

W. C. STEPHENSON.  
 TAKE-UP SPOOL FOR AUTOMATIC PLAYERS.  
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1,202,603.

Patented Oct. 24, 1916.

Fig. 1.

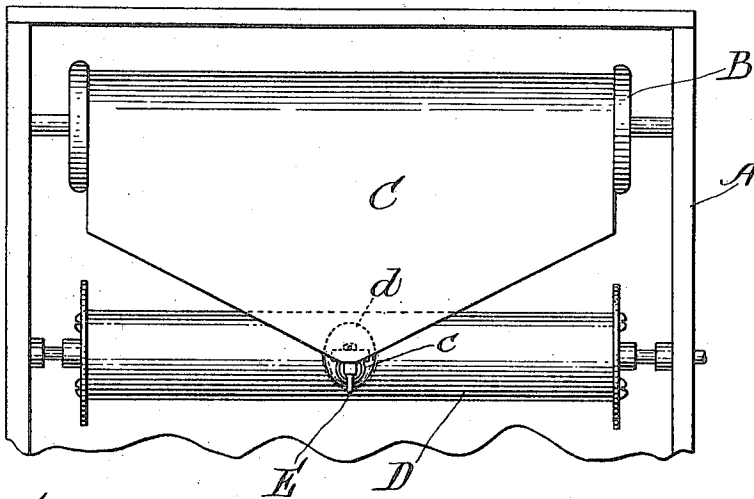


Fig. 2.

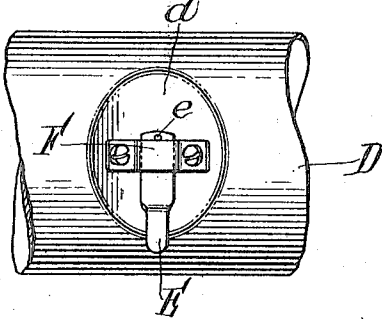


Fig. 4.

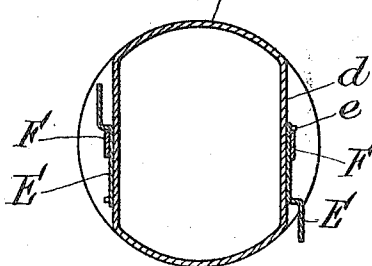


Fig. 3.

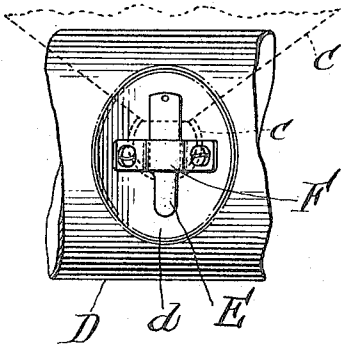


Fig. 5.

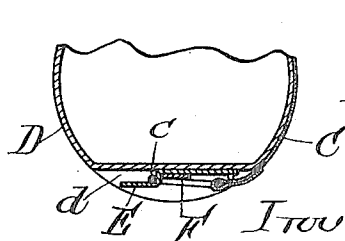
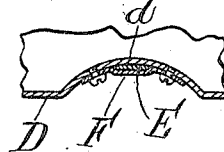


Fig. 6.



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 Attys.

# UNITED STATES PATENT OFFICE.

WILLIAM C. STEPHENSON, OF WOBURN, MASSACHUSETTS, ASSIGNOR TO VOSE & SONS PIANO COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

TAKE-UP SPOOL FOR AUTOMATIC PLAYERS.

1,202,603.

Specification of Letters Patent.

Patented Oct. 24, 1916.

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*To all whom it may concern:*

Be it known that I, WILLIAM C. STEPHENSON, a citizen of the United States, and resident of Woburn, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Take-Up Spools for Automatic Players, of which the following is a specification.

This invention relates to the take-up spool of an automatic player, such as a pneumatic piano player, of the kind in which the perforated paper sheet is wound from the music roll on to the take-up spool. As heretofore constructed, take-up spools have usually been provided with a fixed and stationary hook located in a groove of the take-up spool so as not to project beyond its periphery nor interfere with the paper sheet to be wound on the spool. As the hook necessarily lies close to the surface of the spool and is also in a depression in the surface of the spool, it is somewhat inconvenient and awkward to attach the ring or loop at the end of the music sheet to the hook.

The principal object of this invention is to provide a movable sheet-engaging hook which may assume a projected position relative to the surface of the take-up spool, thereby facilitating the attachment of the music sheet, and which may also assume a retracted position so as to be out of the way of the sheet when the take-up spool is in operation.

In the preferred form of the invention the movable hook is so mounted that it will automatically move into projected position when the rotation of the take-up spool brings the hook to the front of the instrument with its end pointing downward, and that as soon as the music sheet is attached the tension of the sheet will automatically cause the movable hook to assume its retracted position.

In the accompanying drawings which illustrate the preferred embodiment of the invention,—Figure 1 is a face view of part of a casing or spool box, so-called, of an automatic player which may be of usual construction containing the music roll and the take-up spool; Fig. 2 is a face view on an enlarged scale of a section of the take-up spool showing the movable hook in projected position; Fig. 3 is a view similar to Fig. 2 showing the movable hook in retracted position; Fig. 4 is a cross section through the take-up spool and hook with the hook in projected position; Fig. 5 is a

similar cross section showing the hook withdrawn to its retracted position by the music sheet; and Fig. 6 is a fragmentary longitudinal section through the spool, hook and slideway in which the hook is mounted.

A represents the usual casing or spool box, in which are mounted the music roll B, carrying the paper music sheet C, and a take-up spool D below the music roll. These parts may in their general characteristics be of usual form and arrangement, and neither their mode of operation nor the associated parts of the instrument need be described as they form no part of the present invention.

In the surface of the take-up spool D about midway of its length is a depression *d* in which the movable sheet engaging hook is mounted. The movable hook E is mounted to slide in a direction substantially tangential to the periphery of the spool, through a strap or slideway F secured to the surface of depression *d*. The hook E has a loose fit in said slideway so as to slide in the strap F by gravity, but the body of the hook under the strap lies sufficiently close to the surface *d* to avoid the danger of the loop *c* slipping past the shoulder or offset of the hook and underneath the body part under the strap. Said hook is provided with a stop *e* at its rear end to limit the outward movement of the hook, while its inward movement is limited by the shoulder of the offset end of the hook.

In Fig. 4 I have illustrated two similar depressions and two similar sliding hooks on diametrically opposite sides of the take-up spool D, but for most purposes a single movable hook will be sufficient.

In operation during the usual rotation of the take-up spool D, when the hook E is brought to the front of the spool with its end pointing downward it will drop by gravity into its projected position with its sheet-engaging end extending well beyond the plane of the periphery of the take-up spool D. In this projected position the ring or loop *c* which is usually provided at the extremity of the music sheet C may be readily passed over the end hook E. As the rotation of the take-up spool D continues, the tension on the sheet C, as the latter is unwound from the music roll D will draw the hook backwardly into its retracted position as shown in Figs. 3 and 5 in which posi-

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tion the movable hook E is wholly contained within the plane of the periphery of the take-up spool so as to be out of the way of the music sheet as the latter is wound on to the take-up spool.

I claim:

1. A take-up spool for automatic players having a hook mounted thereon adapted to engage the sheet to be wound, said hook being mounted to slide on said spool in a substantially tangential direction to permit its end to assume either a projected or retracted position relative to the periphery of the spool.

2. A take-up spool for automatic players having a sheet engaging hook mounted to slide on said spool in a substantially tangential direction into projected or retracted position relative to the periphery of said spool, said hook when in retracted position being contained within the plane of the periphery of the spool and when in projected position extending beyond the periphery of the spool.

3. A take-up spool for automatic players having a depression in its periphery and a

sheet engaging hook mounted to slide in said depression into projected or retracted position relative to the periphery of said spool.

4. A take-up spool for automatic players having a depression in its periphery and a sheet engaging hook mounted to slide in said depression into projected or retracted position relative to the periphery of said spool, said hook being wholly contained within said depression when in retracted position, and extending beyond said depression when in projected position.

5. A take-up spool for automatic players having a hook mounted thereon adapted to engage the sheet to be wound, said hook being mounted to slide by gravity into projected position when the rotation of the take-up roll brings the hook to its downwardly pointing position, and also being adapted to be moved into retracted position relative to the periphery of the spool.

Signed by me at Boston, Massachusetts, this 24th day of May 1916.

WILLIAM C. STEPHENSON.