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NEEDLE HOLDER FOR TELAUTOGRAPHIC APPARATUS

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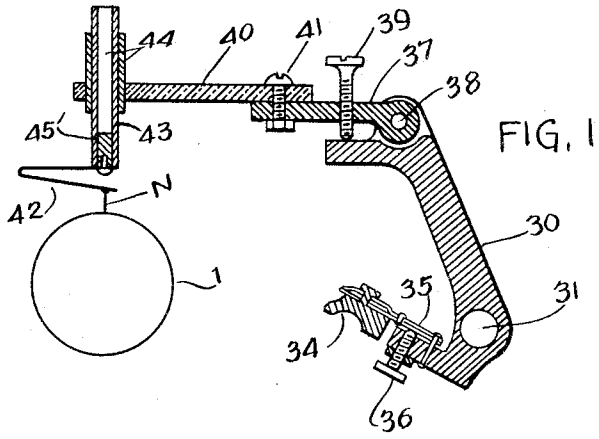


FIG. 1

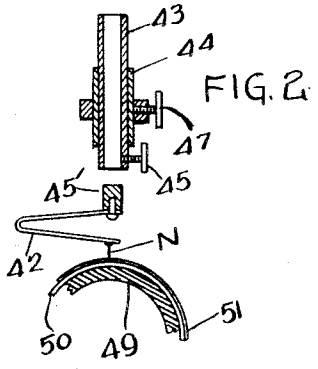


FIG. 2

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UNITED STATES PATENT OFFICE.

MARVIN FERREE, OF NEW YORK, N. Y., AND JOSEPH WISSMAR, OF CLEVELAND, OHIO, ASSIGNORS, BY DIRECT AND MESNE ASSIGNMENTS, TO TELEPIX CORPORATION OF AMERICA, A CORPORATION OF NEW YORK.

NEEDLE HOLDER FOR TELAUTOGRAPHIC APPARATUS.

Application filed January 31, 1925, Serial No. 5,957. Renewed September 21, 1927.

This invention relates to a new and improved holding mechanism for a needle adapted to be used in an apparatus for electrically transmitting pictures.

It has heretofore been well-known that pictures could be transmitted by a series of electrical pulses by forming a broken tone reproduction of the picture by means of a coating of insulating material on a metal plate, and then moving a fine needle over the said broken coating while the said needle and the said plate were connected to the opposite terminals of the source of electrical current. In a mechanism of this character whenever the needle contacts with a naked portion of the metal plate the circuit is closed and whenever it contacts with a portion of the insulating coating the circuit is broken.

One of the objects of this invention is to provide an improved and reliable mechanism for firmly holding the needle in position so that the needle can move towards and away from the plate with sufficient freedom while it is rigidly and firmly held against any movement with respect to its holder, save in a direction towards or away from the said plate.

Other objects of this invention will be described in the following description and drawings which illustrate a preferred embodiment thereof.

Fig. 1 is a sectional view showing the needle and the apparatus for holding the same.

Fig. 2 is another sectional view showing the relationship between the needle and the sensitized paper upon the receiving drum.

The needle N is mounted at the end of an angular blade spring 42 and this angular blade spring is mounted at the end of its sleeve 43 which is slidably mounted within an outer sleeve 44 suitably connected to a fiber arm 40. The head 45 to which the blade spring 42 is connected is held in the inner sleeve 43 by means of a set screw 46 and the position of the inner sleeve 43 in the outer sleeve 44 can be regulated by means of the set screw 47.

The needle N when it is used for transmitting apparatus is preferably made of hard steel and when the needle N is used for receiving a picture it is preferably made of an alloy of platinum and iridium so as to be unaffected by any chemical action.

It is highly important that the needle N should be held in position with the proper degree of pressure against the broken tone plate used for transmitting the picture, and also against the paper on which the picture is to be reproduced. The needle N when used for transmitting purposes must bear firmly against the transmitting plate so as to have efficient electrical contact with the naked metallic portions of the metal plate which is usually made of copper, and it must not bear so firmly against the transmitting plate so as to scratch the enamel on it. The angular blade spring 42 together with the adjustment of the head 45 and of the inner sleeve 43 before mentioned is highly efficient in producing the proper degree of pressure.

Fig. 2 illustrates how the needle N is caused to bear against the chemical paper 51 which is impregnated with a solution of starch, potassium iodide and potassium bromide and water. This chemical paper 51 is placed upon a pad 50 which is saturated with the same solution. The pad 50 and the chemical paper 51 are arranged upon a receiving drum 49 which is revolved by any suitable mechanism not shown in the drawings. The needle N and the receiving drum 49 are caused to have a relative movement in a direction parallel to the axis of the drum 49 by any suitable and well-known mechanism which is not shown in the drawings. The action of the pad 50 which is made of a pure unsized paper consisting practically of pure cellulose is to cause the receiving paper 51 to remain moist for many hours so that this paper does not dry up too quickly, so as to prevent long pictures from being efficiently received. The blade spring 42 is sufficiently stiff so as to prevent needle N from moving with respect to the sleeve 43 in a direction parallel to the axis of the drum 49.

If desired, the internally threaded member 34 can be caused to co-operate with an externally threaded shaft which is revolved together with a shaft on which the drum 49 is mounted so that the needle N is given the desired longitudinal movement. The internally threaded member 34 is connected to the

arm 30 by means of springs 35 whose position can be controlled by means of the screw 36. The needle carrier comprises a metal drum 37 pivoted to the needle drum 30 at 28. The position of the arm 37 can be regulated by means of the screw 39. An arm 40 made of fiber or other insulating material holds the sleeve 44 and this arm 40 is connected to the metal arm 37 by means of an ordinary bolt 41. The needle arm 30 is slidably mounted upon an arm 31.

A preferred embodiment of this invention has been described but it is clear that numerous changes and omissions could be made without parting from its spirit.

We claim:

1. In an apparatus for transmitting pictures by a series of electrical pulses, a drum adapted to carry chemical paper or the like, a needle mounted upon an angular blade spring arranged substantially perpendicular to the axis of the drum, and adjustable means for immovably holding the outer end of the said blade spring with respect to said drum, said adjustable means being movable in a direction towards and away from said drum.

2. In an apparatus for transmitting pictures by a series of electrical pulses, a drum adapted to carry chemical paper or the like, a needle mounted upon an angular blade spring which is substantially perpendicular to the axis of the drum, a slidably mounted needle arm adapted to be moved in a direction parallel to the axis of the drum, an outer sleeve mounted at the end of the said needle arm, an inner sleeve slidably mounted within the said outer sleeve, means adapted to hold the said inner sleeve in the said outer sleeve, and means adapted to connect the outer end of the said spring to the said inner sleeve.

In testimony whereof I hereunto affix my signature.

MARVIN FERREE.

In testimony whereof I hereunto affix my signature.

JOSEPH WISSMAR.