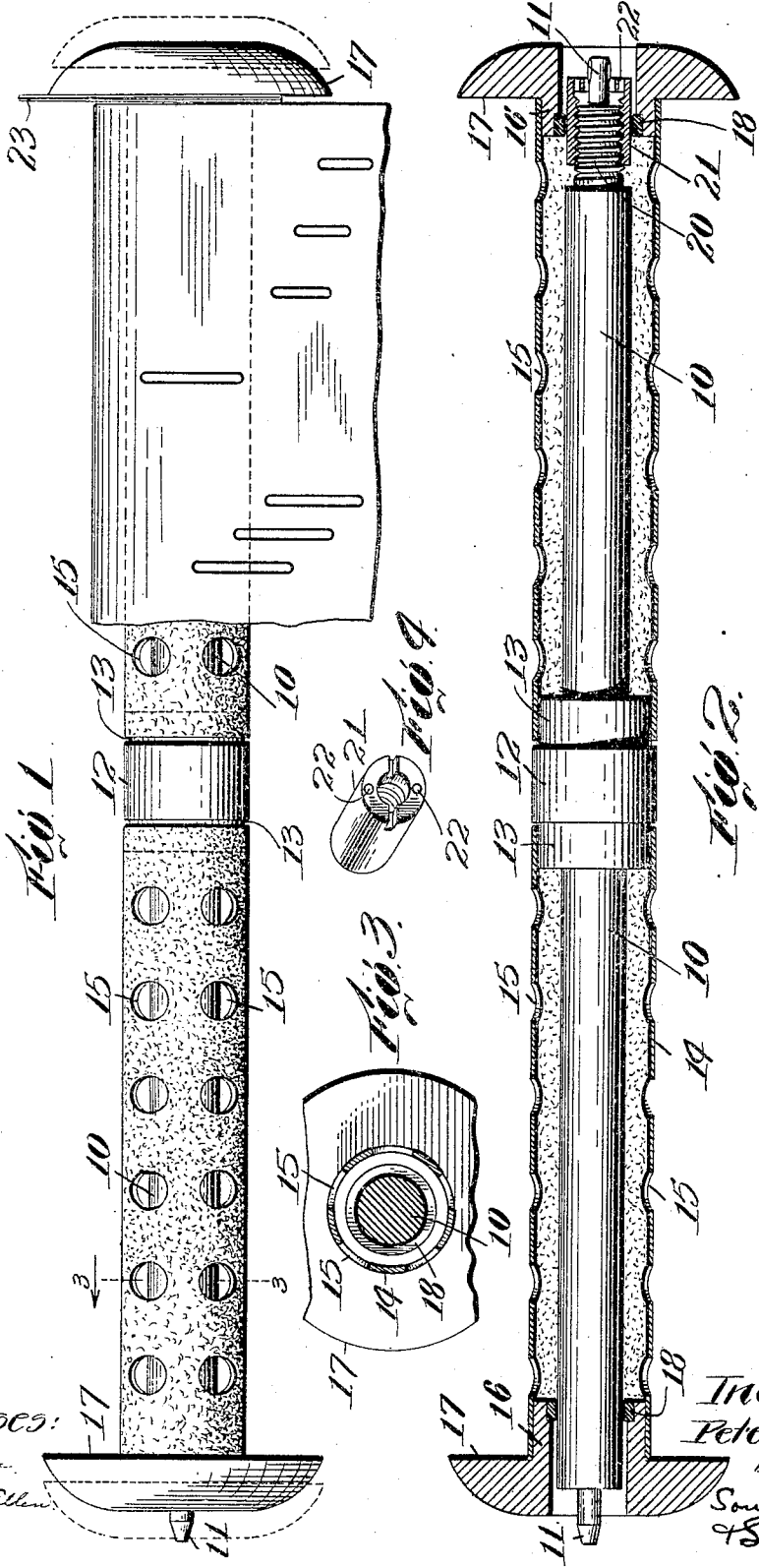


P. WELIN.
MUSIC SPOOL.

APPLICATION FILED MAY 29, 1907.

962,685.

Patented June 28, 1910.



Witnesses:
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UNITED STATES PATENT OFFICE.

PETER WELIN, OF NEWCASTLE, INDIANA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO
THE KRELL AUTO-GRAND PIANO CO. OF AMERICA, OF CONNERSVILLE, INDIANA,
A CORPORATION OF INDIANA.

MUSIC-SPOOL.

962,685.

Specification of Letters Patent. Patented June 28, 1910.

Application filed May 29, 1907. Serial No. 376,351.

To all whom it may concern:

Be it known that I, PETER WELIN, a citizen of the United States, residing at Newcastle, in the county of Henry and State of Indiana, have invented a new and useful Music-Spool, of which the following is a specification.

This invention relates to a spool for the perforated music sheets employed on so-called automatic pianos and piano players. In the use of this perforated paper, it has been found that it is affected by changes in atmospheric conditions and that during the winter when houses are heated and the air is dry, the music sheet shrinks, while during the warm weather, it expands on account of the moisture. This is a difficulty which has been recognized for some time and many inventions have been made with the idea of obviating it.

The principal object of the present invention is to provide a music spool of such a character that it will expand and shrink in the same way as the music sheet itself, automatically which can be readily and conveniently adjusted. This is accomplished by making a spool of paper or similar material which will expand with moisture, in the same way as the paper music sheet, and form it in such a manner that it will be capable of having a certain motion toward and from the center so that the flanges may be placed at different distances from each other; also to provide means for adjusting the length of the spool so that the same can be used for music sheets having extra perforations and consequently having a greater width than the standard sheets.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings which illustrate a preferred form of the invention and in which,

Figure 1 is a plan of a spool showing paper on one end and broken away. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a sectional view on the line 3—3 of Fig. 1, and Fig. 4 is a perspective view of an attachment with which the device may be provided.

The spool is formed with a spindle 10 which may be of wood or other suitable material having pins 11 at its ends. This spindle is provided with a central hub 12 having reduced ends 13. The parts so far

described are rigidly secured together, the rest of the spool being removably mounted thereon. On the reduced ends of the hub 12 are placed a pair of barrels 14 made of a material having the same susceptibility of expansion on exposure to the moist atmosphere as the paper of which the music sheet is formed. They are preferably made of paper or paper-board.

In order that the air may have an opportunity to get at the barrels and consequently to expand or shrink them in the same manner as it does the paper of the roll, these barrels are provided with numerous perforations 15. Each one is secured at its outer end on a hub 16 of a movable flange 17. The inner ends of the barrels are not glued to the projections 13 but are free to move thereon so that if the flanges are forced apart, the barrels can go with them and the paper will have a support throughout the length of the barrels and on the central hub 12 which is of the same diameter as the barrels. The flanges 17 have passages there-through which receive the ends of the spindle, and each preferably is provided with a ring 18 bearing directly on the spindle so as to hold the parts centered in proper position. This ring engages the spindle with sufficient tightness so that the parts will be held together by friction during ordinary operation.

As it is desired to construct this device in such a manner that music sheets other than the standard ones can be employed, the spindle is provided with a threaded portion 20 at one end, on which is mounted a threaded bushing 21. This bushing is of the same diameter as the spindle 10 so that the ring in the flange fits it. It is provided with spanner holes 22 or the like so that it can be adjusted to lengthen the spindle without interfering with the position of the pins 11.

It will be seen that as the paper is liable to vary in width from one day to another, the perforated barrels being left loose at the center, the spool can be adjusted to suit the music sheet and will adjust itself with the expansion and contraction of the music sheet. If a space should be desired at the edge of the sheet between it and one of the flanges, a spacing piece 23 preferably of metal can be placed at this point and taken away after the music is wound on the spool.

Then there will be a space left of whatever width is desired. Ordinarily, this will always be the same space because the perforated barrel will expand and contract with the perforated music sheet. When it is desired to adjust one of the flanges to permit music wider than standard; that is, music having extra holes on the edge as used on solo instruments and some others, the bushing 21 can be adjusted to permit this.

While I have illustrated a preferred form of my invention, I am aware that many modifications may be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore, I do not wish to be limited to the exact form shown, but

What I do claim and desire to secure by Letters-Patent is:—

1. A music spool consisting of a hollow barrel of paper provided with numerous perforations interspaced throughout its circumference and length at regular intervals whereby the air may pass into the perforations from within and come into contact with a large proportion of the surface thereof to shrink or expand the same uniformly with the paper music sheet.

2. A music spool comprising a spindle having a central hub provided with reduced end portions, and two movable hollow barrels fitting over said reduced end portions of the hub and supported at their outer ends from the spindle.

3. A music spool comprising a spindle having a hub thereon provided with a reduced cylindrical end, a hollow barrel fitting over said end and movable longitudinally thereon, and means at the end of the spindle for supporting the opposite end of the barrel, said means being longitudinally adjustable on the barrel.

4. A music spool comprising a spindle having a central hub with reduced end portions, a pair of barrels movably mounted on said end portions and of the same diameter as the said hub, and flanges secured to the ends of the barrels and bearing on the spindle so as to be centered thereby.

5. A music spool comprising a spindle, a hub thereon, a barrel supported by the hub and free to move longitudinally thereon, a flange to which the end of the barrel is secured, and a bushing for supporting and centering said flange, said bushing being adjustable along the spindle.

6. In a music spool, the combination of a spindle, a hub thereon having a reduced portion, a barrel supported by said reduced portion and free to move longitudinally thereon, a flange to which the end of the barrel is secured, and a bushing for supporting and centering said flange, said bushing being adjustable on the spindle.

7. A music spool comprising a spindle having a screw threaded end, a bushing adjustably mounted on said end, and a flange mounted on the bushing, and longitudinally movable thereon.

8. The combination with a music spool having an adjustable flange and a uniform body of a spacing piece adapted to be placed on the spool in contact with the flange when the music sheet is wound thereon to insure the spacing of the edge of the sheet from the flange.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

PETER WELIN.

Witnesses:

EDWIN B. PFAU,
BEULAH NEELY.