M. H. AVRAM.

PAPER CHART.

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1,234,852.

Patented July 31, 1917.

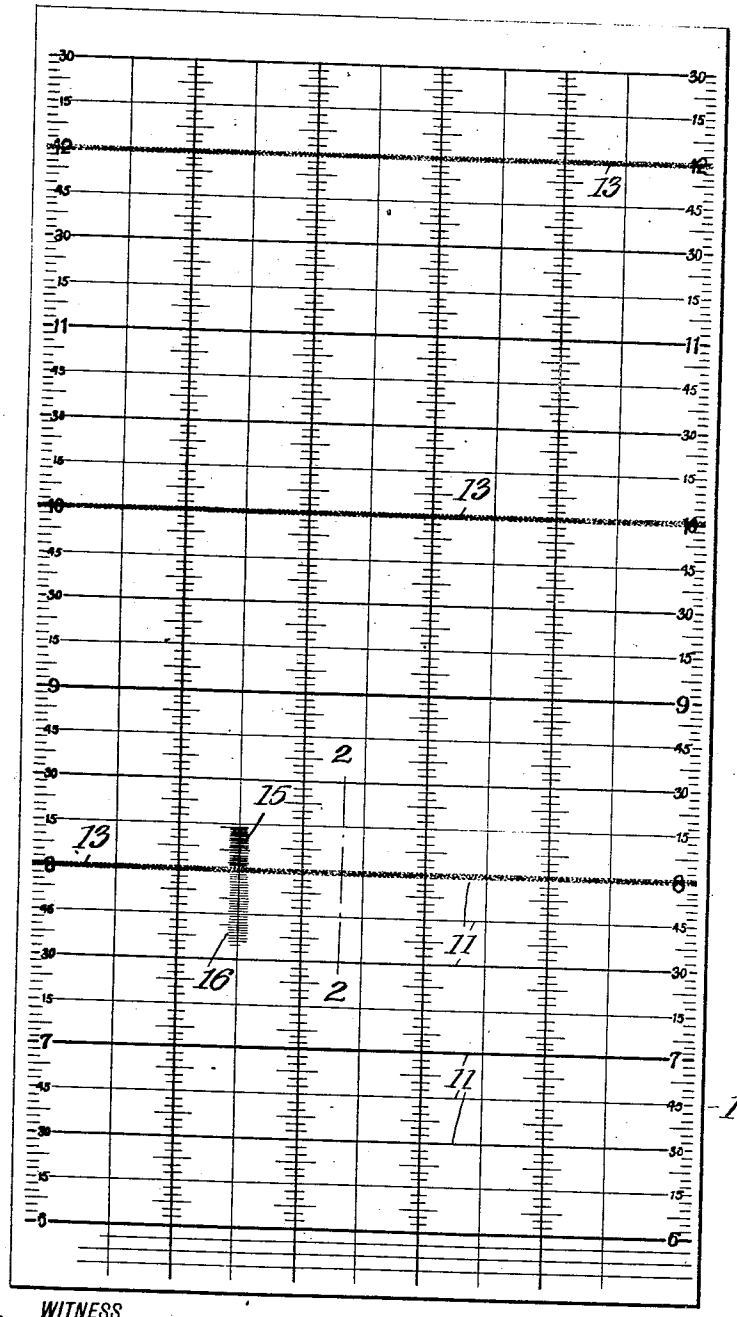
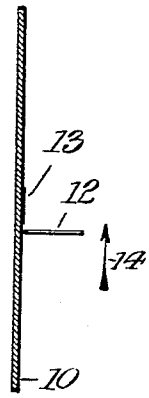


Fig. 1.

Fig. 2.



WITNESS

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PAPER CHART.

1,234,852. Specification of Letters Patent. Patented July 31, 1917.

Application filed March 27, 1915. Serial No. 17,321.

To all whom it may concern:

Be it known that I, MOÏS H. AVRAM, a citizen of the United States, and a resident of New York city, county and State of New York, have invented certain new and useful Improvements in Paper Charts, of which the following is a specification.

This invention relates to a novel chart adapted to be used in conjunction with any of the well known recording devices that employ a movable metallic marking needle or a similar more or less pointed instrument adapted to travel across said chart to produce the desired interpretable recording mark or marks. Charts of the character above mentioned are commonly made of so-called lead paper, *i. e.*, of a paper provided with a glossy enamel finish containing nickel or a similar metallic substance, while the marker is a needle made of bronze, platinum or other suitable material so that upon producing a frictional contact between said finish and the metallic needle, such impression or contact becomes visible owing to the presence of the metal particles within said paper finish. It is however obvious that in case said needle has to travel, either continuously or interruptedly, for a considerable distance across the chart, the point of the needle will become gradually coated or covered with part of the enamel finish so that finally the metal point of the needle will not come any longer into direct contact with said finish and the markings will cease, although the needle continues to perform its proper movement.

In order to overcome this difficulty, I provide on said chart at suitable distances preferably along one of its regular cross lines a deposit of sand or other abrasive material that will cause a cleaning of the needle point while the latter travels across said deposit of sand, etc.

In the accompanying drawing,

Figure 1 is a face view of a chart embodying my invention, and

Fig. 2 a cross section of part of said chart along line 2—2, Fig. 1, showing the marking needle in position.

In the embodiment of my invention shown in the drawing a chart 10 is illustrated such as is employed with efficiency recorders for which I have obtained a United States Letters Patent under Number 1,131,104, on March 9th, 1915, although it is obvious that my invention may be applied to charts of different character. Chart 10 is provided with a plurality of index lines 11 arranged at suitable distances, across which lines the marking needle or stylo 12 is made to move. At convenient intervals, some of the lines 11 are covered by a layer of sand or other rough and abrasive material 13. It will be seen that while the needle 12 travels intermittently in the direction of the arrow 14, Fig. 2, its point will become gradually covered with enamel rubbed off chart 10. As soon as the needle point travels across the linear deposit of abrasive material 13 it becomes cleaned so that the subsequent markings 15 produced by said needle are considerably more distinctive and pronounced than the markings 16 made by said needle prior to reaching line 13 as clearly illustrated in Fig. 1.

It will thus be seen that by my invention, simple, reliable and effective means are provided for producing readily and uniformly intelligible lines or other markings on a lead paper chart irrespective of the duration of continuous use of the marking needle.

I claim:

1. A chart for recording devices adapted to receive an interpretable marking when operated upon by a metal stylo, said chart being provided at intervals with a deposit of abrasive material for cleaning said stylo.

2. A chart for recording devices adapted to receive an interpretable marking when operated upon by a metal stylo, said chart being provided at intervals with a linear deposit of abrasive material for cleaning said stylo.

3. A chart for recording devices adapted to receive an interpretable marking when operated upon by a metal stylo, said chart being provided with a plurality of equally spaced linear deposits of abrasive material extending transversely of the chart and adapted by engagement with said stylo to clean the point thereof.

4. A chart for recording devices, said chart being adapted to receive an interpretable marking by a stylo, and a linear de-

posit of abrasive material extending across said chart and also adapted to be engaged by said stylo for cleaning the point of the latter.

5. A chart for recording devices provided with a plurality of fixed index lines and adapted to be traversed by a pointed marking implement, and a linear deposit of abrasive material extending along a selected number of said index lines and adapted to clean the point of said implement.

MOÏS H. AVRAM.