May 22, 1973

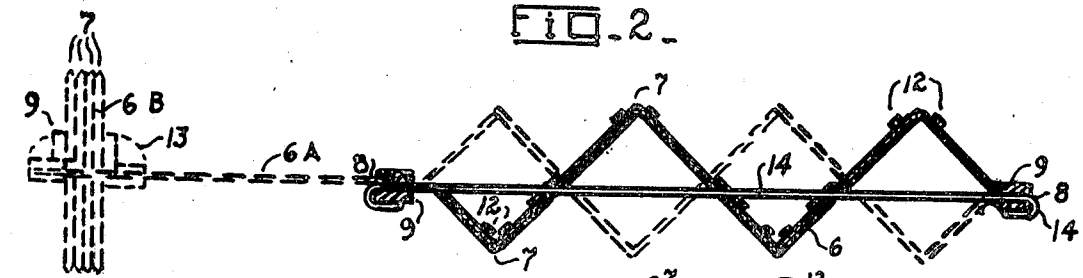
R. ELLIS

3,734,809

MEANS FOR MORE CONVENIENTLY PERUSE FROM A LARGE SHEET OF PAPER

Filed Aug. 26, 1971

FIG. 2.



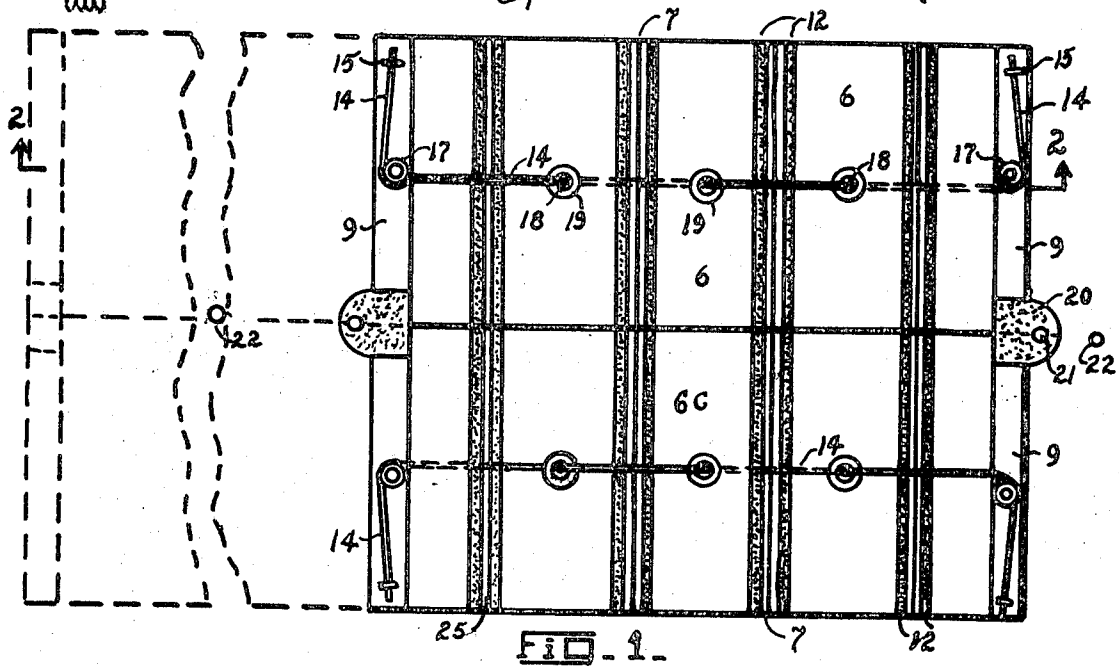


FIG. 1.

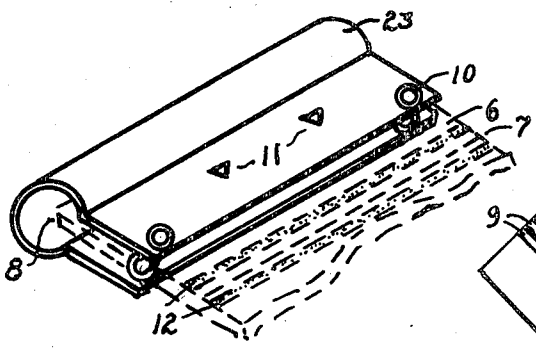
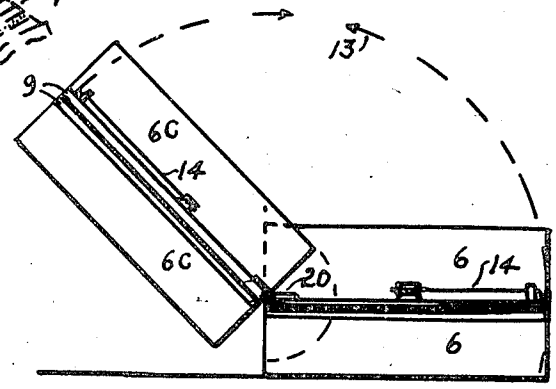


FIG. 5.

FIG. 3.



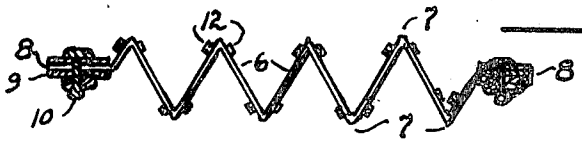


FIG. 4.

INVENTOR.

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3,734,809

MEANS FOR MORE CONVENIENTLY PERUSE FROM A LARGE SHEET OF PAPER

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Int. Cl. B32b 3/10
U.S. Cl. 161—17 1 Claim

ABSTRACT OF THE DISCLOSURE

A means for more conveniently permitting the user to peruse information from a large sheet of paper such as an auto-map and incidentally fold it into closed position without crumpling or tearing the map. Also, as a new article of manufacture, a hand grip which will removably secure the opposite edges of the map.

This invention relates to the more convenient reading of larger sheets of paper such as auto-road maps, blue prints, marine charts, etc., the sheet being creased accordion style so as to fold the resulting panels one over the other to form a compact space when in disuse.

When such a sheet is used, such as the cutomary auto-road map for example, there is first the trouble of holding the map taut for full view thereof and when correct folding is attempted, the upstanding creased projections will generally begin to buckle and the map becomes improperly folded so that time is consumed to correct the difficulty and the map is torn and discarded. My invention overcomes these difficulties by providing means for first holding the entire area of the map in a flat perspective and then automatically closing the sheet at the creases in perfect registration.

Other and further objects will appear in the specifications and be specifically pointed out in the appended claims, reference being had to the accompanying drawings exemplifying the invention and in which;

FIG. 1 is a flat, partially open view of the sheet.

FIG. 2 is a longitudinal section of FIG. 1 on line 2—2 thereof.

FIG. 3 is an end view of FIG. 1 showing how the sheet may be further compacted.

FIG. 4 is a side view of the sheet when partially open.

FIG. 5 is an isometric view of a removable end sheet holding hand grip.

Referring to the drawings in which like numerals and characters refer to similar parts throughout the several views, the numeral 6 denotes a single sheet of paper provided with creases 7, preferably parallel and the same distance apart so that the resulting accordian type folds or panels register when the sheet is folded as illustrated in FIGS. 2 and 4. The two opposite edges 8 of the sheet are secured by rigid hand grips 9, the edges being either glued thereto, if the hand grips are made from cheap material such as cardboard or wood, or by snap fasteners 10 or sharp prongs 11 when the sheet 6 may be removed from the hand grips 9 as shown in FIGS. 4 and 5.

In order to prevent the sheet 6 from buckling at the creases 7 when closing, I provide reinforcing strips 12 close to and one on either side of the creases 7, preferably composed of the dried deposit of originally liquid resin or similar material, which is easily deposited onto the sheet 6 as by printing and quickly dried by a blast of hot air. It will be apparent that the now more rigidly reinforced sheet 6 will tend to fold at the creases 7 when closing into folded position as indicated by the dotted lines 6B in FIG. 2. The resin of the reinforcing strips 12 may be transparent so that the printed inscriptions on the sheet 6 may be visible.

To automatically retract the open sheet 6 into folded position I provide a rubber band 14 which is secured at each end to hand grips 9 by staples 15, the rubber band then passing around guides 17 and through registering holes 18 in the center of panels of sheet 6 as better shown in FIG. 1. The holes 18 are reinforced by transparent plastic gummed washers 19 so as not to tear the paper of which sheet 6 is generally composed. By registering holes 18, it will be apparent that the rubber band 14 can be easily threaded or inserted through holes 18 while the panels of sheet 6 are closed as indicated by the dotted lines 6B of FIG. 1. The extended ends of the rubber band 14, between the staples 15 and guides 17 will be only under a slight tension when the sheet is folded as at 6B and incidentally provides sufficient extra length not to stretch the rubber band too much when the sheet 6 is fully open, it being understood that the tension of the rubber band 14 is to keep the sheet 6 in normally closed position. The use of the rubber band 14 keeps the sheet 6 foldable on the creases 7 regardless of the use of the re-inforced strips 12 but both features used together, as illustrated in FIGS. 1 and 2 will provide a longer lasting device.

Where the sheet 6 must cover a wider area in a vertically disposed direction, an additional similar sheet 6C is provided, having the same characteristics as sheet 6, sheet 6C being disposed adjoining sheet 6 as illustrated in FIG. 1. In this case the two adjoining hand grips 9 are hinged together by the flexible hinge 20 through the use of which the two sheets 6 and 6C may be superimposed as illustrated in FIG. 3 , the "flop over" operation preferably occuring while the sheets are partially in closed position so that the upturned fold of sheet 6 will fit into the depressed fold of sheet 6C and vice versa, as will be readily understood. The two sheets may then be closely compacted together with both hand grips 9 also superimposed to form a small easily handled package adapted to fit into the glove compartment of an automobile or other suitable location. The hinge 20 may be made of flexible cloth glued on one side to the hand grips 9. A hole 21 is located in each hinge 20 to fit over the peg 22 so as to permit the reader to view the map or other information without the annoyance of holding it in open position.

In some cases it may be desired to retain the hand grips 9 in which case the sheets 6 are made removable, see FIG. 5, and in which event the hand grip 23 is preferably made of thin spring sheet material and provided with means for temporarily securing the edge of sheet 6 from its normally tensioned open position, the snap fasteners 10, when closed onto each other, securing the sheet as illustrated. Numeral 13 indicates arc of swinging sheets 6 and 6C.

From the foregoing description it will be apparent that I have evolved a more convenient method and device for reading inscriptions on a larger sheet of paper than usual and to automatically close the open sheet into a small compact conveniently stored location as well as to provide a new article of manufacture by the use of a hand grip to which such larger sheet of paper may be conveniently attached and removed. The crease in the paper 6 may be automatically made by simply permitting a narrow space 25 between the strips 12 as indicated in FIG. 1.

I claim:

1. A comparatively large sheet of rectangularly shaped paper provided with reading matter on one or both sides thereof, rigid strips, one of said strips secured to each opposite side of said sheet of paper, the said sheet of paper being provided with creases, said creases being parallel to said strips, said creases being the same distance apart, apertures in said sheet, said apertures being centrally disposed between said creases, and a rubber band, said rubber band being strung through said apertures so as to

create an accordion-like fold in said sheet when said rubber band is released from tension.

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156—70, 92; 160—84, 348; 161—39, 48, 60, 112, 132