

(No Model.)

4 Sheets—Sheet 1.

L. BOUDET & P. LACOMBE.
TELEGRAPHIC APPARATUS.

No. 540,899.

Patented June 11, 1895.

Fig. 1

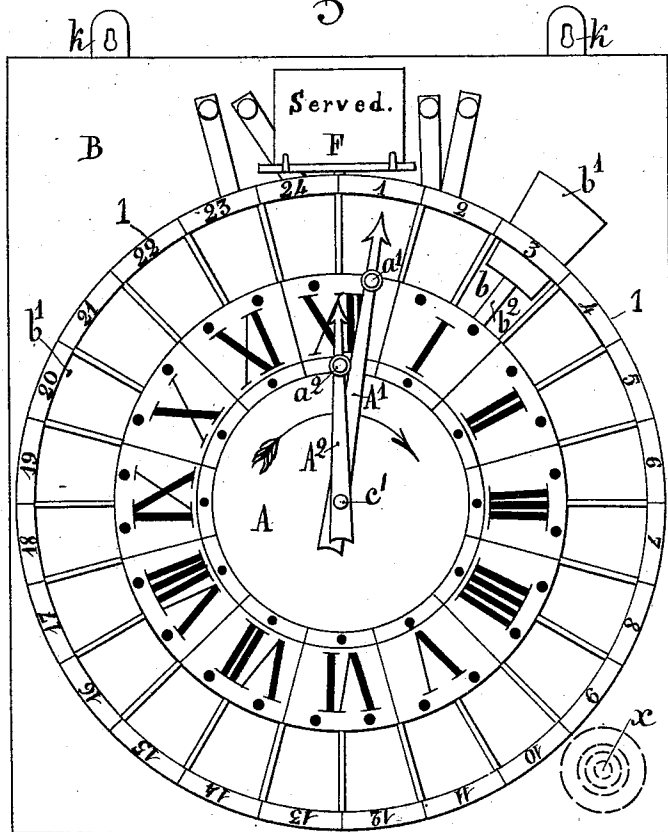
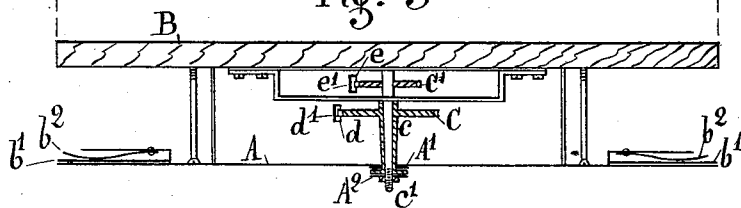


Fig. 3



Witnesses:

J. Chebet
O. Block

Inventors:

Louis Boudet
Pierre Lacombe
By *H. de Vos*
Attorney—

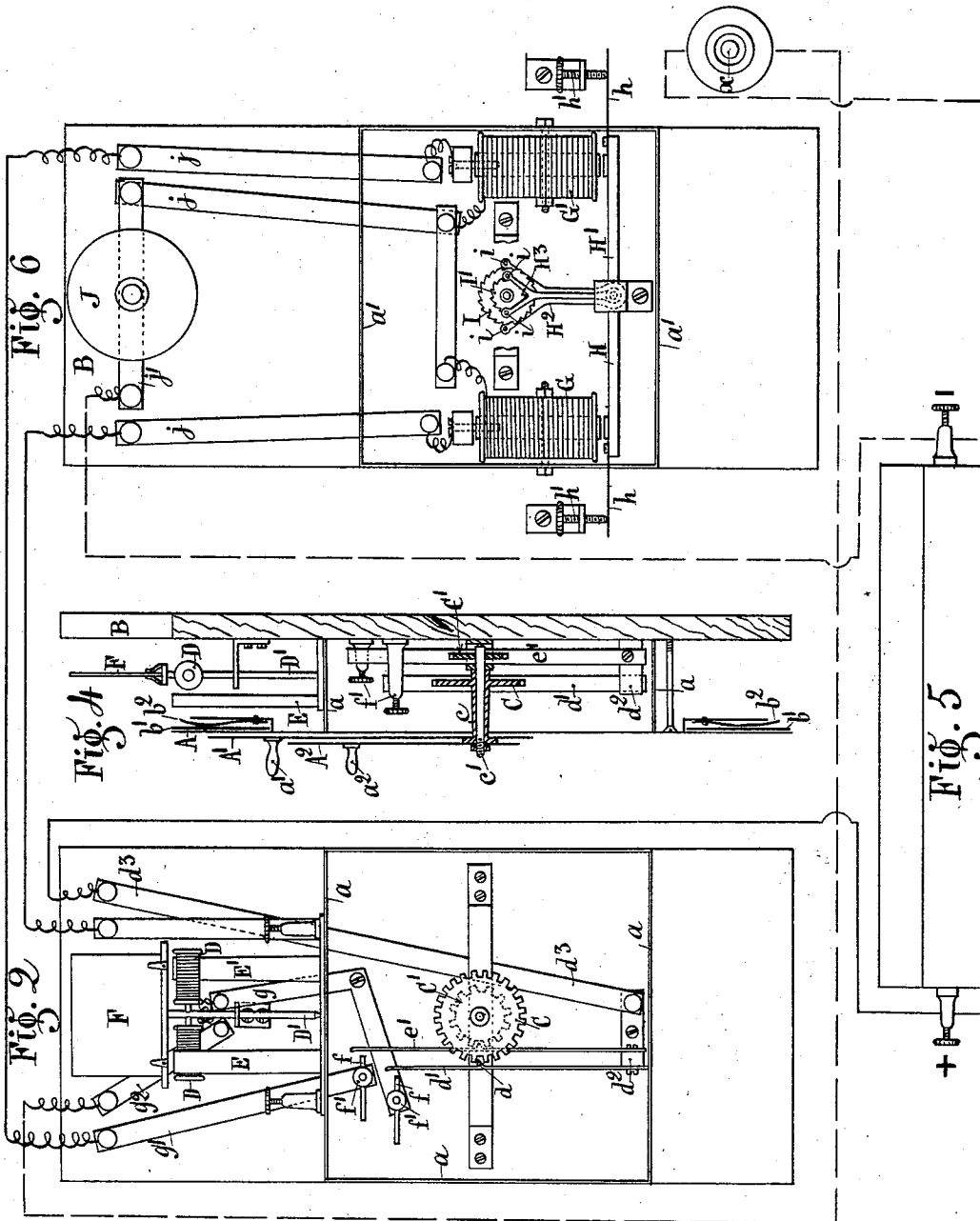
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O. Block.

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Louis Boudet,
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By H. H. de Vos.
Attorneys.

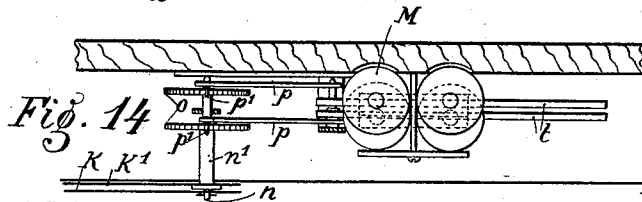
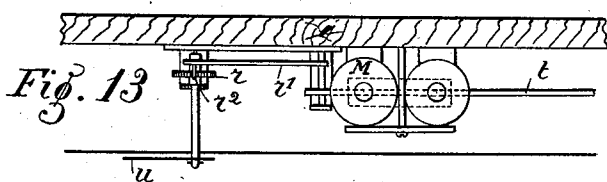
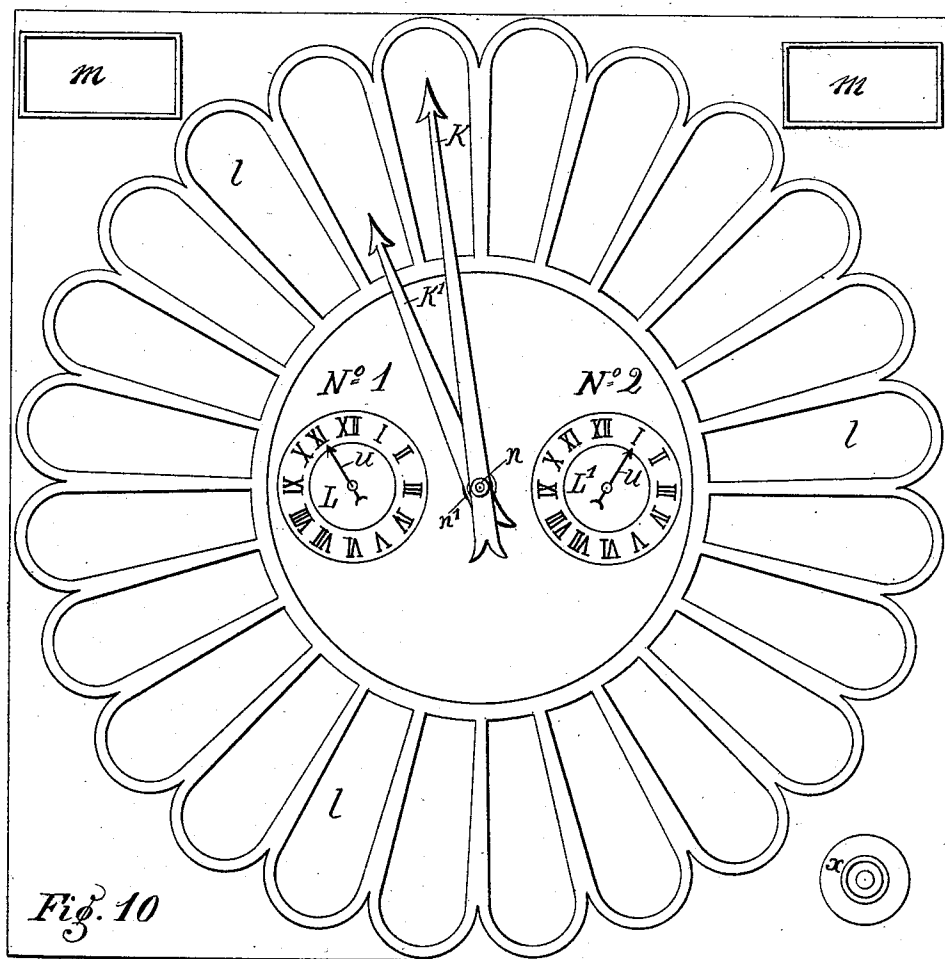
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Witnesses:

J. Chebet.
O. Block.

Inventors:

Louis Boudet,
Pierre Lacombe,
By H. A. de Vries
Attorney.

UNITED STATES PATENT OFFICE.

LOUIS BOUDET AND PIERRE LACOMBE, OF LUMEL, FRANCE.

TELEGRAPHIC APPARATUS.

SPECIFICATION forming part of Letters Patent No. 540,899, dated June 11, 1895.

Application filed October 20, 1894. Serial No. 526,451. (No model.)

To all whom it may concern:

Be it known that we, LOUIS BOUDET and PIERRE LACOMBE, citizens of the Republic of France, residing at Lumel, France, have invented certain new and useful Improvements in Telegraphic Apparatus, of which the following is a specification, such as will enable others skilled in the art to which it appertains to make and use the same.

10 The object of our invention is to provide an electric telegraphic transmitting and receiving apparatus, of extremely simple and cheap form of construction, adapted more especially for use in transmitting culinary and service
15 orders in cafés, theatres, restaurants, hotels, factories, offices, dwellings, &c., and to that end my invention consists of the construction, combination and arrangement of the several parts thereof, shown and described in the following specification of which the accompanying
20 drawings form a part, wherein similar letters of reference designate like or equivalent parts wherever found throughout the several views, and in which—

25 Figure 1 is a front view of the dial of the transmitter, which is of similar form to the dial of the receiver also. Fig. 2 is a front view of the operating mechanism of the transmitter, located behind the dial shown in Fig.
30 1. Fig. 3 is a top view of the transmitter in central horizontal section of Fig. 1, and Fig. 4 is a side view of such mechanism in central vertical section of Fig. 1. Fig. 5 designates the battery which operates the apparatus, and Fig. 6 is a front view (with the dial
35 removed) of the operating mechanism of the receiver. Fig. 7 is a side view of such receiver in central vertical section of Fig. 6 the magnets being omitted. Fig. 8 is a view of those portions of the device shown in Fig.
40 7 which operates the hands of the receiver, as seen from the top. Fig. 9 is a top plan view of the magnets shown in Fig. 6, and the immediate adjacent mechanism operated thereby; and Figs. 10 to 15, inclusive, are various
45 views of a modified form of receiving apparatus to receive and indicate orders received from more than one transmitting station.

50 As shown in Figs. 1, 2, 3 and 4, the transmitter consists of a dial A, supported at a certain distance from a back plate B by means

of long screw bolts, and of a metallic frame a. The dial carries arranged around the outer edge thereof a number of skeleton cases b, 55 provided with sliding ribs wherein are introduced movable sliding cards or signs b' provided with suitable lettering or marking, (not shown,) that are held therein by flat springs b².

As an illustration we assume that the cards 60 or signs are lettered as for use in a café. In a smaller circle of the dial and within the circle formed by the signs b' are arranged a series of Roman or other figures as shown, and by means of the hands A' and A² which 65 are manipulated by hand by means of the handles a' and a², is indicated what refreshment is to be served and how many, so that the hand A' indicates the refreshment and the hand A² the number. On the largest di- 70 ameter of the dial or at any other suitable point are also arranged in a circle figures 1 that may be used for any suitable purpose, and may for instance indicate the number of the table in a café or restaurant, or any other 75 thing.

Fig. 2 shows the operating mechanism arranged behind the dial A and the hands are connected therewith as follows: The large hand A' is fixed on a hollow shaft c, and the 80 small hand A² is fixed at the end of the shaft c' which passes through the hollow shaft c as shown.

By moving one of the hands, for instance A' in the direction of the arrow as shown in 85 Fig. 1, the gear wheel C also mounted on the hollow shaft c is rotated. This wheel has twenty-four teeth and closes an electric circuit each time that one of these teeth is brought into contact with the projection d 90 fixed to a vertical rod d' that is kept in place by a suitable block d². The other hand A² acts through its shaft c' upon a wheel C' with twelve teeth, corresponding with the figures of the dial A and brought into contact with 95 a projection e arranged on the blade a'. The circuit being closed and broken by the action of the teeth of the rotating wheels the consequent electric pulsations are exactly reproduced at the hereinafter described receiver 100 by passing through the tongues f (which can be regulated as to their lengths), the posts f', and the conducting blades g and g'; the current of the blade g passing into the magnet

D mounted on the pivot D' and the current of the blade g' passing directly to the receiver. The magnet D is equipped with two magnetized columns E and E', one on each side of one of the bobbins so as to cause the magnet to oscillate about half a revolution on a pivot D', which carries a plate F with an appropriate inscription showing the receipt of the order. This signal is only visible when the current is established by means of the contact x , arranged at a suitable point of the receiver (see Fig. 1), but always shows the other side when not acted upon by the current. (See Fig. 2.) The positive and negative wires are connected with a suitable battery, placed in a box (Fig. 5); the positive wire being connected with the block d^2 by way of the conducting blade d^3 , and the negative wire having connection with the contact x of the receiver and through that with the blade g^2 of the transmitter. The pulsations of the electric current caused by the rotation of the wheel C pass through and energize the magnet G, and the pulsations caused by the rotation of the wheel C' in like manner energize the wheel G', and in either case such pulsations pass through the actuating magnets of the bell J, and the two indicators arranged behind the windows m .

The receiver comprises, as above stated, a dial A³ similar to the dial A before described and supported in the same manner by screw bolts on a plate B', a frame a' , the handles of the hands A⁴ and A⁵ being eliminated, the same being moved electrically.

The electric pulsations, caused by the movement of the hands of the transmitter, passing through conducting blades j and thence into the magnets G and G', act each upon an oscillating lever H and H', fixed to the bases of forks H² and H³ provided at their bifurcated ends with studs i . The lever H connected to the fork H² acts upon a ratchet wheel I with twenty-four teeth. This wheel corresponds to the wheel C of the transmitter. The lever H' connected to the fork H³ acts upon the ratchet wheel I' with twelve teeth, which corresponds to the wheel C' of the transmitter. The regulation of the oscillatory motion of the forks H², H³ and the levers H and H', is effected by the blades h , fixed to the latter and the flexibility of which is regulated by the screws h' . The arrangement thus described, it will be easy to understand the working of the apparatus, which is essentially that of suitable gearing worked at a distance by means of electric pulsations governed by transmitting gear moved by hand and the receiving gear being moved electrically by means of forks with driving studs.

The receiver is provided at its upper end with a suitable signal bell J, arranged in the circuit formed by a blade j' fixed to the two blades j , which rings when the needles are set in motion. The bottom plates B and B'

respectively of the transmitter and receiver are fixed at any convenient place by means of suitable hooks or clamps k .

The Figs. 10 to 15 show a modified form of receiver acted upon by two transmitters placed in different localities. This arrangement is shown as an example, because it would be easy, by an appropriate change of the parts, to bring a receiver into communication with three, four or more transmitters.

The dial of the double receiver shown in Fig. 10 carries at its circumference a series of twenty-four skeleton cases l , only differing in form from those of the dials already described. In these cases are designated the names of the refreshments in the same order as in the two different halls No. 1 and No. 2. The large hand K indicates the kind of refreshment desired in hall No. 1 and the hand K' those in hall No. 2. Within the inner circle of this dial are arranged two small dials each carrying twelve figures. The one L designates the number of refreshments corresponding to the transmitter of hall No. 1, and the L' accomplishes the same purpose for the transmitter of the hall No. 2. In two angles of the dial are placed windows m , the purpose of which will be described later on. The two large hands K and K' are arranged as above stated, one on the central shaft n and the other on the hollow shaft n' . On each of these shafts is arranged a ratchet wheel o with twenty-four teeth (the number corresponding to the number of cases l of the transmitters). Each wheel is driven by an oscillating fork p with studs p' , which forks swing on pivots p^2 . The hands of the small dials are also driven by a ratchet wheel r of twelve teeth, acted upon by a fork r' provided with studs r^2 , and swinging on pivots s . The oscillatory movement of these forks is obtained by the contacts of the toothed wheels C C' of the transmitters, these contacts being each repeated in the four magnets M. The oscillations of the forks are regulated by plate springs t , fixed to oscillating pieces t' which are adjusted by set screws t^2 .

Fig. 15 illustrates in elevation and in plan view the device indicating the place where the order is given. This arrangement consists of a table N divided in two parts. The upper part of this table is painted in any desired shade and when not in use is displayed before one of the windows m provided in the dial of the receiver. The lower part shows the place from where the order is received. This table is kept at its upper end by an armature v of a magnet v' . This armature is pivoted at v^2 to a vertical support v^3 . This apparatus, when brought in the electric circuit, causes the armature v to swing so as to display before the window m the designation given on the lower part of the table N. It comes back to its original position by pushing on the contact x , the purpose of which is to turn the

plate F of the transmitter carrying the sign "Served" or any other desired motto as shown in Fig. 1.

We do not by any means intend to limit ourselves to the exact form of construction shown; but,

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, what we claim, and desire to secure by Letters Patent, is—

1. In a telegraphic apparatus, a transmitter having a shaft c' carrying a toothed wheel C' , and an indicating hand A^2 , a hollow shaft c carrying a toothed wheel C and an indicating hand A' mounted upon the shaft c' , means for making and breaking an electric circuit or circuits by the rotation of the toothed wheels, a dial having two or more sets of indicating designs arranged concentric to one another about the shaft C' , the designs on one set corresponding in number to the teeth on the wheel C' and on another to the number of teeth on the wheel C , a receiver having a dial, similar in marking to the dial of the transmitter, hands and shafts similar to the hands and shafts of the transmitter, an escapement-wheel having the same number of teeth as the wheel C mounted upon one shaft, and a similar wheel having the same number of teeth as the wheel C' mounted upon the other shaft of the transmitter, an escapement lever for each of the wheels of the transmitter, an electro-magnet energized and deenergized by the rotation of the wheel C for actuating one

gized and deenergized by the rotation of the wheel C' for actuating the other escapement lever and an electric circuit or circuits connecting the receiver and the transmitter, substantially as shown and described. 40

2. In the transmitter of a telegraphic apparatus of the class described, the combination with a suitable dial, of a plurality of hands carried by shafts concentric one with another, a toothed wheel secured to each of the shafts, and a vibrating mechanism actuated by the rotation of the toothed wheel located adjacent to each of such wheels for making and breaking an electric circuit when vibrated, substantially as shown and described. 50

3. In the transmitter of a telegraphic apparatus of the class described, the combination with a suitable dial, of a plurality of hands carried by shafts concentric one with another, a toothed wheel secured to each of the shafts, a plurality of electrically conducting circuits similar in number to the wheels, shafts and hands, and a vibrating contact-making and breaking strip located adjacent to each of the toothed wheels so as to be vibrated by the rotation thereof and forming part of one of such conducting circuits, substantially as shown and described. 60

In testimony that we claim the foregoing we have hereunto set our hands this 3d day of September, 1894. 65

LOUIS BOUDET.
PIERRE LACOMBE.

Witnesses:

VICTOR MATRAY,
MARCEL MANNIER.