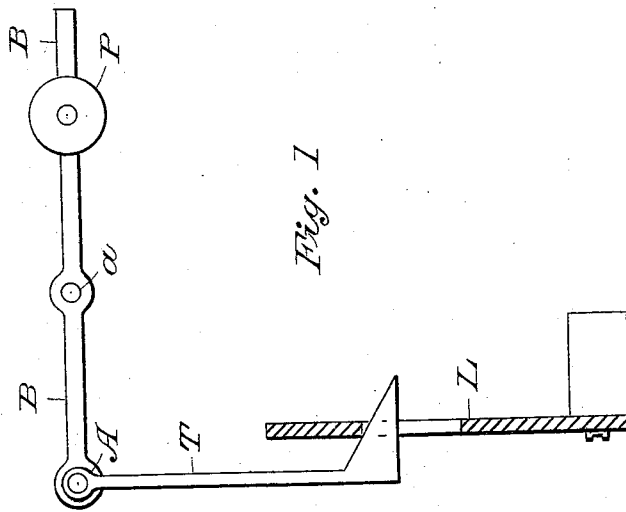
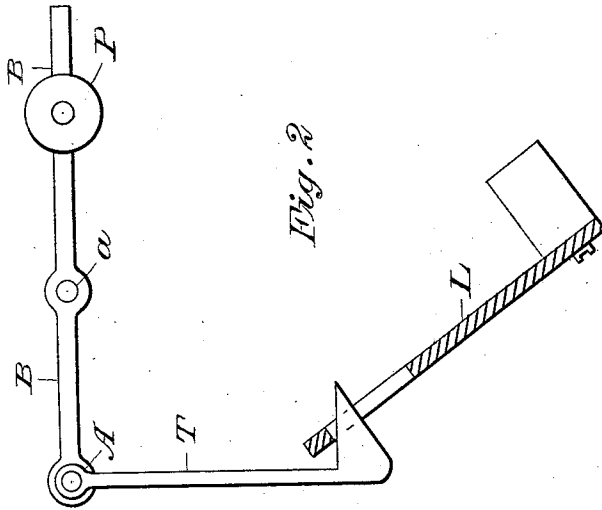


(No Model.)

C. ADER.  
Visible Signal for Telephones.

No. 226,584.

Patented April 20, 1880.



Witnesses  
Philip Mauro.  
C. J. Hedrick.

Inventor  
Clement Ader  
by Atlox  
his attorney

# UNITED STATES PATENT OFFICE.

CLEMENT ADER, OF PARIS, FRANCE.

## VISIBLE SIGNAL FOR TELEPHONES.

SPECIFICATION forming part of Letters Patent No. 226,584, dated April 20, 1880.

Application filed March 8, 1880. (No model.) Patented in England September 30, 1879, in France January 15, 1880, and in Belgium January 17, 1880.

*To all whom it may concern:*

Be it known that I, CLEMENT ADER, of Paris, France, have invented a certain new and useful Improvement in Visible Signals for  
5 Telephones, of which the following is a specification.

This invention relates to that class of signals for which Letters Patent of the United States No. 222,119 were granted to me on  
10 the 2d day of December, 1879. The essential feature of such signals is set forth in said patent, to the effect that the catch or end of the jointed arm which controls the signal-disk or other device by engaging in an aperture in  
15 a vibratory strip, plate, or diaphragm, being moved in one direction without possibility of return in the opposite direction, is released from the aperture by the accumulation of the small movements resulting from the vibrations of the plate or diaphragm, and this the  
25 more quickly as the said vibrations are more rapid.

I have indicated therein in what manner this result can be practically obtained by the  
25 employment of a catch having a plane slightly inclined with reference to that of the aperture, it being explained, first, that the aperture is at the extremity of the vibratory strip or plate and engages with the catch; and,  
30 second, that the catch is at the end of a rod jointed to a pivoted lever carrying a weight or acted upon by a spring, which always acts to effect a disengagement of the catch from the aperture or piece retaining it.

From the practical experiments I have made in operating under my said patent I have accomplished the good results which are therein set forth, and I have, moreover, experimented  
40 on different means for effecting the inclination of the plane of the catch with reference to that of the aperture. The two principal means are evidently one in which the vibratory strip or plate is vertical and acts upon the plane of the catch or on the end of the jointed rod  
45 when said plane is not horizontal, the other in which the vibratory plate is oblique and acts upon a horizontal plane on the catch or jointed arm.

In the before-mentioned patent, although it  
50 is not limited to it, the first disposition is

shown and more particularly described in two forms. The present invention, which is a modification or improvement of the invention set forth and claimed in said patent, relates to the second disposition, in which the operating  
55 plane of the jointed arm or catch is horizontal, or approximately so, and the vibratory strip is inclined from the perpendicular. For certain purposes it possesses advantages over the other disposition.

I have represented these two principal dispositions in the accompanying drawings, without, however, complicating the drawings by any indication of the rest of the apparatus. This other apparatus may be considerably varied, and may be such as I have shown in my patent already referred to.

Figures 1 and 2 represent the inclination of the plane of the catch with reference to the plane of the vibratory strip or plate.

In Fig. 1 the vibratory plate L is vertical and acts upon the inclined plane at the end of the jointed arm T, which has a tendency to be disengaged by the constant action of a spring or of the weight P, which I have represented in these examples at the end of the lever B, oscillating on *a*, and provided with a joint at A, by which the arm or rod T is connected with said lever.

In Fig. 2 the same parts are indicated, only the vibratory plate is oblique and acts upon a horizontal plane at the end of the catch or jointed arm T.

It will be readily understood that the number of dispositions which allow the production  
85 of the inclination of the catch with reference to the vibratory plate is considerable, and that it would be impossible to give a description and drawing for each disposition. I desire, however, to have it understood that I have ascertained practically that according to the application which is to be made advantages are found in employing sometimes one and  
90 sometimes the other of the dispositions shown.

It is evident that in place of employing an aperture at the end of the vibrating strip a recess, projection, or other suitable instrumentality may be used to engage with the inclined plane of the catch.

It is obvious that the point at which the

100

catch or arm is pivoted to the weighted lever may be more or less distant from the pivot of said lever, the arm or body of the catch being bent if required.

5 Having thus fully described my said invention and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is—

10 In a signal of the character indicated, in which the operation of the signal-disk or other device is effected by the disengagement of a catch through the accumulative action of a succession of vibrations of a vibratory strip,

plate, or diaphragm, the catch or jointed arm provided with a horizontal or approximately- 15 horizontal plane for engaging with the vibratory strip or plate, in combination with a vibratory strip or plate inclined from the perpendicular, substantially as described.

In testimony whereof I have signed my name 20 to this specification before two subscribing witnesses.

C. ADER.

Witnesses:

EMILE BARRAULT,  
AUG. VINCK.