March 2, 1926. 1,575,230

C. P. SCHMITT, JR

FLEXIBLE PROTECTOR FOR CARBON PAPER

Filed Dec. 3, 1924

Fig. 1.

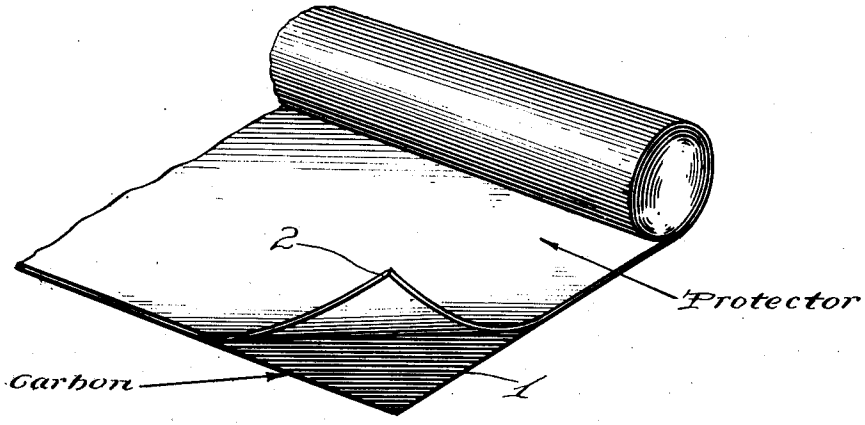


Fig. 2.

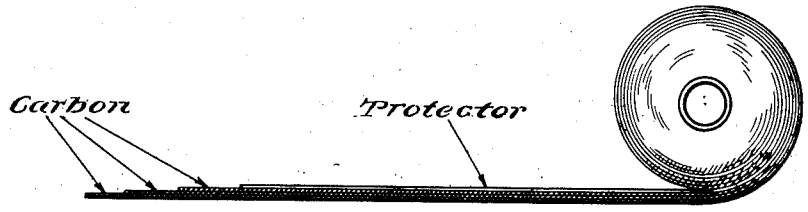
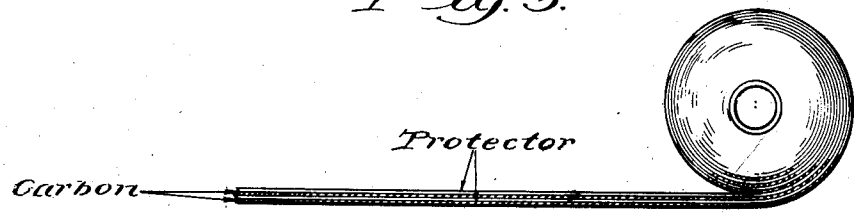


Fig. 3.



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UNITED STATES PATENT OFFICE.

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FLEXIBLE PROTECTOR FOR CARBON PAPER.

Application filed December 3, 1924. Serial No. 753,588.

To all whom it may concern:

Be it known that I, CHARLES P. SCHMITT, Jr., a citizen of the United States, residing in the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Flexible Protectors for Carbon Paper, of which the following is a specification.

This invention relates to improvements in a flexible protector or protectors for carbon paper and the like, and refers more particularly to a sheath or shield adapted to overlie or be superposed above the upper surface of the sheet or sheets of carbon paper, this shield adapted to receive the physical blow of the sharp or heavy type indirectly striking against same. The protector forming the basis of this invention is adapted particularly for use with a bookkeeping and billing machine.

Some of the advantages accruing from the use of the protector, may be the increase in the life and durability of the carbon paper itself, a substantial decrease in smudging and soiling, which has heretofore been more or less of a problem in this art, and from an economical standpoint the advantages will be readily appreciated.

In the particular embodiment of the present invention, the protector comprises a sheet of relatively thin flexible material adapted to be rolled with one or more plies of carbon paper, held in such rolled form until ready for use, and then the roll itself is attached to the bookkeeping or billing machine in the same manner as the rolls of carbon paper are now installed. In unrolling the carbon paper from the roll and positioning it for use, the thin sheet of protective material will be uppermost, that is, overlying the upper surface of the ply or plies of carbon paper. When the bookkeeping or billing machine is then operated, the type indirectly strikes the protecting material, which absorbs most of the physical force naturally exerted by the force of the sharp, heavy striking type.

The protector is preferably constructed of thin paper, very strong in texture and coated with a strengthening composition, for instance, it has been found in actual practice that this protector may take the form of glassined paper having a weight which will not interfere with the producing of legible carbon copies.

Heretofore, in using carbon paper rolls in connection with billing and bookkeeping machines, it has been found that sharp type will cut through the original sheet of paper and also cut through carbon paper. This has been found to be a usual occurrence, rather than unusual, and has resulted in a great waste of carbon paper, and the increase in maintenance cost of these machines, as carbon paper is relatively expensive. I have found that by interposing a thin sheet of flexible material over the upper surface of the carbon paper, that I can eliminate the cutting or chewing of the carbon paper itself, thus naturally prolonging its life and durability.

Referring to the drawings, Fig. 1 is a perspective view of a roll containing a single ply of carbon paper with my protector wound up in roll form.

Fig. 2 is an edge view of a roll containing more than one ply of carbon paper, illustrating one use of my protector, in which the protector overlies only the top ply.

Fig. 3 is an edge view of a roll of carbon paper containing more than one ply in which the protector is interposed between the various plies.

Referring in detail to the drawings, 1 designates a sheet of carbon paper which is semi-coated, the coated surface being shown as having the inked surface face downward. Overlying the upper surface or back of the carbon paper is a sheet of relatively thin flexible material 2, which may take the form of glassine paper and the like. When the carbon paper is produced in the factory, it is wound in a roll with the sheet of flexible protecting material interposed therebetween. When the carbon roll is then placed on a machine and unrolled for use over the writing surface, the sheet of flexible protecting material is uppermost overlying the carbon paper and underlying the original copy. The force of the sharp heavy type striking against the original will be absorbed to a considerable extent by the tough texture of the flexible protector, thus eliminating to a very great extent the danger of cutting through the carbon paper.

In Fig. 1 I have shown a single sheet of flexible protecting material overlying the single sheet of carbon paper. In Fig. 2, I have shown a single sheet of protecting material overlying more than one ply of carbon paper. In Fig. 3, I have shown flexible sheets of protecting material interposed between plies of carbon paper, the

upper sheet of protecting material overlying the top ply of carbon paper.

It has been found in actual commercial use that as a minimum, the length of life of the carbon paper has been prolonged 300%, the expense involved in the use of a flexible protecting material such as herein described, including the cost of the material itself, the cost of winding it on the roll, is much less than the amount saved by the use of such a flexible protector. Further, by the use of the flexible protecting material described herein, the operators have found that there is less likelihood of smudge and therefore, the carbon paper is cleaner to handle, eliminating the loss of time generally necessary for cleaning soiled hands, and producing neater work.

As another advantage accruing from the use of my invention, I am enabled to utilize a very high grade of carbon paper in conjunction with a high grade of ink, for instance a seven-pound paper. At the present time, there is generally used with these machines a carbon paper running from ten to fifteen pounds, which is very brittle. It has been found that the size of the carbon paper roll is not materially increased by the winding of the sheet of flexible material in the roll.

I claim as my invention:

1. In combination, a carbon sheet, and a protector therefor, comprising a thin flexible sheet of material superimposed on said carbon sheet and adapted to absorb the shock of type indirectly striking thereagainst.

2. In combination, a carbon sheet, and a thin flexible sheet associated therewith, functioning as a protector for the carbon sheet, and adapted to overlie the upper surface thereof.

3. In combination, a carbon sheet, and a sheet of thin flexible material associated therewith, adapted to act solely as a protector for the carbon sheet, and overlying the upper surface and functioning to limit the penetration of type indirectly striking thereagainst.

4. In combination, a carbon sheet, and a thin flexible protector sheet, superimposed thereon, and adapted in use to be interposed between the carbon paper and a sheet receiving direct impressions from type.

CHARLES P. SCHMITT, JR.