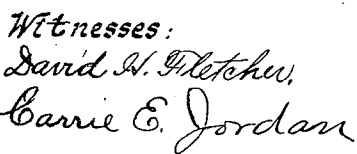


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Inventor:
Louis L. Korsch.
By Harry Irvin Cromer.
Attorney.

UNITED STATES PATENT OFFICE.

LOUIS L. KORACH, OF CHICAGO, ILLINOIS.

FAN.

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To all whom it may concern:

Be it known that I, LOUIS L. KORACH, a citizen of Austria-Hungary, residing in Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fans, of which the following is a specification.

This invention relates to that class of fans having a handle and folding, adjustable, or relatively movable leaves, sections, or parts.

The principal object of the invention is to provide a novel, simple, economical and efficient fan or device adapted to be spread, collapsed, or operated in a novel manner, or in a manner which will have a tendency to attract attention, or adapted to cause surprise or interest, or create diversion, or to alternately conceal and reveal, or exhibit in a conspicuous manner an advertisement, word or words, picture, device or object on or forming a part of the device, or to which attention is called thereby.

Other and further objects of the invention will appear from an examination of the following description and claims, and the drawing herein referred to and made a part hereof.

The invention consists in the features, elements, combinations, and details of construction herein described and claimed.

In the accompanying drawing Figure 1 is a view in side elevation of a fan constructed in accordance with my improvements, with one side of the handle, casing, or rigid frame removed; Fig. 2, a vertical elevation of the same showing the narrow side or edge of the fan, with the parts in the position indicated in Fig. 1; Fig. 3, a view in side elevation, with one side of the handle, or rigid frame portion removed, and showing the leaves or side sections extended or spread, and the operating mechanism in corresponding position—the rotatable central section being exposed; Fig. 4, an enlarged detail view in elevation of the sliding operating member or non-rotatable sliding nut and spring by means of which the relatively movable sections and the screw are operated; Fig. 5, a horizontal sectional view of the operating member shown in Fig. 4, and Fig. 6, an enlarged detail view in side elevation of the upper portion of the handle or casing and the mechanism contained therein.

In constructing a fan in accordance with my improvements I provide a handle or rigid casing *a* which is hollow and formed

preferably of two sheet-metal casing members *b* and *c* having overlapping edges secured together by means of solder or in any desired, ordinary, or well known manner. Each of the members forming the handle, casing, or rigid frame portion of the fan has a relatively wide, and preferably flat upper portion *d* and *e* respectively. These relatively wide upper portions of the casing or handle are preferably in parallel relation to each other and are adapted to provide a space therebetween, and the top and lateral edges of said portions *d* and *e* are separate and adapted to provide unobstructed lateral openings therebetween through which extend the vertically swinging or laterally spreading sections, vanes, blades or leaves *f* and *g*. The lower ends of the members *f* and *g* are pivotally mounted between the forked upper casing or frame portions *d* and *e* by means of pivots *h* and *i* respectively, and are thus adapted to be swung in a vertical plane to collapsed or folded, raised, or relatively upright position, as shown in Fig. 1, and to lowered, laterally extended or spread position, as shown in Fig. 3. When the members, leaves or sections *f* and *g* are in folded or collapsed position, as shown in Fig. 1, their inner edges *j* and *k* overlap each other, and also overlap and conceal between said members the rotary leaf, vane, blade, or fan member *l*. When the members *f* and *g* are in spread, or extended position, as shown in Fig. 3, their inner or upper edges are separated sufficiently to uncover and expose preferably the entire member or leaf *l*. With the members *g* and *f* in spread or extended position and the inclined bottom edges *m* out of engagement with the vertically swinging members, the member *l*, which is mounted upon and in fixed relation to a vertical rotatory rod *n*, is free to be rotated in a horizontal plane with and by means of the latter.

The rotary leaf or section *l* is secured to the upper end of the rod *n* by means of a metallic clip *o*. This rod is preferably angular in cross section, as indicated in Fig. 5, and its lower portion is twisted so as to form a helical screw or threaded portion *p* of preferably greater cross-sectional area than the upper portion of the rod. A perforated inwardly projecting lug or tongue *q* forms a bearing and support for the shouldered bottom end of the rod which extends through and is rotatably supported by said tongue

or projecting arm. This tongue or projection is formed by cutting and bending inward a strip or section of the sheet metal which forms the casing or handle. Forked or grooved tongues *r* and *s*, formed preferably in a similar manner serve as guides for the upper portion of the rod *n*. Inwardly projecting guiding arms or tongues *t* and *u*, also formed preferably in the same manner, serve as guides for the links *v* and *w* respectively. The upper ends of these links are pivotally connected with the leaves or wings *f* and *g* respectively by means of pivots *y*, and the lower free ends of said links are each provided with a laterally projecting pin or stud *z* by means of which the links and thereby the leaves or sections *f* are raised and lowered or operated.

In order to provide means for operating the screw *p* so as to cause the leaf or fan section *l* to rotate, and means for operating the leaves or fan sections *f* and *g* by raising and lowering the links *v* and *w*, an operating member or slide is provided which comprises a non-rotatable upwardly and downwardly slidable nut or rotator 2 having an angular perforation 3 through which the rod *o* extends with the edges or threads of the screw portion *p* in position to be turned by sliding the nut or rotator up and down inside of the casing or handle *a*. The nut or rotator 2 is provided with projecting guiding studs 4 and 5, which extend into vertical guiding slots 6 in the casing or handle members *b* and *c* respectively, as indicated in Figs. 1 and 2. The stud 5 is adapted to be moved up and down by the thumb of the operator while the hand grasps the handle. The fan may thus be waved and the member *l* caused to rotate to any desired extent simultaneously with the waving of the fan, both operations being performed by the same hand. The operation of rotating the member *l*, and that of waving the fan may also be performed independently of each other when desired. The operating member or reciprocating slide also comprises a spring 7 which is U-shaped, preferably, and secured to the nonrotatable nut or sliding rotator 2 by means of rivets 8, or in any similar or ordinary manner. This spring is perforated, as shown in Fig. 5, so as to admit the rod *n*, and its upwardly extending side portions 9 are bent so as to form laterally projecting rounded shoulders or bosses 10 which are adapted to yieldingly engage the studs or pins *z* of the links *v* and *w* respectively. The outward movement of the links, at their lower ends is limited by the guides *t* and *u* already described. The top ends of the spring 7 are inclined inward on opposite sides of the rod *n* so as to engage and pass between the studs *z* during the upward movement of said spring. A tension spring 11, having its upper end secured to a sta-

tionary or rigid member, such as the tongue *r* and its lower end connected with the operating slide, may be mounted in position to encircle the rod *n* and draw the sliding operating member or nonrotatable nut 2 and spring 7 upward to the position shown in Fig. 1, after said parts have been moved downward to or beyond the position shown in Fig. 3, and released. This upward movement of the rotator 2 and spring 7 may be performed manually, however. Clips 12, formed preferably of sheet metal, clasp the edges of the members *f* and *g*, which may be formed of card-board or similar light material. These metallic clips serve to strengthen the leaves or sections and to form durable bearings and metallic reinforcing rims or borders for any desired portion of the edges of the sections of which said clips form a part or to which they are secured.

The operation of the device will be readily understood from the above description. The parts being in normal or initial folded or collapsed position as shown in Fig. 1, the member *l* is concealed between the sections *f* and *g*. By moving the operating member or slide comprising the rotator 2 and spring 7 downward to the position shown in Fig. 3, the side leaves or sections *f* and *g* are spread and their swinging ends lowered so as to expose and permit the rotation of the rotary leaf or section *l*. By continuing the downward movement of the parts 2 and 7, the screw *p* is engaged and caused to turn, thereby causing the section *l* to rotate. By reversing the direction of movement of the members 2 and 7, the direction of rotation of the part *l* is reversed, and by returning the members 2 and 7 from the position shown in Fig. 3 to the position shown in Fig. 1, either manually or by means of the spring 11, the sections or leaves *f* and *g* are raised and folded or collapsed, or, in other words, returned to the position shown in Fig. 1, so as to conceal the part *l*. The upper edges *j* and *k* of the side leaves or wings are adapted to engage the lower inclined edges *m* of the rotary leaf or section *l* and turn the latter part way around, when required, to a position parallel with the side leaves or wings, so that they may readily pass on opposite sides of the rotary leaf or wing to folded, collapsed or initial position. When the side leaves or wings are spread the rotation of the central leaf may be performed without affecting the position of the side leaves. The rotation of the center leaf may also be accomplished by a continuation of the same movement of the thumb of the operator and the same movement of the operating member 2 and its spring 7 which causes the spreading of the side leaves. Likewise, the collapsing of the side leaves and the rotation of the center leaf may both be accomplished by a continuation

of the same upward movement of the sliding operating member which, as described, comprises the parts 2 and 7.

I claim:—

5 1. In a device of the class described, the combination of a handle, a plurality of side leaves supported by the handle and movable with respect to each other, a rotary leaf supported by the handle, means for spreading the side leaves, and means for rotating the rotary leaf.

2. In a device of the class described, the combination of a handle, pivoted leaves supported by the handle, a rotary leaf, means for rotating the rotary leaf, and means for moving the pivoted leaves in a plane at an angle to the plane of rotation of the rotary leaf.

3. In a device of the class described, the combination of a handle, a leaf pivotally connected with the handle, a rotary leaf supported by the handle, means for rotating the rotary leaf, and means for moving the pivoted leaf in a direction different from the direction of movement of the rotary leaf.

4. In a device of the class described, the combination of a handle, a plurality of side leaves supported by the handle and in movable relation to each other, means for moving said side leaves to and from extended and collapsed positions respectively, an intermediate leaf adapted to be rotated when the side leaves are in extended position, and means for rotating the intermediate leaf.

5. In a device of the class described, the combination of a handle, a plurality of leaves pivotally connected with the handle, and adapted to swing in a plane parallel with the longitudinal center of the latter, a rotary leaf, and means for rotating said rotary leaf.

6. In a device of the class described, the combination of a casing adapted to form a handle, a plurality of leaves pivotally connected with the casing, a rotary leaf, means for reciprocating said pivoted leaves, and means for rotating said rotary leaf.

7. In a device of the class described, the combination of a casing adapted to form a handle, a plurality of leaves pivotally connected with the casing, a rotary leaf mounted intermediate said pivoted leaves, and an operating member mounted in the casing and operatively connected with the rotary leaf, said operating member being also adapted to operate the pivoted leaves.

8. In a device of the class described, the combination of a casing adapted to form a handle, a plurality of leaves connected with the casing and movable with respect to each other to and from extended and collapsed positions respectively, a rotary leaf mounted between and adapted to be concealed by said relatively movable leaves when the latter are

in collapsed position, said rotary leaf being adapted to rotate when the other leaves are in extended position, and means for operating said leaves.

9. In a device of the class described, the combination of a casing adapted to form a handle, a pivoted leaf supported by said casing, a rotary leaf, a rod rotatably mounted in the casing and connected with the rotary leaf and having a screw portion, a non-rotatable nut slidably mounted in the casing and in engagement with the screw portion of the rod, and means for operatively connecting said pivoted leaf with said non-rotatable nut.

10. In a device of the class described, the combination of a casing adapted to form a handle, a rotary leaf, a screw rotatably mounted in the casing and operatively connected with said rotary leaf, a non-rotatable sliding nut adapted to engage said screw, pivoted leaves on opposite sides of said rotary leaf, and means for operatively connecting the pivoted leaves with the sliding nut.

11. In a device of the class described, the combination of a casing adapted to form a handle, a rotary leaf, a screw rotatably mounted in the casing and operatively connected with said rotary leaf, a pivoted leaf, a sliding operating member movable longitudinally of the casing in engagement with said screw, and means for operating said sliding operating member.

12. In a device of the class described, the combination of a casing, a plurality of side leaves pivotally connected with the casing, an intermediate leaf, means for rotatably supporting said intermediate leaf, an operating member movable longitudinally of the casing, means for operatively connecting said pivoted leaves with said operating member, and means for operatively connecting the intermediate rotary leaf with said operating member.

13. In a device of the class described, the combination of a casing adapted to form a handle, a plurality of side leaves pivotally connected with the casing, an intermediate leaf rotatably supported by the casing, a screw operatively connected with the rotary leaf, a sliding nut in engagement with said screw and movable longitudinally thereof, a link connected with each of the pivoted side leaves, and means movable with the nut for operating said links and thereby the pivoted side leaves.

14. In a device of the class described, the combination of a casing adapted to form a handle, a plurality of side leaves pivotally connected with the casing, an intermediate leaf mounted between and detached from the pivoted side leaves and adapted to be rotated when the side leaves are in extended position and to be concealed by the side leaves when the latter are in folded or raised position, a

- screw operatively connected with the rotary leaf, an operating member movable longitudinally of and in engagement with the screw for rotating it and thereby the rotary
- 5 leaf, means for operatively connecting the pivoted side leaves with said operating member, and a spring in operative engagement with the operating member and connected with the casing.
- 10 15. In a device of the class described, the combination of a casing, a plurality of side leaves pivotally connected with the casing, an intermediate leaf, means for rotatably
- supporting said intermediate leaf, a screw operatively connected with the intermediate 15 leaf for rotating it, a non-rotatable nut in engagement with and movable longitudinally of the screw, links connected with the pivoted side leaves, and means on the nut and movable into and out of operative en- 20 gagement with said links, for operating the latter and thereby the pivoted leaves.
- LOUIS L. KORACH.
- Witnesses:
HARRY IRWIN CROMER,
CARRIE E. JORDAN.