

P. B. KLUGH.
 TRACKER DEVICE FOR SHEET CONTROLLED INSTRUMENTS.
 APPLICATION FILED JUNE 26, 1909.

1,007,210.

Patented Oct. 31, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

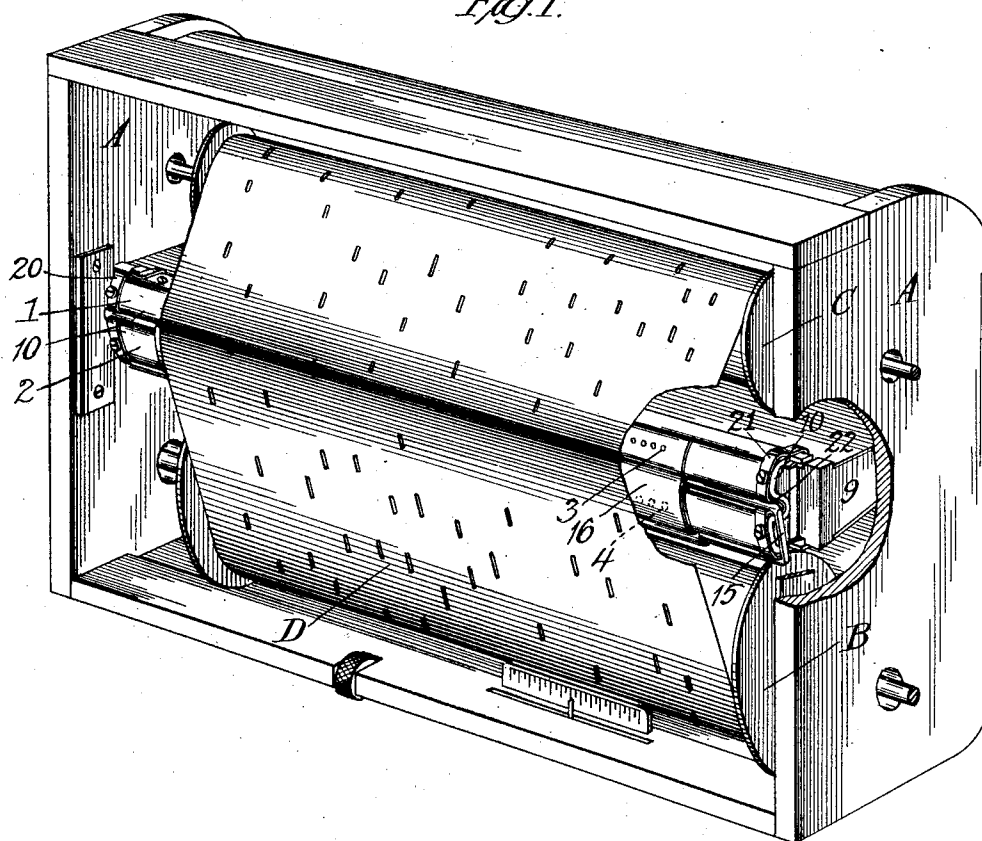


Fig. 2.

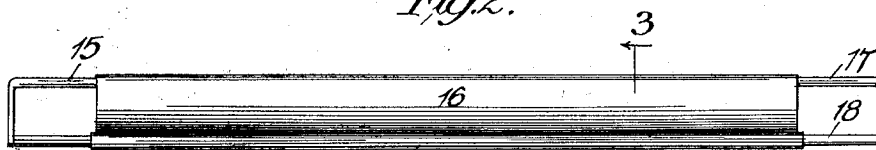
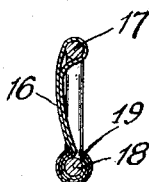


Fig. 3.



Witnesses
 R. A. White.
 H. R. L. White.

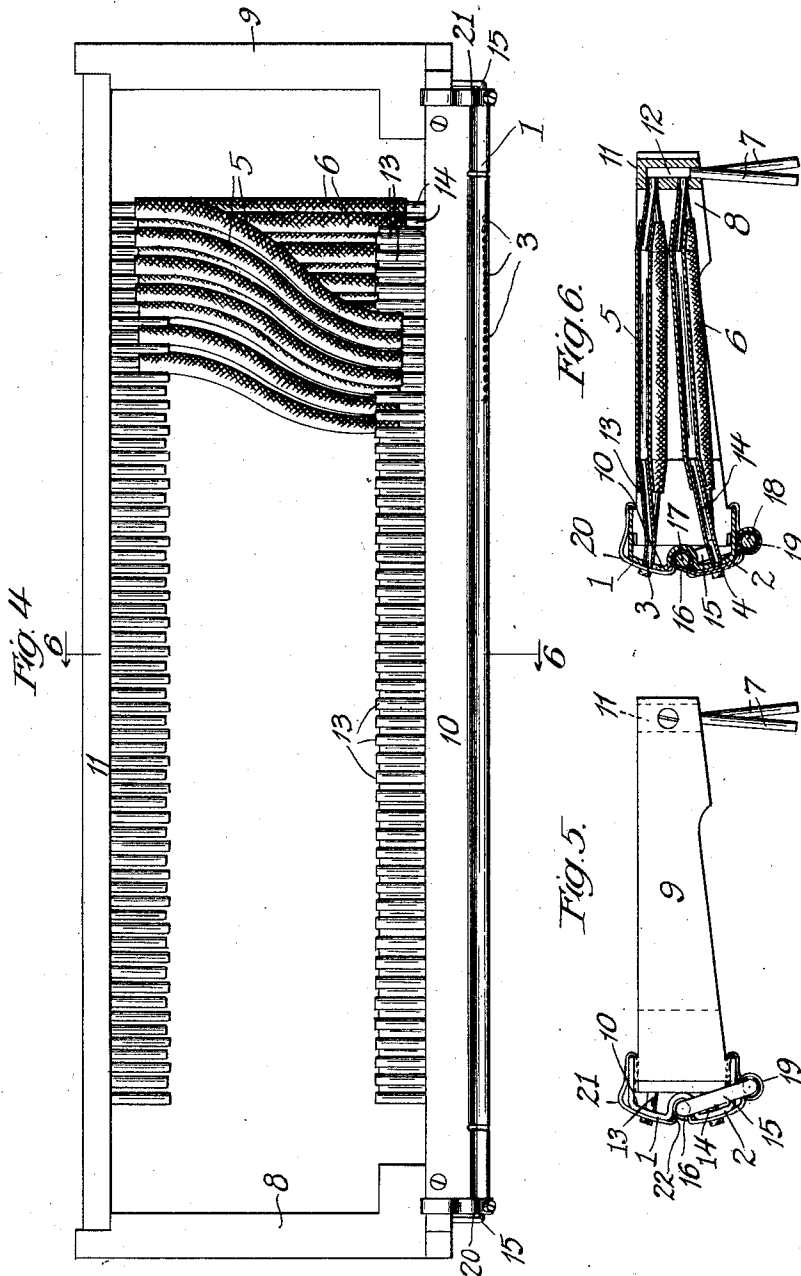
Inventor
 Paul Brown Klugh
 By J. Clarke Hayes Atty.

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2 SHEETS-SHEET 2.



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UNITED STATES PATENT OFFICE.

PAUL BROWN KLUGH, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE CABLE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

TRACKER DEVICE FOR SHEET-CONTROLLED INSTRUMENTS.

1,007,210.

Specification of Letters Patent.

Patented Oct. 31, 1911.

Application filed June 26, 1909. Serial No. 504,488.

To all whom it may concern:

Be it known that I, PAUL BROWN KLUGH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Tracker Devices for Sheet-Controlled Instruments, of which the following is a specification.

My invention relates to instruments or machines having mechanisms that may be controlled in operation by sheets with selective means arranged therein or thereupon and has for its chief object to provide means to permit control of the mechanisms of individual instruments or machines by a plurality of such sheets with their selective means differently arranged.

Figure 1 is a perspective view of a controller-box such as is used in mechanical musical instruments, containing the usual controlling-sheet and spools and a tracker-device embodying my invention. Fig. 2 is a plan view of the apron and apron-frame as they appear when removed from their position upon the tracker-device. Fig. 3 is an enlarged sectional view, taken upon line 3—3, Fig. 2. Fig. 4 is a plan view of the tracker-device, showing an arrangement of some of the conductors of each of the tracker-ranges and partly demonstrating the method of joining the conductors connected with one tracker-range with the conductors connected with another and differently scaled tracker-range. Fig. 5 is an end view of the structure shown in Fig. 4. Fig. 6 is a sectional view, taken upon line 6—6, Fig. 4.

While I have shown and will describe my device as applied to a pneumatically-operative musical instrument, it will be understood that the invention may be used upon other instruments or machines employing perforated sheets or webs and also in connection with mechanisms controllable by webs either provided with perforations or other selective means wherein such control may occur through contact of the webs with transversely-arranged means for conducting selected impulses imparted thereto by the selective means of the sheet.

Mechanical musical instruments employing perforated sheets have been fitted with trackers arranged transversely to the travel of the sheet, the perforations in the sheet registering with a laterally corresponding scale of apertures in the tracker. I provide

a tracker-device that will accommodate sheets in which the compass and lateral arrangement of the perforations may differ.

The music-roll-box A contains the usual take-up spool B and the removable music-spool C from which the music-sheet D is drawn across a tracker-device by the take-up spool during operation of the instrument.

1 and 2 are the faces of parallel trackers having separate ranges of apertures 3 and 4 arranged therein upon different scales, each aperture opening rearwardly into a conduit which may connect with any chosen form of note-sounding or tone-modifying device. There are so many well-known devices of this character varying in construction and purpose that may be connected with but form no part of this invention that description of any particular mechanism is unnecessary. Apertures 3 of tracker 1 are more numerous and may be concerned in controlling the operation of a greater number of devices than apertures 4 of tracker 2. They are also arranged in closer relative position. End supports 8 and 9, face-plate 10 and junction-bar 11 form a rectangular frame. Nipples 13 and 14 are secured to the rear of plate 10 and register tightly with apertures 3 and 4, respectively. Junction-bar 11 is provided with a series of separate cells 12, preferably corresponding in number with the apertures of tracker 2; connected therewith through conduits 6 and nipples 14; connected with a corresponding number of the apertures of tracker 1 through conduits 5 and nipples 13 and provided with individual nipples 7.

The devices to be controlled in operation are not shown, neither are the conduits extending directly thereto, but it is sufficiently evident that, when connected by conduits with nipples 7, a number of the devices corresponding to the number of apertures 4 may be controlled by tracker 2 and, when connected by other conduits with the extra nipples 13, an additional number of devices as well as the ones controllable by tracker 2 may be controlled by tracker 1.

Tracker-faces 1 and 2 should be slightly separated for a purpose to be described and I therefore stamp or otherwise shape the plate 10 with a substantially deep channel or groove 22 extending throughout its length between the two ranges of apertures 3 and 4.

The flexible apron 16 is arranged upon the rectangular frame 15 as shown in detail in Fig. 3. A sufficiently air-tight fabric is doubled over one of the long sides 17 of the frame and the loose ends are then carried
5 together around the other long side 18 and secured by a split tubular clamp 19. I prefer to construct the frame 15 of rods 17 and 18, the ends of rod 17 being bent in the same
10 direction and plane to meet and be riveted or otherwise secured to rod 18. Near each end of plate 10, I secure similar springs 20 and 21 which are shaped to follow closely the surface of the plate, reach down into the
15 groove 22 therein and extend around and under the rear edges thereof. The loops formed by the entrance of the springs into the groove are shaped to afford spring jaws or sockets into which the rod 17 may be
20 snapped and which will allow rotation of the rod 17 as the frame is swung to cover the apertures of either tracker with the apron 16.

Having described my invention, I claim
25 as new and desire to secure by Letters Patent:—

1. The combination of a tracker having tracker-apertures, a hollow rectangular frame, an apron supported by opposite sides
30 of said frame, and yielding means secured to said tracker to yieldingly grip and releasably hold said frame in connection with said tracker to permit the covering of the apertures of said tracker by said apron.

35 2. The combination of a pair of tracker ranges, a hollow rectangular frame, a cover supported by opposite sides of said frame, and yielding means to releasably hold one

side of said frame between said ranges to permit swinging movement of said cover 40 in one direction to cover one of said ranges with one of its faces and movement of said cover in the other direction to cover the other of said ranges with its opposite face.

3. In a compound tracker-device, two projecting tracker faces, a groove extending 45 between said faces, a hollow rectangular frame shaped to surround either of said faces, a cover supported by opposite sides of said frame, and means for supporting one side 50 of said frame in said groove to permit swinging of said frame and cover in one or the other direction to surround one or the other of said faces with said frame and cover the face surrounded by the frame with 55 said cover.

4. In a compound tracker-device, a tracker body, parallel rows or ranges of tracker apertures arranged in said body, a hollow rectangular frame, a cover supported 60 by opposite sides of said frame, and yielding means to releasably hold one side of said frame to said body between said ranges to permit swinging movement of said cover in one direction to cover one of said 65 ranges with one of its faces and movement of said cover in the other direction to cover the other of said ranges with its opposite face.

Signed at Chicago, Illinois, this twenty- 70 fourth day of June, 1909, in the presence of two subscribing witnesses.

PAUL BROWN KLUGH.

Witnesses:

C. J. DELANO,
N. D. TOBIN.