March 17, 1936. T. J. SALSMAN 2,034,059

NOTEBOOK

Filed Nov. 19, 1934

Fig. 1

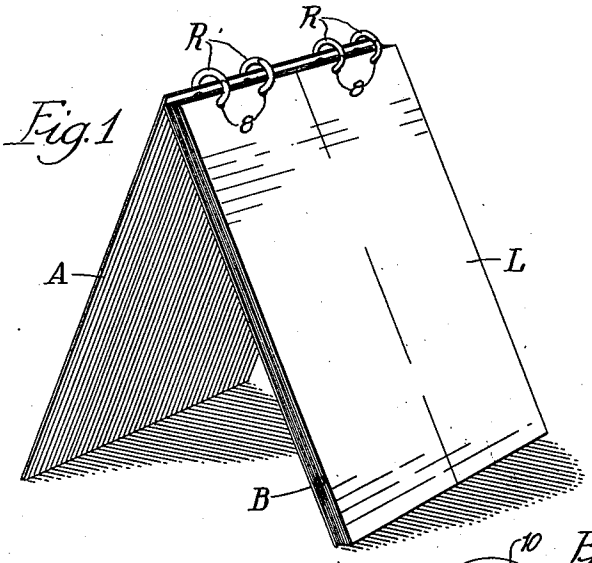


Fig. 2

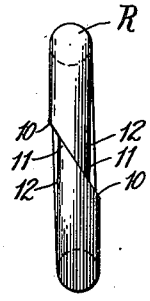


Fig. 3

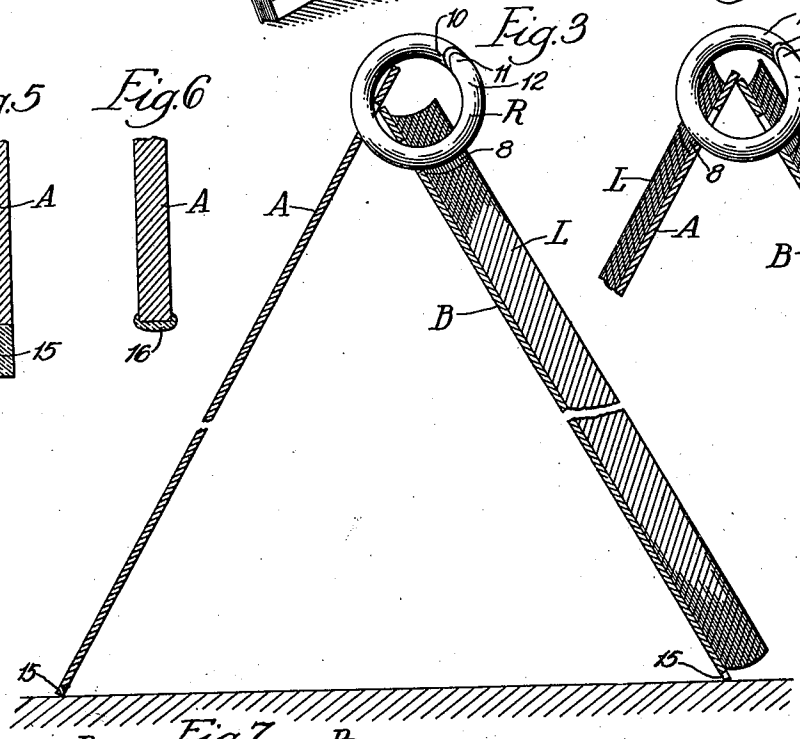
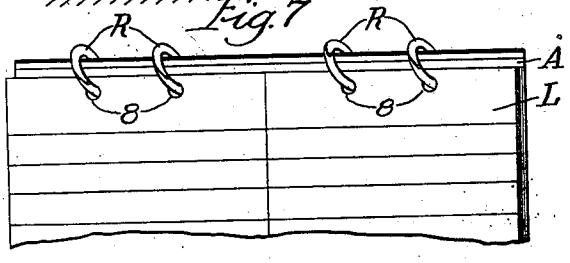


Fig. 4

Fig. 5

Fig. 6

Fig. 7



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UNITED STATES PATENT OFFICE

2,034,059

NOTEBOOK

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Application November 19, 1934, Serial No. 753,606

5 Claims. (Cl. 281—33)

My present invention relates to a note book comprising a pair of covers with intermediate leaves all hinged together to swing through substantially 360 degrees. Such a note book is particularly useful for transcribing purposes because it may be upstood upon a desk with the lower edges of the covers widely separated whereby to expose successively the leaves that are carried by the common hinge connections.

One of the improvements which characterize this invention is directed to the hinge connections themselves which comprise a series of split rings having obliquely slanting meeting surfaces to form opposed offset points, the adjacent ring portions being misaligned whereby the ring points are inset so as to be removed from contact with the covers or leaves. In this way all interference to turning of the leaves is eliminated.

Another improvement concerns the application of friction means to the cover edges opposite those at which the hinge connections are placed, thereby promoting resistance on the part of the covers to slipping on the desk or other plane surface where the note book may be rested. This is of particular advantage because, as constituted, note books of this character when upstood upon a desk must have the bottom edges of the covers fairly close together, otherwise they will slide apart and allow the book to collapse. Not only is this slipping of the covers prevented by the use of the friction means hereinafter described, but I am enabled thereby to upstand the book with the covers at a greater angle of divergence whereby the upper and lower portions of the exposed leaves are presented to the eye at substantially equal distances. This is manifestly the correct way in which the leaves should be supported, but one which is almost impossible of attainment with note books as now constituted, due to the fact (1) that the level of the desk upon which such note books are upstood is so much below that of the eye that the distance to the lower portion of the exposed leaves is noticeably greater than the distance to the upper portion of the same leaves and (2) that it is impossible to so adjust these leaves angularly with respect to the eye that the top and bottom portions of the leaves are equidistant therefrom without spreading the supporting covers so great a distance that they will slide away from each other and allow the book to collapse on the desk.

It is accordingly with a view to providing a note book with improved hinge connections and improved resistance to slipping on the part of the covers that the present invention is largely concerned.

Referring to the accompanying drawing:

Figure 1 is a view in perspective of my improved note book as it appears when upstood upon a desk or other plane surface;

Fig. 2 is an enlarged detail in peripheral elevation of one of the split rings used for the hinge connections between the covers and leaves of the book;

Fig. 3 is a fragmentary detail in vertical section through the book as it appears when upstood upon a desk;

Fig. 4 is a similar view showing the leaves about evenly divided between the front and rear sides of the book;

Fig. 5 is an enlarged detail in vertical section through the lower edge portion of one of the covers showing the application thereto of friction means;

Fig. 6 which is a similar view shows a friction means of modified contour; and

Fig. 7 is a fragmentary view in elevation showing the manner in which the rings forming the hinge connections between the covers and leaves may incline to one side, and showing the split ends of the rings in proximity to the leaves.

In the present note book is comprised a pair of relatively heavy covers A and B with intermediate paper leaves L. Formed through the covers and leaves near one edge thereof are plural sets of registering holes 8 each of which is adapted to receive a split ring R forming a hinge connection for the covers and leaves. In a book so formed the rings are free to revolve through the holes in which they are entered and the covers and leaves are likewise free to be turned about the rings through substantially 360 degrees. From the normal closed position either cover may be swung around through an arc of 300 degrees or so to the position indicated in Figs. 1 and 3. When so disposed, the leaves may be exposed successively to view on one or the other side of the covers which are then adapted for upstanding, with the hinge edge uppermost, upon a desk or other plane surface. Accordingly in use the leaves may be moved successively so as to expose to view the notes which are inscribed thereon.

According to the present invention the covers are desirably slightly greater in radial length than are the leaves. This means that, when the book is upstood on a desk or table, only the bottom edges of the covers will contact therewith, the leaves being supported at a slightly elevated position, as shown best in Fig. 3. This support,

of course, is furnished by the hinge connections in the form of the several rings R. Because of this relationship in size between the covers and leaves, the latter remain out of contact with the desk and so are entirely free to be turned, as desired, with a minimum of effort on the part of the user.

Referring now to Fig. 2, the split ends of each ring are obliquely inclined as at 10 across the outer periphery thereof to provide a point 11 on each ring and at one side thereof. The ring portions 12 adjacent the ends are further misaligned sidewise in a manner which will inset the pointed ends of the rings. This is of advantage because the points which otherwise might catch on the turning leaves are maintained inwardly of the normal line of turning movement of the leaves so as to be prevented from engaging therewith. I find it desirable to form the rings of some light resilient material which may be opened up, as required, for application to the covers and leaves when the book is being assembled, and which thereafter will spring back to normal position, as shown in Fig. 2. To promote this sidewise misalignment referred to, it may be desirable temporarily to cross the ring ends whereby the surfaces adjacent the points 11 lie back to back. After being so crossed, the rings will acquire a "set" which will assist in maintaining the pointed extremities in inset relation when the ring ends are uncrossed and allowed to resume their normal position.

The holes in the covers and leaves through which the rings are entered are desirably of a size sufficiently greater than the rings themselves to permit free movement of the covers and leaves about the rings which serve as a hinge connection therefor. It is, of course, also necessary that the diameters of the rings should be sufficiently large to accommodate therewithin the edge portion of the covers and leaves, in varying thickness, without substantial interference, otherwise a complete turning movement would be attended with difficulty. With rings of appropriate size to permit the necessary freedom of movement on the part of the covers and leaves, there will be a tendency for the rings to incline from the vertical, as suggested in Fig. 7. There is no disadvantage in this provided that the rings be sufficiently light to be easily raised to parallel positions with turning movements of the leaves without appreciable friction therewith, and that the split ends of the rings offer no protruding points to catch upon the leaves as they are turned. According to the present invention, the rings are sufficiently light to shift easily in response to turning movements of the covers and leaves and are, furthermore, so formed as to protect the leaves from contact with the points at the split ends of the rings. This is the more important because the leaves ordinarily used are of paper which is rather weak in tensile strength and so is liable to be torn or injured when moved from one position to another.

The maximum advantage of a note book of the present kind is realized when the book is stood upright upon a desk so as to expose the leaves to view at an angle which is most convenient to the eye. In such position the upper and lower edges of the leaves should be substantially equidistant from the eye of the user. Ordinarily this would require a rather wide spread of the lower edges of the covers upon the desk in order to produce the angle requisite for this purpose. When so spread, however, particularly upon a polished smooth surface of a desk, the covers are apt to slip and keep on spreading so that the entire book will collapse down flat upon the desk. Accordingly there is an angle of repose which is determined in large part by the frictional properties of the covers along their lower edges in engagement with the desk surface. I have found that a much greater advantage of the note books may be obtained by applying to the lower edges of the covers a friction material having, by preference, a rubber content. One way of applying this material is to arrange a number of the covers in a stack with the edges even and then apply a rubbery material with a brush over the entire surface thus presented. When separated, each cover will carry with it along the treated edge a strip of the friction material which, while scarcely visible to the eye, is sufficient in amount to add appreciably to the anti-slipping properties of the cover. In Fig. 5, the numeral 15 represents the friction material so applied. Accordingly a book, with covers so treated, can be upstood with the covers at a much wider angle than would otherwise be the case.

In Fig. 6, I have shown a modified application of the rubbery material 16 which in this case is adhered to the cover edge as the result of a dipping operation in a pan containing such material to only a shallow depth. This method of treatment has the advantage that some of the material will extend around to lie upon the adjacent faces of the cover instead of being confined to its edge as in the construction of Fig. 5.

It will be found that a note book constructed according to my invention will overcome the principal difficulties that have heretofore attended the use of such books. Because of the absence of projections on the rings forming the hinged connections, because of the light weight of the rings which makes it feasible to enter them in holes of sufficient diameter so that the rings may incline sidewise or upstand in parallelism, as required, it is possible to manipulate the leaves more freely than otherwise, and all without injury or tearing to the leaves or covers. The leaves being suspended so that their lower edges are removed from contact with the desk, when the book is in the position of Fig. 1, their turning may be accomplished with greater facility. And finally, the added advantage of upstanding the book with a greater spread of the covers, but without danger of collapse due to slipping on the desk or table, enables the leaves to be exposed to view at an angle which is most convenient and restful for the eyes of the user.

I claim:

1. A book cover comprising a sheet of relatively stiff material whose edge remote from the hinge end of said cover is coated with a rubbery substance capable of preventing slipping of said cover when stood on said coated edge.

2. A book cover comprising a sheet of relatively stiff material whose edge remote from the hinge end of said cover is treated with a rubbery composition capable of rendering said edge sufficiently adhesive to prevent slipping when said cover is stood on said treated edge.

3. A book cover comprising a sheet of relatively stiff material whose edge remote from the hinge end of said cover is provided with a body of anti-slipping material having a thickness substantially equal to the thickness of said cover at said edge.

4. A note book having covers composed of rela-

tively stiff material adapted to be turned relative to their hinge to form an easel support for the leaves, and the edges of said covers remote from the hinge having incorporated therein a rubbery substance adapted to engage non-skiddingly with a horizontal surface upon which the book is stood.

5. A note book having covers composed of relatively stiff material adapted to be turned relative to their hinge to form an easel support for the leaves, and a layer of non-skid friction material of substantially the thickness of said covers on said cover edges remote from the hinge adapted to resist slipping of the covers when functioning as an easel support.

THOMAS J. SALSMAN.