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F. C. WHITE.

TRACKER FOR AUTOMATIC MUSICAL INSTRUMENTS.

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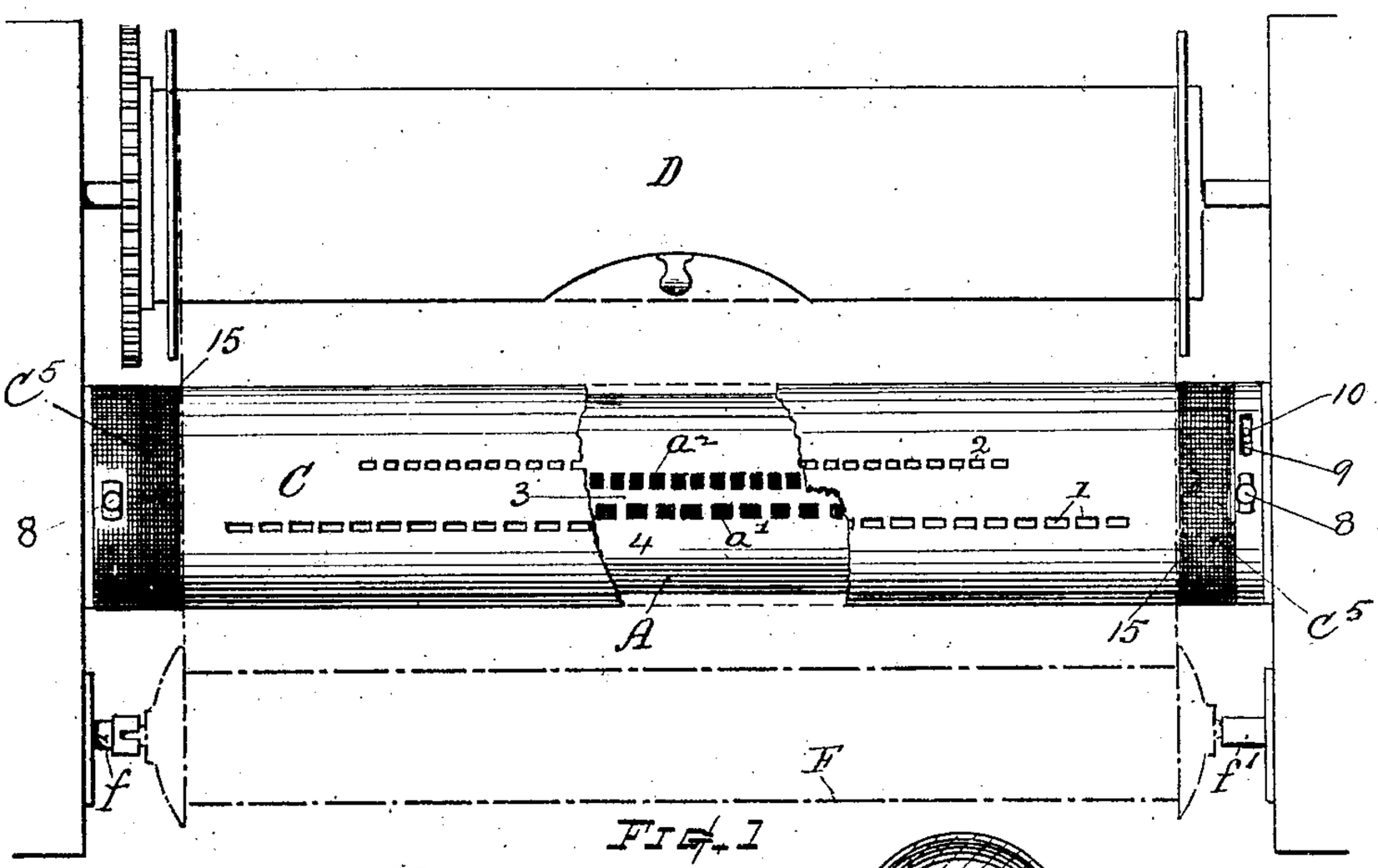


Fig. 1

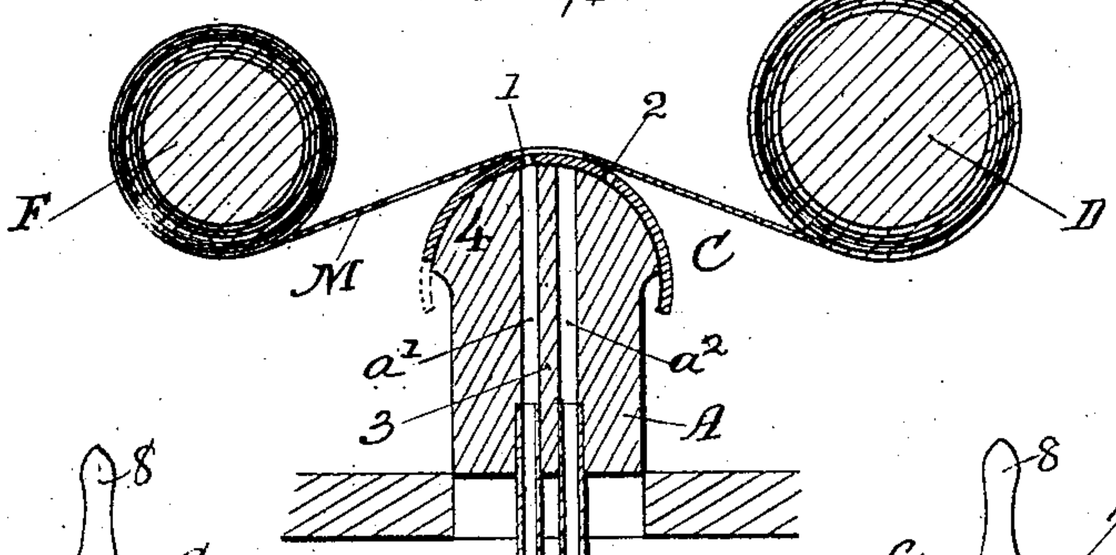


Fig. 2

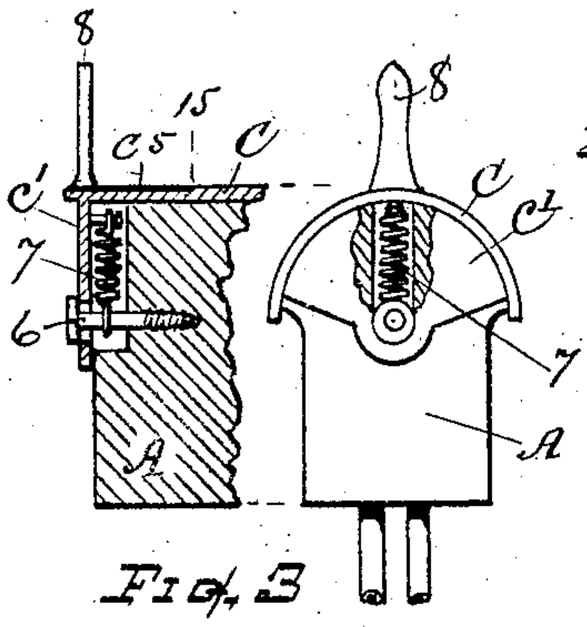


Fig. 3

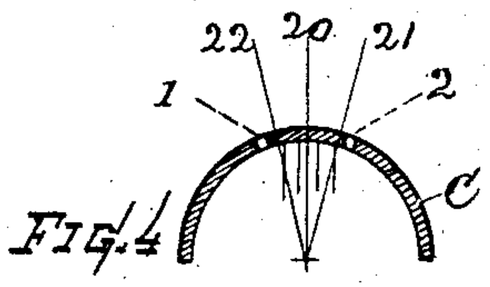


Fig. 4

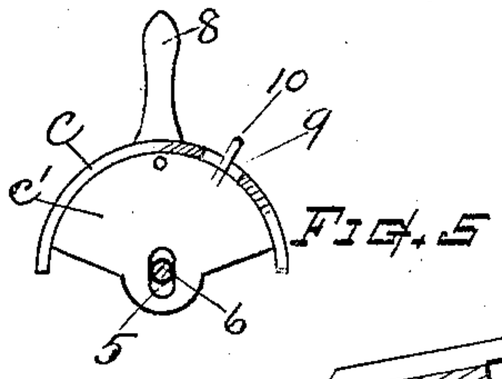
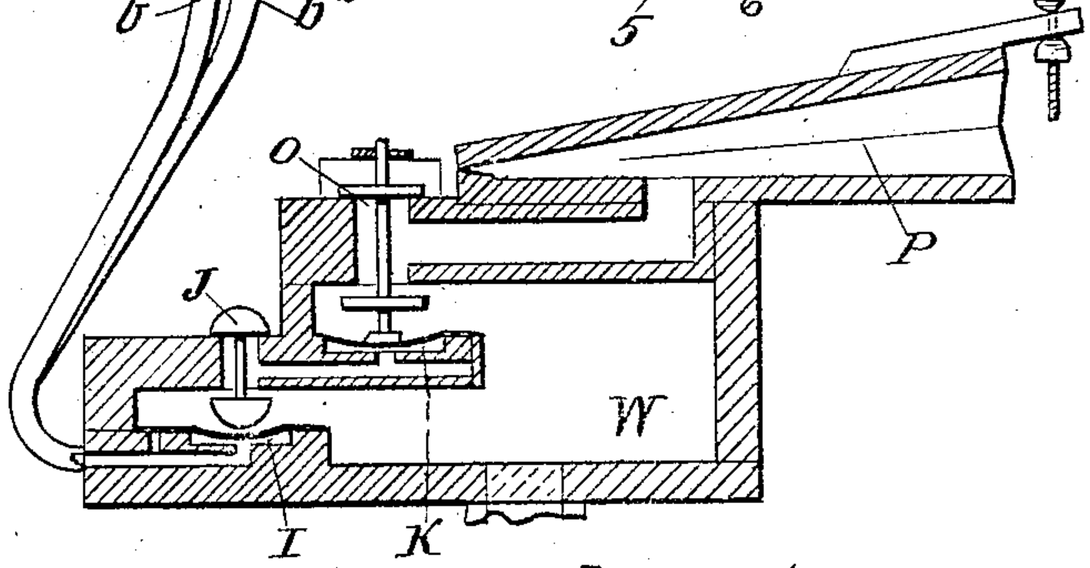


Fig. 5



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TRACKER FOR AUTOMATIC MUSICAL INSTRUMENTS.

No. 825,629. Specification of Letters Patent. Patented July 10, 1906.

Application filed October 4, 1905. Serial No. 281,248.

To all whom it may concern:

Be it known that I, FRANK C. WHITE, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Trackers for Automatic Musical Instruments, of which the following is a specification, reference being made therein to the accompanying drawings.

The object of my present invention is to provide a tracker with a plurally-orificed semicylindrical face member adjustable in the manner set forth for opening or closing either series of ducts; also, to provide a simple, efficient, and convenient tracker having the improved construction and features of novelty substantially such as hereinafter particularly explained, and definitely expressed in the claims, a practical form of the mechanism being illustrated in the drawings, wherein—

Figure 1 represents a plan view of a tracker mechanism embodying my invention, a portion being shown broken away to reveal parts beneath. Fig. 2 is a transverse vertical section of the same, together with pneumatic mechanism controlled therefrom. Fig. 3 is an end view of the tracker and also showing a fragmentary vertical longitudinal section of the end of the tracker. Fig. 4 is a separate cross-section of the tracker face or shell; and Fig. 5 is a detail view at one end of the shell, showing the construction of a stop device and the center bearing.

This improved means is applicable for use in the various types of autopneumatic music-playing instruments, such as employ a propelled perforated music-sheet for controlling pneumatic-action mechanisms.

The invention consists in a tracker provided with a semicylindrical movable facing-cap having a plurality of rows of mouth-orifices formed therethrough adjustably mounted on a tracker-body having a semicylindrical top and plural series of ducts, also in a tracker having contrasting surface markings for showing the true position of the music-sheet.

Rèferring to the drawings, A denotes the bar or body portion of the tracker, which is provided with two rows of holes or air-ducts a' and a^2, arranged therein near each other, but sufficiently far apart to afford a substantial longitudinal partition 3 between the rows. The head or top of the bar A is formed longitudinally straight and transversely semicylindrical on a true circle, as at 4, and superimposed thereon I arrange a semicylindrical cap or shell C, made of metal or suitable hard material about one-sixteenth of an inch thick, more or less, and curved on a true half-circle to internally countermatch upon the semicylindrical top 4 of the body portion A with a close slidable fit. Through this metal shell, which forms the working face of the tracker, there are formed two series of holes or mouth-orifices 1 and 2 for the tracker-ducts a' and a^2. These rows of holes are longitudinally disposed on different scales to match differently-scaled perforated music and to conform to the spacings of the ducts in the bar A. The latter may, if so desired, be made slightly larger from front to rear and laterally narrower than the holes 1 and 2 in the cap-shell, thus affording stronger bridges between the ducts laterally.

The rows of mouth-orifices in the shell are disposed farther apart from front to rear than are the rows of ducts at the head of the body, so that when the cap-shell C stands at central position both rows of mouth-orifices 1 and 2 are out of alinement with the rows of holes a' and a^2 in the body portion.

The shell C is provided with end members c', having centering-openings 5, through which a pivot-stud or screw 6 is arranged for connecting the shell and body. Said openings 5 are best vertically elongated, as shown in Fig. 5, so that the shell will at all times seat upon the cylindrical top surface of the body-bar and not be held therefrom by the center pivots. A spring 7 is preferably combined with the shell (see Fig. 3) for drawing it closely down upon its seating-surface.

A handle S or equivalent means is provided for shifting the shell or cap C backward and forward on the circular top of the body to thereby bring either row of mouth-orifices 1 or 2 to register with the corresponding row of ducts a' or a^2, as desired.

A pin 10, fixed in the bar A and projecting through a suitable slot 9 in the shell C, serves to limit the movement and stop the shell at the positions where the mouth-orifices and duct-holes are in alinement.

The music-sheet M is passed over the face of the tracker from the spool F to the take-up roll D in usual manner.

For the purpose of showing at all times whether the perforated music-sheet is running so that its note-perforations coincide in alinement with the respective tracker-orifices I provide upon the tracker-face at the proper positions for the outer edges of the music-sheet a surface or marking of contrasting color C^5 at or near the ends of the tracker-bar, and the junctional line 15 of which extends straight across the tracker-face and forms a strong visible contrast of surface both with the raceway-surface of the tracker and with the material of the music-sheet at the exact position where the edge of the music-sheet properly travels, thereby making any deviation from position as the music-sheet advances readily discernible by reason of the sheet encroaching upon or varying away from the edge line of the juxtaposed colors or contrasting elements. The contrast-line on the tracker may be made by painting or staining with dark color that part of the tracker-face that projects beyond the width of the music-sheet or by an inlay of different-colored material, wood, metal, or any suitable substance being used, or, again, by differently finishing the end surfaces and raceway-surface of the tracker-face. This means for indicating the true alinement of the music may be employed on trackers of various other forms than the one herein shown and with plural or single rows of orifices or for wider or narrower music-sheets.

The pipes b' and b^2, which lead to the pneumatic actions, may be attached to the ducts of the tracker-bar in any suitable manner. In Fig. 2 I have for purposes of fuller illustration shown the tracker connected with a set of pneumatics, wherein I indicates the primary pneumatic, J the valve for controlling a secondary pneumatic K, and O the secondary actuated valve controlling a power-pneumatic P, by which a playing device or striking member may be operated, all of said pneumatics being worked by the influence of exhaust or vacuum pressure in the chamber W, as will be readily understood by persons conversant with pneumatic instruments of this class.

By employing the movable metal cap member or thin facing shell C the orifices can be accurately formed, and by sliding said cap or facing-shell upon the semicylindrical top of the body a very simple and convenient means of adjustment for varying the scale of an instrument is afforded. When the shell is centrally adjusted, as per line 20, Fig. 4, both rows of ducts are closed. When moved backward, as per line 21, then the orifices 1 coincide with the ducts a', and the first row can coact with the perforations of a music-sheet of the broader scale, as shown in Fig. 1. When the shell is moved forward, as per line 22, then the first-row ducts are closed and the orifices 2 coincide with the ducts a^2, and the second row can coact wth the perforations of a music-sheet of the narrower scale.

Obviously in applying this invention to instruments of various styles some changes may be made in the form of embodiment by those skilled in the art without departing from the nature and scope of my invention as expressed in the claims.

Therefore without limiting the same to the special form and detail herein shown or the enumeration of equivalents I claim as of my invention and desire to secure by Letters Patent—

1. A duplex-scaled musical-instrument tracker, comprising a body member having separate rows of air-ducts therein, and a movable face member consisting of a thin shell having the rows of tracker-mouth orifices therethrough, mounted upon said body and shiftable thereon for bringing the respective rows of mouth orifices into and out of coinciding relation with the correspondingly-scaled air-ducts.

2. In a music-playing instrument, a tracker comprising a tracker-body provided with a semicylindrical head-surface, and having a plurality of rows of ducts of different scale formed in said body; in combination with an overlying thin shell or cap member having a plurality of rows of mouth-orifices of different scale formed therethrough, end supports and axially central bearings connecting said cap member and tracker-body, and means for shifting the cap to bring either of the rows of mouth-orifices to register with the respective rows of ducts.

3. In a music-playing instrument, a tracker comprising a tracker-body provided with a semicylindrical head-surface, and having two rows of ducts formed in said body; in combination with an overlying half-cylinder shell having two rows of mouth-orifices formed therethrough, and at a distance apart varying from that of the ducts in the body portion, axial bearings connecting said shell and tracker-body, and means for shifting the shell to bring either of the rows of mouth-orifices into operative position for coaction with a music-sheet.

4. A tracker comprising a tracker-body having a semicylindrical head provided with two series of ducts, of different scale, ranged in separate rows, with an intervening partition; in combination with an overlying semicylindrical thin metal shell forming a cap for the head-surface and having therethrough two rows of mouth-orifices respectively corresponding to the scales of said ducts, but with the rows at different distance apart, bearings loosely connecting said cap axially concentric with the tracker-head surface springs for pressing the cap close upon said

surface, means for shifting the cap to bring either row of mouth-orifices into operative position, and devices for limiting the movement of the cap, all substantially as set forth.

5. In a mechanical musical instrument, a tracker comprising a tracker-body having adjacently-disposed rows of ducts on different scales therein, and provided with a transversely-circular head-surface, an overlying unattached shell or cap member fitting the curvature of the head-surface and having rows of mouth-orifices formed therethrough on corresponding scales but at somewhat greater distance apart than the rows of ducts in the body portion, means for retaining said cap member movably concentric upon said head-surface, and means for effecting adjustment of the cap member to bring either row of mouth-orifices to register with its respective ducts, or out of alinement therewith, for the purpose set forth.

6. In a mechanical musical instrument, in combination with a perforated music-sheet and means for propelling said music-sheet; a pneumatic-duct tracker having the end portions of its face beyond the width of the music-sheet race, finished with a contrasting surface or color-marking, the junctional line of the contrasting portions of the tracker-face being disposed parallel with and at the true alinement position for the edge of the music-sheet upon the tracker.

Witness my hand this 2d day of October, 1905.

FRANK C. WHITE.

Witnesses:
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A. O. KUEHNLE.