A. ZONDLO.

MUSIC STAND.

APPLICATION FILED SEPT. 21, 1920.

1,368,317.

Patented Feb. 15, 1921.

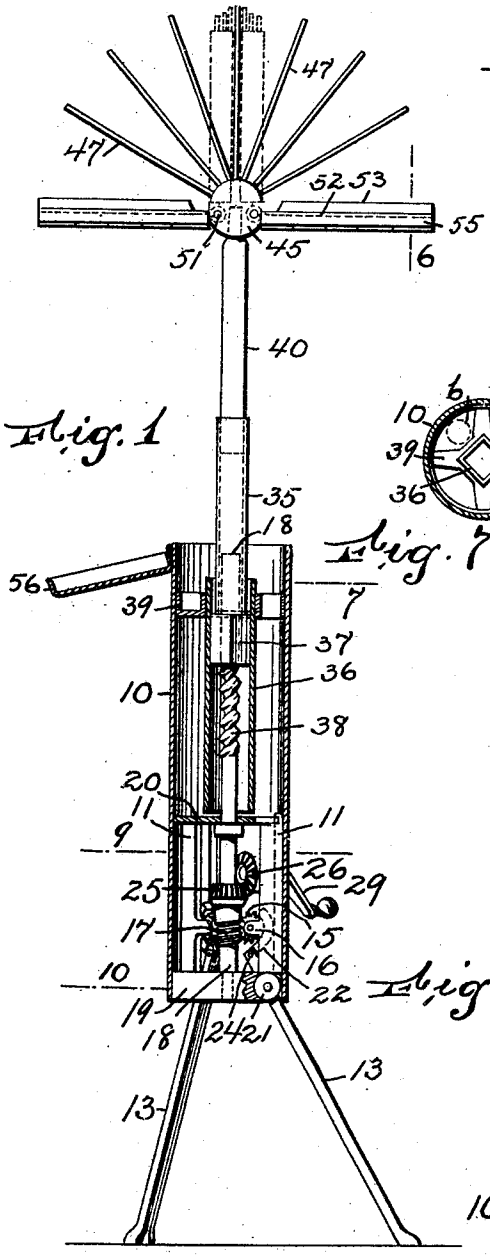


Fig. 1

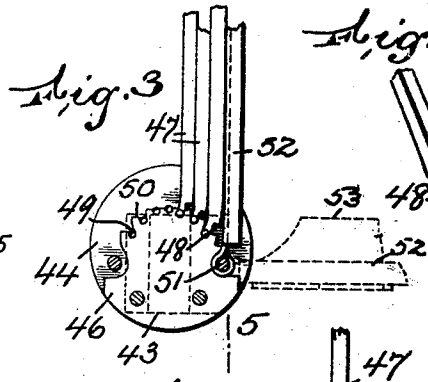


Fig. 3

Fig. 4

Fig. 7

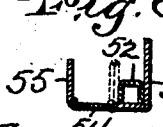


Fig. 6

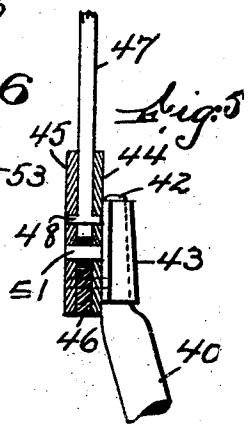


Fig. 5

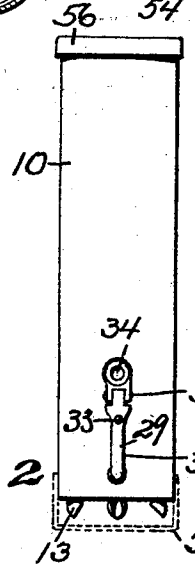


Fig. 2

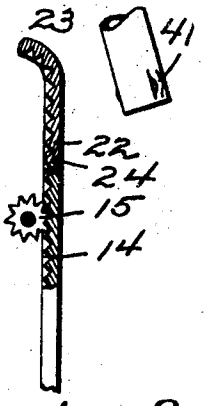


Fig. 8

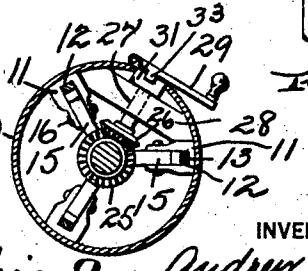


Fig. 9

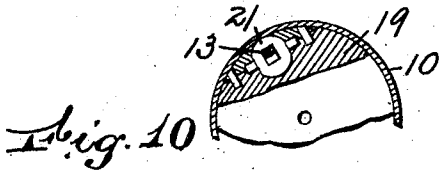


Fig. 10

INVENTOR

Andrew Zondlo,

BY

Mc Campbell

ATTORNEY.

UNITED STATES PATENT OFFICE.

ANDREW ZONDLO, OF PASSAIC, NEW JERSEY.

MUSIC-STAND.

1,368,317. Specification of Letters Patent. Patented Feb. 15, 1921.

Application filed September 21, 1920. Serial No. 411,706.

To all whom it may concern:

Be it known that I, ANDREW ZONDLO, a citizen of the United States, and a resident of Passaic, county of Morris, and State of New Jersey, have invented certain new and useful Improvements in Music-Stands, of which the following is a specification.

This invention relates to an improved music stand which is adapted to be, for the most part, contained in one unitary structure which is adapted to be extended when required for use, and also to be nested or assembled when it is not in use, so that a small compact article is presented when it is not extended.

The invention further consists of a music stand of this kind which consists of a casing which forms a part of the music stand in addition to its function as a casing, and has feet at the bottom and a stem at the top which can be projected from the casing, preferably simultaneously, and similarly simultaneously withdrawn within the casing when desired.

The invention further consists of a casing which is adapted to receive the leaf or sheet holder which supports the music, which, for this purpose, is made so that it can be folded.

The invention further consists of certain details of construction which will be hereinafter more fully described and finally embodied in the claims.

The invention is illustrated in the accompanying drawing, in which Figure 1 is a front view of the device with the casing shown in section. Fig. 2 is a side view, with the parts assembled, illustrating the compact package formed by this device when the parts are fully assembled. Fig. 3 is a detail, on an enlarged scale, of the sheet music holder, this view illustrating the hub portion with its front plate removed and the fingers of the bottom section on the left hand side of the figure also removed. Fig. 4 is a perspective view of the bottom end of one of the fingers. Fig. 5 is a section taken on the plane of line 5 in Fig. 3. Fig. 6 is an enlarged section of the bottom section of the sheet holder, taken on line 6 in Fig. 1. Fig. 7 is a section of the casing on line 7 in Fig. 1. Fig. 8 is a detail view showing the top part of one of the legs and the gear for operating it. Fig. 9 is a section on line 10 in Fig. 1, and Fig. 10 is a section to illustrate one form of swinging guide for the legs, taken on a plane indicated by line 10 in Fig. 1.

The music stand is made up of members which are extended when the stand is to be used, the preferred form being to have such extensible members mounted in a casing which forms a part of the support, in the drawing the casing 10 being shown, this casing being preferably tubular and usually made in the form of a cylinder. To properly support the extensible members I provide a frame which is securely fastened within the casing, the lower part of the frame acting as a support for the legs, the frame including guides or slide-ways 11 which are channeled, as at 12, to receive the legs 13, these legs being adapted to be withdrawn within the casing when the device is folded, and to be projected from the casing when the article is to be used for supporting sheet music and the like.

In the form shown the legs are provided with ratchet teeth 14, this being clearly shown in Fig. 8, these ratchet teeth being adapted to be engaged by gears 15 rotatable in bearings 16 on the slide-ways or arms 11, these gears being preferably all actuated from a single worm 17 on a shaft 18, which shaft is mounted with one end in the bearing in the bottom plate 19 and passes through the upper plate 20 and is rotated by means to be hereinafter more fully described.

In order to permit the divergence or separation of the bottom parts of the legs when they are extended I provide swinging guides 21 mounted in the bottom plate 19 and adapted to swing outward when the legs are divergent, this being possible by reason of the extensions 22 on the legs, each of these extensions having a curved top 23, each extension being pivoted, as at 24, to its respective leg, and when the curved portion is engaged by the gear it is swung so that its lower end or pivoted end projects inwardly, as distinctly shown in Fig. 1, which causes the leg and its swinging guide 21 to assume the position shown in Fig. 1, and the legs, when so divergent, are held in such position and form a substantial and positive support for the music stand.

The shaft 18 can be rotated in any desired way, but I prefer to rotate it by means of gearing, the gear 25 being mounted on the shaft 18 and the gear 26 being placed on a short shaft 27 mounted in the bearing 28, which is preferably part of the frame, and a handle 29 is the means by which the short shaft 27 is turned. The particular form of

handle I have illustrated comprises the crank handle 29 pivoted at 30 to the boss 31 on the shaft 27, so that when not in use the handle can be swung so that it extends into a cut-away part 32 in the casing and the whole surface is substantially flush.

When the shaft is to be rotated the handle is swung upward, the stud 33 enters the opening 34 in the collar 31, and, the handle being in the position illustrated in Fig. 9, the shaft can be rotated, since the handle portion 29 is swung outside the surface of the casing.

The stem 35 slides in the upper part of the frame, said upper part of the frame consisting of a straight-sided part 36 which is usually in the form of a rectangular sleeve. The straight-sided or rectangular part 37 of the stem is thus held against rotation, but is permitted to travel longitudinally. The shaft 18 on its upper end is provided with a screw-thread 38, and the part 37 is provided with a screw-thread, so that as the shaft 18 is rotated the stem 35 is moved longitudinally.

The parts are so disposed that when the shaft 18 is rotated to project the legs from the bottom of the casing the stem 35 is projected from the top. The sleeve 36 is mounted in a spider 39, which is preferably made as shown in Fig. 7, having three spaced arms so as to leave a space for the reception of the folded sheet or music holder to be described hereinafter.

In order to permit a more elevated position for holding the music in such position as is desired, I provide an extension 40 which is usually made so that it is frictionally held in the stem, such as by means of the spring lips 41 illustrated in Fig. 5, the top part of the extension being adapted to support the sheet or music holder and is usually provided with a lip 42 which enters a socket 43 on the rear of the hub or central portion of the sheet holder.

The sheet holder is made foldable, the preferred form comprising a hub with a rear plate 44 and a front plate 45, between these being arranged the center plate 46. Fingers 47 are made with transverse studs 48 which fit into openings 49 in the front and back plates and rest in recesses in the middle or center plate 46, the center plate being cut away so as to provide stops 50 which limit the outward swinging of the fingers, but permit these fingers to be nested, as in Fig. 3, or they can be extended to form a fan-like structure, as shown in Fig. 1.

On each side of the sheet holder are the bottom sections which act to support the bottom of music books or the like, which supports or bottom sections are preferably made so that they fold over and inclose the folded fingers, as shown in dotted outline in Fig. 1.

In Figs. 3 and 6 I show this part of the device more in detail, each bottom section being mounted on a pivot 51 and having a stiffening rib 52 with a lip bent around to form a knuckle or eye through which the pin 51 passes. Secured to the stiffening or bottom rib 52 is a back plate 53 which is L-shaped and has an additional bottom section 54 hinged thereto, and a front section 55 is hinged to the front of the additional bottom section, these parts being adapted to be folded, as shown in dotted outline in Fig. 6, and when thus folded can be swung upward from the position shown in full lines in Fig. 1 to the position shown in dotted lines in the same figure, and when so folded can be slid into the casing in the position shown at *a* in Fig. 7, for which reason I prefer to eliminate one of the arms of the spider 39.

This structure also permits the extension 40 to be slid into place, as at *b* in Fig. 7, so that when thus assembled and the shaft 18 turned to withdraw the stem 35, a suitable lid, such as the lid 56, can be closed over the upper end of the casing.

It will be evident from this description that a complete music stand can be quickly extended by turning the handle 29, and when it is no longer desired for use all that it is necessary to do is to fold up the sheet holder at the top, slip it into its place in the casing, and the extension 40 is then slipped down into its place in the casing, the handle 29 rotated to cause the withdrawal of the legs and of the stem, and the lid 56 can then be put in position and a compact package is the result which can be carried in the usual music case or music roll.

If desired, the bottom part of the casing can be closed by a suitable cover 57, shown in dotted outline at the bottom of Fig. 2.

Slight changes and modifications can be made in the details of construction without departing from the scope of the invention.

I claim:

1. A music stand comprising a casing, a stem adapted to project from the top of the casing, feet adapted to be projected from the bottom of the casing, mechanism for projecting the stem and the feet from the casing, said means also including a structure which locks the stem and legs in their projected positions, and a sheet holder adapted to be detachably secured to the top of the stem.

2. A music stand comprising a tubular casing, a frame in the casing, legs sliding in the frame, a stem sliding in the frame, operating means for simultaneously projecting the stem and the legs from the casing, the structure including means for locking the stem and legs in position after they are projected, and a sheet holder adapted to be detachably secured to the top of the stem.

3. A music stand comprising a tubular casing, a frame in the casing, a shaft rotatable in the frame, a stem sliding in the frame and held against rotation and being in screw-threaded engagement with the screw thread on the shaft, legs sliding in the casing, an operative connection between the legs and the stem so that when the shaft is rotated the legs are moved and the stem is slid, and a sheet holder on the top of the stem.

4. A music stand comprising a tubular casing, a frame in the casing, a shaft having a screw-thread thereon and also having a worm, a stem slidable in the casing but held against rotation therein, said stem having a screw-thread to engage the screw-thread of the shaft, legs slidable in the casing, gear wheels engaging ratchets on the legs, said gears being mounted in the frame and being operable by the worm on the shaft, whereby when the shaft is rotated the stem and the legs are slid in unison.

5. In a music stand, a sheet holder comprising a hub, the hub having a rear plate, a central plate and a front plate, the front and rear plates having openings therein, the central plate having recesses in line with said openings, stops between said recesses, fingers having transverse studs to enter the opening in the front and back plates and having stops to engage the stops on the center plate to limit the swinging of the fingers, whereby the fingers can be nested or can be separated to form a fan-like structure, and bottom plates having means co-acting with means on the hub for limiting the outward movement of said bottom plates.

6. In a music stand, a casing having a frame therein, swinging guides, legs slidable in the swinging guides and in the frame, ratchet teeth on the inner faces of the legs, an extension on each leg having a curved top, the extension having ratchet teeth, gears in mesh with the ratchets of the legs, a worm in mesh with the gears, the extension of each leg being pivoted to its leg so that when the extension is in engagement with its respective gear the legs and their guides are swung and thus placed in divergent supporting position.

In testimony that I claim the foregoing, I have hereto set my hand, this 20th day of September, 1920.

ANDREW ZONDLO.