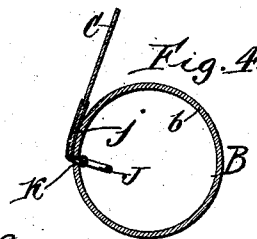
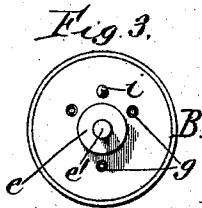
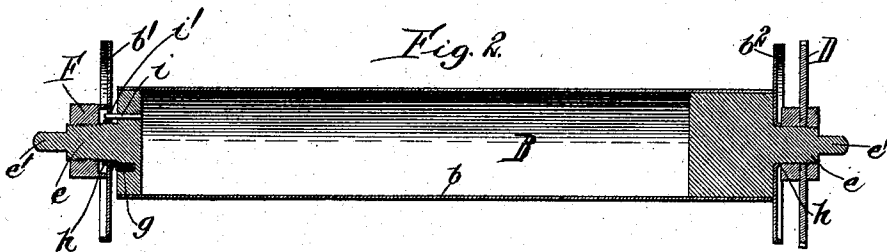
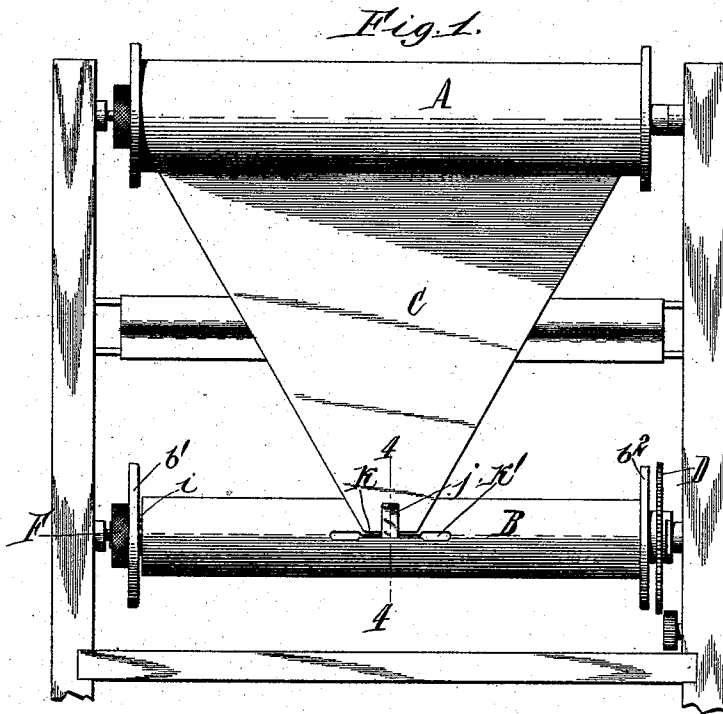


E. DE KLEIST & F. L. McCORMICK.
ADJUSTABLE SPOOL FOR MUSIC SHEETS.
APPLICATION FILED JAN. 31, 1908.

899,993.

Patented Sept. 29, 1908.



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UNITED STATES PATENT OFFICE.

EUGENE DE KLEIST AND FRANK L. McCORMICK, OF NORTH TONAWANDA, NEW YORK; SAID McCORMICK ASSIGNOR TO SAID DE KLEIST.

ADJUSTABLE SPOOL FOR MUSIC-SHEETS.

No. 899,993.

Specification of Letters Patent.

Patented Sept. 29, 1908.

Application filed January 31, 1908. Serial No. 413,505.

To all whom it may concern:

Be it known that we, EUGENE DE KLEIST and FRANK L. McCORMICK, both citizens of the United States, and residents of North Tonawanda, in the county of Niagara and State of New York, have invented a new and useful Improvement in Adjustable Spools for Music-Sheets, of which the following is a specification.

This invention relates to the music and take up rolls or spools of automatic musical instruments.

The perforated music sheet wound upon such rolls is liable to warp or shrink under atmospheric changes, and when this occurs the sheet runs unevenly, throwing its perforations more or less out of register with the ducts of the tracker-board and rendering the music in a faulty manner.

One of the objects of our invention is to provide such rolls with simple means for readily adjusting them to compensate for any variation in the width of the music sheet due to atmospheric influences or other causes.

Another object is to provide the take-up roll with simple and convenient means for attaching the end of the music sheet to it.

In the accompanying drawings: Figure 1 is a front elevation of a take-up roll and a music roll embodying the invention and mounted in a tracker-frame. Fig. 2 is a longitudinal section of the take-up roll. Fig. 3 is an end view of the take-up roll with the adjustable flange removed. Fig. 4 is a cross section in line 4—4, Fig. 1.

Similar letters of reference indicate corresponding parts throughout the several views.

A indicates the music roll or spool and B the take-up roll.

Referring to the take-up roll, its body *b* is preferably hollow and constructed of steel although it may be made of any other suitable material, if desired.

*b*¹, *b*² indicate the end flanges or heads of the roll which confine the music sheet C thereon and D is the usual gear wheel for driving the roll arranged adjacent to one of said flanges.

The take-up roll is provided at its ends with axial, externally screw threaded studs *e* in which are secured the usual pins or journals *e*¹ which turn in the customary bearings in the tracker-frame.

The gear wheel D and the adjacent flange

*b*² are preferably secured permanently to the corresponding stud *e*, while the other flange *b*¹ is adjustably mounted on its supporting stud, so that it can be moved toward or from the non-adjustable flange to compensate for any warping or shrinkage of the music-sheet. For this purpose, the adjustable flange is mounted to slide lengthwise on the adjacent stud and held against outward displacement by a nut F applied to said stud, and against inward displacement by one or more springs *g* interposed between the flange and the end of the roll. In order to give the flange a smooth bearing surface on the stud and prevent its catching on the screw threads thereof, the axial opening of the flange is preferably bounded by a collar or hub *h*, as shown.

The springs *g* are seated in sockets or recesses formed in the end of the roll.

To prevent turning of the adjustable flange on the roll and consequent loosening of the clamping nut F, a suitable stop is employed consisting preferably of a pin *i* projecting from the end of the roll into a hole *i*¹ in said flange.

In adjusting the roll to the music sheet, upon screwing the nut F forward the flange *b*¹ is moved toward the other fixed flange *b*², thus compressing the springs *g* more or less; and upon turning the nut backward, the springs press the flange outward and cause it to follow the nut and abut against it.

The stop pin *i* is long enough to remain in engagement with the aperture of the flange in all positions of the latter.

By this adjusting device, the distance between the roll flanges can be accurately and conveniently regulated to compensate for any variations in the width of the music sheet, insuring proper tracking of the same. This adjusting device is obviously applicable to music rolls as well as take-up rolls.

The music sheets in general use are provided at their tapering end with an eye or ring J adapted to engage a hook on the take-up roll, the eye being connected with the roll by a flexible tab or strap *j*. A further feature of our invention consists in substituting for said hook a longitudinal slot *k* arranged centrally in the hollow body of the roll and adapted to receive the tab *j*, the slot being provided at one or both ends with enlargements *k*¹ of sufficient size to admit the eye J. The slot *k* is wide enough to re-

ceive the tab, but narrower than the thickness of the eye, so that the latter by bearing against the inner side of the hollow roll-body prevents withdrawal of the tab from the slot, except by bringing the eye opposite one or the other of the enlargements $\frac{1}{2}$. This construction, while permitting a ready attachment of the music sheet to the roll, is less expensive than the old construction employing a countersunk hook.

We claim as our invention:

1. A roll for a music sheet comprising a body provided at its end with a stop-member adjustable lengthwise of the roll, a movable flange arranged at the end of the roll on the inner side of said stop-member, and a spring interposed between said flange and the end of the roll, substantially as set forth.

2. A roll for a music sheet comprising a body provided at its end with a screw-threaded stud, a flange slidably mounted on said stud, an adjusting nut applied to said stud on the outer side of the flange, and a spring interposed between the end of the roll and said flange, substantially as set forth.

3. A roll for a music sheet comprising a body provided at its end with a screw-threaded stud, a flange slidably mounted on said stud, an adjusting nut applied to said stud on the outer side of the flange, a spring interposed between the end of the roll and

said flange, and means for preventing rotation of the flange on the roll, substantially as set forth.

4. A roll for a music sheet provided at its end with a screw-threaded stud and in the same end with a socket, a flange slidably mounted on said stud, an adjusting nut applied to the stud on the outer side of the flange, and a spring seated in said socket and bearing against the inner side of the flange, substantially as set forth.

5. A roll for a music sheet comprising a body provided at its end with a screw-threaded axial stud and a stop-pin, a flange slidably mounted on said stud and having a hole which receives said stop-pin, an adjusting nut applied to said stud on the outer side of the flange, and a spring interposed between the flange and the end of the roll, substantially as set forth.

6. A roll for a music sheet provided in its body with a slot adapted to receive the eye-tab of a music sheet, said slot having an enlargement adapted to receive the eye of the music sheet, substantially as set forth.

Witness our hands this 22nd day of January, 1908.

EUGENE DE KLEIST.
FRANK L. McCORMICK.

Witnesses:

C. P. GEYER,
LEONA SLATTERY.