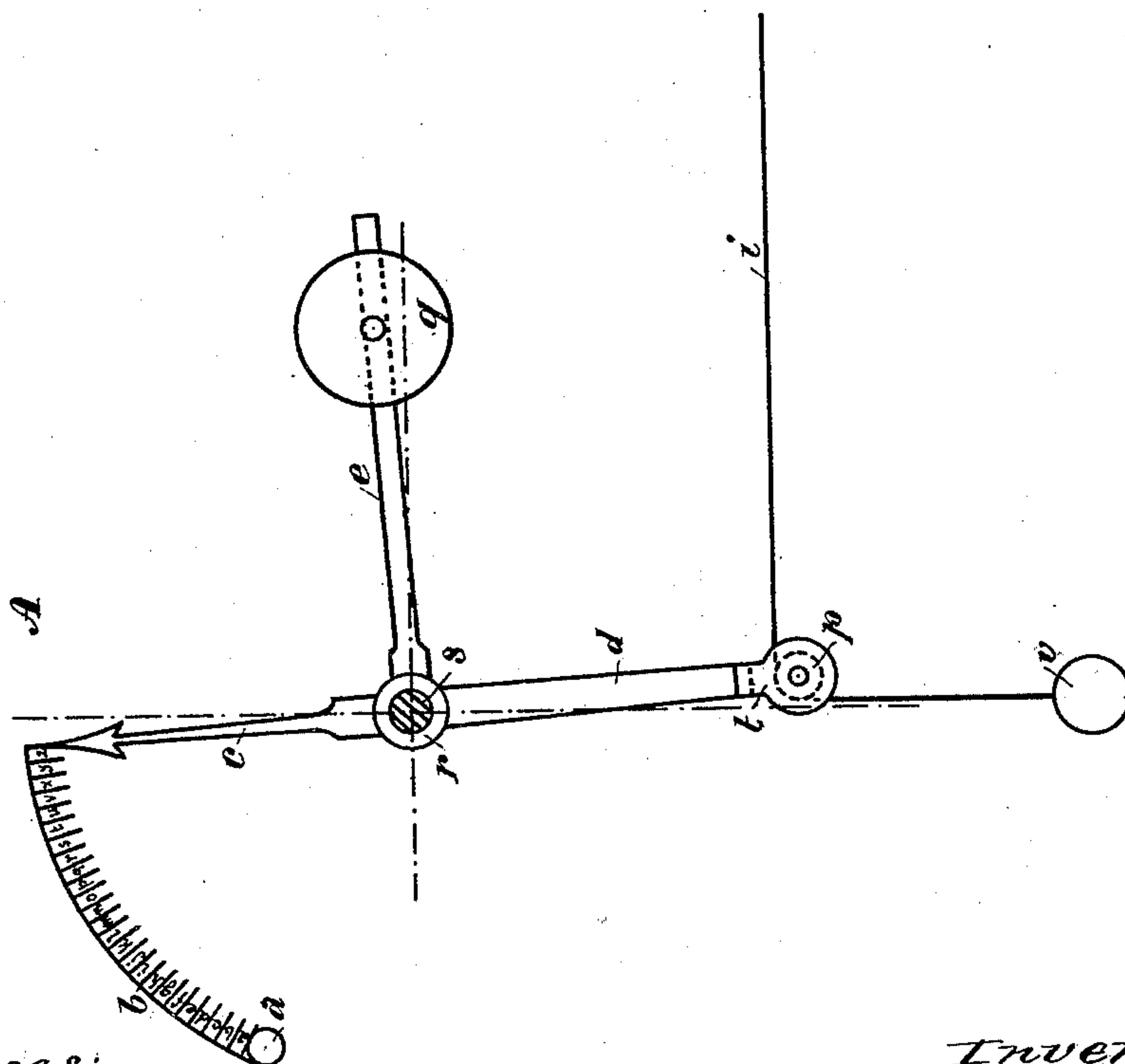
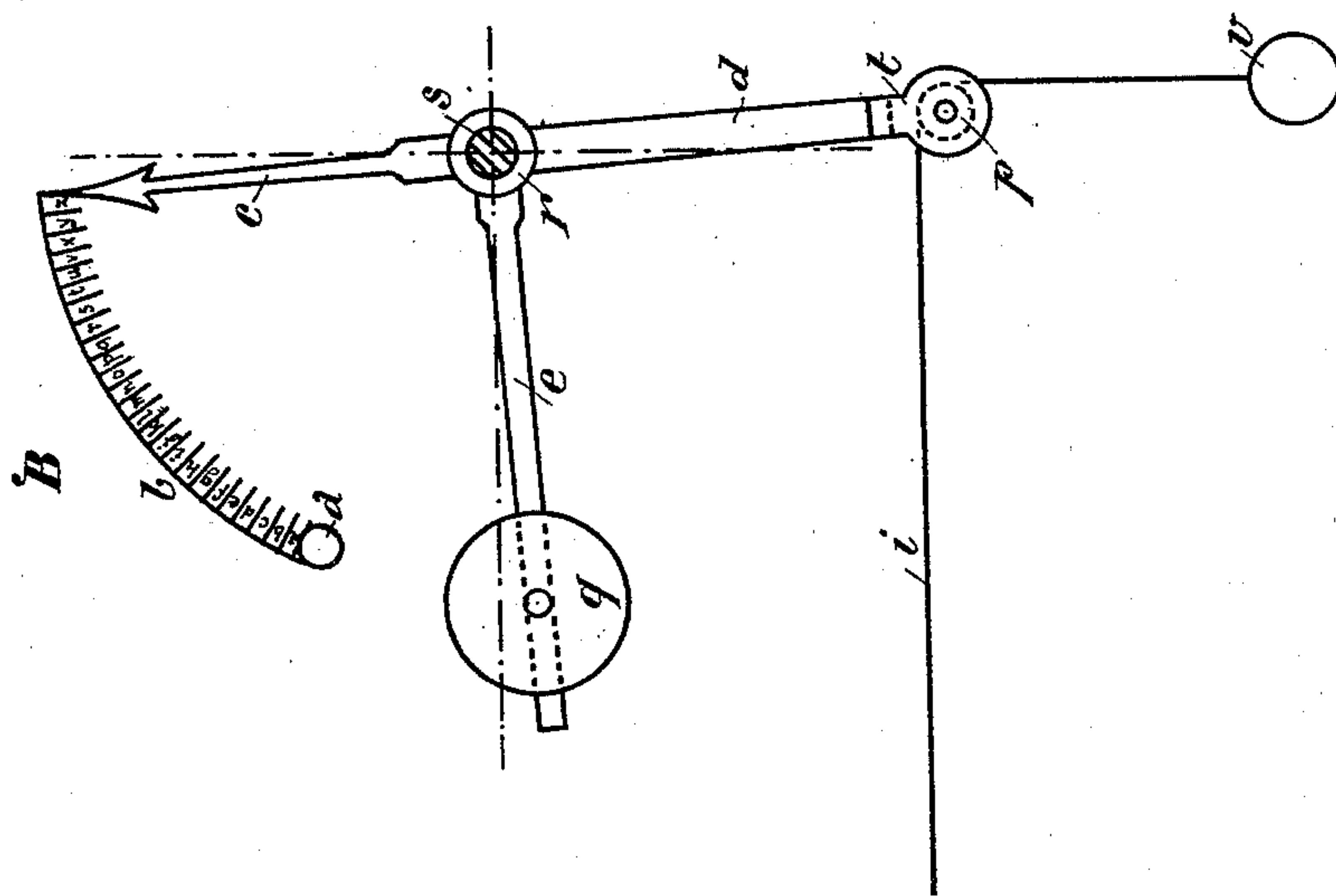


(No Model.)

A. CAZAÑA.
MECHANICAL TELEGRAPHIC APPARATUS.

No. 408,214.

Patented Aug. 6, 1889.



Witnesses:

Thomas Durant

E. D. Smith

Inventor:

Adrian Cazana

by *Chas. H. Hinde*
his Atty

UNITED STATES PATENT OFFICE.

ADRIAN CAZAÑA, OF MADRID, SPAIN.

MECHANICAL TELEGRAPHIC APPARATUS.

SPECIFICATION forming part of Letters Patent No. 408,214, dated August 6, 1889.

Application filed February 16, 1889. Serial No. 300,092. (No model.) Patented in Spain December 1, 1888, No. 8,969, and in England February 1, 1889, No. 1,829.

To all whom it may concern:

Be it known that I, ADRIAN CAZAÑA, a citizen of the Kingdom of Spain, residing at Madrid, Spain, have invented certain new and useful Improvements in Mechanical Telegraphic Apparatus, (for which I have made applications for Letters Patent in England, No. 1,829, dated February 1, 1889, and in Spain, No. 8,969, dated December 1, 1888,) of which the following is a specification.

The present invention relates to an improved mechanical telegraphic apparatus; and this apparatus consists of two instruments, which can be used both as transmitters and receivers, and can be placed at any distance from each other, the object of the invention being to provide an exceedingly simple and effective telegraphing or signaling apparatus, which will not be affected by changes in temperature, and which may be operated by inexperienced persons.

In the accompanying drawing I have represented such a pair of instruments, (marked, respectively, A and B,) each located at a different end of a wire. These instruments consist each of a pivoted arm cd , which turns easily on its pivot S . The upper end c of this arm is pointed and acts as an indicator, and at the other or lower end d is mounted a roller or pulley p . At right angles to this vertically-mounted arm cd , and radial to the pivot-point thereof, extends another arm e , which carries a weight g . In a state of repose the point or indicator of the upper end c of the vertical arm is at the beginning of an alphabet arranged in the arc of a circle having the pivot of the arm for its center. The two instruments are of the same construction, with the exception that the horizontal arms e extend in opposite directions.

The two instruments, when mounted at their different stations, are joined or connected by a wire i of non-oxidizing metal, which is passed over the pulleys p in the lower ends of the vertical arms, and at each end of the wire is fastened a weight v . These weights are preferably only half as heavy as those placed on the horizontal arms e , and the weight of the lower part d of each of the vertical arms—*i. e.*, that part under the pivot—is preferably double that of the part

c above the pivot. With this arrangement the whole apparatus can be set in motion with very little force. This manner of suspending the wire is very advantageous, as the expansion or contraction of the wire under the influence of the temperature has no effect on the position of the indicators, which of course must both always point to the same letters. At the end of the alphabet is placed or situated a stud or bell a or the like, against which the indicator can strike, and which thus serves to signal that a message is to be transmitted.

In operation one indicator is moved to the different letters or signs in the arc by grasping the pointer or otherwise, which motion is communicated through the wire i to the corresponding indicator at the other end of the line, thus enabling the message to be conveyed, as will be readily understood.

This apparatus can be used even for great distances; but care must be taken that the weights g and v are increased in proportion to the distance.

I claim—

1. A mechanical telegraph apparatus consisting of two instruments each having an indicating-dial and a pivoted pointer provided with a counter-weight, and a wire connecting said instruments for transmitting motion from one to the other, provided with weights at each end for maintaining the proper tension of the wire under varying conditions of temperature, substantially as described.

2. A mechanical telegraphic apparatus consisting of two instruments A and B, each having a dial b , a pivoted pointer c , arms cd , counter-weights g , mounted on arms e , and pulleys p on arms d , and the wire i , passing over pulleys p and having weights v connected to the ends, substantially as and for the purpose specified.

In testimony whereof I have hereto set my hand in the presence of two subscribing witnesses.

ADRIAN CAZAÑA.

Witnesses:

ACHILLE MARILLIER,
JEAN ROBELET.