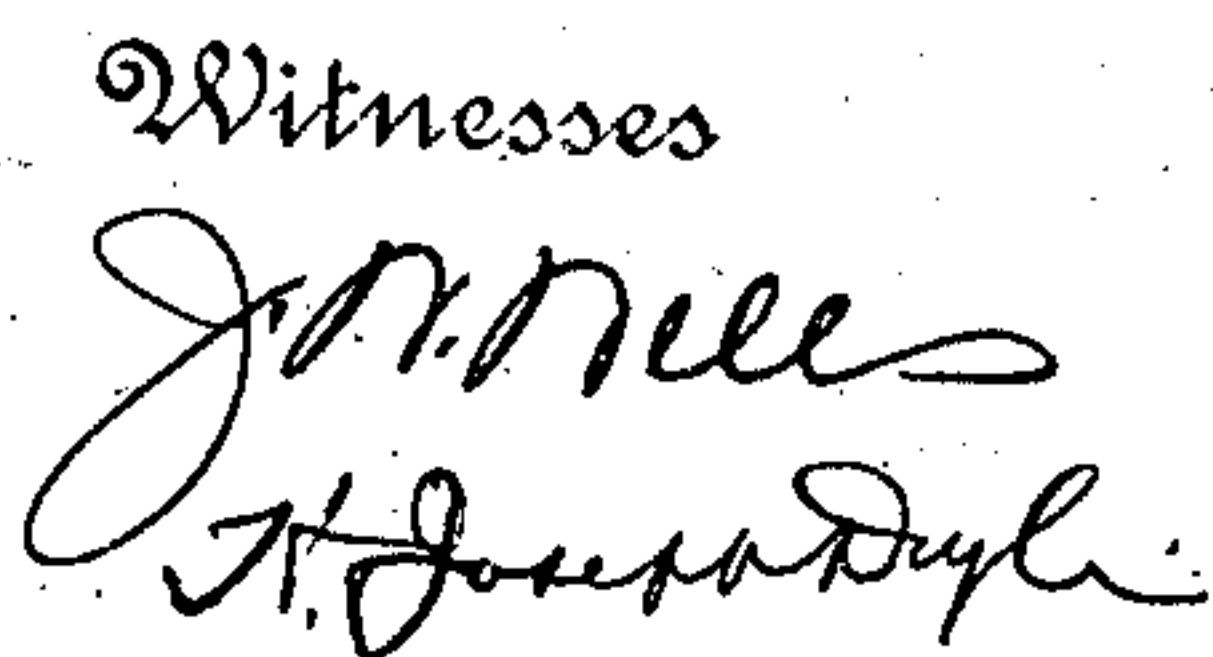


995,896.

Patented June 20, 1911.



By E. O. Crooman,
Attorney.

UNITED STATES PATENT OFFICE.

ARTHUR B. PAUL, OF WOODWARD, OKLAHOMA, ASSIGNOR OF ONE-HALF TO CHARLES DIXON AND M. O. MURPHY, BOTH OF WOODWARD, OKLAHOMA.

SCREEN-DOOR FLY-BRUSH.

995,896.

Specification of Letters Patent. Patented June 20, 1911.

Application filed October 4, 1910. Serial No. 585,251.

To all whom it may concern:

Be it known that I, ARTHUR B. PAUL, a citizen of the United States of America, residing at Woodward, in the county of Woodward and State of Oklahoma, have invented certain new and useful Improvements in Screen-Door Fly-Brushes, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to combined door closers and fly brushes and the principal object of the same is to provide novel mechanism for causing a fly brush to travel from one longitudinal edge of a door to the other longitudinal edge when the door is swung on its hinges, the brush serving to prevent flies from entering the doorway and also to exert a pressure on the door to close the same.

In carrying out the objects of the invention generally stated above it will be understood, of course, that the essential features thereof are necessarily susceptible of changes in details and structural arrangements, one preferred and practical embodiment of which is shown in the accompanying drawings, wherein:—

Figure 1 is a perspective view of a doorway provided with a screen door showing the combined closer and fly brush applied thereto. Fig. 2 is a horizontal fragmentary sectional view taken on the line 2—2, Fig. 1. Fig. 3 is a vertical sectional view showing the spring-actuated shaft that operates the combined closer and brush.

Referring to said accompanying drawings by numerals, it will be seen that the combined door closer and fly brush has been shown in connection with the frame 1 of a doorway which has a screen door 2 hinged thereto.

The combined door closer and fly brush comprises a vertical shaft 3 that is journaled in the upper and lower casings 4 and 5 which are preferably cylindrical and are supported by brackets 6 which project from the vertical side of the door frame to which the door 2 is hinged. Said casings inclose springs 7 which are coiled about the shaft 3, said springs having one end suitably fastened to the casings and another end suitably fastened to the shaft 3. The upper end of shaft 3 projects beyond casing 4 and is journaled in a bracket 8 carried by the door frame and the lower end of said shaft sim-

ilarly engages a lower bracket 9 that is also carried by the door frame.

A pulley 10 is fast on the upper end of shaft 3 between casing 4 and bracket 8, and has a cable connection 11 with a pulley 12 fast on a shaft 13 journaled in upper and lower brackets 14 and 15 carried by the free longitudinal edge of the door 2. The lower portion of shaft 3 is also provided with a fast pulley 18 which has a cable connection 17 with a pulley 16 fast on the lower portion of shaft 13.

Cables 11 and 17 may be of wire, rope or other preferred material and are wound upon their pulleys so that when shaft 3 is rotated, as will be explained, the said cables will cause both shafts 3 and 13 to rotate so that the cables will be fed from one pulley to the other. The upper end of shaft 13 has a pulley 19 fast thereon upon which one end portion of a cable 20 is wound, the other end of said cable 20 being fastened to an eye 21 or equivalent fastening means that is carried by the upper horizontal member of the door frame. A brush 22 has the ends of its core 23 fastened to cables 11 and 17 to support said brush in a vertical position relative to and in contact with the door 2. Cable 20 is wound upon pulley 19 in an opposite direction to the wind of cables 11 and 17 upon pulleys 10 and 16, and it will therefore be seen that when the door 2 is swinging to an open position, cable 20 while unwinding from pulley 19 will rotate shaft 13 in a direction to cause pulleys 12 and 16 to wind cables 11 and 17 from the pulleys of shaft 3. This causes the brush 22 to travel across the door 2 and also rotates shaft 3 against the tension of springs 7. When the door is released, the springs 7 will automatically rotate shaft 3 so that the cables 11 and 17 will be rewound on the pulleys of said shaft, causing brush 22 to return to its original position and rotate shaft 13 so that cable 20 will be wound on pulley 19, and thereby close the door automatically.

It will be seen from the foregoing that the brush 22 will automatically move across the door in one direction on the opening movement of the door, and on the closing movement of the door the brush reverses its direction of travel so that flies are forced away from the door. It will also be seen that the described mechanism in addition to providing simple brush actuating means, also pro-

vides means for automatically closing the door.

What I claim as my invention is:—

1. A combined door closer and fly brush 40
5 comprising a shaft, means for journaling the same to one side of a door frame, springs carried by said shaft and opposing rotation thereof in one direction, pulleys carried by said shaft, a second shaft, means for journal-
10 ing the same to the free portion of a door, pulleys carried by said door shaft, cables connecting said pulleys to the pulleys of the door frame shaft, an upper pulley carried by the door shaft, a cable connection between said
15 upper pulley and the door frame, and a brush carried by the first mentioned cables and caused to travel across said door by the movements of said cables.

2. A combined door closer and fly brush 20
comprising a shaft carried by a door frame, tension means opposing movement thereof in one direction, a shaft carried by a door, cables connecting said shafts and wound
25 from one shaft to the other by the swinging movements of said door, a brush carried by said cables and carried across said door by the movements of said cables, and a cable connection between the door shaft and the door frame.

3. A combined door closer and fly brush 30
comprising a door frame shaft, a door shaft, winding means connecting said shafts, a brush carried by said winding means, means
35 for automatically rotating the door frame shaft to move the winding means in one direction, and means for automatically rotat-

ing the door shaft in an opposite direction to move the winding means in an opposite direction.

4. A combined door closer and fly brush 40
comprising a shaft carried by a door frame, casings also carried by said door frame and surrounding said shaft, springs within said casings and coiled about said shaft, said
45 springs having one end fastened to said shaft and the other end fastened to said casings, a shaft carried by a door, winding cables connecting said shafts, a brush carried by said cables, and a cable connection between
50 said door shaft and said door frame.

5. A combined door closer and fly brush 55
comprising a door frame shaft, means opposing rotation thereof in one direction, a door shaft, winding cables connecting said shafts, fly removing means carried by said cables,
60 and means connecting the door shaft to a door frame for rotating the same against the tension of the means which oppose rotation of the door frame shaft.

6. A combined door closer and fly brush 60
comprising a door frame shaft, a door shaft, cables connecting said shafts, means for rotating said door frame shaft to wind said
65 cables thereon, a fly brush carried by said cables, and means for rotating the door shaft to wind the cables thereon.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

ARTHUR B. PAUL.

Witnesses:

W. B. TIPTON,
CHARLES DIXON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."