G. N. McMILLAN.

PERFORATED NOTE SHEET FOR MUSICAL INSTRUMENTS.

APPLICATION FILED JULY 24, 1911.

1,042,706. Patented Oct. 29, 1912.

Fig. 1.

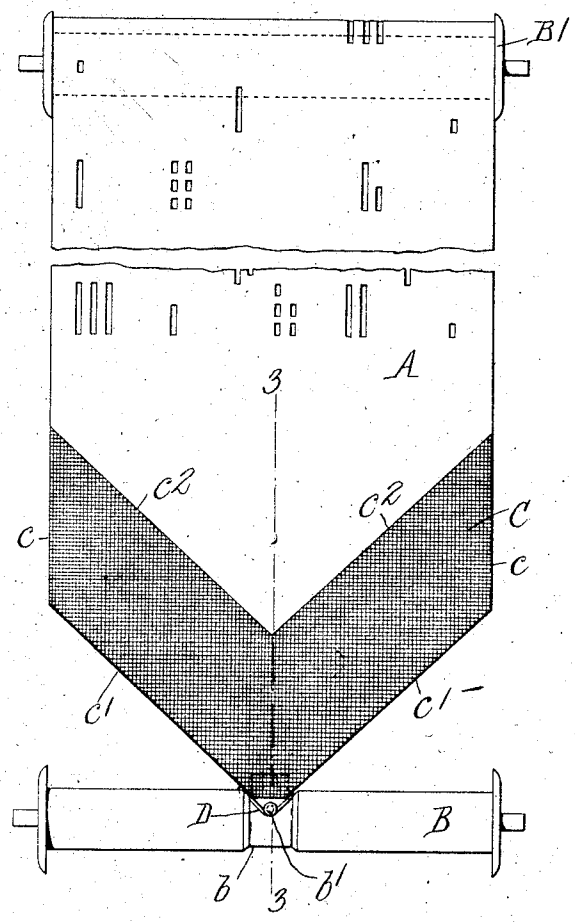


Fig. 2.

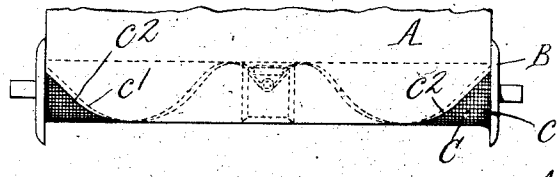


Fig. 3.

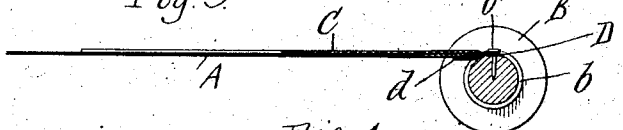


Fig. 5.

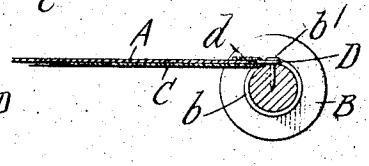
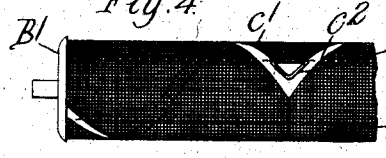


Fig. 4.



Witnesses,
A. G. Dimond.
Geo. N. Walter

Inventor:
Gilbert N. McMillan
by Wilkelm Parker & Thacher
Attorneys.

UNITED STATES PATENT OFFICE.

GILBERT N. McMILLAN, OF SHELBURNE, NEW HAMPSHIRE.

PERFORATED NOTE-SHEET FOR MUSICAL INSTRUMENTS.

1,042,706. Specification of Letters Patent. Patented Oct. 29, 1912.

Application filed July 24, 1911. Serial No. 640,060.

To all whom it may concern:

Be it known that I, GILBERT N. McMILLAN, a citizen of the United States, residing at Shelburne, in the county of Coos and State of New Hampshire, have invented a new and useful Improvement in Perforated Note-Sheets for Musical Instruments, of which the following is a specification.

This invention relates to protecting, reinforcing and fastening means for the ends of perforated note sheets or music rolls of the kind which are commonly used in self-playing musical instruments and which are drawn over a tracker-board by being wound from one spool onto another. These rolls ordinarily have a tapered or V-shaped advance or leading end provided with a ring or other device adapted to be attached to a hook or device on the driving spool. The attaching ring is usually secured to the sheet by a reinforcement which is confined to the apex of the V-shaped end and thus forms a thicker spot at this point and draws the sheet from the center, thereby leaving the tapering edges unprotected so that they become easily torn or mutilated. In such event the sheet does not center exactly on the spool and the edges therefore become crumpled and mutilated. The added thickness at the center of the roll leaves the edges of the sheet with less tension and looser than the middle portion, which tends to cause the sheet to oscillate and creep sidewise on the spool and interfere with the proper playing of the instrument.

The objects of this invention are to overcome these difficulties by providing perforated note sheets or music rolls of this kind with an end protecting, reinforcing or fastening means made of strong flexible material, which extends throughout the width of the sheet and serves to protect the tapered edges of the sheet and center the same on the roll, and which is of such shape and proportions as to form a layer of substantially uniform thickness about the spool, to insure the even winding of the roll upon the spool and an even tension throughout the width of the sheet; also to so construct the reinforcement as to adapt it to form a protective layer around the roll after being wound on the spool.

In the accompanying drawings: Figure 1 is a face view of a music roll having a reinforced end embodying the invention, showing the same attached to the winding spool. Fig. 2 is a view of the end of the roll wound upon a spool. Fig. 3 is a section on line 3—3, Fig. 1. Fig. 4 is a fragmentary view showing a roll completely wound upon a spool. Fig. 5 is a section similar to Fig. 3, of a slightly modified construction.

Like reference characters refer to like parts in the several figures.

A represents the note sheet and B B′ the flanged spools upon which the note sheet is adapted to be wound. The spool for the advance end of the sheet is generally provided midway of its length with a groove or recess *b* in which is located a stud, hook or other suitable holding device *b′* to which the end of the note sheet is adapted to be attached. These parts may be the same as are ordinarily used, or of any suitable or desired construction.

C represents the end fastening or reinforcement, which can be made of any suitable thin, strong and flexible material, such as cloth, paper, or analogous material. This reinforcement is preferably made V-shaped, as shown in the drawings, and is pasted or otherwise secured to the end of the roll in any suitable manner. The reinforcement extends laterally to the full width of the note sheet so that the edges *c* thereof are adapted to engage the end flanges of the spool, and the dimension of the reinforcement longitudinally of the note sheet is slightly less than the circumference of the spool, so that the apex of the V enters between the legs thereof and the outer edges *c′* of the reinforcement almost meet and are parallel with the inner edges c^2 thereof when the reinforced end is wound upon the spool. The reinforcement shown has straight inner and outer edges, but it could be of other shape adapting the inner and outer edges to extend parallel with each other when wound on the spool without overlapping and forming a ridge or leaving an underlying wide gap between them. When the reinforcement is wound upon the spool, it forms a practically unbroken layer of substantially uniform thickness once around the spool, extending from edge to edge of the note sheet, thereby forming an even surface upon which the note sheet can be wound. By making the width of the reinforcement equal to the width of the note sheet, the side edges *c* of the reinforcement will coact with the

flanges of the spool to properly center the sheet on the spool, and thereby insure the proper winding of the roll upon the spool without shifting laterally and injuring the edges of the roll.

Any suitable or usual fastening ring or device D by which the end of the roll is attached to the spool may be secured to the reinforced end of the note sheet. This ring can be secured to the sheet by an integral extension *d* of the reinforcement passing through the ring and pasted to the body portion of the reinforcement or the note sheet. This manner of securing the ring produces less of a hump than if a separate attaching loop were used, but the attaching ring or device can be secured to the note sheet in any suitable way. If the ring or device D is subjected to a pull or jerk, the force is transmitted by the reinforcement over the entire width of the music sheet, so that the liability to tear the sheet is practically eliminated. When the note sheet is rewound on its holding spool as shown in Fig. 4, the reinforcement serves still another purpose, namely, to form an outer protective covering or envelop for the roll, to protect the outer layers thereof from injury while the roll is being placed into or removed from the instrument.

The reinforcement C may be secured to the upper face of the note sheet, as shown in Figs. 1 to 4, or to the lower face thereof, as shown in Fig. 5.

I claim as my invention:

1. A note sheet for musical instruments having a reinforcing piece of substantially uniform thickness which is secured to the extremity of the sheet and extends from edge to edge thereof and which is adapted to be wound upon the driving spool and to engage with the flanges of said spool to center the sheet on the spool, said reinforcing piece being of a length longitudinally of the note sheet throughout the width of the note sheet to form a layer of uniform thickness extending substantially once around the driving spool and substantially from end to end thereof, substantially as set forth.

2. A note sheet for musical instruments having a V-shaped reinforcing piece of substantially uniform thickness which is secured to the extremity of the sheet and is adapted to be wound around the driving spool, and which has parallel inner and outer edges, said reinforcing piece being of a length longitudinally of the note sheet throughout the width of the note sheet to form a layer of uniform thickness extending around the driving spool and substantially from end to end thereof, substantially as set forth.

3. A note sheet for musical instruments having a reinforcing piece of substantially uniform thickness which is secured to the extremity of the sheet and extends from edge to edge thereof and which is adapted to be wound upon the driving spool, said reinforcing piece being of a length and shape adapted to wind around said spool, with its inner and outer edges substantially meeting on parallel lines, to form a layer of substantially uniform thickness around the spool, substantially as set forth.

4. A note sheet for musical instruments having a reinforcing piece of substantially uniform thickness which is secured to the extremity of the sheet and extends from edge to edge thereof and which is adapted to be wound upon the driving spool, said reinforcing piece being of a length longitudinally of the note sheet to substantially surround the spool and having diverging portions which extend from the middle of the note sheet to the side edges thereof to distribute the pull on the note sheet throughout the width of the sheet, substantially as set forth.

Witness my hand, this 20th day of July, 1911.

GILBERT N. McMILLAN.

Witnesses:
ALFRED R. EVANS,
SMITH E. McMILLAN.