A. HUGHES.

DEVICE FOR CUTTING OPENINGS IN MUSIC NOTE SHEETS.

APPLICATION FILED JAN. 7, 1918.

1,280,036. Patented Sept. 24, 1918

FIG. 1.

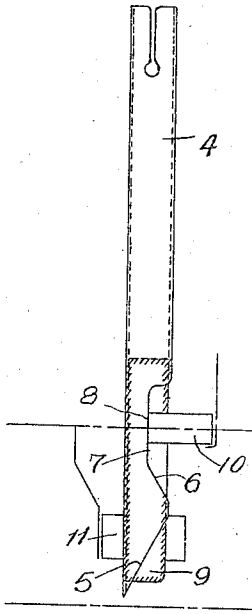
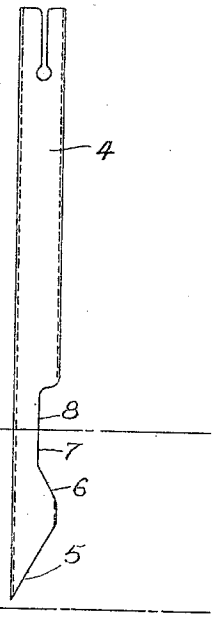


FIG. 2.



Inventor.
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ARTHUR HUGHES, OF BELFAST, IRELAND.

DEVICE FOR CUTTING OPENINGS IN MUSIC NOTE-SHEETS.

1,280,036. Specification of Letters Patent. Patented Sept. 24, 1918.

Application filed January 7, 1918. Serial No. 210,711.

To all whom it may concern:

Be it known that I, ARTHUR HUGHES, a subject of the King of England, and residing at Bloomfield, Belfast, in the county of Antrim, Kingdom of Ireland, United Kingdom of Great Britain and Ireland, have invented Improvements in and Connected with Devices for Cutting Openings in Music Note-Sheets, of which the following is a specification.

My invention relates to a device for cutting the openings or perforations in note sheets for use in connection with musical instruments, such as pianolas and the like.

An important object of the invention is to provide a device of the above mentioned character so constructed that it is adapted to cut round ends in the elongated slots or openings formed in the note sheet.

A further object of the invention is to provide means for retaining the cutter suitably clean, during operation.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a side elevation of a cutting device embodying my invention, with the cleaning elements associated therewith, and,

Fig. 2 is a similar view with the cleaning elements removed.

In the drawings, wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 4 designates the tubular body portion of the cutting device. At its lower or forward end, this tubular body portion is cut upon an incline or bevel, providing an inclined cutting edge 5. Above or rearwardly of the inclined edge 5, the tubular body portion 4 has a second inclined cutting edge 6, which extends in an opposite direction to the edge 5. Above or rearwardly of the edge 6 is a recess 7, formed in the tubular body portion 4, and providing straight edges 8, as shown.

Slidably mounted within the tubular body portion 4 is a stationary cleaning element 9, arranged to contact with the inner portions of the cutting edges 5 and 6. The cleaning element 9 may be formed of leather or the like and is secured to a stationary element 10, supported by any suitable means.

The numeral 11 designates an exterior cleaning element, formed of leather or the like, and contacting with the outer portions of the cutting edges.

The operation of the device is as follows:

The note sheet is fed longitudinally at the proper speed and a suitable number of the devices are preferably vertically arranged above the same, in proper order. Each device is moved in a vertical plane up and down and this movement may be effected by any suitable means such as by means of an automatic pianoforte. Upon the downward movement of the device, the forward inclined cutting edge 5 forms one round end of the opening or slot, while the straight cutting edges 8 are adapted to form the straight longitudinal edges of the slot, and the length of the slot will depend upon the length of time that the device is retained depressed. When the device is moved upwardly the other inclined edge 6 forms the curved end at the opposite end of the slot.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes in the shape, size, and arrangement of parts, may be resorted to, without departing from the spirit of my invention or the scope of the subjoined claims.

What is claimed is:—

1. A tubular reciprocatory cutter provided at its forward end with an inclined cutting edge adapted to form one rounded end of the opening in the music sheet upon the forward movement of the tubular cutter, said tubular cutter being provided rearwardly of the first named cutting edge with a second cutting edge oppositely inclined with relation thereto and adapted to cut the opposite rounded end of the opening in the music sheet upon the rearward movement of the tubular cutter.

2. A tubular reciprocatory cutter provided at its forward end with an inclined cutting edge adapted to form one rounded end of the opening in the music sheet upon the forward movement of the tubular cutter, said tubular cutter being provided rearwardly of said inclined cutting edge with a recess and a second cutting edge disposed at the forward end of the recess, said second cutting edge being arranged rearwardly of the first named cutting edge and inclined oppositely with relation thereto and adapted

to cut the opposite rounded end of the opening in the music sheet upon the rearward movement of the tubular cutter.

3. A tubular reciprocatory cutter provided at its forward end with an inclined cutting edge adapted to form one rounded end of the opening in the music sheet upon the forward movement of the tubular cutter, said tubular cutter being provided rearwardly of said inclined cutting edge with a recess and a second cutting edge disposed at the forward end of the recess, said second cutting edge being arranged rearwardly of the first named cutting edge and inclined oppositely with relation thereto and adapted to cut the opposite rounded end of the opening in the music sheet upon the rearward movement of the tubular cutter, stationary means arranged above the sheet to be cut and adapted to contact with the two inclined cutting edges to clean them.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ARTHUR HUGHES.

Witnesses:

JAMES GORDON DOUGLAS,

R. M. KENT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."