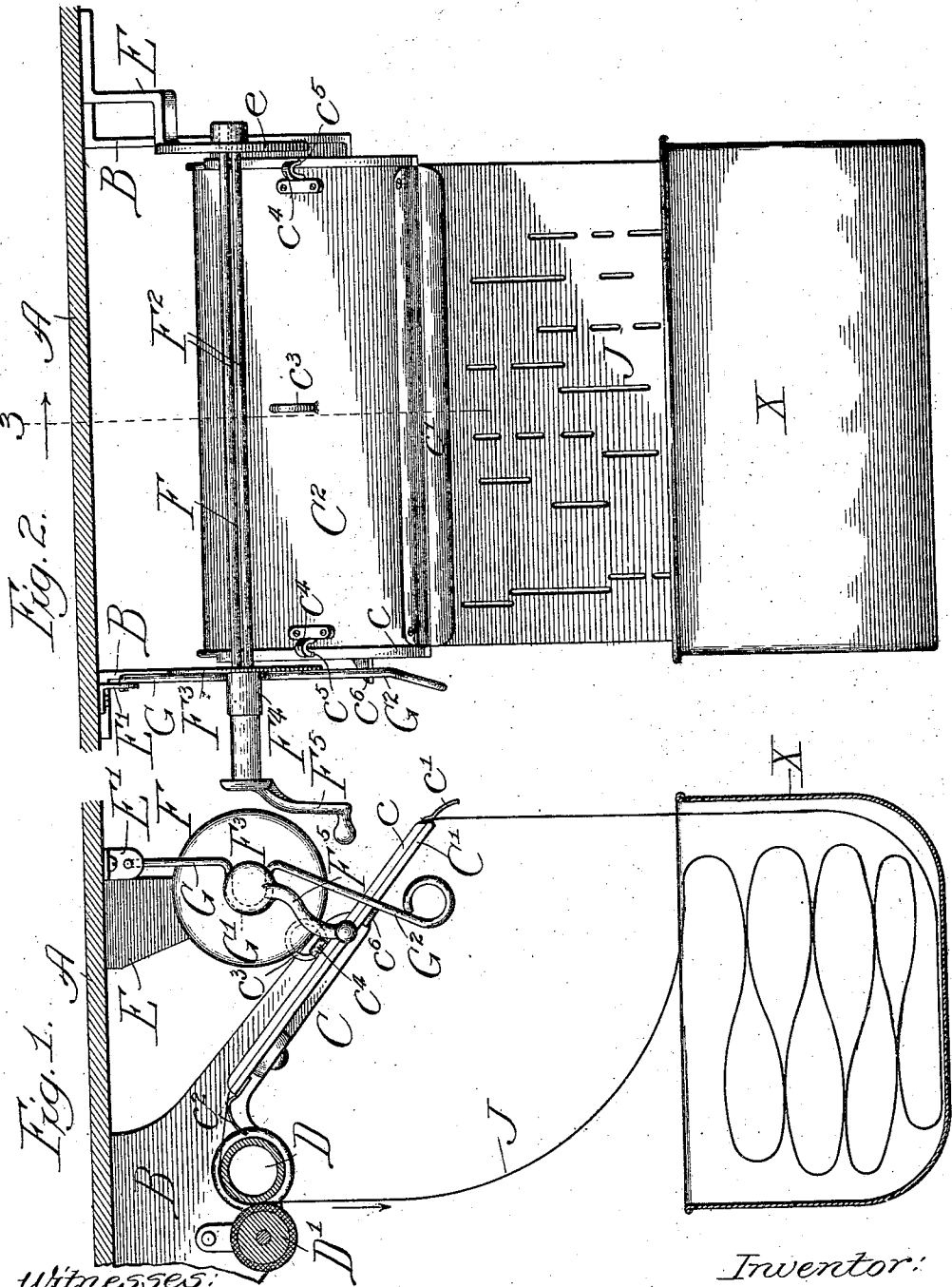


H. K. SANDELL.
SHEET WINDER.

APPLICATION FILED FEB. 5, 1906.

2 SHEETS—SHEET 1.



Witnesses:
E. O. Chayford.
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No. 848,400.

PATENTED MAR. 26. 1907.

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2 SHEETS—SHEET 2.

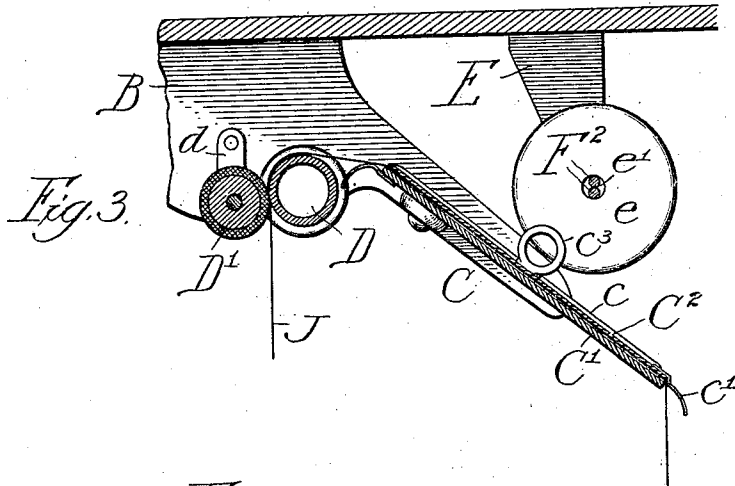
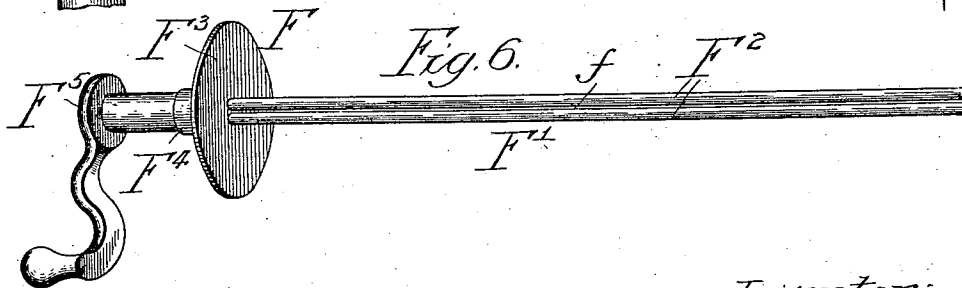
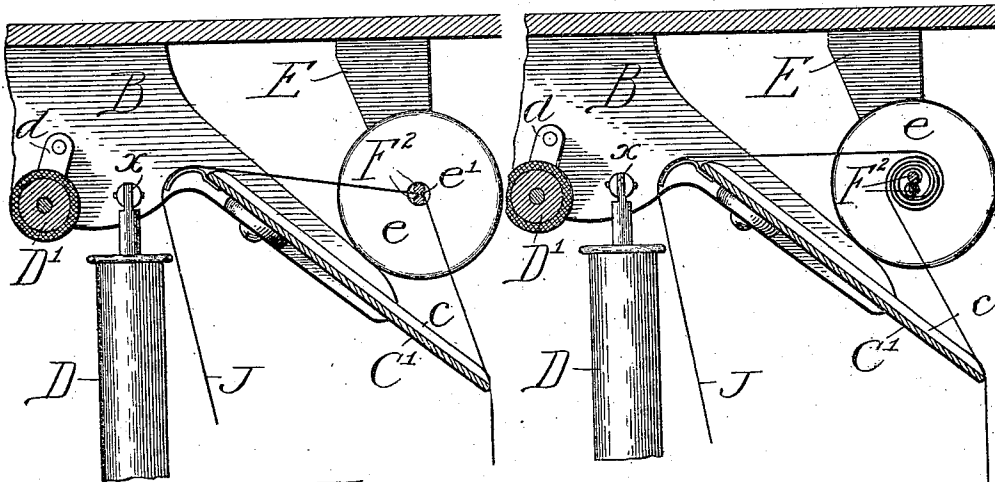


Fig. 4.

Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRY K. SANDELL, OF CHICAGO, ILLINOIS, ASSIGNOR TO MILLS NOVELTY COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

SHEET-WINDER.

No. 848,400.

Specification of Letters Patent.

Patented March 26, 1907.

Application filed February 5, 1906. Serial No. 299,488.

To all whom it may concern:

Be it known that I, HENRY K. SANDELL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Sheet-Winders, of which the following is a specification.

My invention relates to an improvement in sheet-winders for use more particularly in connection with mechanically-operated music-playing machines in which an endless sheet of perforated paper is employed for controlling the operation.

My primary object is to provide means whereby the removal of the perforated sheet in compact condition from the machine may be readily effected without danger of impairment to the sheet.

In the accompanying drawings, Figure 1 shows by a broken view in side elevation and partly in section my improved sheet-winder supported in non-operative connection with the sheet in a music-playing machine, which may be of any variety employing an endless perforated sheet for its operation, the sheet being shown in position for actuating the music-playing mechanism. Fig. 2 is a partly-broken and partly-sectional view, in front elevation, of the parts in their relative positions represented in Fig. 1. Fig. 3 is a broken section taken at the line 3 on Fig. 2 and viewed in the direction of the arrow. Fig. 4 is a broken section similar to that of Fig. 3, but showing the winder applied to the sheet preparatory to winding the latter upon it. Fig. 5 is a view similar to that of Fig. 4, but showing the sheet partly wound upon the winder; and Fig. 6, a perspective view of the winder separate from the machine.

A is a support, which in the usual type of machine in connection with which this invention is primarily intended to be used is the base for supporting the instrument to be played, such as the violin shown in the Patent No. 807,871, granted to me December 19, 1905.

B B are brackets depending from the base A and between which an inclined sheet-guide C is supported. The sheet-guide illustrated comprises a lower fixed plate C', provided with flanges c' c' on its lateral sides and with a guide-shield c'' on its rear edge, and a removable upper plate C'', carrying a guide-shield c' on its front edge and provided on its

top surface with a handle c³ and at its opposite sides with curved pins c⁴, which engage sockets c⁵ c⁵ in the flanges c to hold the plate C² against displacement during the movement of the sheet. Beyond the sheet-guide are the friction-rollers D D' for advancing the perforated sheet J, which during the operation of the machine passes between the plates of the sheet-guide and the rollers, the sheet being fed to the rollers from out of the bottom of a receptacle or well X at one end and returning from the rollers into the well near its top, as indicated in Fig. 1. The roller D is pivotally connected with its journal in one of the brackets B, as represented at x, Fig. 4, and is releasably journaled at its opposite end in a manner not shown to the opposite bracket B to adapt it to be lowered to the vertical position shown in Figs. 4 and 5 when it is desired to remove the perforated sheet from the machine. The roller D' is journaled at its opposite ends in links d d, of which one only is shown, the links being pivoted to the brackets to permit the roller D' to be swung away from the roller D when the machine is not operating.

E is a bracket depending from the support A at one side of the sheet-guide and provided with a disk-shaped extremity e, containing a socket e' to receive the inner end of a sheet-winder F for journaling it. The winder F comprises as its preferred construction a shaft or spindle F', formed of two parallel rods F² F², disconnected from each other at one end to provide a longitudinal open-ended sheet-receiving slot f between them, the rods passing at the opposite end through a head, shown as a disk F³, and into a hub F⁴, to which hub a crank F⁵ is secured. E' is a bracket, also depending from the support A, to which an arm G for journaling the crank-equipped end of the winder is pivotally secured at its top. The arm G is bent near its center to form a U-shaped recess G', adapted to afford a journal-bearing for the winder at its hub, and is provided with a handle extension G², which engages a shoulder c⁶ on the guide-plate to confine the winder in position in its journals during the winding of the sheet upon the winder, as hereinafter described.

My improved winder is adapted to be used as follows: Assuming the parts to be in the position represented in Figs. 1, 2, and 3, the roller D' is first turned away from the roller

D and the latter then released at one end and swung on its opposite end to the depending position shown in Figs. 4 and 5. The upper plate C² of the sheet-guide is then removed
 5 by means of the handle c³. The winder is next removed from its inoperative journaled position by pulling on the handle extension G² of the arm G, thus flexing it to clear the shoulder c⁶. The arm G is then turned on its
 10 pivot to the left, thereby releasing the winder at its handle-equipped end and permitting its withdrawal from the socket e' in a bracket E. The winder is then applied to the sheet to cause the spindle-forming rods to embrace
 15 it transversely, as represented in Fig. 4, whereupon the winder is locked in the position from which it was removed by adjusting the arm G into the position shown in Figs. 1 and 2. Thereupon by turning the journaled
 20 winder the sheet is wound upon the spindle, as indicated in Fig. 5. When the sheet is almost fully thus wound, the winder is released from its journals in the manner before described and, with the sheet upon it, may be
 25 withdrawn endwise from the machine. The sheet in its normal condition may then be slipped endwise from between the rods F². To insert a sheet J thus wound into the machine, it is unwound and suspended in the
 30 well from the roller D in the coiled condition represented in Fig. 1. By thus wrapping the sheet about itself it is rendered compact without danger of its being crumpled or otherwise impaired in the act of removing it
 35 or when stored away, and thus wound it is in the best condition for storage until again required for use.

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

1. In combination with a music-playing machine employing a perforated sheet for its operation, a sheet-winder comprising a spindle consisting of a pair of rods forming a space between them to receive the edge of the sheet to be wound upon said spindle, a
 45 head on one end of said rods and a hub extending beyond said head, a stationary bearing on the machine adapted to releasably receive and journal the two spaced ends of the spindle, and means for releasably journaling
 50 the winder at said hub on the machine.

2. In combination with a music-playing machine employing a perforated sheet for operating it, a sheet-winder comprising a spindle provided with a longitudinal slot
 55 open at one end of the spindle to adapt a sheet to be introduced therein and wound about said spindle, a head near one end of the winder, and a crank on said spindle, a bracket on said machine provided with a
 60 disk-shaped extremity containing a socket to receive the open end of the spindle, and a spindle-journaling arm pivoted to the machine to swing on its pivot and releasably hold the winder in journaled position for
 65 winding the sheet upon it, whereby the winder is adapted to be removed from the machine and the spindle to be withdrawn from the rolled sheet.

HENRY K. SANDELL.

In presence of—

W. B. DAVIES,
 J. H. LANDES.