

Jan. 27, 1953

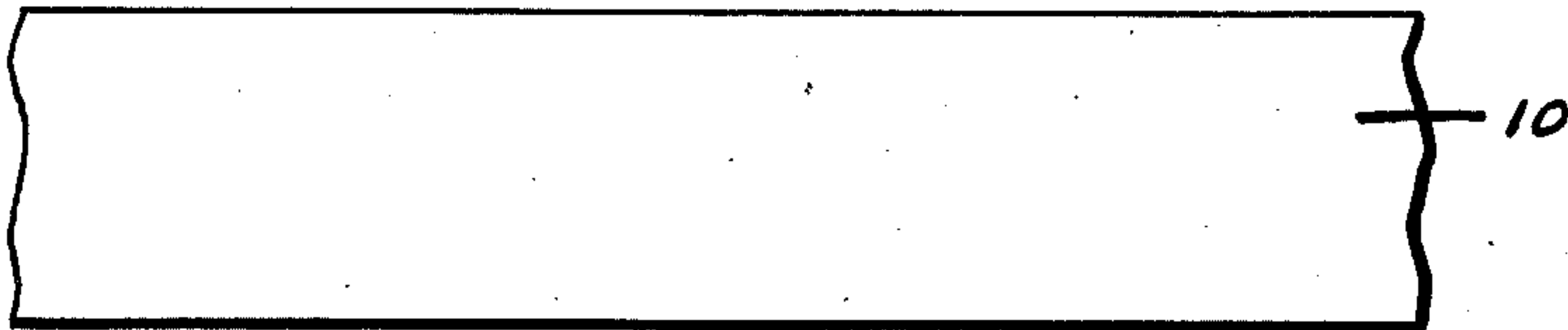
W. M. EWING

2,626,884

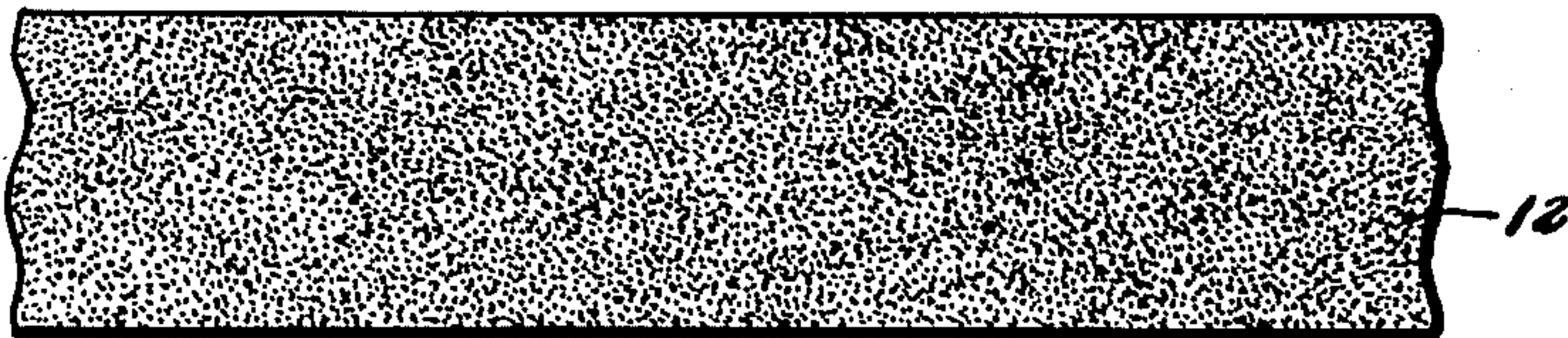
CARBON PAPER

Filed June 17, 1946

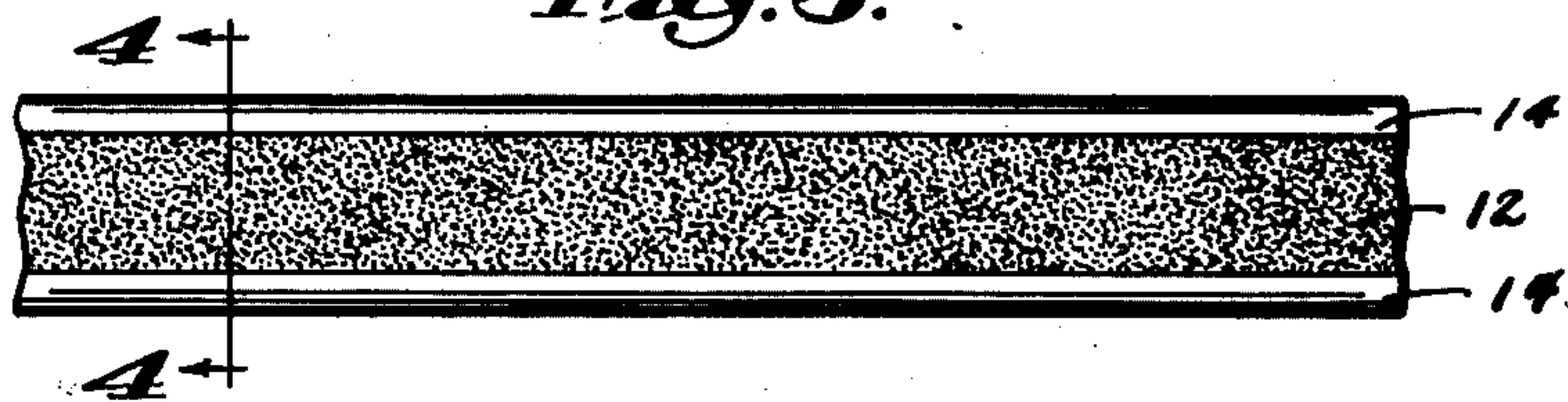
*Fig. 1.*



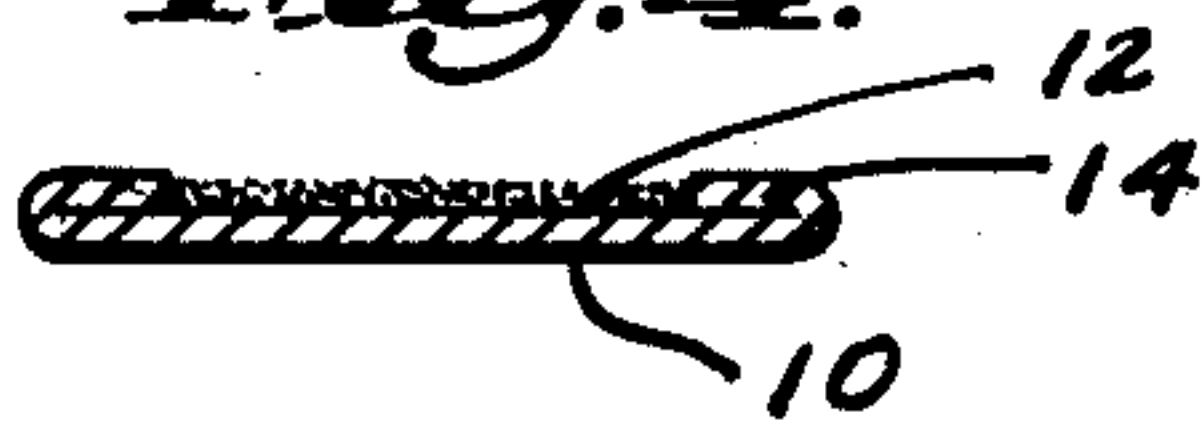
*Fig. 2.*



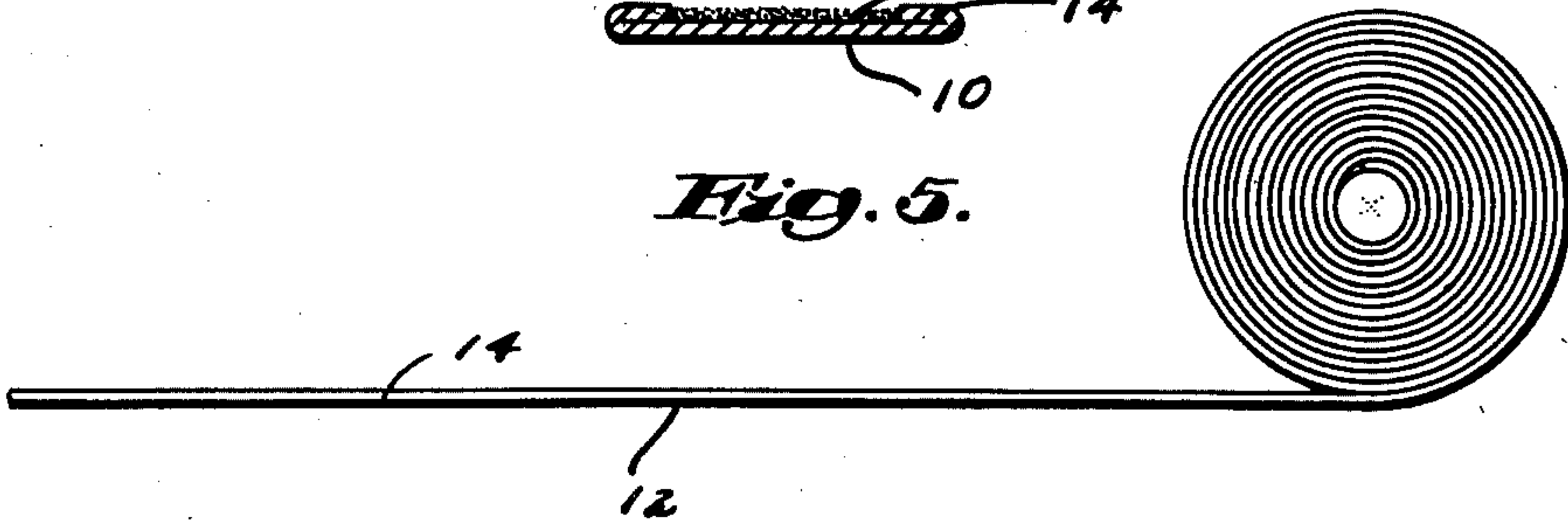
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



*Inventor:*

*William M. Ewing*

*by*

*Attorney*



# UNITED STATES PATENT OFFICE

2,626,884

## CARBON PAPER

William M. Ewing, Woods Hole, Mass., assignor  
to the United States of America as represented  
by the Secretary of the Navy

Application June 17, 1946, Serial No. 677,249

2 Claims. (Cl. 154—53.6)

1

This invention relates to improvements in coated sheet materials such as paper, plastics and the like. More especially the invention is concerned with a carbon-coated paper of the type which is often referred to as smoked recording paper and which is utilized to receive a tracing of a stylus or other sharp instrument.

In connection with recording data such as oceanographic temperature and pressure readings as registered by Bourbon tubes and similar equipment, it has been found that one of the most satisfactory recording papers is obtained by carrying out a carbonizing operation on a paper base just prior to the use of the paper. This is conveniently done by smoking the paper over an open flame. There is thus produced an exceedingly light, thin film of carbon which provides for an exceptionally faithful reproduction of the movements of a stylus member. The thin soft character of the carbon film, however, renders it very susceptible to scoring or offsetting and thus limits handling and packing operations. It would be desirable to have available a coated stock which had been prepared beforehand in considerable quantity.

An object of the invention therefore is to improve coated sheet materials and to provide a novel smoked recording paper which can be made in considerable quantity and handled without danger of offsetting or otherwise impairing its sensitive character.

I have devised a carbon-coated sheet material provided with spacing means by means of which the material may be arranged upon itself in layers, either in a sheet or rolled form, without impairing or scoring the carbon coating. An important feature of the invention therefore is a novel carbon-coated paper which includes spacing strips adapted to protect the carbon layers where a plurality of layers of such material are arranged adjacent to one another.

Another feature of the invention is improved methods of making a carbon-coated sheet material.

Other novel features will appear from the following description of the invention.

In the accompanying drawings:

Fig. 1 is a fragmentary plan view illustrating a base material employed in the invention;

Fig. 2 is a fragmentary plan view illustrating a step of applying a coating to the base material;

Fig. 3 is a fragmentary plan view illustrating the step of providing spacing members along edges of the coated strip;

2

Fig. 4 is a cross section taken on the line 4—4 on Fig. 3; and

Fig. 5 is a view in side elevation illustrating a roll of coated material.

Referring more in detail to the drawings, numeral 10 denotes a base of some suitable sheet such as paper, plastic, or other desired substance. In accordance with the invention, the sheet material preferably in a strip form is covered with a layer 12 of a coating material which is readily scored by a stylus. A principal example of coating material is lamp black or other forms of carbon, although coatings of other finely divided substances such as pigments, dyes, etc. may be used.

The smoked or coated paper is provided along either edge with spacing strips 14 which are of a relatively narrow width designed to leave a substantial area of carbon-coated surface exposed therebetween, as will be noted from reference to Figs. 3 and 4. The strips 14 may be conveniently provided by the method illustrated in Figs. 2 and 3, in which the coating is applied all over the base 10, and then the edges are folded over upon adjacent coated portions as shown. If desired, however, the strips 14 may be separately applied and may be of varying width and thickness.

Thereafter the material is preferably rolled upon itself in the manner indicated in Fig. 5. If desired, however, other arrangements may be resorted to such as cutting the coated material into sheets and stacking them one upon another.

In either the rolled or sheet form, the strips 14 function to provide a spacing means which to a very large extent prevents layers of coated material from offsetting or being roughened by uncoated surfaces of the paper. As a result of this it becomes possible to prepare and store the coated stock particularly in a roll form, thus obviating the necessity of carrying out carbonizing operations whenever a sheet of smoked paper is required.

It will be apparent that I have provided a simple, cheap, and efficient recording paper, which may be prepared in quantity and packaged and handled without danger of destroying the workability of the carbon surface. In this way, the inconvenience of preparing smoked recording paper at the time of its use is obviated and such operations are greatly facilitated.

While I have shown and described a preferred embodiment of my invention, it should be understood that various other adaptations and modifications may be resorted to, and other types of coating materials and base materials may be



3

combined with spacing elements, in accordance with the spirit of the invention as defined by the appended claims.

I claim:

1. A recording tape for a stylus recording instrument comprising, a relatively broad flexible base strip, first and second relatively narrow protecting strips extending longitudinally of said base strip formed by folding the edges thereof, a contact sensitive coating disposed continuously on the surface of said base strip intermediate said protective strips, said contact sensitive coating being adapted to be scored by a stylus and being substantially thinner than said protective strips, said protective strips being of sufficient thickness to maintain said contact sensitive coating in noncontacting relationship to a substantially straight supporting surface contacting said two protective strips.

2. A smoked recording paper for receiving a tracing of the stylus of a recording instrument comprising a paper tape, a thin, soft film of

4

carbon particles forming a continuous coating on one side of said paper tape, the two opposite side edges of said paper tape being folded back upon the coated surface forming narrow spacing strips, whereby said coated paper tape can be rolled up on itself without damage to said carbon coating.

WILLIAM M. EWING.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,320,692	Hulse	Nov. 4, 1919
1,575,230	Schmitt, Jr.	Mar. 2, 1926
2,049,030	Strauss	July 28, 1936

FOREIGN PATENTS

Number	Country	Date
64,602	Norway	Mar. 30, 1942