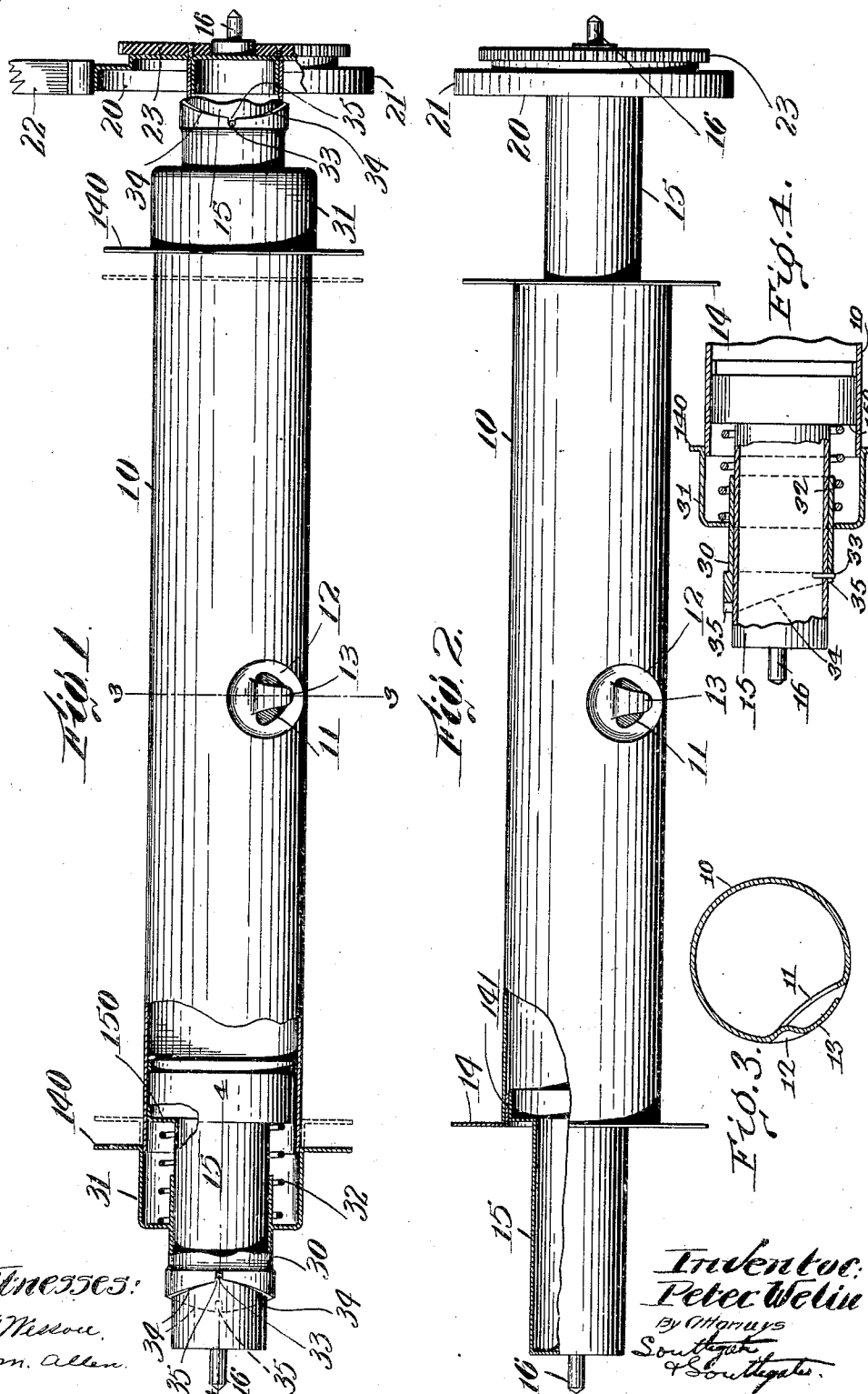


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 METALLIC TAKE-UP SPOOL.
 APPLICATION FILED SEPT. 12, 1907.

971,866.

Patented Oct. 4, 1910.



UNITED STATES PATENT OFFICE.

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METALLIC TAKE-UP SPOOL.

971,866.

Specification of Letters Patent.

Patented Oct. 4, 1910.

Application filed September 12, 1907. Serial No. 392,537.

To all whom it may concern:

Be it known that I, PETER WELIN, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Metallic Take-Up Spool, of which the following is a specification.

This invention relates to a take-up spool for use on automatic musical instruments and players therefor.

The principal objects of the invention are to provide a light and inexpensive construction of such a nature that the ring on the end of the music sheet can be readily attached to an integral hook on the drum of the spool, which is of such a nature as to be permanently fixed in position; to provide means whereby the device can be readily manufactured chiefly from drawn metal, in such a way that the metallic parts can be exceedingly thin so as to avoid excessive weight without sacrificing strength; to provide a convenient way of supporting the gearing and at the same time provide a brake wheel surface; and in the preferred form of the invention, to provide movable flanges which will be spring-pressed and will be held in proper position so as to receive note sheets of different widths between them in accordance with their adjustments.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings in which,

Figure 1 is an elevation partly in section of one embodiment of the invention, Fig. 2 is a similar view showing another way in which the invention can be carried out, Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 1, and Fig. 4 is a sectional view on the line 4—4 of Fig. 1.

I will first describe the form of invention shown in Fig. 2. In this form, a metallic drum 10 is provided with a perforation 11 near the center thereof, located in a depressed surface 12 and having a hook 13 extending transversely of the drum but entirely within the cylindrical surface thereof. Preferably its outside surface is coincident with the surface of the drum so that it may assist in supporting the note sheet.

This hook and depressed surface are formed integrally with the drum of the take-up spool.

The spool is provided with a pair of flanges 14 which, in the form shown in Fig. 2, are formed separate from the drum of drawn metal or the like and secured to the ends of the drum by forcing the flanges 141 thereof into the end of the drum. Beyond these flanges there are a pair of projecting reduced cylindrical ends 15 from the ends of which project the shaft or studs 16, such as are usually provided. These reduced portions are preferably formed of drawn metal separate from the drum and secured to the flanges 141 by being forced into the same. They extend through passage in the frame of the tracker-box. On the end of one of them is mounted a disk 20, preferably integrally connected with the reduced end and having a face 21 thereon serving as a brake wheel and adapted to be engaged by a brake 22 of any desired construction. This disk also serves another purpose, in that the gear 23 by which the take-up roll is driven, is secured to it and supported by it. In this form of the invention, it will be seen that the parts can be made mostly of drawn, pressed, or stamped out metal, and therefore the parts can be made very thin and of exceedingly light weight. In this form, also the parts are all secured together in fixed position without soldering, brazing or the like and after once being set up, there is no likelihood of their getting out of true.

In the form of the invention shown in Fig. 1, the same general principle is preserved and the parts so far described will not be referred to in detail but in this case the flanges or guides 140 are movable longitudinally of the drum so that they may be adjusted to accommodate note sheets of different widths. In order to provide for this, the flanges 150 of the reduced cylindrical ends 15 preferably are placed at a little distance back from the end of the drum and on each of these cylindrical ends is mounted to slide an adjusting member 30 which is hollow and through which passes the reduced end 15. It is provided with an enlarged cylindrical portion 31 adapted to fit over the

end of the drum. It is at the inner end of this cylinder 31 that the flange 140 is located.

It will be seen that the integral piece consisting of the guide piece 30, the cylindrical enlargement 31 and the flange 140 is movable to provide the necessary adjustment and that a chamber is provided in which is located a spring 32 for normally holding the flange at its outermost position.

In order to limit the position of the flange, the cylindrical member 15 is provided with a pin 33 and the guide piece 30 is provided with slanting surfaces 34 having slots 35 therein at different distances from the end of the guide. In the present instance two of these slots are connected with each other by the slanting surfaces so that the guiding piece may be pushed inwardly and the pin disengaged from its slot and then can be turned so that the pin will move along the slanting surface until it reaches the next slot. In this way, adjustment to accommodate any number of predetermined widths of music sheets can be provided for, according to the number of pins and slots. Both of the flanges on the take-up spool are preferably constructed in the same manner.

While I have illustrated and described two forms in which the invention may be embodied, and described all parts of the device as made of metal, I am aware that many modifications may be made in both of these forms, and that other materials may be used without departing from the scope of the invention as expressed in the claims. Therefore, I do not wish to be limited to the particular form shown and described, but

What I do claim is:—

1. A take-up spool comprising a metal drum for receiving a music-sheet, having a sunken surface near the center thereof, and a tongue integral with said drum extending from said sunken surface, said tongue being located entirely within the cylindrical surface of the drum.

2. A take-up spool comprising a drawn metal drum for receiving a music sheet, having a sunken surface near the center thereof, a perforation through said surface, and a tongue projecting over said perforation, said tongue being located entirely within the cylindrical surface of the drum and having its outside surface coincident therewith.

3. A take-up spool comprising a drawn metal drum for receiving the music sheet, having an integral hook thereon near the center, metallic flanges on the ends of the drum, and reduced cylindrical portions at the ends of said drum secured to the drum,

4. A take-up spool comprising a metal drum having flanges thereon, reduced cylindrical portions at the end of the drum formed of drawn metal and secured to the

drum, centering studs held by said reduced portions, an outer flange at the end of one reduced portion, and a gear wheel fastened to said flange.

5. A take-up spool comprising a drum, flanges thereon, cylindrical reduced portions at the ends of said drum, a disk at the end of one of said reduced portions having an inwardly extending face constituting a brake wheel, and a gear wheel secured to said disk.

6. A take-up spool comprising a metal drum, reduced end portions secured thereto, a disk provided with a brake flange on one of said reduced portions, a gear wheel fastened to said disk, and movably mounted flanges located on the ends of said drum.

7. A take-up spool comprising a drum, cylindrical reduced portions at the ends thereof, a guide piece mounted on each of said cylindrical portions, a flange connected with each of said guiding pieces, means for normally forcing said guiding piece outwardly, and means on the reduced portions for limiting the positions of said guiding piece and flanges.

8. In a take-up spool, the combination of a drum having a reduced cylindrical end, a pin in said end, a guide adapted to move on said end, a spring for forcing said guide outwardly, said guide having notches in the end thereof for receiving said pin, and a flange connected with said guide.

9. In a take-up spool, the combination of a drum having a cylindrical end portion, a guide thereon having notches in its end and slanting surfaces connecting said notches, said notches being located at different distances from the extreme outer end of the guide, a pin on the cylindrical portion for entering said notches, an enlarged cylindrical portion integral with said guide adapted to fit over the end of the drum and having a flange thereon, said enlarged portion forming a chamber between it and a guide, and a spring in said chamber.

10. As an article of manufacture a music record roller, a guide flange slidable on one end of the roller, and a spring-pressed guide slidable on the other end of the roller.

11. A take-up spool for note sheets and the like, comprising a hollow, cylindrical body, having an opening in the wall thereof, and a tongue projecting over said opening, a portion of the body adjacent to the tongue being depressed to form a recess for receiving the ring of a note sheet.

12. As an article of manufacture, a spool of the class described, comprising a cylindrical body having a sunken surface having a perforation therethrough, and a tongue located within the cylindrical surface of the body projecting from one edge of said perforation and spaced from the sunken surface.

13. A roller of the class described embracing a shaft, a flange extending approximately at a right angle therewith near one end of the roller, an outwardly adjustable
5 flange near the opposite end of the roller, and a spring engaged within the flange tending to move it.

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

PETER WELIN.

Witnesses:

C. FORREST WESSON,
ALBERT E. FAY.