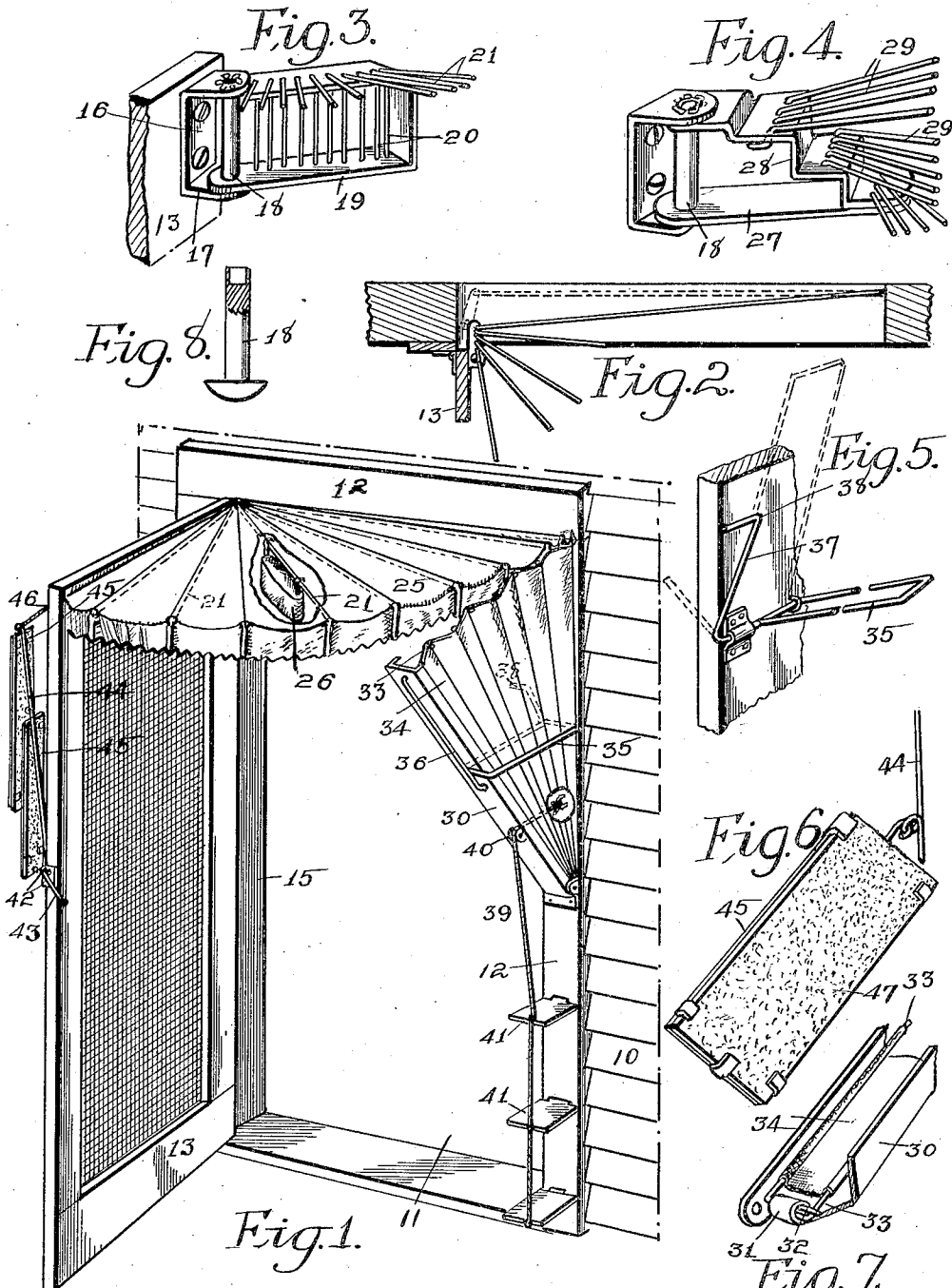


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FLY SCREEN.

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ELIZABETH WHITE, OF BOONE, IOWA.

FLY-SCREEN.

1,057,310.

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To all whom it may concern:

Be it known that I, ELIZABETH WHITE, a citizen of the United States, residing at Boone, in the county of Boone and State of Iowa, have invented a certain new and useful Fly-Screen, of which the following is a specification.

The object of my invention is to provide a fly screen comprising parts designed to be attached to a screen door of ordinary construction, whereby the space between the top of the screen door and the door frame is covered with flexible material when the screen door is open.

A further object is to provide means whereby flexible material may be stretched between the top of a screen door and the top of a door frame when the screen door is open and whereby said material may be folded into compact space when the screen door is closed.

A further object is to provide means for supporting such flexible material, so located and arranged, that the material will not be torn by the movement of the door.

A further object is to provide flexible material and means whereby the same may be stretched outwardly from the top of a door frame when the screen is open, which means is controlled for distending the flexible material when the screen door is open and for folding it up when the screen door is closed.

A further object is to provide a plurality of movable plates along the door frame below said last named flexible material and to provide means for moving the same when the screen door is opened.

A further object is to provide movable plates on the screen door, which would be moved when the screen door is opened to frighten flies which might otherwise enter.

A further object is to provide means on said last named plates to contain disinfecting material.

My invention consists in certain details, in the construction, arrangement and combination of the various parts of my device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows a perspective view of a door frame equipped with a screen door and with a fly screen embodying my invention. Fig. 2 shows a horizontal, sectional view

through the top of the screen door and the door frame with the flexible material removed. Fig. 3 shows a perspective view of the means for supporting the flexible material above the door opening. Fig. 4 shows a perspective view of a modified form of the device shown in Fig. 3. Fig. 5 shows a perspective view of the means for controlling the movement of the flexible material at the side of the door opening. Fig. 6 shows a perspective view of one of the movable plates on the screen door, showing the means for holding disinfecting material. Fig. 7 shows a detail, perspective view of part of the means for supporting the flexible material at the side of the door opening. Fig. 8 shows a side elevation of a bolt whereby the means for supporting the flexible material is secured to the bracket on the screen door.

In the accompanying drawings, I have used the reference numeral 10 to indicate the side of a building in which is a door opening 11 surrounded by a door frame 12 to which is hinged an ordinary screen door 13. Secured to the screen door 13, near the upper end of its hinged side, is a bracket 16 having parallel, horizontal extensions 17 in which are openings which register with each other and are designed to receive a bolt 18. The end of the bolt 18, opposite the head thereon, is hollow and the sides of the hollow portion are split for a short distance as shown in Fig. 8. The bolt 18 is constructed as above described in order that the split end thereof may be easily clenched, as shown in Fig. 3.

Pivotally mounted on the bolt 18 is a supporting frame 19 comprising parallel top and bottom plates and an end plate connecting said top and bottom plates. Rotatably mounted in the top and bottom plates of the supporting frame 19 are a plurality of vertical rods 20, on the upper ends of which are horizontal extensions 21. The rod 21 in the end of the supporting frame 19, farthest removed from the bolt 18, is pivotally secured to the door jamb on the side opposite the hinged side of the screen door as shown in Fig. 2. It will be seen that as the screen door opens or closes, a pivotal movement of the supporting bracket 19 on the bolt 18 is permitted and that the end of the supporting frame 19 opposite the bolt 18 moves on the arc of a circle centered at the point

where one of the rods 21 is pivoted to the door jamb. The purpose of this construction will be hereinafter more fully explained.

Secured to the horizontal extension 21 of the rods 20, is a flexible apron 25. The apron 25 is so secured to the extensions 21, that between each adjacent pair of extensions is a rectangular extension. One of the points of the rectangle is adjacent to the supporting frame 19, and the other points are at the outer ends of the adjacent extensions 21. This construction is clearly shown in Fig. 1 and is for the purpose of permitting the door 13 to be opened thereby forming between the door 13 and the door frame, a canopy by which flies are prevented from flying over the door 13 and into the open doorway. The sections of the flexible apron 25, which may be of any suitable material, are of such width that they are practically taut when the door 13 is open. When the door 13 is closed, the flexible apron 25 is folded into a small space. Detachably supported on one of the extensions 21 is a small bag or receptacle 26 containing disinfectant or perfume.

In Fig. 4 I have shown a modified form of the supporting frame 19 which is indicated generally by the reference numeral 27. The upper part of the frame 27 is extended horizontally from the bolt 18 and is then formed with a vertical shoulder 28 and is then again extended horizontally, then vertically to the lower part of the frame 27. By this construction, steps are made and the rods 29 are mounted in the different horizontal portions of the upper part of the frame 27. The apron 25 is secured to the rods 29 but when the door is closed, the different sets of the rods 29 are arranged one above the other, thereby enabling me to fold the apron into a narrow space even though the screen door is quite wide. Pivoted to the door frame on the side opposite the hinged side of the screen door, is a channel shaped bar 30, on the lower end of which is a portion bent to form a bearing 31. Mounted in the bearing 31 are a plurality of horizontal rods 32, on which are upwardly extending portions 33. Secured to the channel bar 30 and to the rods 33 and to the door frame at the top thereof, is a flexible apron 34 made in rectangular sections so that the apron 34 may drop down like a fan, as shown in Fig. 1 or may be folded up adjacent to the door frame. The weight of the channel bar 30 and the flexible apron 34 is such as to cause the apron 34 to move to its open position by gravity. For closing or folding the apron 34, I have provided the following devices: Pivotaly mounted on the door frame above the pivotal point of the channel bar 30, is a rectangular frame 35 in which are received the channel bar 30, the rods 33 and the flexible

apron 34 as shown in Fig. 1. On the outer surface of the channel bar 30 is a staple 36 in which the outer end of the frame 35 may move freely and which limits the upward and downward movement of said end. Fixed to the inner end of the frame 35 is a crank arm 37, formed on the end of which is a portion 38. The crank arm 37 and the portion 38 extend upwardly and outwardly from the door frame when the apron 34 is extended. The portion 38 stands in the path of the door 13 and when the door 13 is closed, the portion 38 is moved inwardly and upwardly thereby raising the frame 35 and folding or closing the apron 34. Fastened to the door frame, preferably at a point between the pivotal point of the channel bar 30 and the pivotal point of the frame 35 is a rope or the like 39. Mounted in the channel bar 30 is a roller 40, approximately on the same level with the point where the upper end of the rope 39 is fastened. The rope 39 extends over the roller 40 and is dropped downwardly. Pivoted to the frame below the channel bar 30 are a number of plates 41, the outer ends of which are secured to the rope 39. The plates 41 are of such size and the roller 40 is so located that when the apron 34 is extended, the plates 41 are permitted to drop to horizontal position and when the apron 34 is folded up and the channel bar 30 is moved to position adjacent to the door frame, the plates 41 are raised to substantially vertical position against the door frame. Pivoted to the outer side of the door 13 on the free side thereof, is a horizontal rod 42 having a downward and inward extension 43 and an upward and outward extension 44. Hanging on the outward extension are a plurality of plates 45. The weight of the plates 45 and the extension 44 tends to cause the extension 44 to drop downwardly and outwardly. The downward movement of said extension 44 is limited by a cord or the like, 46. The extension 43 is so located that when the door 13 is closed, the said extension is engaged by the door frame, thereby raising the extension 44 and moving the plates 45 to position adjacent to the door frame. Detachably fixed on the plates 45 are devices 47 made of cloth, felt or the like and designed to absorb or contain disinfectants or perfumes.

In practical operation, the devices hereinbefore described are installed on the door frame and on the screen door. When the screen door is closed, the aprons 25 and 34 are folded up out of the way and the plates 41 and 45 are held adjacent to the door frame. When the screen door is opened, the apron 25 is distended. The end of the frame 19 opposite the pivoted end thereof moves on the arc of a circle, the center of which is at the point where the extension 21 is

pivoted to the door frame. Tearing of the apron 25 is thereby prevented. On account of the apron 25, flies or insects cannot fly over the screen door 13 and downwardly through the doorway. The apron 34 falls open by gravity and prevents the entrance of flies near the upper end of the doorway. The movement of the plates 41 and 45 will frighten away flies and prevent their entrance for a short time. Disinfectant or the like may be placed in the receptacle 26 and the devices 47.

I claim as my invention:

1. In a device of the class described, the combination of a door with a bracket mounted thereon, parallel horizontal extensions on said bracket, a bolt extended through said extensions, the end of said bolt being hollow and provided with longitudinal slits, a frame pivotally mounted on said bolt and a plurality of horizontal rods pivotally secured to said frame.

2. In a device of the class described, a flexible apron secured to the side of a door frame, said apron being arranged to drop to open position by its own weight, and means whereby the closing of a door moves said apron to position adjacent to the door frame.

3. In a device of the class described, a bar pivoted to a door frame and extending upwardly, the lower part of said bar forming a horizontal bearing, a plurality of rods mounted in said bearing, an upward extension formed on each of said rods, a flexible apron mounted on said bar and on said rods and designed to be secured to a door frame, a frame pivoted to the door frame and designed to receive said apron, said rods and said bar, means for limiting the movement of said last named frame and means whereby said apron is moved to folded position adjacent to the door frame by the closing of the door.

4. In a device of the class described, a bar pivoted to a door frame and extending upwardly, the lower part of said bar forming a horizontal bearing, a plurality of rods mounted in said bearing, an upward extension formed on each of said rods, a flexible apron mounted on said bar and on said rods and designed to be secured to a door frame, a frame pivoted to the door frame and designed to receive said apron, said rods and said bar, means for limiting the movement of said last named frame and means where-

by said apron is moved to folded position adjacent to the door frame by the closing of the door, said means comprising an arm on said last named frame, designed to stand in the path of a door when said apron is extended.

5. In a device of the class described, a bar pivoted to a door frame and extending upwardly, the lower part of said bar forming a horizontal bearing, a plurality of rods mounted in said bearing, an upward extension formed on each of said rods, a flexible apron mounted on said bar and on said rods and designed to be secured to a door frame, a frame pivoted to the door frame and designed to receive said apron, said rods and said bar, means for limiting the movement of said last named frame and means whereby said apron is moved to folded position adjacent to the door frame by the closing of the door, a rope designed to be secured to the door frame and extended through said bar, a plurality of plates designed to be pivoted to a door frame below said apron and to stand in horizontal position when said apron is open and to be drawn to position adjacent to a door frame when the apron is in its folded position.

6. In a device of the class described, the combination of a door with a rod rotatably mounted on the door frame, upward and downward extensions on said rod, said extensions being so formed that the downward extension engages a door frame when the door is closed and raises the upward extension to position adjacent to the door, and a plurality of dependent plates hung on said upward extension.

7. In a device of the class described, the combination of a door with a rod rotatably mounted on the door frame, upward and downward extensions on said rod, said extensions being so formed that the downward extension engages a door frame when the door is closed and raises the upward extension to position adjacent to the door, a plurality of dependent plates hung on said upward extension and detachable devices mounted on said plates for containing disinfectant.

Des Moines, Iowa, May 8, 1912.

ELIZABETH WHITE.

Witnesses:

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T. E. MEANS.