W. ROMÜNDER.

JOINT FOR LEATHER STRETCHING FRAMES.

APPLICATION FILED JULY 29, 1910.

1,015,402. Patented Jan. 23, 1912.

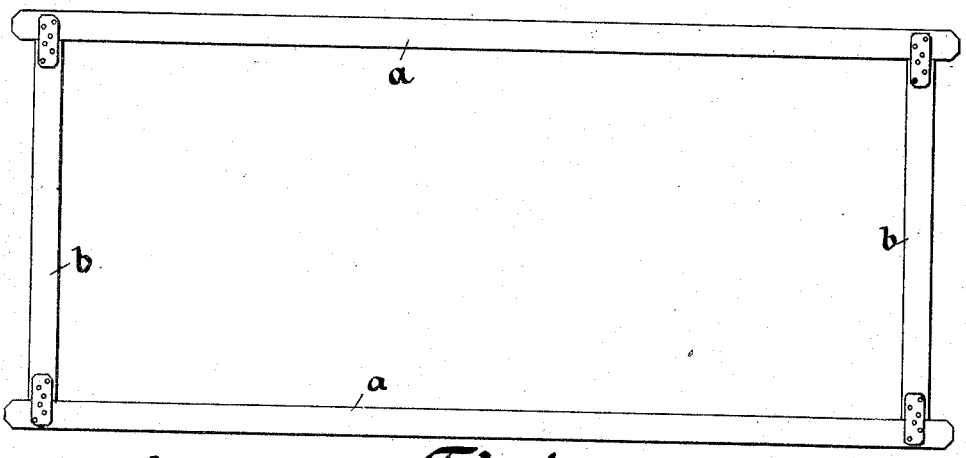

Fig. 1

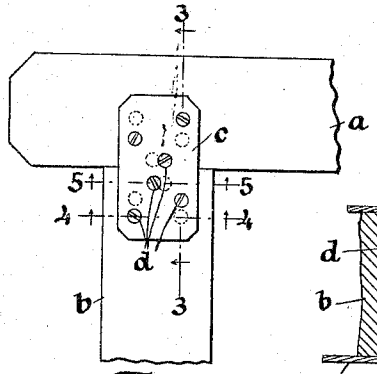

Fig. 2

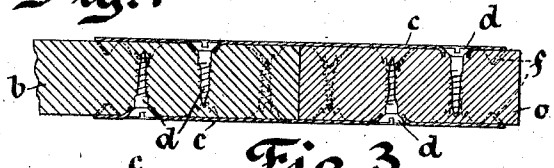

Fig. 3

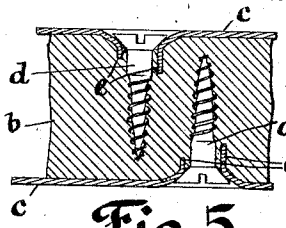

Fig. 5

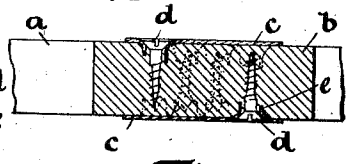

Fig. 4

Fig. 6

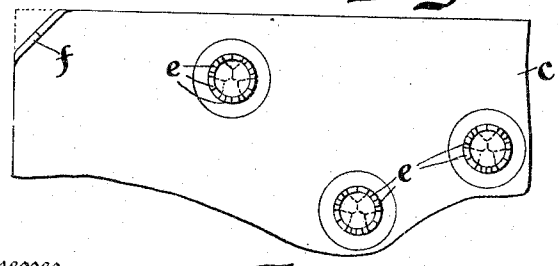

Fig. 7

William Romünder,
Inventor

Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM ROMÜNDER, OF MILWAUKEE, WISCONSIN.

JOINT FOR LEATHER-STRETCHING FRAMES.

1,015,402. Specification of Letters Patent. Patented Jan. 23, 1912.

Application filed July 29, 1910. Serial No. 574,442.

To all whom it may concern:

Be it known that I, WILLIAM ROMÜNDER, of Milwaukee, Wisconsin, have invented a Joint for Leather-Stretching Frames, of which the following is a specification.

This invention relates to stretching-frames such as are used for stretching patent-leather during the enameling process. Such frames are built in rectangular form of four strips of wood united at the corners. The important problem in the construction of such frames is to secure, without undue expense, bulk or weight, a firm and solid joint between the abutting ends of the pieces. As well understood by those skilled in the art, such frames are subject during the operation of shaking the leather to strong racking strains which tend to tear apart the members of the frame at the joints, and it has been found that mortise- and tenon-joints, dowels, etc., are useless because they merely split the wood. Hitherto, so far as I am aware, no satisfactory means of uniting the pieces has been produced, and it is the object of the present invention to produce such a joint.

More particularly I aim to produce a light, very cheap, and above all extremely rigid joint which shall take all the racking strains, and which moreover can be easily taken apart to replace one or more of the members of the frame by new ones, as is frequently necessary on account of wear.

According to my invention, I provide a pair of metal lap-plates or fish-plates on opposite sides of the two abutting ends and firmly secured thereto by screws. These plates have pressed therein certain pointed tangs or burs which are forced into the wood and thereby take the racking side-strains from the screws.

The nature of my invention will best be understood by a consideration of the following detailed description thereof taken in connection with the accompanying drawings, wherein:

Figure 1 is a plan-view of a complete frame constructed according to my invention; Fig. 2 is a similar view of one corner thereof on a larger scale; Figs. 3 and 4 are transverse sections therethrough on the planes 3 and 4 of Fig. 2, on a still larger scale; Fig. 5 is a fragmentary cross-section of a portion of the joint through the axis of one of the screws, showing the latter in elevation, on a still larger scale; Fig. 6 is an edge view of one of the joint-plates; and Fig. 7 is plan-view of a portion of the latter from the under side.

The reference letters refer each to the same part in each figure of the drawings.

The frame is built up of two side-pieces *a* and two end-pieces *b*, whose ends abut upon the side-edges of the side-pieces as shown. To secure the members *a* and *b* together, I provide two joint-plates or fish-plates *c*, each of which is of a shape peculiar to my invention. These plates are made of sheet-metal stamped into the proper form by means of dies, each plate being provided with six or more screw-holes *d*, three on each end, said screw-holes being disposed symmetrically with regard to the center of the plate, so that each end will be alike, and said holes are preferably so disposed that the holes in the two plates on the opposite sides of the joint will not come directly opposite, which would cause the screws to interfere in case they are long enough to pass more than half-way through the wood. This disposition is clearly shown in Figs. 2, 3 and 4. These holes *d* are so punched that the metal thereof is not removed therefrom, but is cut out into a series of pointed burs or tangs *e*, the margin of the holes being preferably pressed into conical form so as to admit the conical head of the flat-head screw flush with the plate, as shown in Fig. 5. In addition to the tangs *e*, other tangs *f* are provided by making an oblique crease at each corner of the plate, and these are an important element of my invention and necessary to practical success.

In setting up the frame, the two plates are first pressed into the wood so that the tangs *d* and *f* bite into the wood; and it will be observed that the tangs *d*, by encircling the wood which immediately surrounds the screws, take lateral racking-strains therefrom which would otherwise quickly loosen the screw and cause it to fall out; besides holding the wood together and preventing the screw itself from splitting the wood. The tangs *f* it will be noted are oblique to the grain of the wood whereby when they are once driven in, they hold firmly and do not loosen by a tendency to split, which would exist were they parallel to the grain.

I wish it understood that my invention is not limited to the use of all the above described features and constructions, for some

may be omitted and others may be varied or modified in various ways, as will readily occur to those skilled in the art.

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

1. The combination with two abutting wooden pieces of a sheet-metal joint-plate overlying the abutting edges and resting partly on each; said joint-plate having screw-holes surrounded by a circular series of tangs; and screws passing through said holes and securing the plates to the wood; the metal of said tangs being at a distance from the shanks of said screws.

2. The combination with two abutting wooden pieces of a rectangular sheet-metal joint-plate overlying the abutting edges and partly on each; the sides being parallel or at right angles to the grain of the wood; and means for securing said plate to both pieces; the four corners of said plate being creased obliquely at right angles to form triangular down-turned tangs which bite into the wood and lie obliquely to the grain thereof.

In witness whereof I have hereunto set my hand in presence of two witnesses.

WILLIAM ROMÜNDER.

Witnesses:
GEORGE W. COLLES,
EDWARD KOZICK.