Nov. 16, 1943. A. VALLONE 2,334,298

COMBINATION DISPLAY FAN

Filed Dec. 29, 1942 2 Sheets-Sheet 1

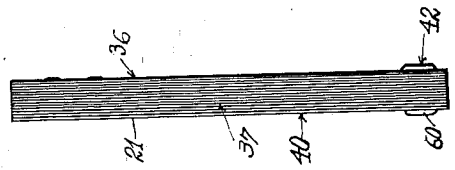


Fig. 7.

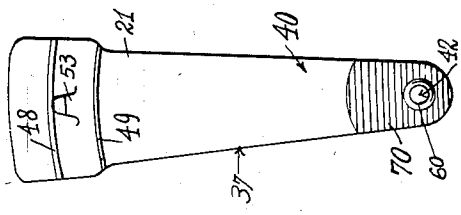


Fig. 1.

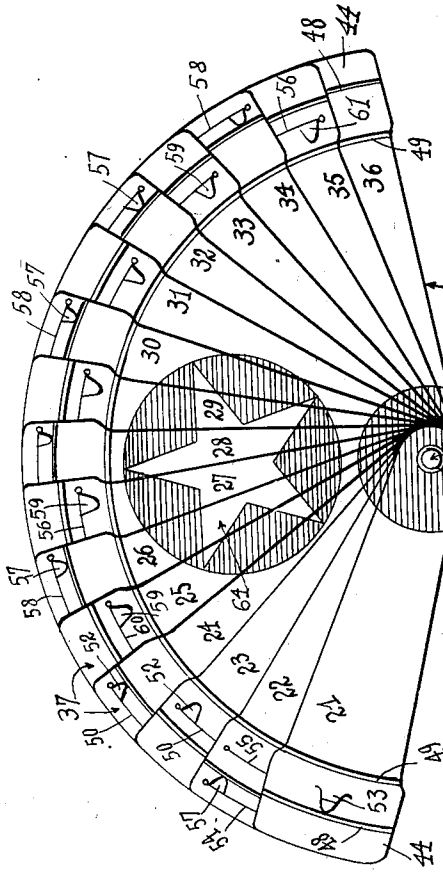


Fig. 2.

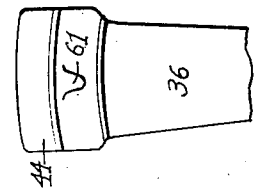


Fig. 12.

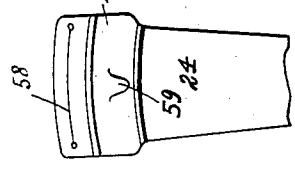


Fig. 11.

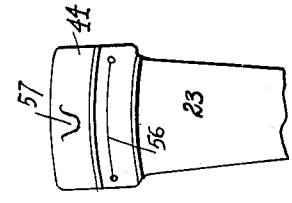


Fig. 10.

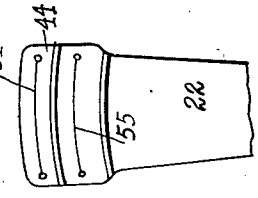


Fig. 9.

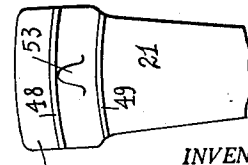


Fig. 8.

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COMBINATION DISPLAY FAN

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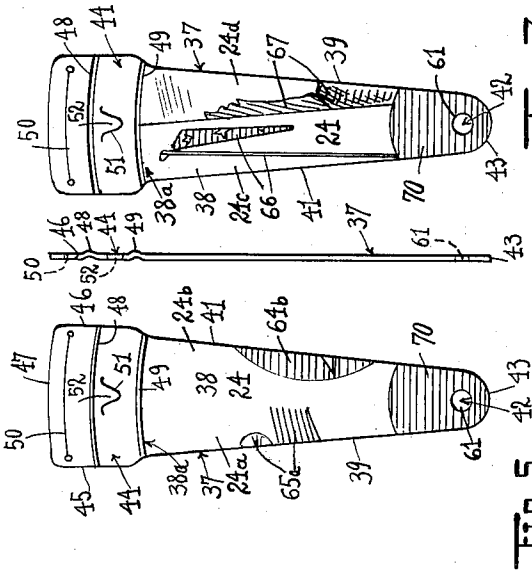


Fig. 7.

Fig. 6.

Fig. 5.

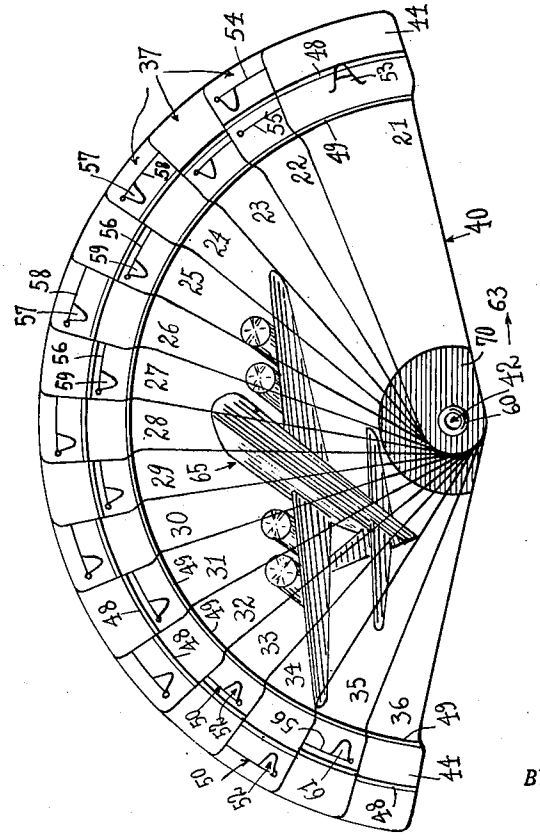


Fig. 4.

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2,334,298

UNITED STATES PATENT OFFICE

2,334,298

COMBINATION DISPLAY FAN

Antonio Vallone, New York, N. Y.

Application December 29, 1942, Serial No. 470,507

4 Claims. (Cl. 230—269)

This invention relates to hand fans or ladies' fans, and has for its main object to provide a fan of this type which will have a novel esthetic effect.

The underlying idea of this invention is to arrange fragments of two desired designs or pictures on the leaves or elements of the fan in such a manner that upon the opening of the fan in one direction some of said fragments will show one certain design or picture, and upon the opening of the fan in the other direction, other fragments on the elements of the fan will show another design or picture. By arranging fragments of two other designs or pictures on the rear of the said elements of the fan, and opening of the fan in two directons from the rear, said fragments on the rear thereof will add up into two more respective designs or pictures, so that my novel fan will be adapted to display four different interesting designs or pictures upon the four different ways of opening and viewing the same.

An object of my invention is to provide a fan of the character indicated, which not only will have a novel esthetic effect but which also may serve as an interesting amusement device, and will be particularly adapted for advertising purposes, displaying various pictures and slogans on the various openings and views of the same, thereby attracting the interest of the user to the matter desired to be advertised or publicised, and aiding in fixing and retaining the matter in his memory.

Other objects of this invention will be apparent as the specification of the same proceeds, and, among others, I may mention: to provide a device as indicated hereinbefore, which will have a simple construction, will be inexpensive to manufacture, and adapted to mass manufacturing, and which will be reliable and simple in operation, the individual leaves or members of the fan being reliably guided in their various movements, and each having a strong support overlapping at least one half of the underlying respective leaf in any position.

In the drawings forming a part of this specification, and accompanying the same:

Fig. 1 is a plan view of one embodiment of my novel fan in a closed position, and

Fig. 2 is a side view thereof;

Fig. 3 shows the fan of Fig. 1 in an open position, the opening up having been executed in a left hand direction when looking at said figure;

Fig. 4 shows the fan in an open position when the opening has been executed in the right hand direction looking down upon Fig. 1;

Figs. 5 and 7 are front and rear plan views, respectively, of one element or leaf in my novel fan, and

Fig. 6 is an end view thereof;

Figs. 8 to 12 show the upper or outer portions or heads of the five type of leaves used in the construction of my fan.

Referring now to the drawings more in detail by characters of reference, the numeral **40** indicates my fan in general, being composed, in the embodiment shown in the figures, of sixteen individual leaves or radially arranged elements, being generally indicated by numeral **37**, and the individual leaves being numbered **21** to **36**.

Each individual element generally has the construction indicated in Figs. 5 to 7, and they are made of an appropriate comparatively thin, but rigid stiff sheet material, like cardboard.

Each leaf or element **37** has an elongated main body **38** with the two sides **39** and **41** converging towards the direction of the center or pivot **42** of the fan. Each leaf is terminated around the pivot by a circular portion **43**.

The outer portion or head **44** of each leaf is somewhat wider than the widest outermost end **38***a* of the main body, and has the two straight sides **45** and **46**, and the outer or top side **47**, formed as an arc of a circle described from the pivot **42**.

Each individual leaf may have the reinforcing and ornamental depressions **48** and **49**, also formed as arcs of circles around the pivot **42**.

Every leaf, with the exception of the two end ones, and the second when viewed in Fig. 3, as will be described hereinafter, shows a slot or incision **50**, also formed on the lines of arcs of circles around said pivot, and another incision **51** by which an ear **52** is separated from the material of the leaf **37**.

It also will be noted, however, that in the remaining thirteen leaves, aside of the mentioned three differently constructed ones, the slots **50** and ears **52**, are placed alternately, the slot being on the outer side, and the ear in the inner side, in one leaf, and the same two devices being in a reverse order in the next one.

In Fig. 8, I show, in a fragmentary manner, the outer or head portion of the first or top leaf **21** as seen in Fig. 3. Said first or top leaf **21** will have an ear **53** pointing upwardly, in a reverse direction as the one shown in Figs. 5 and 7, and being arranged on the inner side of the head **44**, nearer the center or pivot of the fan. No slot is provided in said first or top leaf **21**.

The head or leaf **22**, adjacent to said top one,

is shown in Fig. 3, and the same also is an exception from the general construction of the leaves, this one not having any ear, but two slots 54 and 55, arranged adjacent to the inner and outer ends thereof, respectively.

The head of leaf 23 is indicated in Fig. 10, and it is one of the heads or tops of the average leaves used in my novel device, having a slot 56 arranged on the inner side of its head 44, and a downwardly pointing ear 57, arranged nearer to the outer circumference of the head.

In Fig. 11, the head of the next leaf 24 is indicated, which shows the top of the other type of average leaves, having a slot 58 on the outer side, and a downwardly pointing ear 59 on the inner side of its head 44.

The remaining average leaves, 25 to 35, are alternately identical to leaves 23 and 24, respectively.

As will be seen from the drawings, the leaves are assembled in such a manner, that they may rotate around the pivot 42, for which purpose they are secured together by a tubular rivet 60 at that place, each having a hole 61 in the center of its circular lower end 43 for this purpose.

In the average leaves, every upper ear 57 is passed through the upper slot 58 in the leaf proceeding the same, while every lower ear 59 is passed through the lower slot 56 in the leaf in front of it, as will be particularly observed in Fig. 3, and as will be obvious.

In this manner a sliding interconnection is provided between the heads on the adjacent leaves, so that the leaves may slide upon one another in a lefthanded or right handed direction, as desired, rotating on the pivot 42, and the various ears sliding in the respective slots, thereby forming a permanently connected secured but slidable chain of the leaves.

It also will be observed that the ears 57 and 59 are placed in about the center lines of the respective leaves, by which arrangement said leaves may move upon one another, half of their widths only, in both, the left handed, and the right handed, directions.

Leaf 22, as has been mentioned, has two slots, 54 and 55, and the ear 57 of the leaf 23 back of it, will slide in the upper or outer slot 54, while the upwardly pointing ear 53 of the first or front cover leaf 21 will slide in the lower slot 55 of said second leaf 22.

The rear cover or last leaf 36 will have no slots, only an ear, like the front leaf 21, but its ear 61 is turned downwardly, and placed in the center of the lower part of the center of its head 44, and it will engage the slot 56 in the next preceding leaf 35.

My fan may be opened in a left handed direction, as indicated by the arrow 62, and Fig. 3 shows its fully open position after such a movement.

The fan also can be opened in an opposite, right handed direction, as indicated by the arrow 63, in which case the front or top cover leaf 21 will move to the right end of the open or extended fan, and the lowermost rear or bottom cover leaf 36 will remain at the left end thereof, as is shown in Fig. 4.

When the fan is opened in a left handed direction, to the position of Fig. 3, a certain design will appear at its exposed top, the one indicated in said figure being in the form of a five pointed blue colored star 64, which is the emblem of the United States Air Force. It is understood that portions of any other design or picture and in any other colors may be arranged on the leaves instead of portions of said five pointed star, and the open fan will show that design or picture.

When the fan is opened in an opposite, right handed direction, as indicated in Fig. 4, in the embodiment shown, the picture 65 of an airplane will appear.

In Fig. 5, I show the top or exposed surface, corresponding to Fig. 3, of one leaf, being the one numbered 24 in the figures.

On the left hand side 24*a* of said top a respective fragment 65*a* of the picture of the airplane will be painted, while on the right hand half 24*b*, a fragment 64*b* of the star 64 will be arranged.

By judicious arrangement of portions of the desired pictures on the left hand and right hand halves of the tops of the other respective leaves, the two pictures will be shown upon the right handed and left handed openings of the fan.

It also will be understood that fragments of two other pictures may be arranged on the rear side of the leaf 24, as indicated in Fig. 7. On the left hand half 24*c* of it a portion 66 of the American flag is shown, while on the right hand half 24*d*, a portion 67 of the picture of an army tank is arranged, so that a right handed full opening of the fan, viewed from the rear side thereof, will develop the picture of the United States flag, while a left handed opening and view from the rear side of the fan will develop the picture of an army tank.

The open positions of the fan, viewed from the rear, are not shown in the drawings since they would be identical with Figs. 3 and 4, respectively, with the exception that leaf 36 will then be the top one, at the left, and leaf 21 will then be the last one, at the right, the arrangement of the intermediate leaves being the reverse, and, of course, the two pictures shown will be different.

The pictures of the flag, and the tank, respectively, will be shown when the fan is fully opened in the respective directions, as will be obvious, and they are not fully shown, as mentioned, for the sake of simplicity and clearness in the drawings, and not being needed.

It also will be obvious that additional ornaments may be arranged in fragments on both faces of the fan, like the blue circular portions 70 around the pivot 42, and that the heads 44, and other parts may be colored differently to enhance the beauty and esthetic appeal of the fan.

It will be seen, that I provide a novel fan which may easily be opened in either direction, will be strong and safe, in operation, as its leaves are always overlapping with half of their widths, and are permanently interconnected. My fan will smoothly slide into its open or closed positions, and, by the described manipulations, may show four different pictures.

My fan is not only useful for the purpose of a usual fan, but it is, in a way, an interesting plaything, and may be used for advertising, and propaganda, or purposes of publicity, by arranging various pictures and slogans on the faces thereof, to be developed by its various openings, thereby producing four striking independent effects upon the four ways of manipulating the fan.

I also may have two or more fans of my invention in combination, as, for instance, in a show window display in a business, in which the various fans, one back of the other, are continually moved in right hand or left hand directions, only one being operated at one time and

the rest being closed, always clearing the view for the one in operation.

This various moving, opening, closing, and resting of the several fans in combination, one back of the other, may be executed by an electric motor, or other device, appropriately controlled, reversed, or stopped, as necessary.

What I claim as new, is:

1. In a fan having a plurality of flat individual leaves of substantially identical contour, rotatable on a pivot at the one end of said leaves, so that they may be closed one upon the other, only the top one showing, or they may be opened in a right handed or left handed direction, the leaves having alternate outer, respectively inner, ears separated from their material, and inner, respectively outer, corresponding transverse slots, each ear being adapted to slide in the slot of an adjacent respective leaf, whereby said leaves may rotate on said pivot, and at the same time may be interconnected and slide one upon the other, said slots covering the widths of the leaves, with the exception of intact end portions, and said ears being arranged substantially in the center lines of said leaves, so that said leaves may be opened in each direction to one half of their widths only, whereby at least one half of the widths of the leaves will be overlapping in every position of the fan; fragments of two designs or pictures arranged on the respective right and left half of the exposed surface of each leaf, whereby upon the opening of the fan in one direction one full design will be completed and shown, and upon the opening of the fan in the other direction, the other design or picture will be completed and displayed.

2. In a fan having a plurality of flat individual leaves of substantially identical contour, rotatably on a pivot at the one end of said leaves, so that they may be closed one upon the other, only the top one showing, or they may be opened in a right handed or left handed direction, each alternate leaf having an outer, respectively an inner, ear separated from its material, and an inner, respectively outer, corresponding transverse slot, each ear being adapted to slide in the slot of an adjacent respective leaf, whereby said leaves may rotate, and at the same time may be interconnected and slide one upon the other, said slots covering the widths of the leaves, with the exception of intact end portions, and said ears being arranged substantially in the center lines of said leaves, so that said leaves may be opened in each direction to one half of their widths only, whereby at least one half of the widths of the leaves will be overlapping in every position of the fan, fragments of two designs or pictures arranged on the respective right and left half of the exposed surface of each leaf, whereby upon the opening of the fan in one direction one full design will be completed and shown, and upon the opening of the fan in the other direction, the other design or picture will be completed and displayed, fragments of two further designs or pictures arranged in the respective right hand and left hand halves of the rear surfaces of the leaves, so that on a left handed or right handed opening of the fan, and viewing the same from the rear, two further designs or pictures will be displayed.

3. In a fan having a plurality of flat individual leaves of substantially identical contour, rotatably on a pivot at the one end of said leaves, so that they may be closed one upon the other, only the top one showing, or they may be opened in a right handed or left handed direction, each alternate leaf having an outer, respectively an inner, ear separated from its material, and an inner, respectively an outer, corresponding transverse slot, said ears being adapted to slide in the slots of the adjacent respective leaves, whereby said leaves may rotate and at the same time may be interconnected and slide one upon the other, said slots covering the widths of the leaves, with the exception of intact end portions, and said ears being arranged substantially in the center lines of said leaves, so that said leaves may be opened in each direction to one half of their widths only, whereby at least one half of the widths of the leaves will be in overlapping relation in every position of the fan, and reinforcing transverse indentation in said leaves adjacent to said ears and said slots.

4. In a fan having a plurality of flat individual leaves of substantially identical contour, rotatably on a pivot at the one end of said leaves, so that they may be closed one upon the other, only the top one showing, or they may be opened in a right handed or left handed direction, each alternate leaf having an outer, respectively an inner, ear separated from its material, and an inner, respectively an outer, corresponding transverse slot, each ear being adapted to slide in the slot of an adjacent respective leaf, whereby said leaves may rotate and at the same time may be interconnected and slide one upon the other, said slots covering the widths of the leaves with the exception of intact end portions, and said ears being arranged substantially in the center lines of said leaves, so that said leaves may be opened in each direction to one half of their widths only, whereby at least one half of the widths of the leaves will be in overlapping relation in every position of the fan, said slots being in the form of arcs of circles drawn around said pivot as a center, and reinforcing indentations adjacent to said slots in said leaves, also being in the form of arcs of respective circles drawn around said pivot.

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