

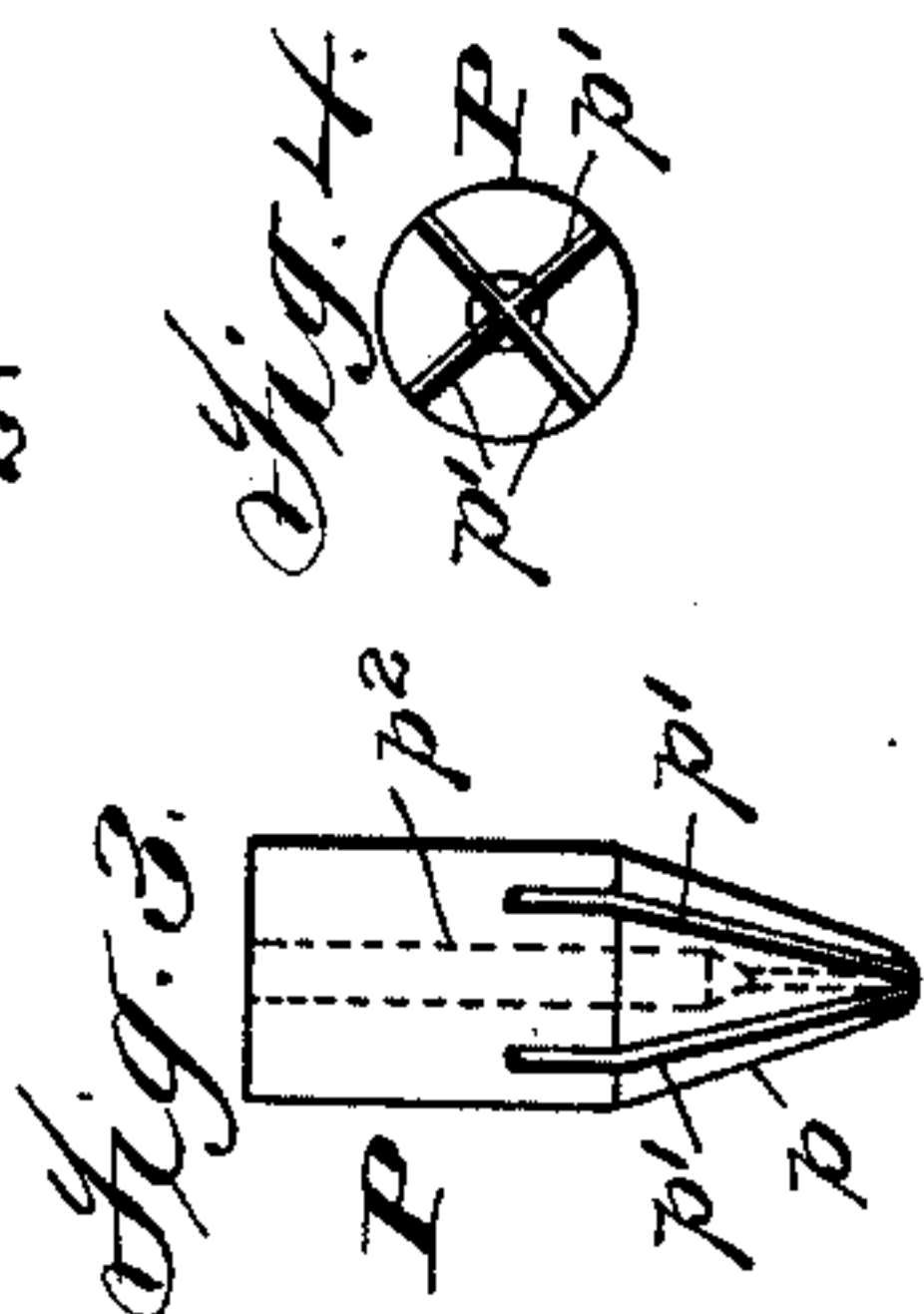
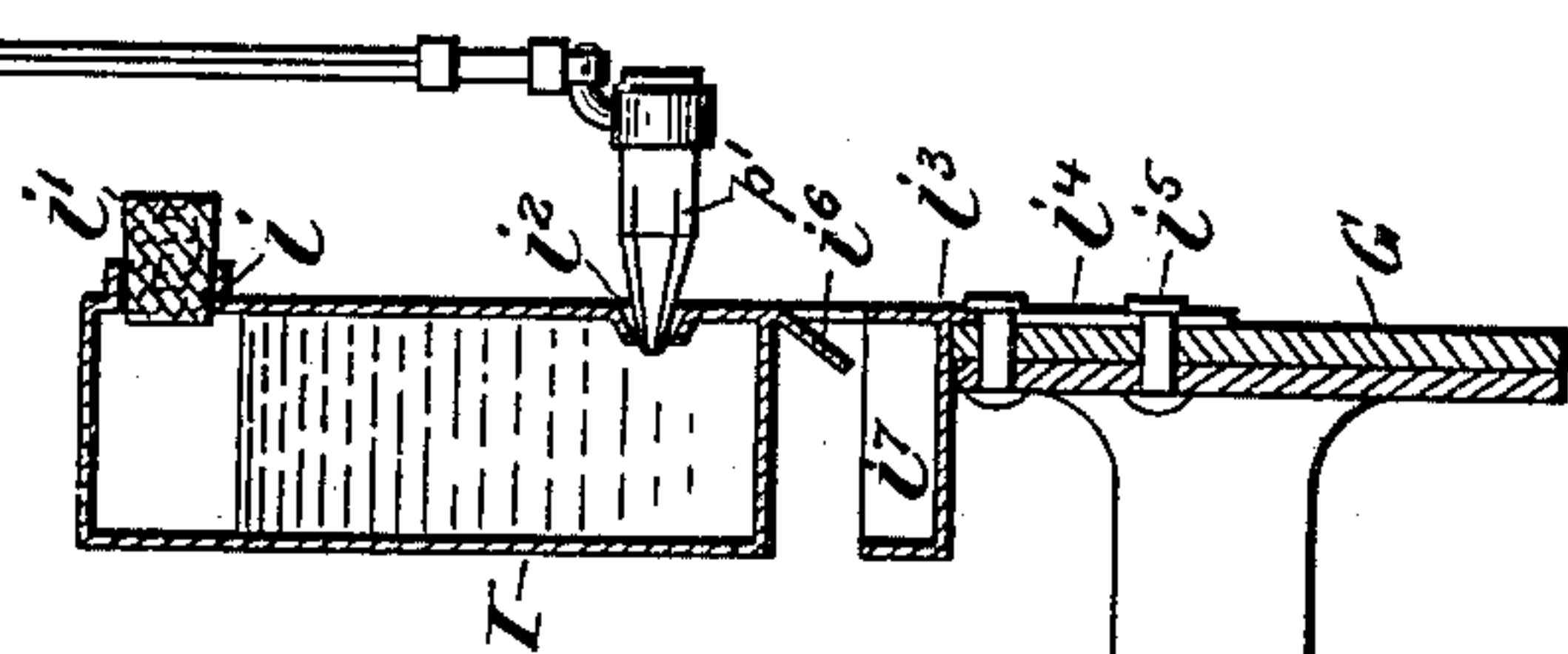
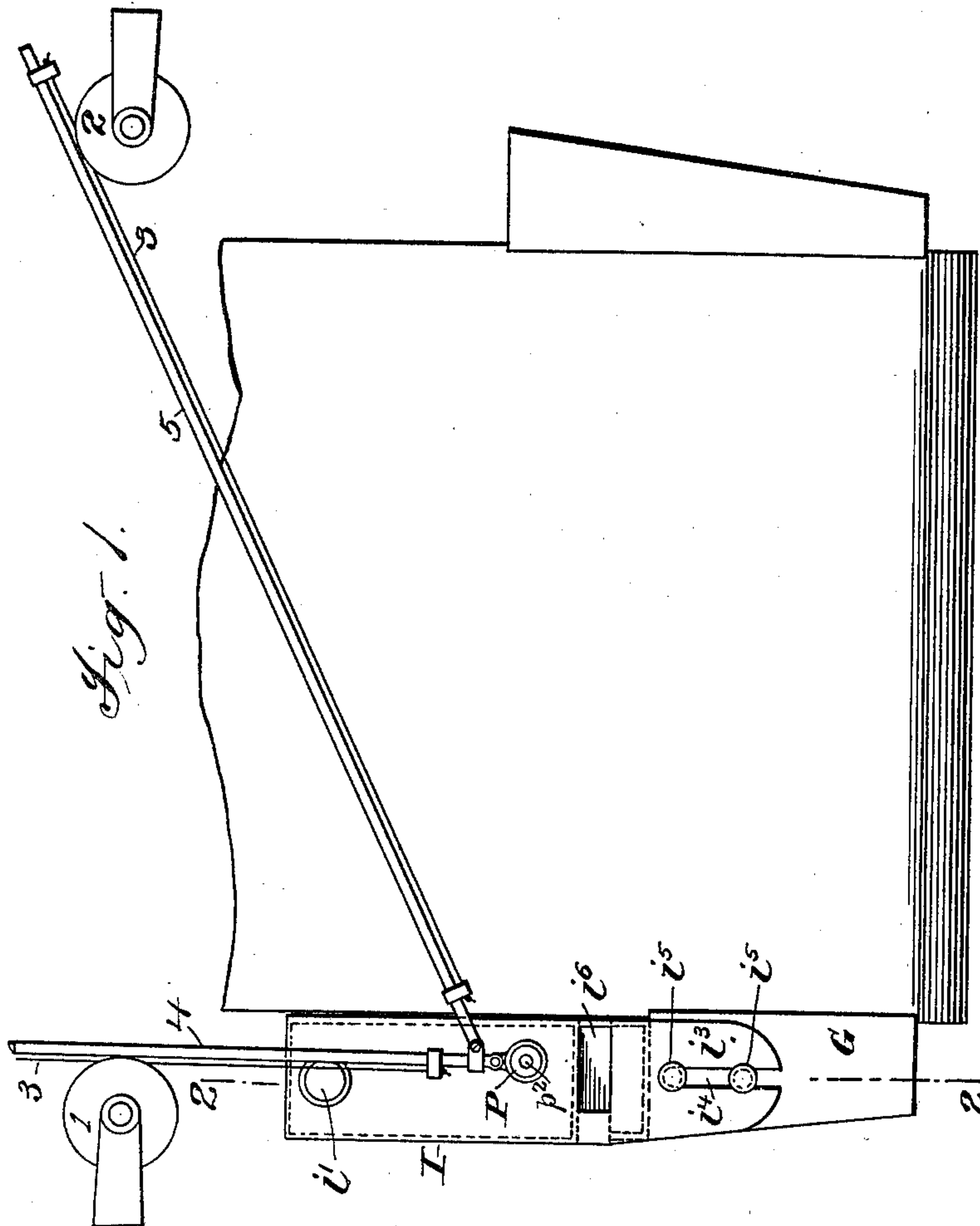
No. 668,891.

Patented Feb. 26, 1901.

G. S. TIFFANY.  
TELAUTOGRAPH.

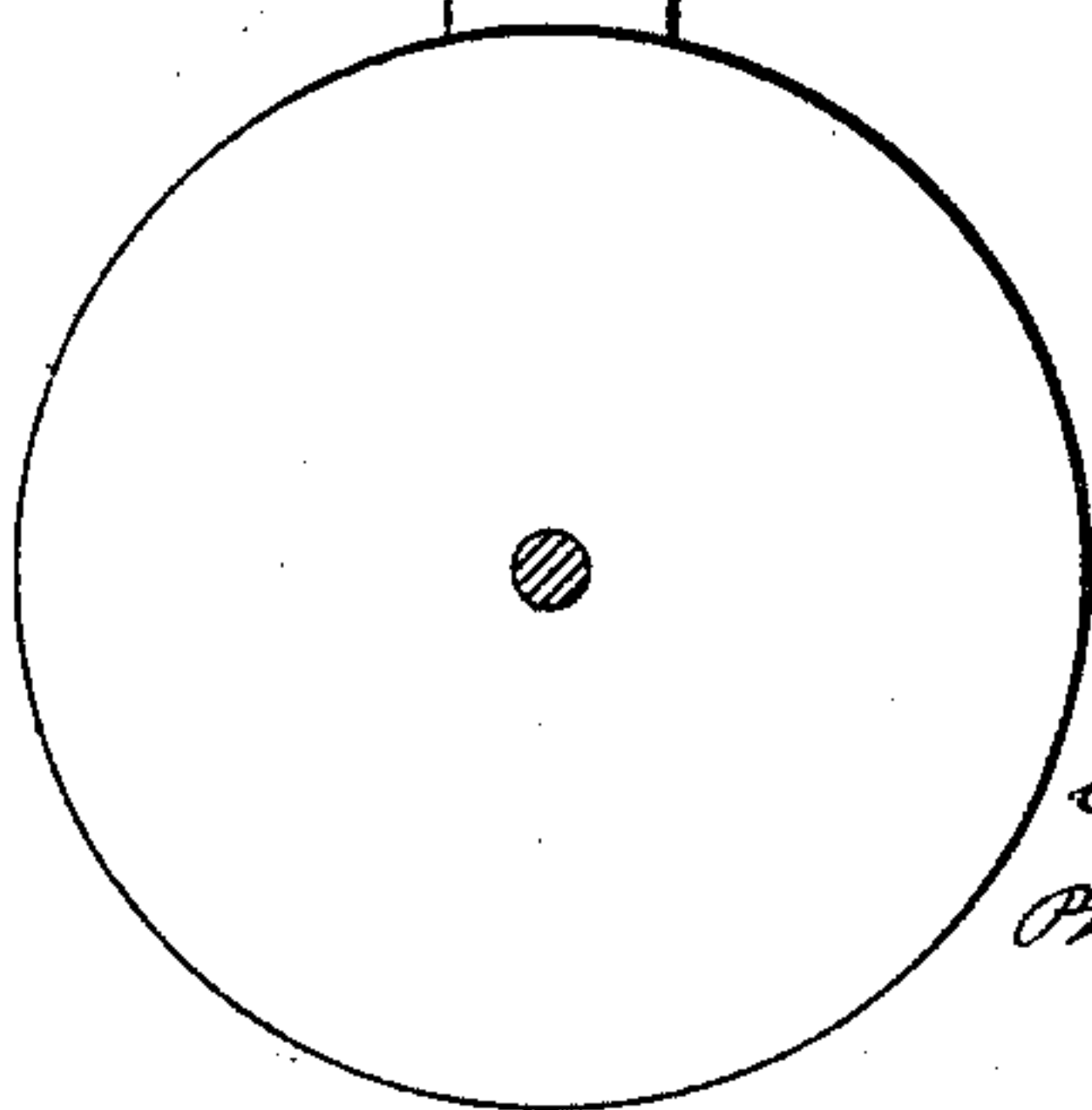
(Application filed Nov. 20, 1900.)

(No Model.)



Attest:  
J. W. Kehoe  
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*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

GEORGE S. TIFFANY, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE GRAY NATIONAL TELAUTOGRAPH COMPANY, OF NEW YORK, N. Y.

## TELAUTOGRAPH.

SPECIFICATION forming part of Letters Patent No. 668,891, dated February 26, 1901.

Application filed November 20, 1900. Serial No. 37,128. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE S. TIFFANY, a citizen of the United States, residing in the borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Telautographs, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to improvements in telautographic apparatus.

One branch of the present invention relates to a novel construction and arrangement of inking device for inking the pen in such apparatus as it arrives, for example, at its unison-point or normal position, the inking device provided by the present invention for this purpose, though capable of application generally to telautographic apparatus of many different forms, having been designed with especial reference to and having peculiar advantages in telautographic apparatus of that class in which the receiving instrument or platen is arranged in a substantially vertical position as distinguished from telautographic apparatus in which such receiving instrument or platen is arranged in a substantially horizontal position, an example of such telautographic apparatus in which the receiving-platen is arranged in a substantially vertical position being shown and described in my prior applications filed October 19, 1900, Serial Nos. 33,589 and 33,590.

Another branch of the present invention relates to the combination, with the inking device just referred to, of a pen of peculiar construction.

In the accompanying drawings, Figure 1 is a plan view of a portion of a receiving instrument, such as that of my prior applications above referred to, provided with an inking device and a pen embodying the two features of the present invention. Fig. 2 is a vertical section on the line 2 2 of Fig. 1. Fig. 3 is an elevation of the pen on an enlarged scale, and Fig. 4 an end view thereof.

Referring to said drawings, 1 2 represent a pair of pen-arm drums, to which are connected by cords 3 in the usual way a pair of pen-carrying arms 4 5, hinged together and carrying a pen P. The movements of these

pen-carrying arms 4 5, and consequently the movements of the pen P, are controlled by the drums 4 5, the rotation of which is in turn controlled by the currents sent over line from the transmitting instrument, so that the receiving-pen P is caused to follow the movements of and to reproduce the writing produced by the transmitting-pen, as is well understood and as described, for example, in my said two prior applications, to which reference is hereby made for a more detailed description of the construction and operation of this apparatus.

The inking device provided by the present invention consists of an ink-receptacle I, provided with an opening  $i$  at its upper end, through which it is filled and which is in turn provided with a stopper  $i'$ . The ink-receptacle I, which is designed to occupy a substantially vertical position, (the platen of the receiving instrument shown being substantially vertical,) is provided near its lower end with a side ink-supplying opening  $i^2$ , which is kept filled with ink by gravity and which is adapted for the entrance of the receiving-pen P when the latter is moved to normal position or to its unison-point by its carrying-arms 4 5 and drums 1 2. The ink-receptacle I is carried by a support or plate  $i^3$ , which is in turn provided with a vertical slot  $i^4$ , constituting one member of a locking device and adapted to be slipped over a pair of headed pins  $i^5$ , constituting the other member of the locking device and fast to the frame or paper guide G of the receiving instrument. Except for the side opening  $i^2$  the receptacle I while in use is closed to the atmosphere, so that the ink contained thereby is retained in the receptacle by the pressure of the atmosphere outside the opening  $i^2$ . Ink is supplied to the pen P by so forming the latter that when introduced into the opening its point will contact with the ink in the receptacle, when, as will presently appear, the pen will fully supply itself with ink by capillary attraction. While the closure of the ink-receptacle I to the atmosphere will prevent leakage of the ink through the supply-opening  $i^2$ , when the pen P is out of said opening a slight amount of drip may take place just as the pen P is being introduced into or withdrawn from such



opening. To prevent damage to or disfigurement of the instrument or writing-paper therefrom, a portion of the frame or plate  $i^3$  is cut away beneath the ink-receptacle I, so as to provide a lip  $i^6$  for directing such ink as may drip through the opening  $i^2$  in such case into a waste-receptacle  $i^7$ , located beneath the ink-receptacle I, as shown in Fig. 2.

Any suitable form of receiving-pen may be used in connection with this ink-receptacle, which is capable of entering opening  $i^2$  and contacting with the ink therein; but I prefer the one shown, which will now be described. This pen consists of a stem  $p$ , provided at its writing end with intersecting longitudinal slits  $p'$ , extending from side to side of the stem and upwardly some distance from the writing-point thereof, as shown in Fig. 3. The stem  $p$  is also provided with a central ink-holding orifice  $p^2$  above the writing-point of the pen and with which each of the slots  $p'$  communicates. This construction of pen is preferable, because of the rapidity with which it may be supplied with ink, because of its large holding capacity, and also because of the uniformity of flow therefrom in writing.

The manner of using the ink-well I and inking the pen P therefrom is as follows: When the receptacle I has been filled with ink and then closed by stopper  $i'$ , the ink of course has a tendency to flow out through the side opening  $i^2$ . As it enters said opening, however, it seals the receptacle I, the outside atmosphere then permitting only enough ink to escape to cause the weight of the ink and the pressure of air within the receptacle I to balance the pressure of the outside atmosphere, when the escape of ink will be arrested. The ink thus escaping will travel down the lip  $i^6$  into the waste-receptacle  $i^7$ . The receiving-pen P being moved by drums 3 4 toward the ink-receptacle I its end will pass through the opening  $i^2$  into contact with the ink in the receptacle, when its slits  $p'$  and ink-holding orifice  $p^2$  will be supplied with ink by capillary attraction. The capacity of the slits  $p'$  and orifice  $p^2$  exceeds that of the opening  $i^2$ , so that as the pen thus takes up its supply of ink a sufficient quantity of ink will be withdrawn from the opening  $i^2$  to permit a small quantity or bubble of air to enter the receptacle I to compensate for the ink withdrawn, thus maintaining a constant supply of ink at the opening by gravity. The opening  $i^2$  and the end of the pen P which enters said opening are, as will be observed, so proportioned relatively to each other as to size and shape that when said pen rests in said opening, as it does when the apparatus is not in use, it will seal said opening, and thereby preserve the ink within the receptacle from the effects of the atmosphere.

The invention is not limited to the precise construction of inking device and pen shown and described, and modifications and changes may be made therein without departing from

the spirit of the invention, broadly considered.

What I claim is—

1. In a telautographic apparatus the combination with a pen and its carrying means, of an inking device comprising a closed receptacle provided with a side opening adapted for the passage of the ink-receiving end of the pen into contact with the ink within the receptacle, substantially as described.

2. In a telautographic apparatus the combination with a pen and its carrying means, of an inking device comprising a closed receptacle provided with a side opening adapted for the passage of the ink-receiving end of the pen into contact with the ink within the receptacle, the ink-holding capacity of said opening being less than that of the pen, substantially as described.

3. In a telautographic apparatus the combination with a pen and its carrying means, of an ink device comprising a closed receptacle provided with a side opening adapted for the passage of the ink-receiving end of the pen into contact with the ink within the receptacle, a waste-receptacle beneath said opening and means for conducting ink dripping from said opening into said waste-receptacle, substantially as described.

4. In a telautographic apparatus the combination with its pen-carrying means, of a pen comprising a stem the writing end whereof is slit longitudinally and an inking device comprising a closed receptacle provided with a side opening adapted for the passage of the ink-receiving end of the pen into contact with the ink within the receptacle, substantially as described.

5. In a telautographic apparatus the combination with its pen-carrying means, of a pen comprising a stem the writing end whereof is provided with longitudinal intersecting slits and an inking device comprising a closed receptacle provided with a side opening adapted for the passage of the ink-receiving end of the pen into contact with the ink within the receptacle, substantially as described.

6. In a telautographic apparatus the combination with its pen-carrying means, of a pen comprising a stem the writing end whereof is provided with longitudinal intersecting slits and with an inner ink-holding orifice communicating with said slits and an inking device comprising a closed receptacle provided with a side opening adapted for the passage of the ink-receiving end of the pen into contact with the ink within the receptacle, substantially as described.

7. In a telautographic apparatus the combination with its pen-carrying means, of a pen comprising a stem the writing end whereof is slit longitudinally and provided with an inner ink-holding orifice communicating with said slit portions, and an inking device comprising a closed receptacle provided with a side opening adapted for the passage of the ink-receiving end of the pen into contact with



the ink within the receptacle, substantially as described.

8. In a telautographic apparatus, the combination with a pen and its carrying means,  
5 of an inking device comprising a closed receptacle provided with an opening adapted for the passage of the ink-receiving end of the pen into contact with the ink within the  
10 receptacle, said opening and end of the pen being so proportioned relatively to each other

that when the latter is in said opening it substantially seals the same, substantially as described.

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

GEORGE S. TIFFANY.

Witnesses:

T. F. KEHOE,

JOHN A. GRAVES.