

May 27, 1952

P. FEHR

2,597,928

ADJUSTABLE CAM FOR TIME CLOCKS

Filed Oct. 25, 1947

Fig. 1

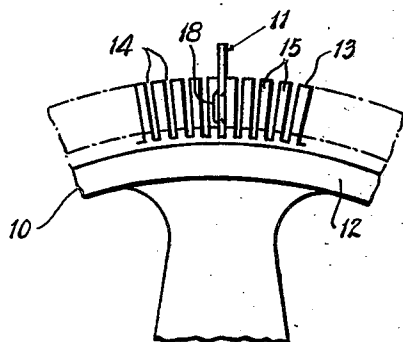


Fig. 3

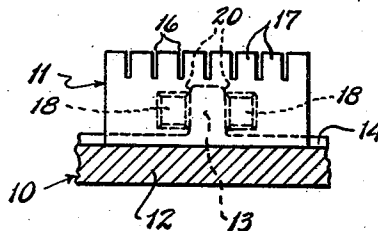


Fig. 2

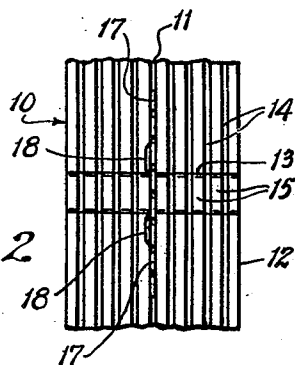


Fig. 4

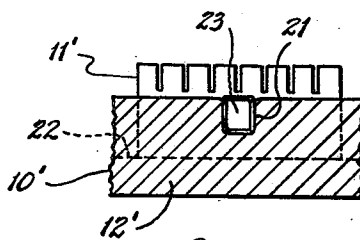


Fig. 6

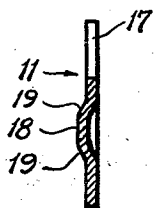
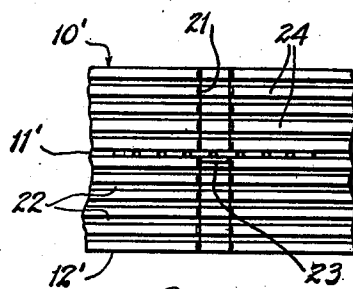


Fig. 5



INVENTOR,
Paul Fehr

BY
Morgan, Finnegan & Durkin
ATTORNEYS.

UNITED STATES PATENT OFFICE

2,597,928

ADJUSTABLE CAM FOR TIME CLOCKS

Paul Fehr, Zug, Switzerland, assignor to Landis & Gyr, A. G., Zug, Switzerland, a body corporate of Switzerland

Application October 25, 1947, Serial No. 782,197
In Switzerland November 13, 1946

1 Claim. (Cl. 74—568)

1

This invention relates to time clock recorder mechanisms adapted for registering or checking time periods of factory workmen for example, and more particularly to new and useful improvements in time drums forming a part of such mechanisms.

The invention has particular reference to a time drum which includes a plurality of riders adapted to correspond to any desired moment of mechanism operation, portions of each rider being arranged in different paths whereby to coact with release devices, in such mechanism, which are adapted to be actuated at different times.

In a known form of time drum including riders attached thereto, the construction of the riders and the drum including the manner in which the riders are attached to the drum, is objectionable by reason of the complicated cross-sectional configuration of the drum as well as the complicated construction of the riders whereby manufacturing costs are relatively high and the size of a complete drum unnecessarily large.

In accordance with the present invention, the foregoing disadvantages are obviated by the provision of an improved time drum wherein the construction of the drum and the riders is such as to provide complementary elements integral therewith whereby upon attachment of the riders to the drum, the complementary elements are brought into coactable engagement to positively secure each rider against lateral displacement in addition to being frictionally retained against radial displacement.

Accordingly, it is an object of the invention to provide an improved time drum construction as specified whereby the overall dimensions thereof may be materially reduced.

Another object of the invention is to provide an improved time drum of the character specified wherein a plurality of riders are secured thereto by the coactable engagement of complementary elements integral therewith.

A further object of the invention is to provide an improved time drum construction of the character specified which is particularly adapted for use as a component part of small time card recording mechanisms of the wall type.

Another object of the invention is to provide an improved time drum of the character specified wherein any one or more of the riders thereon may be readily altered in accordance with any desired working cycle in a time recording mechanism without removing the drum therefrom or otherwise disturbing the mechanism.

2

A further object of the invention is to provide an improved time drum of the character specified which is of simple construction, compact, inexpensive to manufacture, readily assembled and highly efficient for the purpose for which it is designed.

With the above and other objects in view, the invention resides in the novel construction, and arrangement of parts, the novel features of which are set forth with particularity in the appended claim. The invention itself, however, both as to its organization and its method of operation, together with additional objects and advantages thereof, will best be understood from the following description of a specific embodiment when taken in connection with the accompanying drawing, in which

Fig. 1 is a fragmentary view in elevation of a time drum and a rider attached thereto as constructed in accordance with a preferred form of the invention;

Fig. 2 is a fragmentary top plan view of the drum portion shown in Fig. 1;

Fig. 3 is a fragmentary sectional view taken on the line 3—3 of Fig. 1;

Fig. 4 is a fragmentary sectional view similar to Fig. 3 and illustrating a modified form of the invention;

Fig. 5 is a fragmentary top plan view of the drum portion shown in Fig. 4; and

Fig. 6 is a vertical sectional view of one of the riders per se.

Referring to the drawing and to Fig. 1 in particular, a fragmentary portion of a time wheel or drum adapted for use in a conventional time recording or checking mechanism, is indicated at 10 with one of a plurality of riders 11 attached thereto.

In accordance with the invention, the time drum 10 comprises an annular member wherein the peripheral portion or rim 12 is provided centrally thereof with an upstanding, relatively narrow annular flange 13 integral therewith to form a rim of inverted T-shape configuration in cross section.

The drum 10 is further provided with a plurality of radially extending, circumferentially spaced slots 14 which are cut into and across the flange 13 and partly into the rim 12 for the reception of a rider 11 in each slot 14 in coactable relation with the spaced portions 15 of the flange 13 defined by the slots 14.

In the preferred form of the invention, each of the riders 11 comprise an elongated rectangular plate member which is provided along one

side margin thereof with a plurality of equally spaced, open ended slots 16 whereby to form a plurality of teeth or finger-like projections 17 integral therewith.

As clearly shown in Fig. 6, each rider 11 is further provided with a pair of spaced surface elevations or protuberances 18 which are struck out of the plane thereof intermediate its marginal edges, the defining side margins 19 of the protuberances 18 being substantially tapered or inclined with respect to the outer face of each protuberance 18 and the virgin surface of the plate member comprising each rider 11.

The time drum 10 is completed by the insertion of a rider 11 in each of the slots 14 with a portion 15 of the slotted flange 13 disposed between the protuberances 18 as clearly shown in Fig. 3. The distance between the protuberances 18 is substantially equal to the width of each flange portion 15 to obtain a good frictional fit which is augmented by the additional frictional contact afforded by the wedging action of the side margins 19, of the protuberances 18, on the opposite end faces of the spaced flange portions 15 whereby each rider 11 is frictionally retained in its correlated slot 14 against radial displacement and positively maintained against lateral displacement relative to the drum.

As clearly shown in Fig. 3, the top edges of the flange portions 15 are slightly beveled, as at 20, whereby entrance of the spaced flange portions 15 between the protuberances 18 is facilitated.

As thus secured to the periphery of the drum 10, the teeth or projections 17 formed on each rider 11 are adapted for individual engagement with a release or trip element, of a known time recording or checking mechanism, positioned in the path thereof as will be understood. If certain of the projections 17 are not required in any desired working cycle of the time recording mechanism, one or more of the projections 17 may be rendered inoperative by breaking them off at the base of the defining slots 16 or otherwise detached from the rider 11.

In a modified form of the invention, as illustrated in Figs. 4 and 5, the rim 12' of the time drum 10' is provided with an annular groove or slot 21 centrally thereof, in lieu of the flange 13, and the grooved rim 12' provided with a plurality of radial, circumferentially spaced slots 22 for the insertion therein of a plurality of riders 11' transversely of the rim 12' as in the preferred form of the invention.

In the modified form of the invention, the riders 11' are each provided with a single central

protuberance 23 for registration with and insertion into one of the spaced portions 24 of the grooved rim 12', whereby each rider 11' is similarly frictionally retained against radial displacement and positively locked against lateral displacement relative to the drum 10.

If desirable, frictional engagement between the slotted flange 13 or slotted grooved rim 12' and the riders 11 or 11', may be increased by extending the wedging effect therebetween to the side faces of the flange 13 or groove 21 by forming such surfaces with an additional slight incline or taper whereby to further enhance the frictional retention of each rider in its correlated slot.

While the invention has been illustrated and described with respect to a preferred and modified embodiment thereof which gives satisfactory results, it will be understood by those skilled in the art, after understanding the invention, that various changes and modifications may be made therein without departing from the spirit and scope thereof. Therefore, the invention is not to be limited except as is necessitated by the prior art and the scope of the claim hereunto appended.

What I claim is :

In combination, a time drum having an annular flange integral with its peripheral surface centrally thereof, said flange and part of said peripheral surface being slotted transversely to define radial circumferentially spaced rectangular fins on said drum, and a plurality of plates each including a pair of spaced laterally extending protuberances thereon, struck up from the surface of each plate and, disposed between said fins with said protuberances in frictional engagement with the opposite sides of one adjacent fin whereby said plates are retained on said drum against radial and lateral displacement, said plates each including a plurality of spaced projections along one margin in the plane thereof.

PAUL FEHR.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,780,328	Ames	Nov. 4, 1930
1,791,927	Geiger	Feb. 10, 1931
1,940,598	Larkin	Dec. 19, 1933
2,163,864	Bissell	June 27, 1939