R. R. ROCKWELL.

CORNER FASTENING.

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962,528. Patented June 28, 1910.

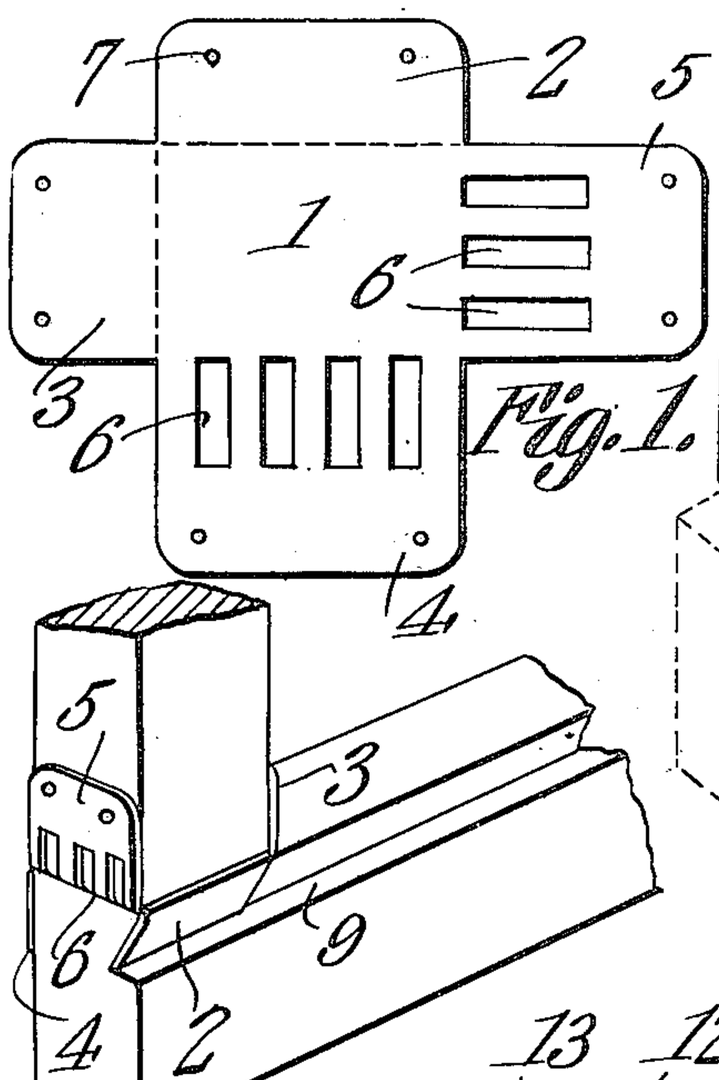

Fig. 1.

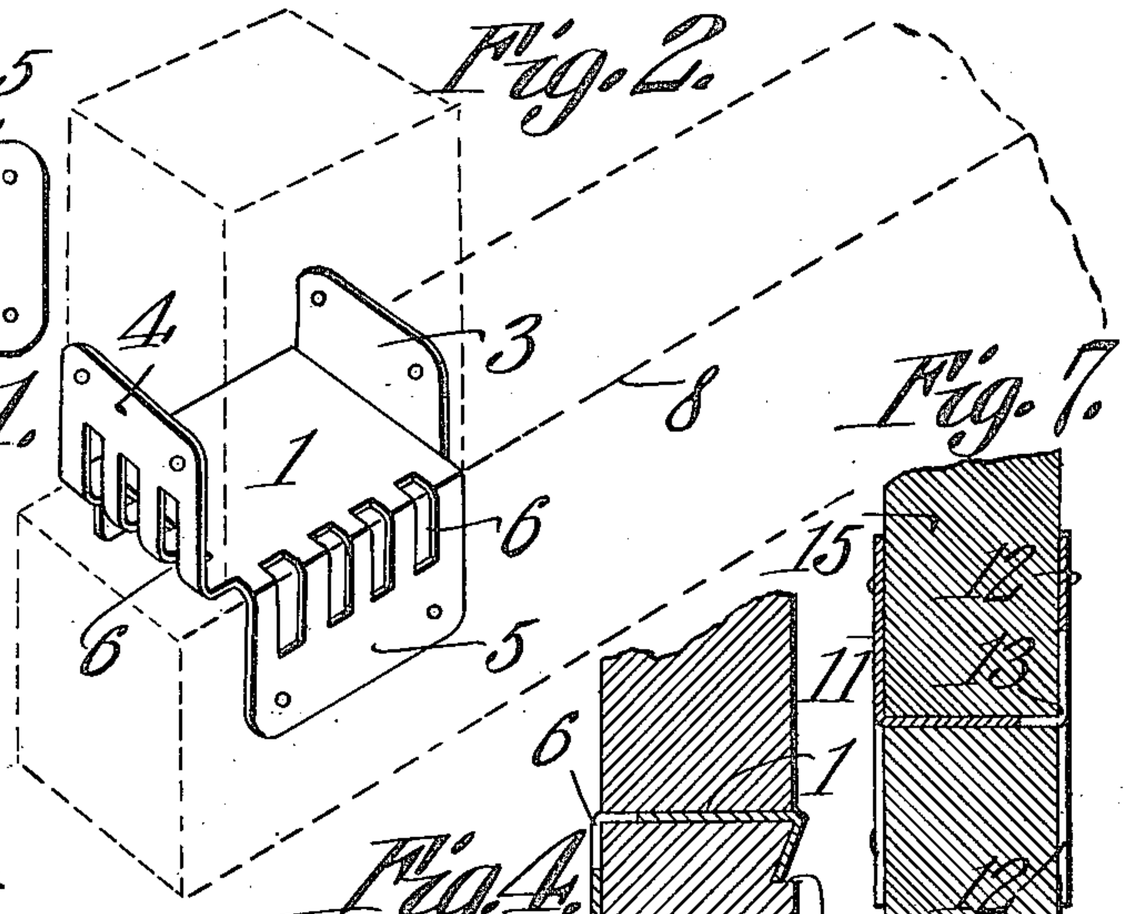

Fig. 2.

Fig. 3.

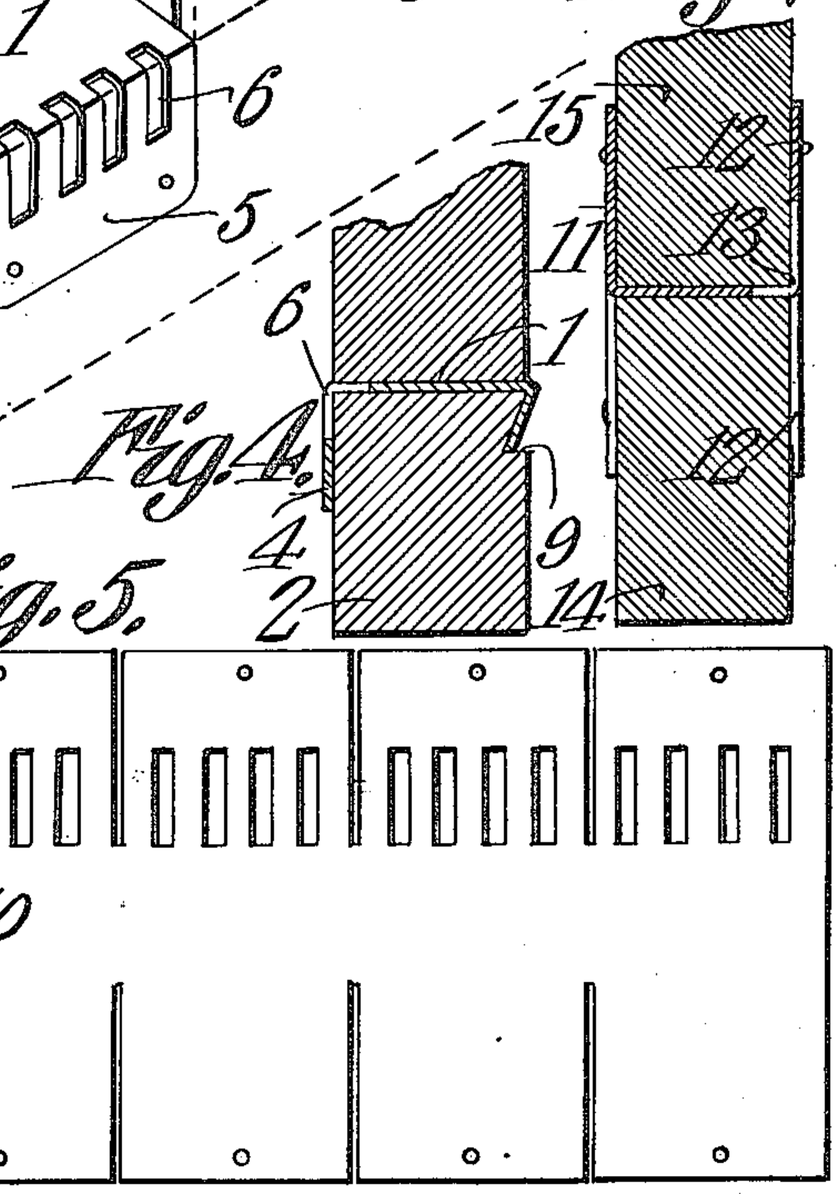

Fig. 5.

Fig. 7.

Fig. 4.

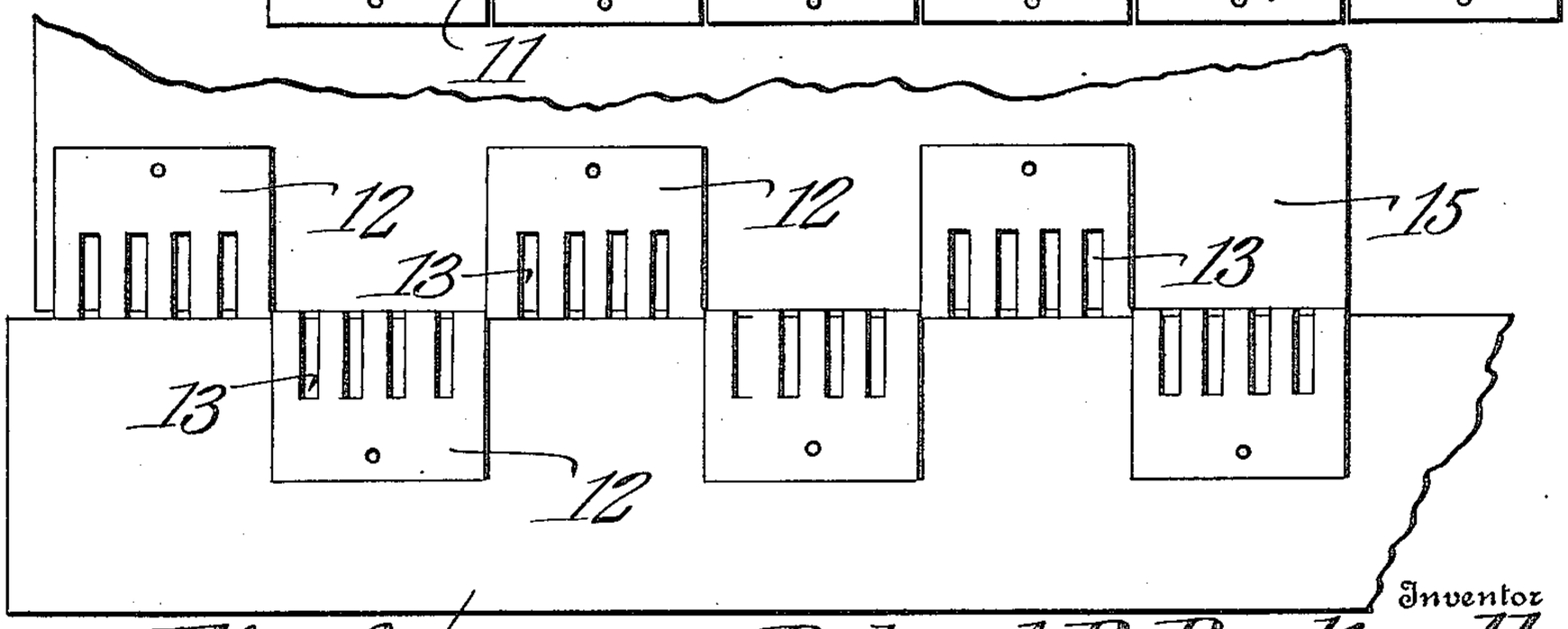

Fig. 6.

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CORNER-FASTENING.

962,528. Specification of Letters Patent. Patented June 28, 1910.

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To all whom it may concern:

Be it known that I, ROBERT ROMAINE ROCKWELL, a citizen of the United States, residing at Evanston, in the county of Cook and State of Illinois, have invented a new and useful Corner-Fastening, of which the following is a specification.

This invention relates to devices for reinforcing the joints of wooden frames and has special reference to connections between the parts of window and door screen frames.

The object of the invention is to provide a simple device which may be readily applied to frames of any thickness and which when applied will reinforce the joint so as to effectually hold the parts together and prevent separation of the same.

This object is attained by the construction illustrated in the accompanying drawings, and the invention consists in certain novel features of the same, as will be hereinafter first fully described and then particularly pointed out in the appended claims.

In the drawings, Figure 1 is a plan view of a blank embodying my invention. Fig. 2 is a perspective view of the same in its applied position. Fig. 3 is a perspective view showing a slightly different application of the device. Fig. 4 is a vertical transverse section of the structure shown in Fig. 3. Fig. 5 is a plan view of a different form of blank. Fig. 6 is a side elevation showing the application of the blank illustrated in Fig. 4, and Fig. 7 is a transverse vertical section of the device shown in Fig. 6.

Devices of this character as usually constructed of pliable sheet metal, have had to be of a gage sufficiently light to enable the user to bend the arms in true right angles where needed; or if of heavy gage they were supplied already bent by machine, because the stiffness of the metal made it impossible to form accurate bends by hand. The result has been that in one case the fastener when in place had little strength but fitted nicely, and in the other case it had more strength but could not be manually applied so as to make close fit at the angles.

By the present invention I produce a fastener constructed of sheet metal of such weight and gage that it possesses the requisite strength, and I give certain of its arms a machine bend in the process of manufacture; and in order to render other arms sufficiently pliable to enable them to be bent by the user, I weaken them by a series of slots extending across the point where the final bend will have to be made and thus adapting the device to different thicknesses of articles to be connected by it.

In carrying out my present invention, I employ a blank which is stamped from heavy gage metal and consists of a flat plate having a central body portion 1 with securing arms 2, 3, 4 and 5 projecting from the edges of the said body portion so that the blank forms a cross having four attaching arms disposed at a right angle. The attaching arms 2 and 3 are solid or unbroken, as clearly shown in Fig. 1, and the arms 4 and 5 are longer than the arms 2 and 3 and are provided with a series of longitudinal slots or openings 6 which extend from the edges of the central portion 1 toward the outer edges of the said arms and terminate short of the said outer edges. Near the outer edges of each of the arms I provide perforations 7 through which nails or similar fastening devices may be inserted to secure the device in its operative position.

The blank is shaped in a suitable stamping machine which will punch out the slots 6 and at the same time turn the imperforate arms 2 and 3 into positions at right angles to the edges of the body portion 1 of the blank and extending in opposite directions from the said body portion. In applying the device to a frame, the blank thus shaped is placed upon the edge of a rail, which is indicated at 8 in dotted lines in Fig. 2, with the down-turned arm 2 fitting against the side of the rail. Suitable fastening devices, such as nails or screws, are then inserted through the perforations 7 in the down-turned arm 2 so as to enter the rail and secure the said arm thereto. The arm 5 is then turned down by hand against the opposite side of the rail and secured thereto in a similar manner. The end of the stile is then placed in position upon the central body portion 1 of the blank with one edge fitting against the up-turned arm 3 which arm is then secured to the said stile. The opposite arm 4 is then turned up by hand against the stile and secured thereto, as will be readily understood. It will thus be seen

that it is not necessary to provide a fastening bracket for each particular frame, but that the bracket may be applied to any frame and will firmly and accurately be fitted to the same. The slots 6 in the securing arms 4 and 5 impart to the said arms sufficient pliability to permit the same to be bent by the use of a hand tool into neat angles and turned down snugly against the side of the frame on any cross line occurring within the length of the slots so as to fit closely over the corner or edge thereof; and the greater length of the pliable arms increases the range of its usefulness. By providing the said slots I am enabled to form a blank from heavy metal and at the same time readily bend the same by hand as needed to give a neat finish to the article to which the fastening is applied.

It will be understood that the device may be applied to a frame of any width and between the limits defined by the ends of the slots.

In Fig. 3 I have shown the device applied to a frame corner having a dove-tailed groove 9 in one of the members. Here the arm 2 is so shaped by machine as to fit snugly in the said dove-tailed groove so that the use of nails or similar fastening devices will be dispensed with, the shape of the groove and the interlocking formation of the securing arms serving to effectually connect the parts.

Should it be desired to join the parts of an exceptionally wide frame, the blank will be given the construction shown in Fig. 5 in which the body portion 10 is in the form of a strip having attaching arms 11 and 12 projecting from its opposite edges, all of the arms 12 on one side of the blank being provided with the slots 13 and left flat and all of the arms 11 on the opposite side being imperforate and machine bent alternately up and down. In joining the parts of a frame by the use of this form of the device, the blank is placed upon the edge of the rail with the downturned imperforate arms 11 engaging its corner, and the alternate pliable arms 12 at the opposite edge of the blank are then bent by hand and secured to the opposite side of the said rail, as will be readily understood on reference to Fig. 6, in which the rail is indicated by the reference numeral 14; then the stile 15 is placed upon the edge of the rail over the body strip of the blank and against the upturned imperforate arms 11; and finally the remaining pliable arms 12 are turned up by hand against the opposite face of the stile and secured thereto, as will be readily understood.

It is believed that the use and advantages of the device will be readily understood from the foregoing description, taken in connection with the accompanying drawings. The blank as furnished to the users will have the pliable perforated arms flat and in the same plane with the central body portion of the device, while the imperforate attaching arms will be machine bent so as to extend alternately in opposite directions from the edges of the body portion. A few minutes' time will suffice for the application of the device to the rail and the securing of the imperforate arms to the side of the rail. The use of an ordinary hand tool on the slotted arms will serve to bend them close over the angular corners and against the opposite side of the rails and by reason of the presence of the said slots the width of the frame will be of no consequence, inasmuch as the bending of the slotted arm will occur along the edge or corner of the rail.

The simplicity and cheapness of the device are evident and detailed comment on the various advantages of the same is believed to be unnecessary.

Having thus described my invention, what I claim is:

1. As an article of manufacture, a fastening device for frame joints and the like consisting of a stiff metal plate comprising a flat body portion, a rigid arm projecting from one edge thereof and bent into a plane at right angles to said body, and another arm projecting from the opposite edge of the body in the plane thereof and rendered pliable by having a series of slots in it extending across the point where the pliable arm is to be bent.

2. As an article of manufacture, a fastening device for frame joints and the like consisting of a stiff metal plate comprising a body portion, a rigid arm projecting from one edge thereof and bent at an angle to said body, and another arm projecting from the opposite edge of the body and rendered pliable by having a series of slots in it extending across the point where it is to be bent, the pliable arm being longer than the other and both perforated for nails and the like.

3. As an article of manufacture, a fastening device for frame joints and the like consisting of a stiff metal plate comprising a flat rectangular body portion, rigid arms projecting from two adjacent edges thereof and bent into planes at angles to said body, and other arms projecting from the opposite edges of the body in its plane and rendered pliable by having a series of slots through them extending across lines on which they are to be bent.

4. As an article of manufacture, a fastening device for frame joints and the like consisting of a flat metal plate having an up-

turned rigid projection along one edge and a downturned rigid projection along the adjacent edge, and arms projecting from its remaining edges and in its plane, said arms being rendered pliable by having in them a series of parallel slots extending across lines on which they are to be bent.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ROBT. ROMAINE ROCKWELL.

Witnesses:

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F. G. VANDERPORT.