

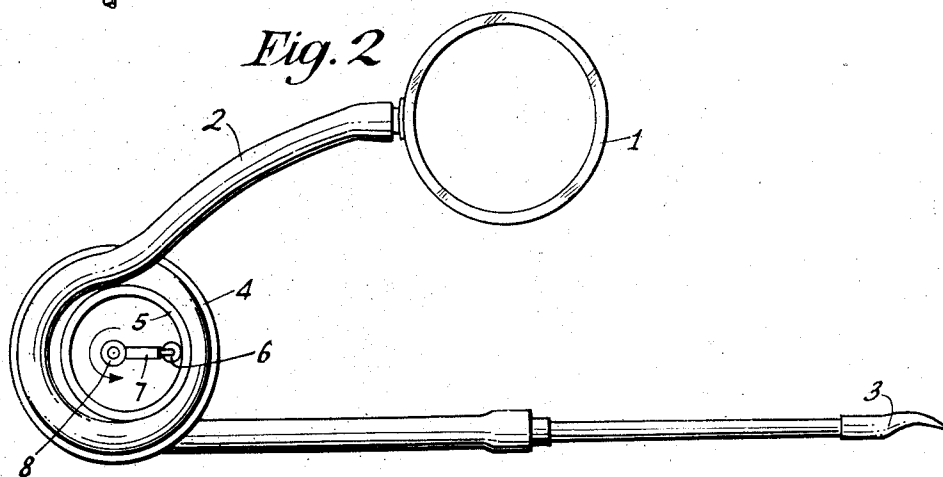
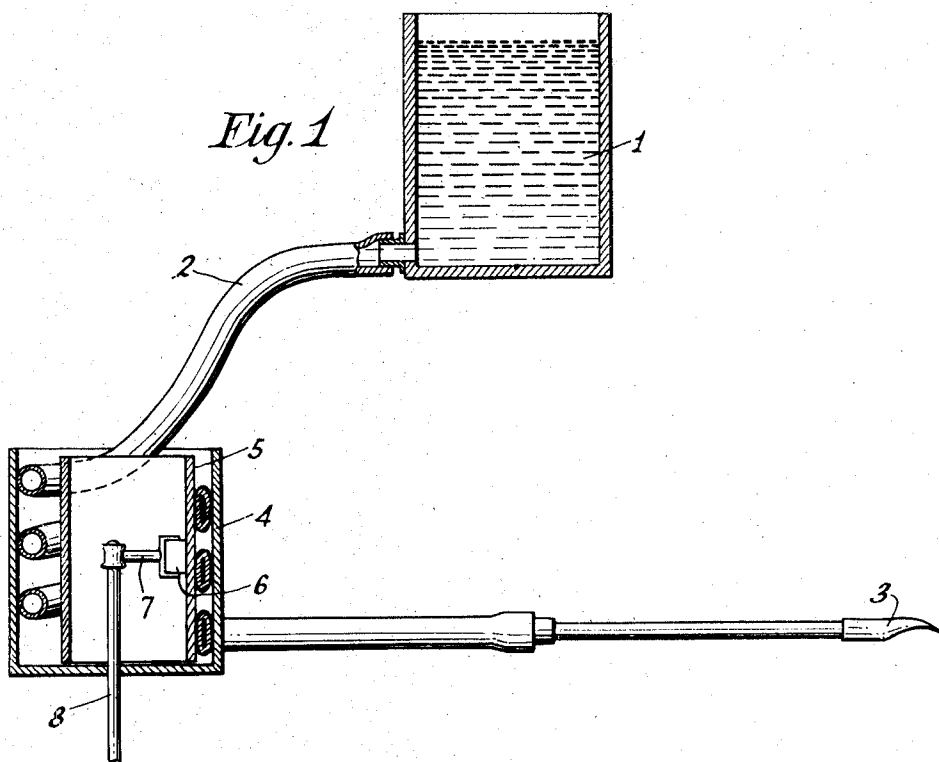
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R. H. RANGER

INK SUPPLY FOR PICTURE RECORDERS

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INVENTOR
RICHARD H. RANGER
BY *Tracy*
ATTORNEY

UNITED STATES PATENT OFFICE.

RICHARD HOWLAND RANGER, OF NEWARK, NEW JERSEY, ASSIGNOR TO RADIO CORPORATION OF AMERICA, A CORPORATION OF DELAWARE.

INK SUPPLY FOR PICTURE RECORDERS.

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This invention relates to certain new and useful improvements in the art of facsimile telegraphy and more especially to an ink or marking fluid supply system for a pen, such as is used in the receiver of a facsimile telegraph system.

Experience has shown that in the ordinary types of receivers in which a pen is used that is not constantly in contact with paper, there is a tendency for the marking fluid or ink to dry up on the point of the pen and impede the flow of marking fluid. If this drying up is sufficient to completely stop the flow of marking fluid, a portion of the picture may be lost, but even if it is not sufficient to completely stop the flow of marking fluid, it may nevertheless still be sufficient to considerably impede the flow and result in portions of the record being light which would be dark.

In practice, when this condition is found the operator will generally apply more pressure to the marking fluid by raising the supply reservoir. This generally results in a pressure being supplied which is sufficient to force the marking fluid out in greater volume than before, producing in the final record a marked contrast of light and dark bands in the record.

I have found that this difficulty can be avoided by supplying ink to the pen, not at constant pressure as has heretofore been the case, but by supplying to the pen a constant quantity of marking fluid at a variable pressure. In other words, a power driven pump is used for forcing marking fluid from a supply reservoir to the pen and this pump is so adjusted as to feed through the quantity of marking fluid which experience has shown is necessary.

If the marking fluid at the point of the pen dries or comes in a way to impede the flow of marking fluid, the pressure will rise due to the action of the pump until it reaches a value sufficient to push the obstruction aside. Immediately when this occurs, the pressure will fall again and the normal flow of ink will be resumed.

It is an object of this invention to produce a new and improved marking fluid feed system.

It is a further object of this invention to produce a marking fluid recorder in which the quantity of marking fluid delivered to the marking pen is constant and at a pres-

sure sufficient to cause marking fluid to be delivered at all times.

It is a further object of this invention to produce an ink supply system which is self-cleaning and in which the variations in tone of the record, due to inequalities in the ink supply, are decreased.

The novel features which I believe to be characteristic of my invention are set forth with particularity in the appended claims. My invention itself however, both as to its organization and method of operation together with further objects and advantages thereof, will best be understood by reference to the following description taken in connection with the accompanying drawing, in which—

Fig. 1 represents a diagrammatic sectional elevation of my invention as applied in a marking fluid supply system; and

Fig. 2 represents a plan view of the same.

Referring more particularly to Fig. 1, 1 represents a reservoir adapted to contain a supply of marking fluid; a flexible tube 2 is attached at one end to reservoir 1 and at the other end to a suitable pen or stylus 3. The tube 2 is coiled around within a hollow cylindrical shell 4, preferably but not necessarily of metal. A shaft 8 is provided adapted to be driven by any suitable source, such for instance as a motor having suitable step-down gearing. The shaft 8 is provided with an extension at right angles thereto designated as 7 and upon the end of the extension 7 there is mounted a roller 6.

Furthermore, I find it preferable to provide a cylindrical shell 5 preferably of metal for the purpose of applying the pressure developed by roller 6 uniformly to the tubing 2, although it will be understood that if desired the roller 6 may be made sufficiently long to extend over a number of turns of the tubing 2 and shell 5 may be omitted.

In operation the reservoir which will be filled with marking fluid and the motor which drives the shaft 8 will be set into operation. After the tube 2 has become filled with marking fluid, the fluid will be delivered from the pen 3 at a rate determined by the speed of the operation of shaft 8, which may be regulated to feed the amount desired.

It will be clear that as the arm 6 revolves, the tube 2 will be compressed and the compression carried along in a direction of approach to the pen 3, whereby the marking
5 fluid will be forced through the tube.

While I have shown and described one embodiment of my invention, it will be clear that I am not limited thereto, but that other arrangements may be employed if desired
10 without departing from the scope of my invention.

Having described my invention, what I claim is:

1. In a graphic recorder utilizing marking
15 fluid, the combination of a marking stylus, a marking fluid reservoir and power driven means for supplying fluid from said reservoir to said stylus under the positive pressure.

20 2. In a graphic recorder utilizing marking fluid, the combination of a marking sty-

lus, a marking fluid reservoir and means for supplying a constant quantity of fluid at a varying pressure per unit of time comprising a positive pressure pump.

3. In a graphic recorder, means for supplying a constant quantity of fluid per unit of time comprising a flexible tubing for conveying marking fluid, a hollow cylindrical
30 shell having at least one turn of said tubing disposed interiorly thereof in the form of a helix and a rotating arm for compressing said tubing.

4. In a graphic recorder a reservoir of marking fluid, a marking stylus, an elastic
35 tube therebetween, cooperating therewith, and having a portion thereof coiled, and a positive pressure means cooperating with said coiled portion for pinching portions of said coiled tube into successive separate
40 moving chambers.

RICHARD H. RANGER.