

No. 643,592.

C. A. DE CHAPEAUROUGE.
TIME STAMP.

Patented Feb. 13, 1900.

(Application filed Aug. 9, 1899.)

(No Model.)

2 Sheets—Sheet 1.

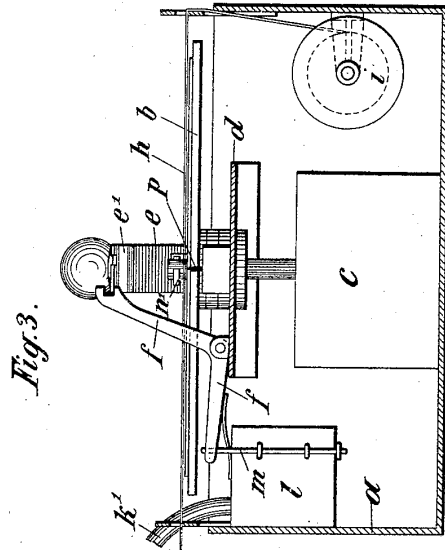


Fig. 3.

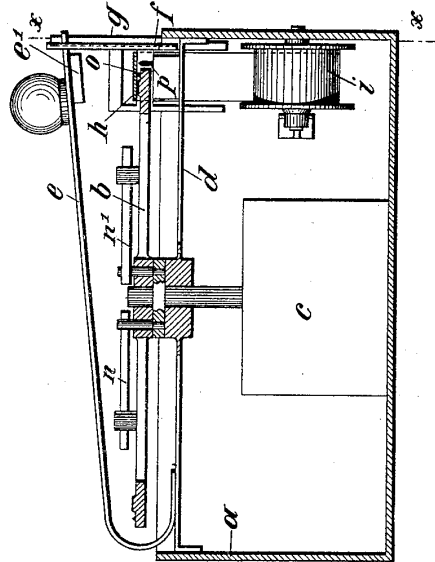


Fig. 1.

Witnesses:
James Mansfield
Wm. Cary Sullivan.

Inventor:
Charles Axel de Chapeaurouge.
By: Alexander F. Lowell
Attorneys.

No. 643,592.

Patented Feb. 13, 1900.

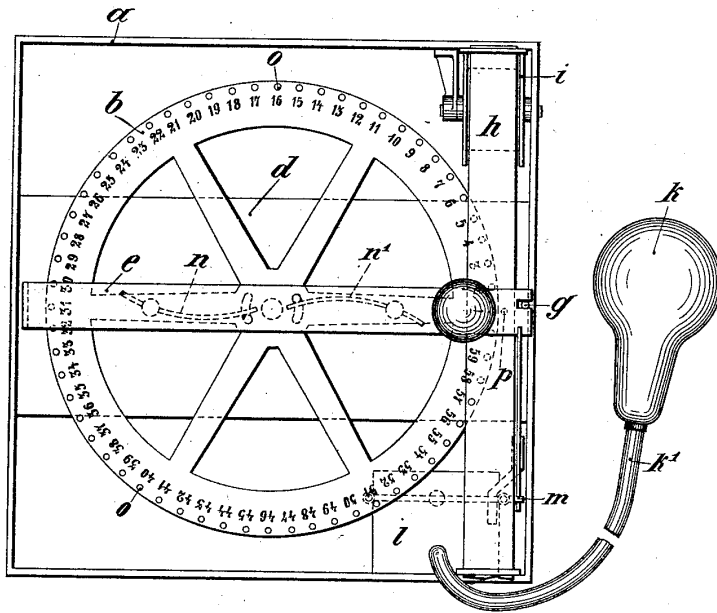
C. A. DE CHAPEAUROUGE.
TIME STAMP.

(Application filed Aug. 9, 1899.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 2.



Witnesses:
James A. Mansfield
W. C. Sullivan

Inventor:
Charles Axel de Chapeaurouge
By: Alexander F. Sowell
Attorneys.

THE MORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES AXEL DE CHAPEAUROUGE, OF HAMBURG, GERMANY.

TIME-STAMP.

SPECIFICATION forming part of Letters Patent No. 643,592, dated February 13, 1900.

Application filed August 9, 1899. Serial No. 726,688. (No model.)

To all whom it may concern:

Be it known that I, CHARLES AXEL DE CHAPEAUROUGE, doctor of medicine, a subject of the Emperor of Germany, residing at
5 Rotherbaumchausee 63, Hamburg, in the Empire of Germany, have invented certain new and useful Improvements in Time-Measuring Apparatus for Race-Courses, of which the following is a full, clear, and exact description.

10 This invention relates to a time-measure apparatus which is especially suitable for horse-races, and is designed to obtain an exact check regarding the running of the horses. Apparatus as used for this purpose at present,
15 generally in the form of a stop-watch, has the disadvantage even when a double stop-hand is provided that the person measuring the time during a race is compelled to glance from the watch to the course, and vice versa,
20 which is of course a double source of error. This disadvantage is avoided in my invention by the automatic registering of the time without taking the eye off the course, thus obviating the overlooking or inaccurate observation of the distance-posts.

25 In order that this invention may be the better understood, I now proceed to describe how it may be carried into effect, reference being had to the accompanying drawings, and to the letters marked thereon, like letters referring to like parts in the various figures.

30 Figure 1 is a sectional front view. Fig. 2 is a plan, and Fig. 3 is a sectional side view on the line $x x$ of Fig. 1.

35 The construction of the apparatus is very simple and the various parts are arranged in a box a , which may be provided with a lock. A disk b is pivoted in the center of the box and is rotated by a clockwork c . On the disk
40 b are provided raised numbers, which run from "1" to "60" in the apparatus illustrated. (See Fig. 2.) The rotation of the disk b is regulated so that the number advances in one second a distance which is exactly the same
45 as the distance between the numbers. A bridge d , arranged in the box a , carries a spring e , situated across the disk b and which is generally in tension. The spring e is held up by a recess in an angular lever f and is
50 guided by a bar g . A strip of paper h , wound on a roller i , passes up on one side of the box

and along one side of the top of the box a , so that the center of the strip passes over the numbers of the disk b , which are situated or pass near the middle of the front of the box. 55 The strip h is held in moderate tension by a weight.

The numbers of the disk b indicate and register the time which a horse or other object has run in the following manner: The whole
60 course as seen by the observer is divided into equal distances and distance-posts are provided to indicate such distances. When the horse starts, the person measuring the time, and conveniently situated at a raised point,
65 presses on an india-rubber ball k of the apparatus. The compressed air passes from a tube k' into an expansible casing or chamber l , which is expanded downward by the air, and thus presses the lower limb of the lever f also
70 downward by means of a rod m , so that the recess in the upper limb of the lever f moves away from the spring e , so that an elastically-mounted plate e' presses the paper strip h
75 onto the numbers of the disk b to print the numbers on the strip. The spring e is lifted sufficiently off the disk immediately after this function by a small spiral situated in front of the guide-bar g , so that the spring e does not
80 interfere with the rotation of the disk b .

In order to obviate any possible failure in the operation of the disk b , the latter is loose on its axle and is compelled to follow the action of the clockwork by springs $n n'$, fixed to the disk and bearing against pins. There-
85 fore should the disk b be momentarily stopped the clockwork may continue in its motion. Pins o are provided on the disk b between the numbers and the periphery of the disk b at distances equal to the correct distances be-
90 tween the centers of the numbers, so as to indicate exactly the accurate distances between theoretically correct centers of the numbers, so as to show the seconds with certainty and accuracy. A fixed pin p is situated on the
95 bridge d and indicates exactly the center of the spring e when the latter strikes down, so that the fractions of seconds can be easily read from the strip of paper.

In the apparatus as shown in the drawings
100 the spring e may be raised into its original position by hand; but the apparatus may be

arranged so that the spring is raised into its original position by clockwork, which latter may also move the paper strip.

It will be easily seen that the whole apparatus may be arranged automatically, so that the person measuring the time need only press the ball when the horse passes the distance-posts, the spring being returned automatically after the registering of the time and the advance of the strip of paper being also effected automatically. Thus the progress of a race may be registered by any observer without interruption.

The apparatus may comprise several striking-springs and several strips of paper, so that several persons may simultaneously register the running of different race-horses.

The registering may be done in ink or color by the use of ink or color ribbons, and by transferring the differences of the numbers registered on the strip to squared paper diagrams may be produced which show the progress of a race at a glance.

What I claim, and desire to secure by Letters Patent, is—

1. In a device for measuring time at race-courses, the combination of a disk having raised numbers at certain distances apart, a spring *e* above the disk carrying an impression-pad *e'*, a guide-rod for said spring, means for leading a strip of paper between said impression-pad and the disk, clockwork for rotating said disk at a uniform speed, and

spring-arms for connecting said clockwork to said disk so that the clockwork is not interfered with or impeded by the taking of an impression, substantially as described.

2. A device for measuring time at races consisting of a box *a* containing the apparatus consisting in combination of a disk *b* having raised numbers at certain distances apart, so that at the rotation of the disk *b* for a second, it is moved a distance, corresponding exactly to the distance between the numbers; one or more striking-springs *e* effecting the registering of the time by its or their disengagement and which by its or their descent press a paper strip *h* onto the disk *b* and thus print the time; a clockwork *c* driving the disk which is adapted to continue uniformly the time-measuring operation, even if the disk *b*, be momentarily stopped, by the spring *e*, by reason of springs *nn'*, which, connecting the disk to its axle, can yield, and the disk when liberated can come up with the axle; a fixed striking-pin *p* allowing fractions of seconds to be read; and means for the relifting of the spring *e* after striking and for the advance of the paper strip *h* either by hand or automatically, substantially as described.

In witness whereof I subscribe my signature in presence of two witnesses.

CHARLES AXEL DE CHAPEAUROUGE.

Witnesses:

E. H. L. MUMMENHOFF,
GEO. LANDRÉ.