

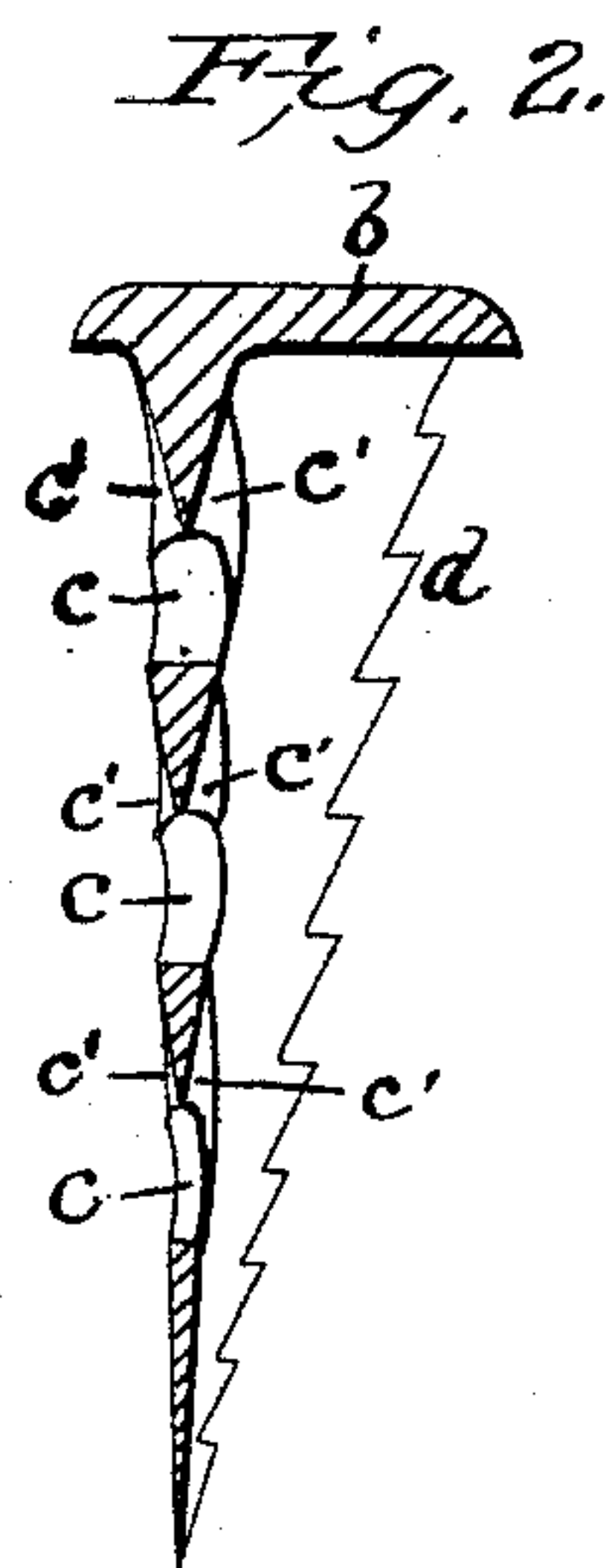
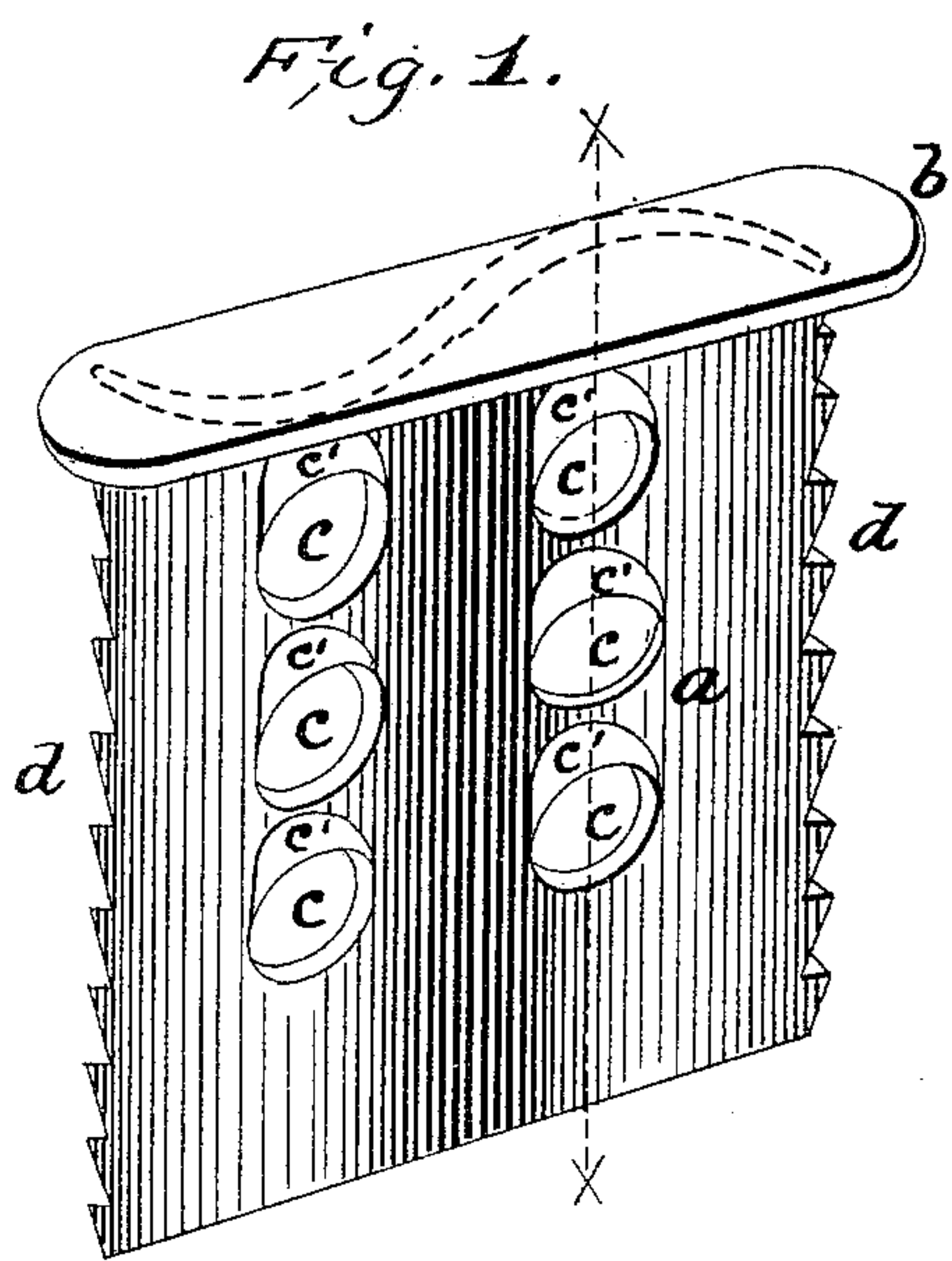
(No Model.)

I. L. LANDIS.

DEVICE FOR SECURING HANDLES TO TOOLS.

No. 450,944.

Patented Apr. 21, 1891.



Witnesses:

F. C. Gibson

C. D. Davis

Inventor:

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By *his* Attorney

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UNITED STATES PATENT OFFICE.

ISRAEL L. LANDIS, OF LANCASTER, PENNSYLVANIA.

DEVICE FOR SECURING HANDLES TO TOOLS.

SPECIFICATION forming part of Letters Patent No. 450,944, dated April 21, 1891.

Application filed September 27, 1890. Serial No. 366,416. (No model.)

To all whom it may concern:

Be it known that I, ISRAEL L. LANDIS, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Devices for Securing Handles to Tools, of which the following is a specification, reference being had therein to the accompanying drawings.

10 In the accompanying drawings, Figure 1 represents a perspective view of my improved device; Fig. 2, a vertical sectional view taken on the line *x x* of Fig. 1.

15 The invention is designed to provide an extremely simple and cheap device for effectually securing in their sockets the handles of axes, hammers, hatchets, and other tools; and it consists in certain novel features of construction that will fully hereinafter appear, and be particularly pointed out in the claims appended.

20 In the drawings annexed, the letter *a* designates the body of the device, which is adapted to be driven into the helve after the same is inserted in the eye of the tool, and which is provided with a cap or flange *b* at its upper end to fit over and cover the end of the handle when the device is driven home. The body *a* is formed wedge-shaped in vertical section, its lower edge being sharpened to readily enter the wood of the handle. This body *a* is cast or drop-forged into a corrugated or **S** shape in cross-section at its upper end, and is gradually flattened out toward the lower entering edge, which latter is preferably straight. The vertical edges of the **S**-shaped body are turned in opposite directions and provided throughout the greater portion of their length with teeth or serrations *d*, which serve to engage the fiber of the handle and assist in preventing the jarring loose of the device.

25 The body of the device is provided with one or more vertical series of apertures *c*, the lower edges of these apertures being approximately at right angles to the body of the wedge, while the upper edges or walls of the holes are beveled or cut away at *c'*, whereby when the device is driven into the wood the upper edges of the holes will offer little or no

resistance, permitting the wedge to pass in without unduly injuring the fiber, and the lower edges of the holes will form positive abutments against its withdrawal, the natural expansion of the wood causing the same to fill into the holes, as is evident. By arranging the holes in vertical series, as shown, they assist each other in preventing withdrawal of the wedge.

The advantage in forming the body **S**-shaped in cross-section and gradually flattening it toward its cutting-edge is apparent, as it will serve to give the wedge a vertical twisting motion as it is driven into the helve, thereby serving to very securely bind it in the wood. This twisting action will also serve to force the serrations on the longitudinal edges of the wedge into the adjacent fiber of the wood, these edges being turned in opposite directions for this purpose.

70 Having thus fully described my invention, what I claim is—

1. A tool-handle wedge consisting of a body formed wedge-shaped in vertical section and **S**-shaped in cross-section, the wavy corrugations formed by the **S** shape gradually diminishing in depth toward the edge, which is approximately flat and straight, whereby when the wedge is driven into the wood its initial cut will be approximately straight, substantially as described.

2. The wedge-shaped body formed **S**-shaped in cross-section and gradually flattened toward its entering edge and provided with serrations along its vertical edges, substantially as described.

3. A wedge for tool-handles, consisting of a body portion *a*, provided with a cap-piece *a'* at its upper end and formed wedge-shaped in vertical section, this body being formed **S**-shaped in cross-section and having its oppositely-turned vertical edges provided with notches, as and for the purpose described.

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

ISRAEL L. LANDIS.

Witnesses:

C. D. DAVIS,

C. M. ALEXANDER.