S. E. BRICK.

BOOK OR PAD.

APPLICATION FILED APR. 26, 1919.

1,341,782.

Patented June 1, 1920.

Fig. 1.

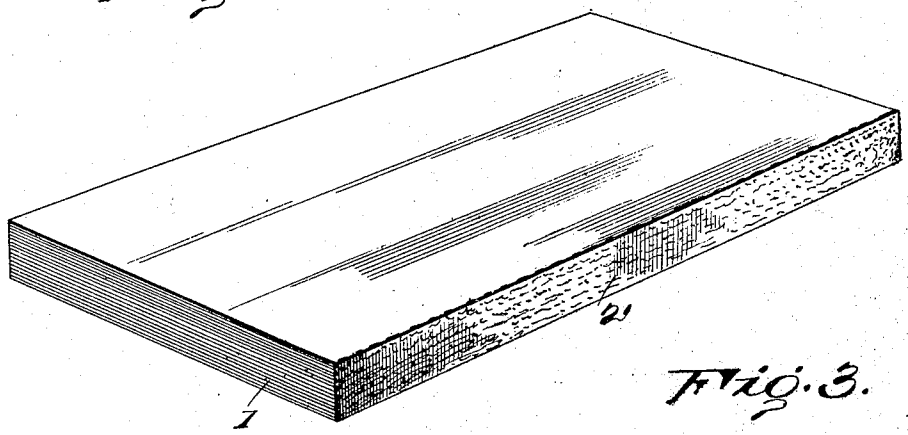


Fig. 3.

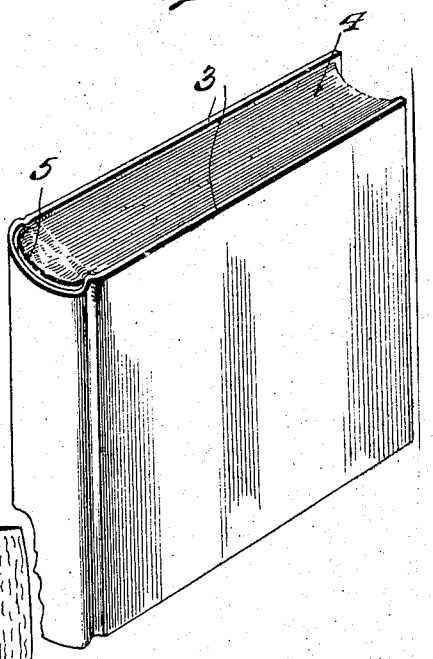
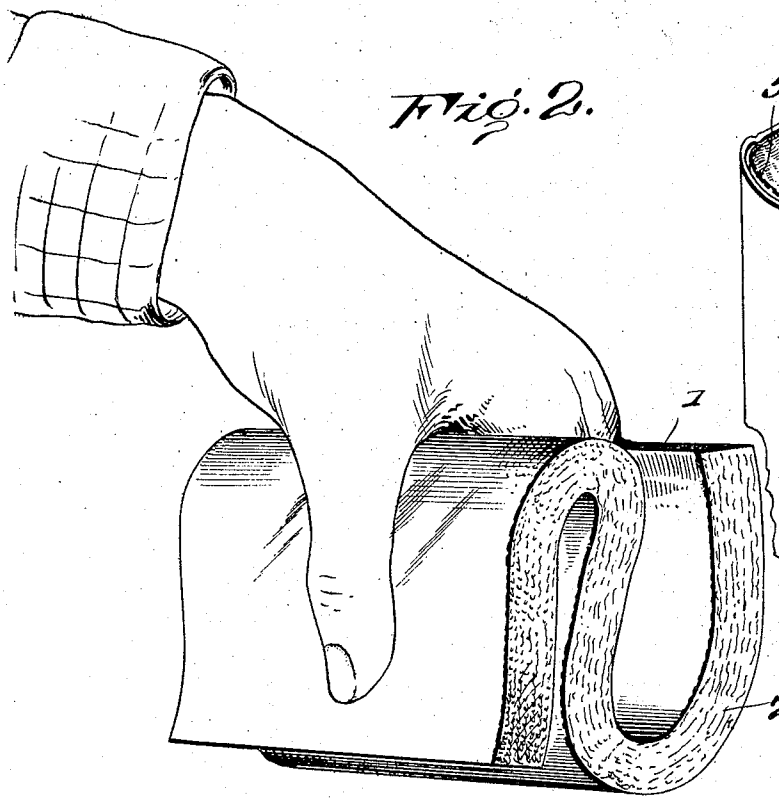


Fig. 2.



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UNITED STATES PATENT OFFICE.

SAMUEL E. BRICK, OF SALINA, KANSAS.

BOOK OR PAD.

1,341,782. Specification of Letters Patent. Patented June 1, 1920.

Continuation of application Serial No. 274,506, filed February 1, 1919. This application filed April 26, 1919. Serial No. 292,956.

To all whom it may concern:

Be it known that I, SAMUEL E. BRICK, of Salina, in the county of Saline and State of Kansas, have invented certain new and useful Improvements in Books or Pads; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a series of leaves bound together, as books, tablets or pads of paper or other material.

An object of my invention is the production of a series of leaves such as a book or tablet having a non-friable flexible, elastic or yieldable non-tacky backing.

Another object of my invention is the production of a book or tablet having the characteristics above set forth which will retain such characteristics for a long period of time.

It is customary in tableting to pile a stack of leaves or pages upon a base sheet of heavy material and secure the stack by applying adhesive paste to one or two edges of the stack; either with or without a super or extra backing which is usually necessary and which usually extends over part of the base sheet. Owing to the composition of the adhesive heretofore used the tablet is rigid at its pasted edge or edges and it cannot be bent or folded without breaking the friable adhesive binding; and an intermediate sheet or sheets cannot be removed without disturbing the other sheets. Extra sheets, such for example as carbon paper, cannot be inserted without partially destroying the pad.

My invention overcomes these difficulties and furthermore a tablet, pad or book made according to my invention can be opened flat or can be rolled up without damaging the pad. My invention has many other advantages which will be obvious.

In the drawing, Figure 1 shows a tablet in position for use, and Fig. 2 shows the manner in which the tablet may be bent. Fig. 3 shows a book made according to my invention.

Referring to Fig. 1, 1 indicates a series of sheets of paper in the form of a pad bound together at the edge 2 and referring to Fig. 3, 3 designates the two covers of a book which comprises the pages 4 bound together along the line of the edges 5 according to my invention.

My adhesive binding is a rubber-like mass and is preferably made as follows: 35 parts of smoked plantation or fine Pará raw rubber and the same amount of unsmoked first latex or best grade unsmoked plantation raw rubber are thoroughly mixed together by passing them through suitable high tension crushing rollers heated to a blood heat, then about 10 parts of silica oxids or magnesium carbonate or fossil flour, 13 parts of calcium carbonate, 6 parts of calcium hydroxid and 1 part of coloring matter are added thoroughly incorporated and mixed with the rubber. This operation requires approximately fifteen minutes. 70 gallons of a suitable solvent consisting of about 70 parts of carbon tetrachlorid and 30 parts of benzol are placed in a mixing drum and into this 100 pounds of the rubber composition is dropped and thoroughly stirred. About one ounce of deodorant is added for each gallon of solvent, this deodorant consisting of equal parts, oil of cloves, preferably C. P., and of gum camphor, preferably C. P. The fillers used should be very fine and the calcium carbonate should be amorphous. The composition is then ready to be applied.

The silica oxids or magnesium carbonate or fossil flour and the calcium carbonate are to a great extent equivalents of each other in that they give bulk to the composition without detracting from its binding qualities unless used in too great excess.

I prefer the proportions of the various ingredients as given above but these may be varied to a great extent without departing from the spirit of my invention and some of the ingredients may even be omitted provided a composition is obtained which is flexible, elastic, yieldable and which will not remain tacky nor become brittle.

Any suitable solvent for rubber may be used but I prefer that indicated above on account of its non-inflammability and because it leaves the film of applied rubber free from tackiness in a short time.

The composition resulting from the process set forth is homogeneous in that it is of a uniform nature throughout, having no separate elements, layers or structures.

I believe I am the first to make a book or pad with a binder consisting solely of a homeogenous composition having a rubber base requiring no fabric base. The only tableting compounds heretofore known to me are glues or rubber compositions which

include a cloth or fabric or those in which the composition is not durable. Whether these be applied hot or cold the main point in which they fall short of attaining the advantages of my invention is that they dry out in a relatively short time. Climatic conditions may vary their periods of usefulness, and when supers are used with them, at an additional cost, their durability is increased. But apart from this feature of durability the glue binders at no time can produce a tablet having the characteristics of mine, namely, yielding, non-friable and elastic. This is the primary feature of my invention. Among the resulting advantages to the user of the finished product are the following: My tablet may be opened at any point to withdraw a sheet and it will separate easily and its edge which has previously been held by the binder will be found clean. Doing this will not disturb any of the adjacent sheets. The same is true when a tablet or book is opened at any desired point to insert a carbon sheet. This is not true of tablets having glue binders. Either the whole pad will break at the point where it is opened or the leaves will not open sufficiently to permit the insertion of the carbon sheet. If the effort be made to remove a leaf from a pad having a glue binder the edge of the leaf usually tears and leaves a ragged edge. In warm weather a pad having a glue binder presents a sticky surface. If sheets of it be continuously inserted in a typewriter the particles of glue will adhere to the platen or cylinder and seriously affect the work of the type. No such disadvantage attaches to the sheets removed from a pad or tablet bound by a compound embodying my invention.

From the viewpoint of the user of my compound, that is, the manufacturer of the books, pads or tablets the following advantages are of persuasive force:—My compound is applied cold and with no waste of time. The glue preparations are usually applied hot and time is required for their heating; in consequence I save the cost of the heating medium. My compound requires no particular skill in preparation by the user. It is made as herein described ready for his use. The glue preparations are frequently over cooked and have to be thrown away. Any portions of my compound accumulating on the padding table may be redissolved and used again. Glue preparations thus accumulating cannot be used. My compound dries in five to seven minutes The glue compound requires from one to ten hours to dry. I can make a tablet with carbon sheets alternating with the leaves and not stain the leaves. Glue dries too slowly for this purpose and while it is drying the moisture penetrates the stock and causes the carbon composition to run and stain the leaves. A tablet made with my compound may be cut into gangs without danger of breaking under the knife. Tablets made with glue compounds cannot be cut without breaking. In such cutting my compound will not affect the cutting knife while a glue compound will gum and dull it. My compound, when found too thick for the desired use, may be thinned; a glue compound when thinned too much loses its strength and it is then a complete loss. If my compound is thinned too much it may be exposed to the air and it will thicken to the desired consistency. My compound will work in the same way and produce the same results throughout all seasons of the year and under all conditions; glue is affected by the weather and it has been my experience that no two batches work the same. While the foregoing comparisons apply mainly to hot glues, yet they are also true of cold glues, with the exception of the time and expense required for heating the hot glues. All cold glues thicken with exposure and cannot be thinned when they become set. They spoil quickly in the can and for this reason cannot be handled in large quantities. I am enabled to can and ship my compound in any quantity without fear of its deterioration.

From the foregoing it will be seen that my process and the resulting compound are of equal advantage to both the manufacturer and the ultimate user of the books, pads or tablets on which the compound is used.

This application is a continuation of my former application filed February 1, 1919, Serial No. 274,556, as to common subject matter.

I intend the term "rubber" to include all rubber gums having the useful properties in a pad or book herein set forth.

I claim as my invention:

1. A series of sheets or leaves lying one upon the other and bound together on an edge by a flexible, elastic, yieldable, dry and non-tacky homogenous binder containing rubber which is adhesively attached to the edges of the sheets but leaving some parts of the edges free, whereby the binder between any adjacent sheets may be stretched slightly to permit of inserting additional sheets loosely between the bound sheets, any one or more sheets may be torn from the binder without substantially injuring the binding of the remaining sheets, and the series may be laid open flat at any point without substantially injuring the binding of the sheets, the binding being capable of being decidedly flexed without substantial injury thereto.

2. A series of sheets or leaves bound together by a homogenous composition of matter which is adhesively attached to an edge of the sheets and which comprises rubber and a filler, but leaving some parts of the edges free, whereby the binder between any

adjacent sheets may be stretched slightly to permit of inserting additional sheets loosely between the bound sheets, any one or more sheets may be torn from the binder without substantially injuring the binding of the remaining sheets, and the series may be laid open flat at any point without subtantially injuring the binding of the sheets, the binding being capable of being decidedly flexed without substantial injury thereto.

3. A series of sheets or leaves bound together by a composition of matter consisting of smoked plantation or fine Pará raw rubber, unsmoked first latex or best grade unsmoked plantation raw rubber, inert and absorbing fillers and calcium hydroxid.

4. A series of sheets or leaves bound together by a composition of matter consisting of smoked plantation or fine Pará raw rubber, unsmoked first latex or best grade unsmoked plantation raw rubber, inert and absorbing fillers calcium hydroxid, coloring matter and a deodorant.

In testimony whereof I have signed this specification.

SAMUEL E. BRICK.