No. 781,943. PATENTED FEB. 7, 1905.

W. J. GRIFFIN.

FOLDING PAPER BOX.

APPLICATION FILED JUNE 13, 1904.

Fig. 1.

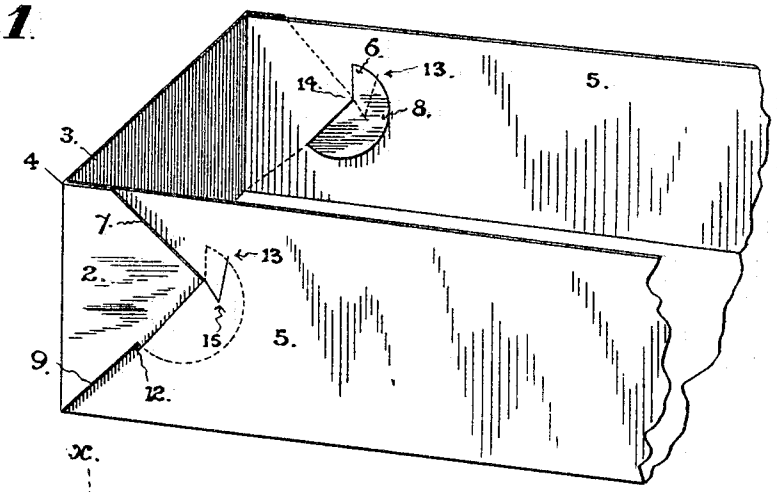



Fig. 2.

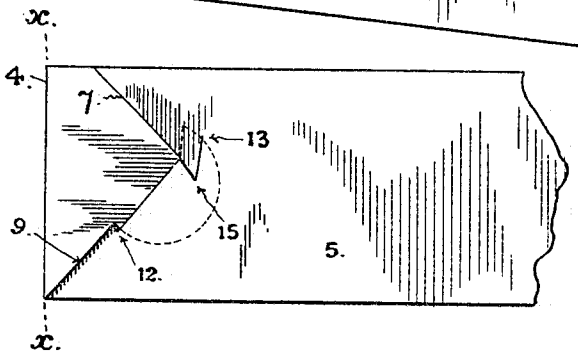
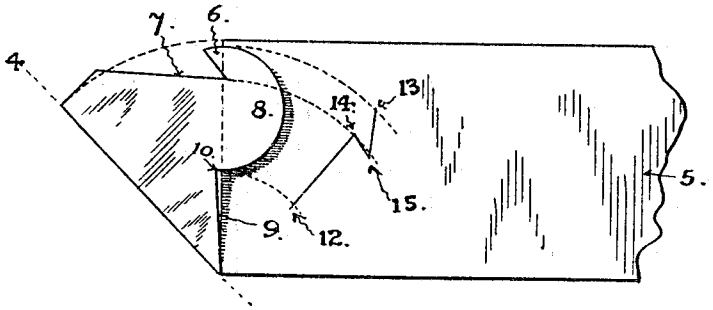



Fig. 3.




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No. 781,943. Patented February 7, 1905.

# UNITED STATES PATENT OFFICE.

WILLIAM J. GRIFFIN, OF SAN FRANCISCO, CALIFORNIA.

## FOLDING PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 781,943, dated February 7, 1905.

Application filed June 13, 1904. Serial No. 212,400.

*To all whom it may concern:*

Be it known that I, WILLIAM J. GRIFFIN, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented new and useful Improvements in Folding Paper Boxes, of which the following is a specification.

This invention relates to an improvement in means of fastening together at the angles or corners of a folding paper box the flaps, parts or members that are folded over and joined together to form the body, and sometimes also the cover of the box.

The invention has for its object to provide a joint or fastening means of the kind that comprises a tongue on one part and a slit in the other part, but of an improved character over similar fastening means chiefly in the quality of interlocking and uniting the parts without liability of separating or working loose after being joined.

To this end and object my invention embraces and consists in a novel construction and combination of tongue on one part or member having a hook-bearing head and a slit of novel form in the other part or member, the said parts being adapted to securely join the parts, all as more fully explained and pointed out in the following description and claims, in which the novel features of the invention are specifically described and distinguished from previous fastening means.

The accompanying drawings are referred to by figures.

Figure 1 is a perspective view of one end of a folding paper box in which the sides and the ends are united by my improved fastening means, the same showing the tongues formed integrally with the end panel or flap of the box and interlocked with the other flap or part having the slip. Fig. 2 is a side view of a portion of the box, showing the parts interlocked. Fig. 3 is a similar view showing the parts that form the interlocking joint.

In this improvement the tongue or member on one part that is inserted through the slit in the other part is formed or provided with a hook on one side inclining backward or toward the fold or corner at an acute angle to the edge of the tongue, and the head or end portion of the tongue lying in front of or beyond the hook has a curved and approximately a semicircular outline, from the lower side of which the lower edge of the tongue continues backward to the line of the fold. The tongue 2 is being formed in the well-known manner integrally with the flap 3 of the box folds on the crease or line 4, so as to lie over and upon the adjacent part 5 that contains the slit, and the hook 6 is located on the upper side of the tongue at the junction of the marginal edge 7 of the tongue with the head 8. The marginal edge of the head 8 joins the edge 9 on the lower or opposite side of the tongue at an angle, so as to form the shoulder or stop 10 on that side of the tongue. The remaining part of the interlocking joint consists of a continuous slit in the other flap, 5, of the box, placed at an angle to the perpendicular line of the crease or fold 4 between the points 12 13, and also having an abrupt change of direction from a point 14 about midway between the ends of the slit backward and downward for a relatively short distance, as from 14 to 15, and thence changing at an acute angle and in an upward direction from the point 15 to the upper end 13 of the slit. This return angular portion, while having approximately the same angularity as the main portion of the slit, is also inclined from the plane of the perpendicular crease 4 in a somewhat less degree than the portion of the slit below the return angular part, as from 12 to 14. This is seen in Figs. 2 and 3, where the portion of the slit from 12 to 14 has a different inclination with reference to the perpendicular line $x x$ through the fold 4 than the remaining portion extending from the angle 15 to the end 13 of the slit. The effect of this peculiar zigzag shape of the slit is to bring the part 14 15 at an angle across instead of coincident with the edge 7 of the tongue and the part 15 13 of the slit at an angle to instead of in line with the back edge of the hook 6 when the head of the tongue is passed through the slit, and when the tongue is in place in the slit with the fold or angle 4 of the flap 2 set closely up against the end of the slit-containing member 5 the tongue cannot be detached and drawn out of the slit until both of the before-mentioned edges

of the tongue and its hook are brought in line with both angular portions 14 15 15 13 of the slit at the same time. The hook on the tongue and the hook formed on the opposite member by the zigzag slit 14 15 13 act in this manner to produce an interlocking joint of a reliable and positive character, affording double security over the ordinary hook and slit. It will be observed that the angle 13 15 14, formed by those portions of the slit that serve to produce the hook that engages with the hook on the tongue, is an acute reëntrant angle considered with reference to the end of the box formed by the flap 3.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A folding paper box having an interlocking joint consisting of a flap or folding member provided with a hook, and a folding member to interlock therewith provided with a single slit which is inclined diagonally with reference to the line of fold of the hook-bearing member and having a zigzag shape disposed to produce an acute reëntrant angle with reference to the hook-carrying flap whereby is formed a hook on the slit-bearing member to interlock with the hook on the flap.

2. A blank for a folding paper box having at each corner a flap provided with an acutely-inclined hook, and an adjacent folding member provided with an angular slit adapted to admit the hook of the said flap, said slit being throughout a part of its length shaped to form an acute reëntrant angle with reference to the hook-carrying flap thereby forming an acutely-inclined reversely-set hook to interlock with the hook on the adjacent flap.

3. A folding paper box having an interlocking joint consisting of a flap or folding member provided with an interlocking head formed with a hook, and another folding member provided with a slit arranged to receive the said head and hook of the other folding member, the slit being of zigzag shape and the portion thereof 13 15 through which the hook passes being arranged at an angle to the back edge of the hook, whereby said edge and portion of the slit, 12 13, are not coincident in direction when the head is passing through the slit, substantially as set forth.

4. A folding paper box having an interlocking joint consisting of a flap or folding member formed with a marginal edge 7 and a head 8 formed with a hook, and another folding member formed with a slit of zigzag shape through which the head and hook of the first-named member pass, the intermediate portion, 14 15, of the zigzag slit being arranged at an angle that is slightly divergent from the angle of the marginal edge 7 when the two members of the box are interlocked, substantially as set forth.

In testimony whereof I have hereunto set my name to this specification in the presence of two subscribing witnesses.

WILLIAM J. GRIFFIN.

Witnesses:

EDWARD E. OSBORN,

M. REGNER.