are ready to be telescoped, and the tension limbs 7 point away from the outer telescoping member, enabling the inner tube to be easily inserted into the outer tube as shown in Fig. 2, that is to say, the limbs diverging from the eye in the direction in which the telescope is extensible.

The limbs 7 or portions of them extend outwardly through these orifices or slots 3, and frictionally engage the inner surface of the outer tube to impose friction at opposite diametrical portions of this outer tube.

The loop enables the swivel mounting whereby the tension is equalized and binding is prevented. Also, this enables the use of resilient wire which can loosely fit on the pivot and requires no close fitting or machining or skilled labor. This loop also provides a resilient coil rendering the diverging limbs compressible. It enables the tubes to be most easily telescoped and adjusted, and yet provides a sufficiently forcible friction lock to adapt the structure to light usage such as sustaining a music rack at the desired height without slipping.

If desired, two such tension members may be provided in the end of the near tube, one above the other, and arranged preferably in transverse planes as shown in Fig. 5, in

which event, of course, the tube is formed with a pair of diametrical slots for each of the tension members.

In the modification, Fig. 7, the tension limbs at their extremities 9 bend inwardly to lie within the tube, providing the diverging bearing elbows 10 which project through the slots 11, these slots not extending far enough to permit the ends of the limbs from being out of the tube.

It is easy to telescope the tubes because of the swivel tension support and because of the convergence toward the swivel in the direction of insertion.

Telescoping action is slightly easier than when the movement is in the direction of divergence.

This telescoping device is cheap, strong, easily made, and reliable. The equalization of tension renders the operation smooth, and yet positive at all times, and there are no parts to get out of adjustment, or weak elements likely to be easily broken.

In the modification, Fig. 8, the tube 1 is slitted at opposite sides to form a pair of tongues 12—12, retaining the metal which is cut away in forming the notches in the tube of the several other forms shown. Each tongue 12 is bent outwardly. A tension member 5 is interposed between the tongues and within the tube having its spring limbs 7 respectively fixed to the free ends of the tongues.

Having described my invention, I claim:

1. A device of the class described comprising longitudinally adjustable telescoping members, a tension device having one end swivel-connected to the inner telescoping member and having diverging compressible limbs projecting from opposite sides of the inner telescoping member and frictionally engaging interior surfaces of the outer telescoping member.

2. A device of the class described comprising an outer and inner telescoping tube, the inner tube having diametrical slots and a transverse pivot, a resilient wire intermediately looped to form an eye swiveled on said pivot and providing diverging compressible limbs, portions of which project through said slots for frictionally engaging portions of the outer tube.

3. A device of the class described comprising telescoping tubes, the inner tube being formed with diametrical slots and a transverse pivot, a tension member on the pivot having compressible limbs normally projecting through said slots.

4. A device of the class described comprising telescoping tubes, the inner tube being formed with diametrical slots and a tension member pivoted within the inner tube and having compressible portions projecting through said slots.

5. A device of the class described comprising a pair of tubes telescopically united, and a piece of wire bent to form a coil and two oppositely diverging limbs compressible toward each other, pivotally secured at the coil within the inner tube of the pair with said limbs engaged through openings in said inner tube and frictionally bearing against the outer tube.

In witness whereof, I hereunto subscribe my name, as attested by the two subscribing witnesses.

ALBERT KRAUTH.

Witnesses:
GEO. W. MCGILLIARD,
ELLA CLENDENIN.