

B. Roux,

2. Sheets. Sheet. 1.

Casting Auger Gate Hinges.

No. 99,712.

Patented Feb. 8, 1870.

FIG. 1.

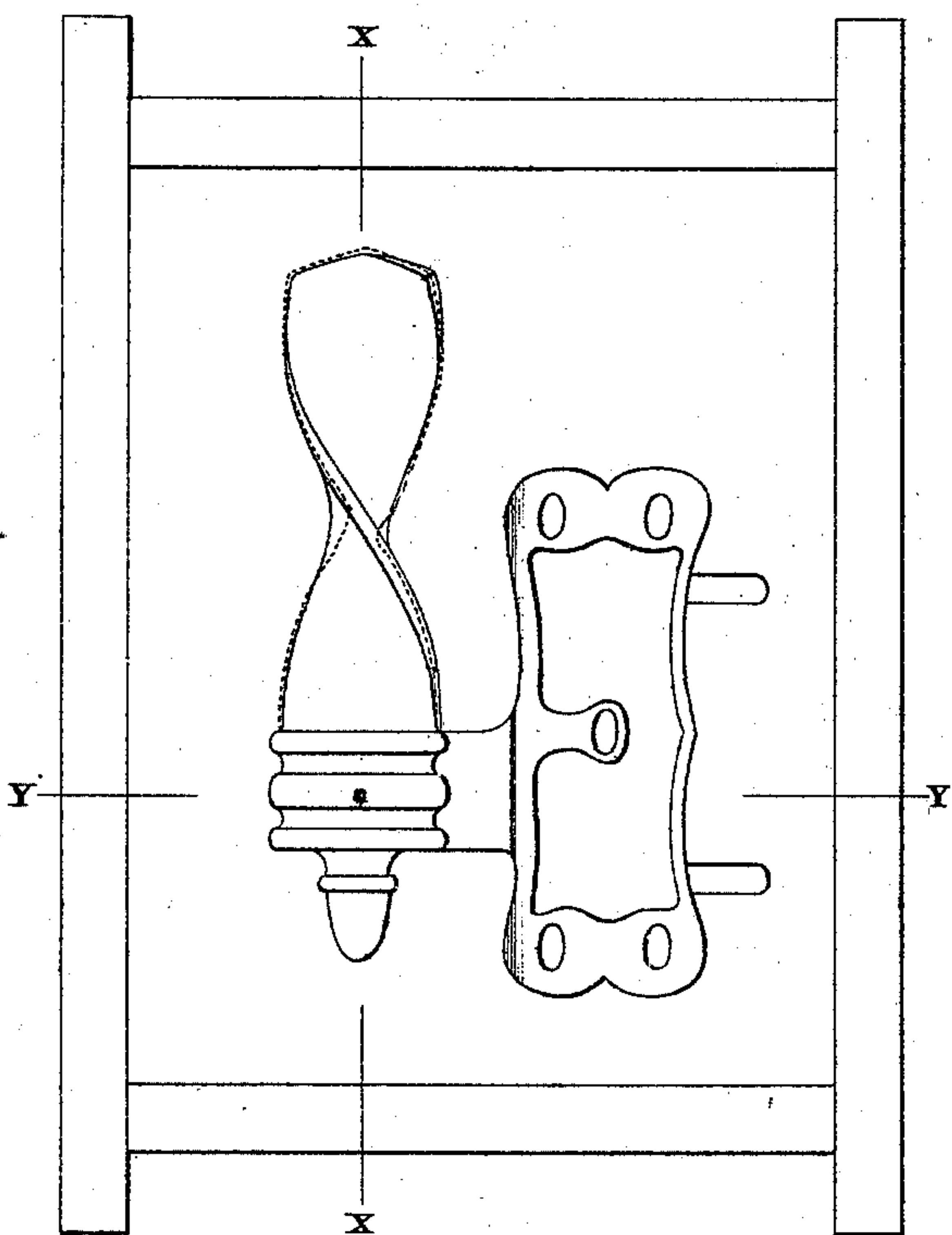


FIG. 2.

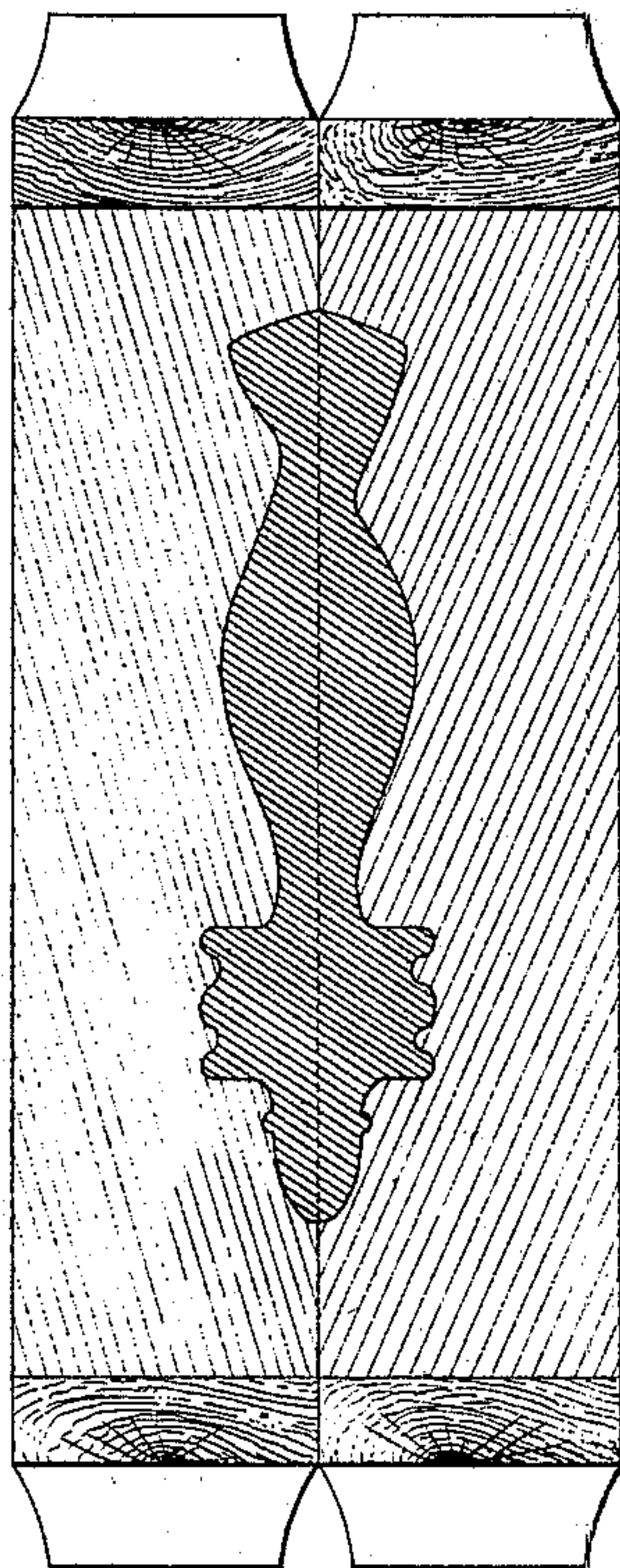


FIG. 4.

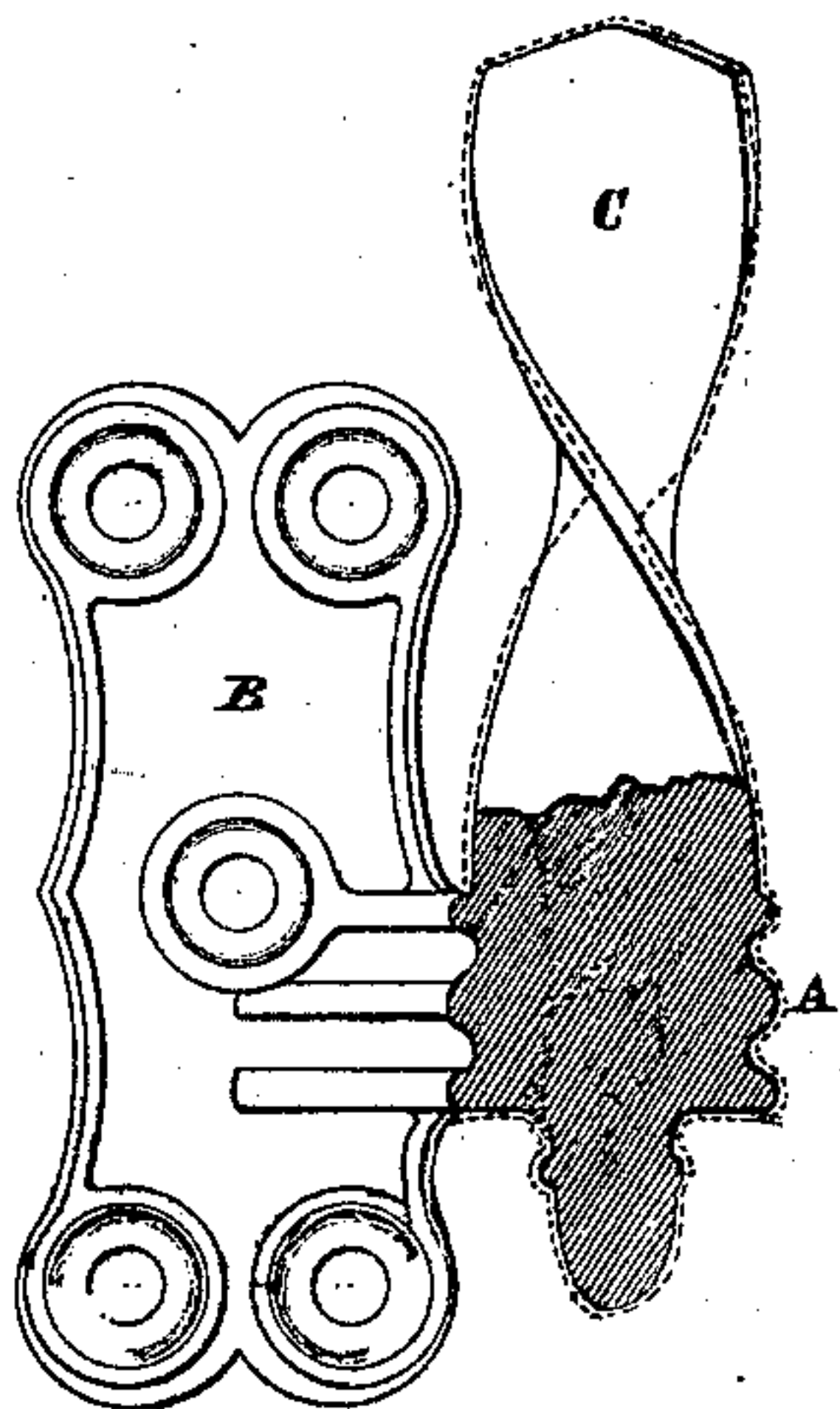
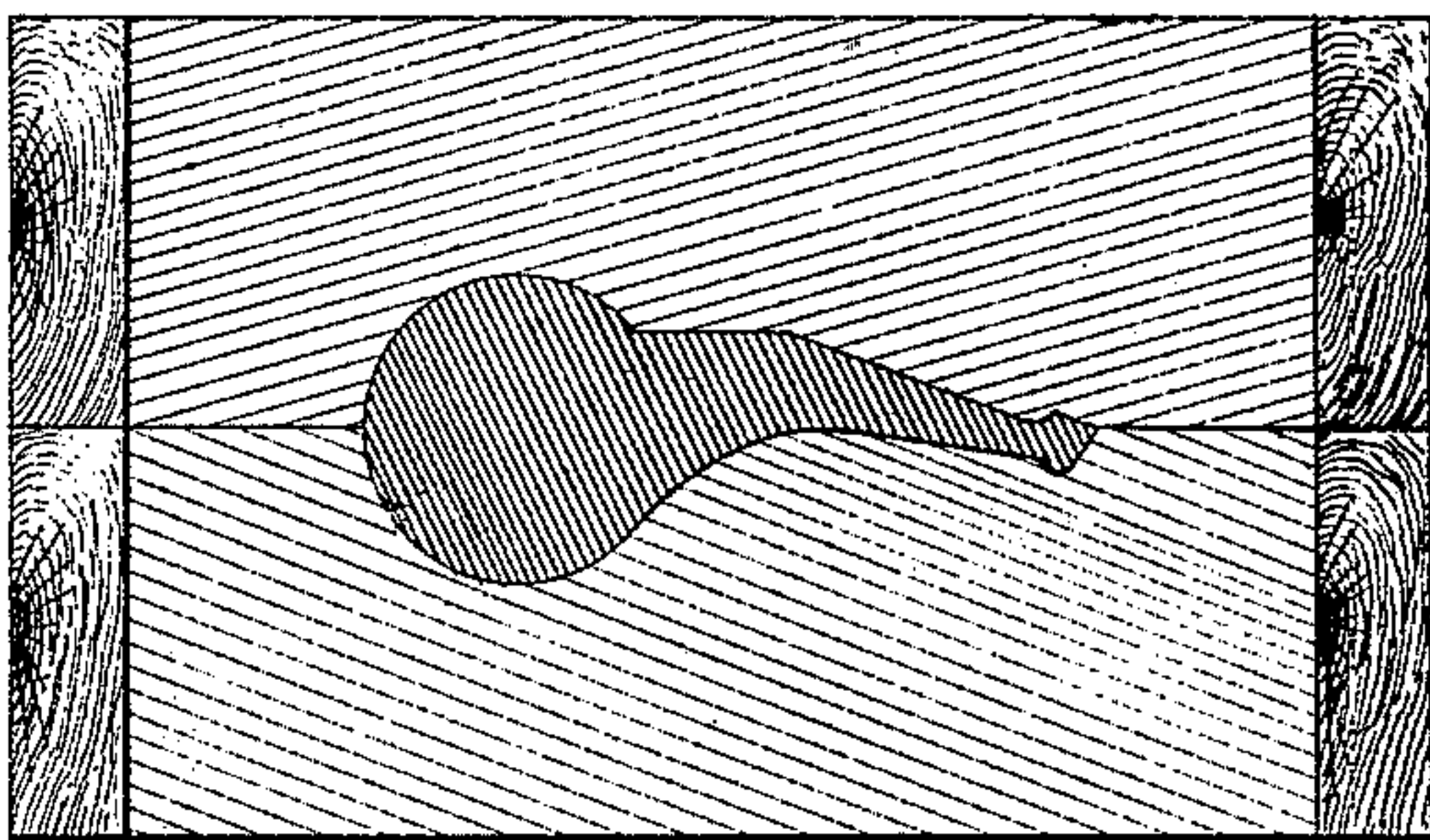


FIG. 3.



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Casting Anger Gate Hinges.

No. 99712.

Patented Feb. 8. 1870.

FIG. 5.

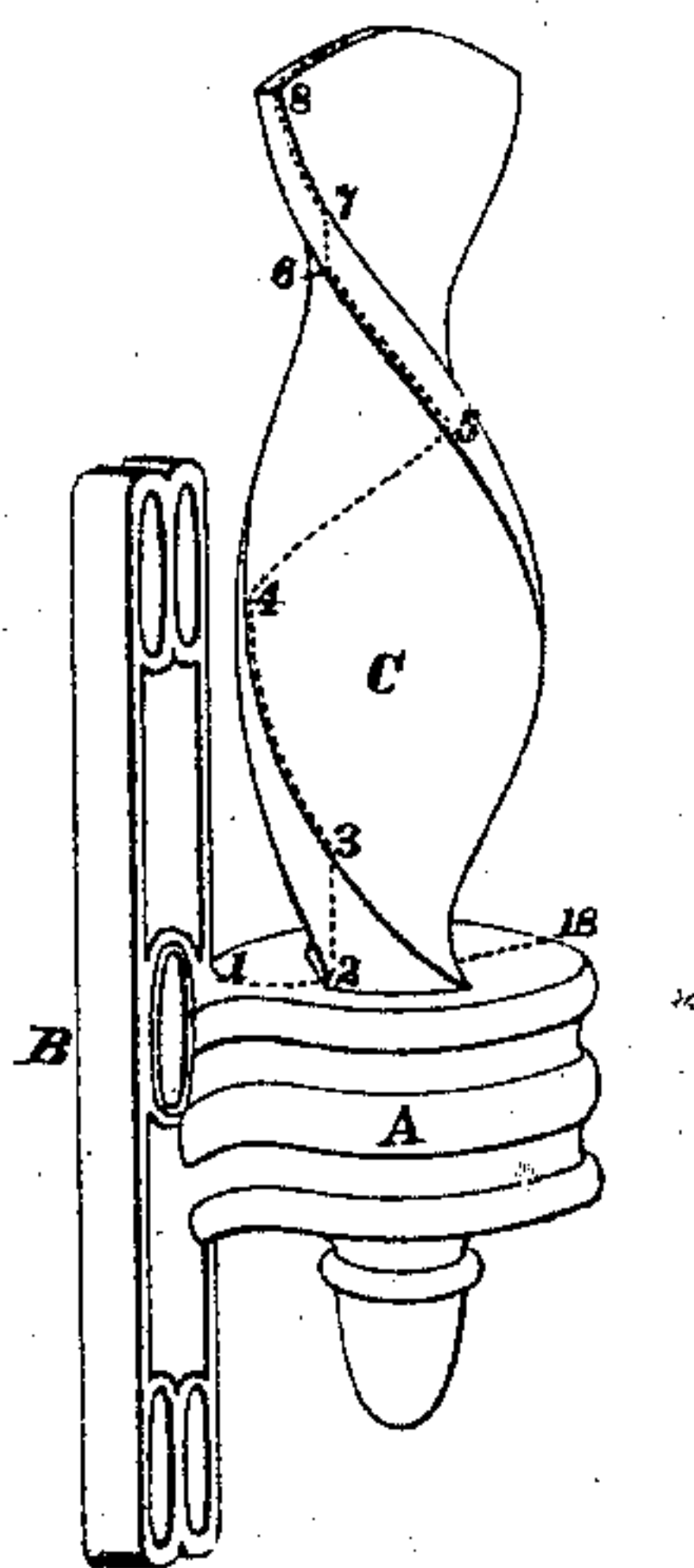
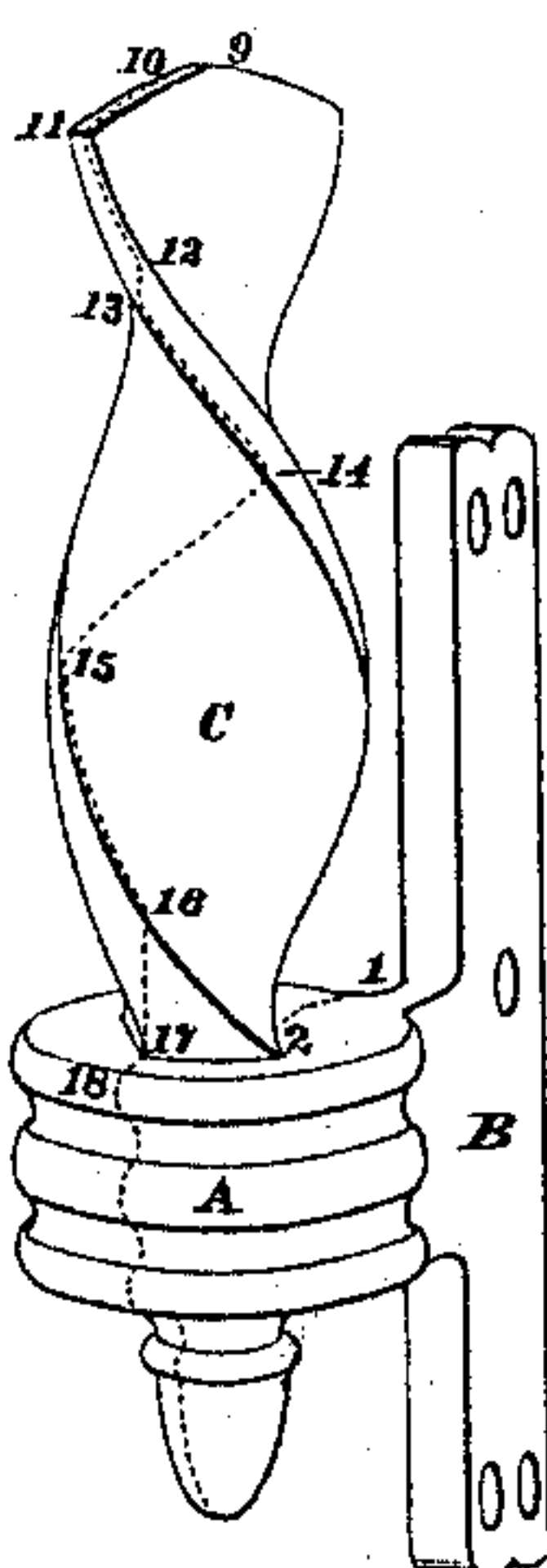


FIG. 7.



FIG. 6.



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# United States Patent Office.

BENOIT ROUX, OF CINCINNATI, OHIO, ASSIGNOR TO M. GREENWOOD & CO., OF SAME PLACE.

*Letters Patent No. 99,712, dated February 8, 1870.*

## IMPROVEMENT IN CASTING AUGER GATE-HINGES.

The Schedule referred to in these Letters Patent and making part of the same.

I, BENOIT ROUX, of Cincinnati, Hamilton county, Ohio, have invented an Improved Manufacture of the "Auger" Gate-Hinge, of which the following is a specification.

This is an improved manufacture of the male portion of hinges, having helical pintles, and known as "auger" hinges, whereby a better and cheaper article is produced.

Auger hinges have heretofore been moulded from two distinct patterns, and cast by two successive operations, as follows:

Separate patterns were prepared of the pintle and of the hinge-body, and a separate cast being taken of the pintle, said cast was laid in the body-mould preparatory to pouring or casting of the body-portion about it.

This mode of manufacture was subject to several serious defects. For example, in drawing the pintle-pattern from its mould, which had to be done in the direction of its helix, particles of sand, adhering to the pattern, were liable to cut channels in the mould, which, when the cast was made, left unsightly ridges on the pintle, that in the use of the hinge, obstructed or prevented the proper motions of the hinge.

Another defect was found to exist in "blow-holes" at the junction of the pintle and body, which weakened that portion of the hinge where most strength was required.

In addition to the above-cited defects, the construction of a separate pattern for the pintle, and necessity of casting the same separately from the other portions, and then of carefully placing it in the final mould, involved a large expenditure of labor and skill, with occasional liability of misplacement of parts, from which my manufacture is wholly free.

I avoid the defects above cited by moulding my hinge from a single pattern, having the two sides of the male member in reverse, and the parting line so arranged and located as to enable the two parts of the mould to separate without difficulty, for withdrawal of the pattern.

Figure 1 is a plan of the "drag," or lower half of the mould, with the pattern of the male member of an auger-hinge.

Figure 2 is a longitudinal section, at the line  $x-x$  of the mould and pattern.

Figure 3 is a transverse section of the mould, at the line  $y-y$ .

Figure 4 is a partially sectionized side elevation of the male member.

Figures 5 and 6 are perspective views of my hinge, on opposite sides thereof.

Figure 7 is a top view of the pintle.

In order to secure a perfect and easy separation of the two parts of my mould from a pattern of the entire hinge, I arrange the parting-line as follows:

Beginning at the point 1, where the top of the knuckle A is intersected by the plane of the hinge-plate B, my parting-line crosses a portion of the top of the knuckle, to its intersection, at the point 2, with the lower edge of the helical thread of the pintle C, whence said line ascends vertically, on the periphery of the thread, to the point 3, where it meets the upper edge of the said thread, which it follows to a point, 4, whence it strikes square across the hollow of the thread to a point, 5, on the lower edge of the opposite thread, as much to the right of the point 3 as the point 4 is to its left. From the point 5 it follows the lower edge of said thread to a point, 6, vertically over the point 3, whence it ascends vertically the periphery of said thread to the point 7, on the upper edge thereof, and follows said edge to the top of the pintle, at 8, whose right edge it follows to the point 9, whence, striking obliquely across the top to the left edge of the pintle at 10, it follows said edge to a point, 11, at the summit of the thread on which it commenced, but on the obverse side of the pintle, which it descends by a line, 11, 12, 13, 14, 15, 16, 17, the precise counterpart of that just described, and reaching the outer edge of the knuckle at a point, 18, diametrically opposite the point 1, passes around said knuckle, in the plane of its axis, and around and in the plane of the plate B, to the place of beginning.

I claim, as a new article of manufacture—

An "auger"-hinge, whose male member is cast in one piece and at one operation, in the manner herein designated.

In testimony of which invention, I hereunto set my hand.

Witnesses:

GEO. H. KNIGHT,  
JAMES H. LAYMAN.

BENOIT ROUX.