G. K. RIX.
Angle-Plate.

No. 215,298. Patented May 13, 1879.

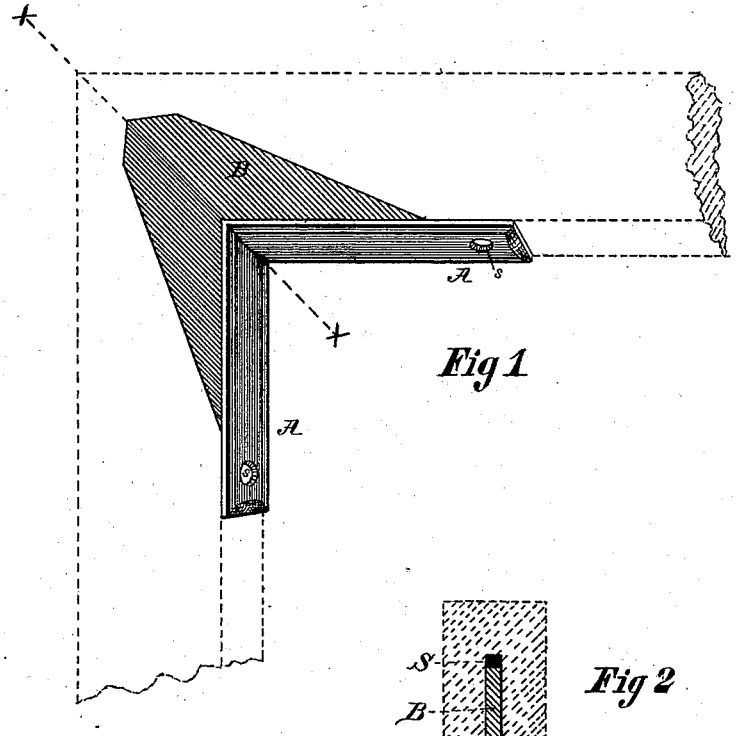

Fig 1

Fig 2

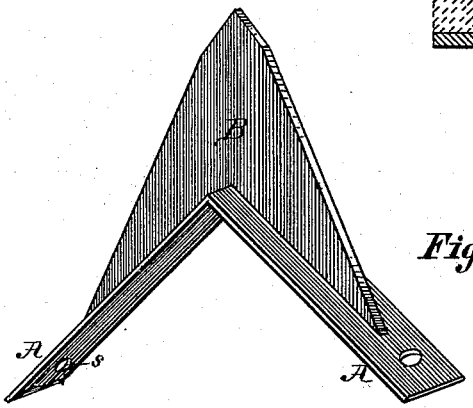

Fig 3

Witnesses
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN ANGLE-PLATES.

Specification forming part of Letters Patent No. **215,298**, dated May 13, 1879; application filed June 10, 1878.

To all whom it may concern:

Be it known that I, GEORGE K. RIX, of the city of Chicago and State of Illinois, have invented a certain new and useful Improvement in Angle-Plates, of which the following, taken together with the accompanying drawings, is a full and accurate specification.

My invention relates to an angle-plate applicable to the interior or entering angles of frames; and consists in providing the angle-plate with an extended rib adapted to enter coincident grooves in the opposite faces of the parts to be joined when they are laid together in position, so that when the angle-plate is applied to the corner the rib lies in both grooves, serving as a feather to retain the meeting ends in proper relation laterally, and as a rib to strengthen the angle-plate and the joint.

Figure 1 is a perspective view of the ribbed plate, showing its relation to the frame-joint, the frame being indicated by dotted lines. Fig. 2 is a section of the frame and plate through the line *x x*, Fig. 1. Fig. 3 is a perspective view of the improved angle-plate detached.

A A are the limbs of an angle-plate, intended to lie in the entering angle formed by the contiguous sides of the frame, as shown in Fig. 1. B is the exterior triangular or tapering rib, having the extended attachment along the median line of the limbs on both sides of the angle. The rib is of uniform thickness, and from the extreme points of attachment is preferably narrowed toward its free outer extremity, which lies in the line of the miter. Each limb of the angle-plate is shown extended beyond the rib, and provided with screw hole or holes *s*.

In applying my improved angle-plate to the miter-joint of a frame the ends of the parts to be joined are first given the proper miter to form, when brought together, the angle required between said parts. An inclined or beveled groove, S, of suitable dimensions to admit one-half the rib is then cut in each part, gaged from the same face of the stuff, so that the two will coincide when the meeting ends are brought together. The rib is inserted into the recess thus formed in one face of the corner when the mitered ends are brought together, and the plate is properly secured by screws. It is plain that the faces of the joined parts will be permanently held perfectly flush. For this purpose, and also for the purpose of strengthening the joint, the rib, acting also as a feather, serves every office of two external flanges, one on either side of the frame. The article is much cheaper than a double-flanged plate; is applicable where exterior flanges are impracticable; it brings the faces flush, as described, without care, and greatly facilitates the operation of joining the frame, besides obviating the objectionable appearance and presence of exposed flanges or ribs when either or both of the latter are for other reasons admissible.

The angle-plate described is more especially intended to be used upon window-screens, and as these often require to be dressed off in fitting them to the windows, it will be desirable to make the rib or feather B of such length as to lie wholly within the frame, as shown in Fig. 1, leaving ample space beyond the rib to allow any reasonable dressing of the wood that may be required.

While the main edges of the rib may be parallel, I prefer to direct them to form a tapering rib, as shown in Figs. 1 and 3, and to cut the kerfs correspondingly inclined, so that little or none of the latter will be visible on the outer face of the frame. The form of the feather-rib may, however, be varied to adapt the plate to be interiorly applied to other forms of joint than the miter.

In a frame provided at all its angles with the ribbed angle-plate described no other fastening is required besides the screws indicated; but an individual joint may be further strengthened by rivets passing through the frame and rib.

The plate may have any breadth, and may be provided with any desired number of parallel feather-ribs, adapting the plates to joints of any extent—as, for example, the corners of trunks and boxes.

My invention purposely contemplates but one angle-plate in connection with the feather, so that it can be applied not only while bringing the parts of the frame together, but also, and better, after they are brought together. This

construction, moreover, does not require that the wood be cut across from one plate to another or clear across the frame-stuff, thereby weakening it and rendering it liable to split. As illustrated by Fig. 1, on the other hand the wood may, as already stated, be undisturbed on the outer face of the frame, and remains both to strengthen the frame and to conceal the feather, as set forth.

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

1. A single angle-plate provided with a central rib or feather on its exterior angle or face, adapted to enter a recess formed by beveled grooves cut in the several meeting parts of a frame after they have been brought together, substantially as described.

2. A corner-joint formed of the meeting faces of the parts joined, opposite grooves in said meeting faces, and a single interior angle-plate having a rib-feather that lies concealed in the opposite grooves, substantially as described, and for the purposes set forth.

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Witnesses:
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