

J. RIVOIRE.  
BILLIARD-REGISTER.

No. 179,866.

Patented July 18, 1876.

FIG.1.

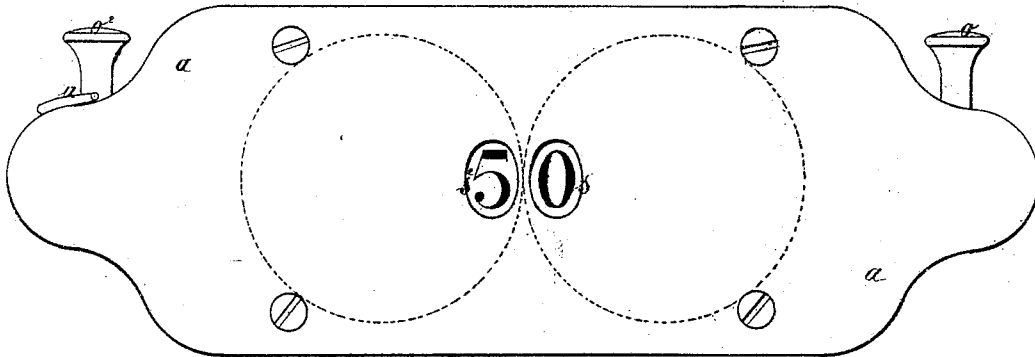
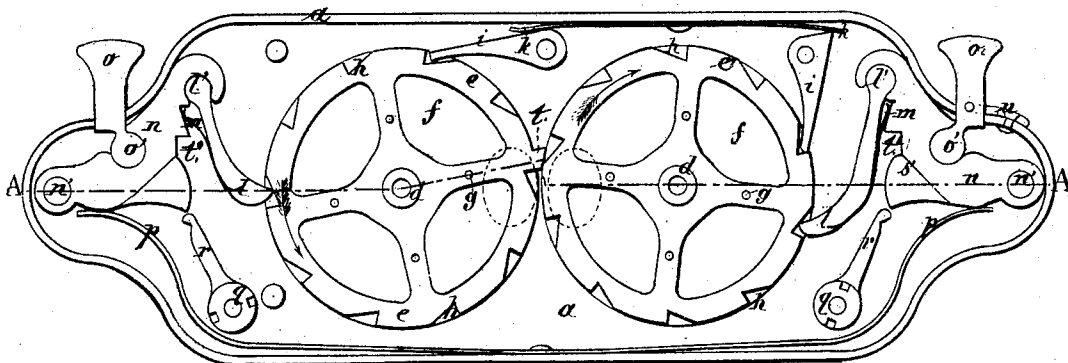


FIG.3.



FIG.2.



Witnesses.  
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JOSEPH RIVOIRE, OF PARIS, FRANCE.

## IMPROVEMENT IN BILLIARD-REGISTERS.

Specification forming part of Letters Patent No. **179,866**, dated July 18, 1876; application filed June 3, 1876.

*To all whom it may concern:*

Be it known that I, JOSEPH RIVOIRE, engineer, of Paris, France, have invented certain new and useful Improvements in Counters; and I hereby declare that the following is a full and exact description thereof, reference being made to the three figures of the accompanying drawing and to the letters thereon marked.

My invention relates to a mechanical arrangement, whereby units or tens and higher decimal numbers can be registered on counters or dials by a simple touch of the finger, each registration, whether of units or of tens, being rendered apparent to the eye and audible to the ear.

My new counter is applicable to mechanical, industrial, and commercial purposes in general, by giving to it such size or form best adapted for each particular purpose. I will describe it as specially adapted for marking billiard-playing, in which case it is destined to be fixed to the band or border of the billiard-table by means of one or more screws or otherwise, and is made as shallow as possible with rounded exterior edges, so as not to interfere with or inconvenience the action of the players.

In the accompanying drawing, Figure 1 is a plan of the front of my counter; Fig. 2, a plan of the back thereof, the closing-plate being removed, and Fig. 3, a lateral elevation through the line A A, Fig. 2.

In these figures, *a* represents the case of the counter, and consists in a hollow metallic plate with rounded edges, preferably stamped out of sheet-iron, and *b* a back attached to *a* by means of screws *c c* in the gudgeons *d d*, fixed to the inner face of the case *a*. The mechanism of the counter is placed within this case, and consists in two similar series of parts, the one having reference to the registration of units, and the other to that of tens, and the description of one will apply to both; therefore, referring to the mechanism of the units, *e* represents a wheel hung on the gudgeon *d*, and connected with a dial, *f*, also hung on *d* (and on the face of which dial are marked in their order the ten numbers 0 to 9) by a pin, *g*, so that these two parts must forcibly

travel together, and one of the figures on the dial be always apparent through the hole *s* cut in the face of the case. The edge of the wheel has ten corresponding nicks, *h*, and it is maintained in one or other of its ten positions by a click, *i*, pressed upon by a spring, *k*. For the purpose of rotating this wheel with its dial by fractions, I make use of a second click, *l*, pressed upon by a spring, *m*, and pivoted at *l'* in an arm, *n*, pivoted at *n'* in the case *a*. A downward motion is imparted to this click *l* by pressure on an external stop, *o*, jointed at *o'* in the arm *n*, a spring, *p*, riveted to the inner edge of the case *a*, serving to bring the said arm back to its normal position on the stop being relieved of pressure, the depression of the click *l* being limited by contact with the hub *q* of a sounding-spring, *r*, which is acted on by an inclined plane or bevel, *s'*, attached to the arm *n* at each depression, so as to admit an audible sound. For this purpose, on the arm being depressed, the edge of the inclined plane passes over the spring *r*, and gradually depresses the same until just before the bottom of the click *l* strikes the stop *q*, at which moment the entire inclined plane having passed over the spring, this latter rises suddenly through the notch *t'* to its previous position, emitting an audible sound.

Action of the counter: Supposing that both the zeros are apparent in the openings *s s'*, if the player wishes to register one point he simply presses down the stop *o* and releases it; thereby the wheel *e* and the dial *f* are rotated one-tenth, and the figure 1 made apparent at the opening *s* of the units. The click *i*, having allowed the wheel to make the said fraction of rotation, re-enters the next cut. A succession of such units can thus be registered until the zero once more is made apparent. At this last fraction of rotation a projecting tooth, *t*, enters a nick in the wheel *e'*, indicating the tens and rotating the same one-tenth, renders the figure 1 apparent at the opening *s'*, which, with the zero at the opening of the units, makes up the figure 10. The counter can thus be made to register up to 99.

If the figures to be registered exceed 9, then for greater rapidity the wheel and dial of the

tens can be rotated directly by operating on the stop  $o^2$  after having released the same by disengaging the hook  $u$ , as shown in the Fig. 3.

I claim as my invention—

1. A registering or counting device contained within a flat case composed of two parts,  $a$   $b$ , one lodging within the other, as shown and described, the whole being adapted to be applied to the border of a billiard-table, and to lie flush therewith, or to project so slightly above it as not to interfere with or incommode the player.

2. The combination, with the wheels  $e$ , pro-

vided with dials  $f$   $f$ , of the stops  $o$ , arms  $n$ , and spring-clicks  $l$ , these parts being constructed and operating substantially as described.

3. The combination, with the wheel-actuating mechanism, of the incline  $s^1$ , notch  $t'$ , and spring  $r$ , these parts operating as described, to produce an audible sound at each registration of a number, as set forth.

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Witnesses:

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