

H. G. MILLER.
 AUTOMATIC ADJUSTABLE SPOOL FOR MUSIC SHEETS FOR MECHANICAL PIANO PLAYERS.
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Fig. 1

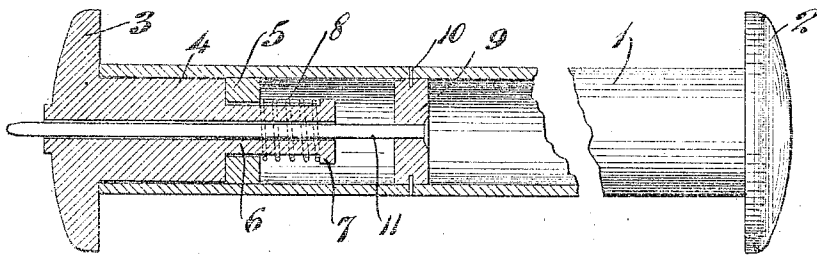
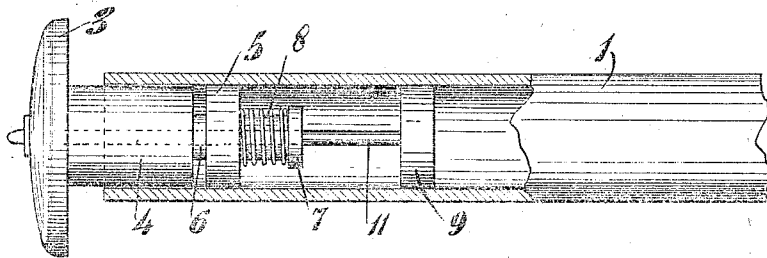


Fig. 2



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UNITED STATES PATENT OFFICE.

HARRY G. MILLER, OF CINCINNATI, OHIO, ASSIGNOR TO THE VOCALSTYLE MUSIC COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF OHIO.

AUTOMATIC ADJUSTABLE SPOOL FOR MUSIC-SHEETS FOR MECHANICAL PIANO-PLAYERS.

979,536.

Specification of Letters Patent.

Patented Dec. 27, 1910.

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To all whom it may concern:

Be it known that I, HARRY G. MILLER, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Automatic Adjustable Spools for Music-Sheets for Mechanical Piano-Players, of which the following is a specification.

My invention relates to roll spools for music sheets used for automatic piano players.

The paper of which music rolls for automatic piano players is made has been found to vary in size due to different atmospheric conditions and it has therefore been found necessary to provide means on the spool for taking care of the variation in width and still prevent the paper from binding between the end flanges of the spools.

The object of my invention is to provide a spool with an automatic adjustable flange on the end thereof for the purpose of holding the paper music sheet roll in its proper position at all times and never allow it to get out of alinement.

Another object of my invention is to provide a spool which may be adjusted to various widths of paper rolls and besides have an automatic adjustable end which will take care of the swelling and shrinking of the paper. I accomplish this result by providing an adjustable flange on the end of the hollow shank, said adjustable flange having a stem, part of which passes through a friction disk on the inside of the spool shank and is provided with a spring bearing against the shoulder at the end of said stem and against said friction disk, a stationary disk fastened on the inside of the spool shank and having a shaft passing through it and also through the flange to form a bearing member for the spool.

My invention also consists in certain details of construction and in the combination of parts herein set forth and claimed.

In the accompanying drawings which serve to illustrate my invention: Figure 1 is a view partly in side elevation and partly in longitudinal section of a music roll spool showing my improved automatic adjusting device. Fig. 2 is a portion of the roll spool

partly in section showing my improved device in adjusted position.

In my preferred construction herein illustrated 1 represents the shank of a roll spool having a stationary flange 2 on one end thereof and an adjustable flange 3 on the other end thereof. The adjustable flange 3 is provided with a stem 4 which preferably extends up to a friction disk or binding member 5. A reduced portion 6 of the stem 4 passes through the friction disk 5 and is provided with a shoulder 7 at the end thereof, against which a spring 8 is adapted to bear. The other end of the spring 8 is adapted to bear against the friction disk 5. A stationary disk 9 is provided on the inside of the shank 1 of the roll spool and is preferably held in place by pins 10. A shaft 11 is fastened to the disk 9 in some suitable manner and passes completely through the end flange 3 and extends outwardly beyond said flange a short distance to form a bearing shaft for the spool.

The friction disk or binding member 5 is adapted to slide on the inside of the shank 1 of the spool when sufficient force has been exerted to overcome the friction between the surface of the disk and the inside surface of the shank 1.

The shank 1 is preferably constructed slightly shorter than the width of the music sheet to be rolled thereon, thus causing the flange 3 to bear against the paper of the music roll and not against the end of the shank 1 of the spool.

When it is desired to roll the paper upon the spool the friction disk 5 is moved outwardly in order to give the paper plenty of room to roll upon the shank 1 of the spool, and upon completing the winding of the music sheet the flange 3 is forced inwardly, thus forcing the friction disk 5 inwardly and at the same time truing up the edges of the music sheet and placing them in their proper position. When thus adjusted, the flange 3 does not quite touch the end of the shank 1 but bears against the edges of the music sheet roll, thus constantly maintaining the edges of the roll in proper alinement. If the paper swells, as is often the case, the flange 3 will move outwardly according to the expansion of the paper, the paper forc-

ing the flange outwardly against the pressure of the spring 8. The flange 3 being moved outwardly of course moves the shoulder 7 outwardly, thereby pressing the spring 8 against the friction disk 5. Upon the relaxation or shrinking of the paper, the flange 3 will automatically move inwardly with the paper thus producing an automatic adjustment which is found to be invaluable in this art.

The automatic adjustment, as well as the adjustment of greater resistance, is shown in Fig. 2, the flange 3 being adjusted to practically its maximum distance, the spring 8 being compressed slightly and the binding member or friction disk 5 having been moved outwardly a short distance, thereby increasing the width between the flanges 2 and 3 on the shank 1 of the spool.

Slight modifications of my invention may

be made without departing from its spirit and scope, and I do not wish to be confined to the exact details shown.

What I claim as new and desire to secure by Letters Patent is:

A spool for music rolls comprising a shank, an adjustable flange on the end thereof having a stem extending inside of said shank, a shoulder on said stem, a friction disk on the inside of said shank, a spring adapted to be placed between said shoulder and said friction disk and a stationary member fastened on the inside of said shank having a shaft fastened thereto and extending into said stem, substantially as described.

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