

(No Model.)

G. N. CLEMONSON.  
HACK SAW.

No. 601,947.

Patented Apr. 5, 1898.

Fig. 1.

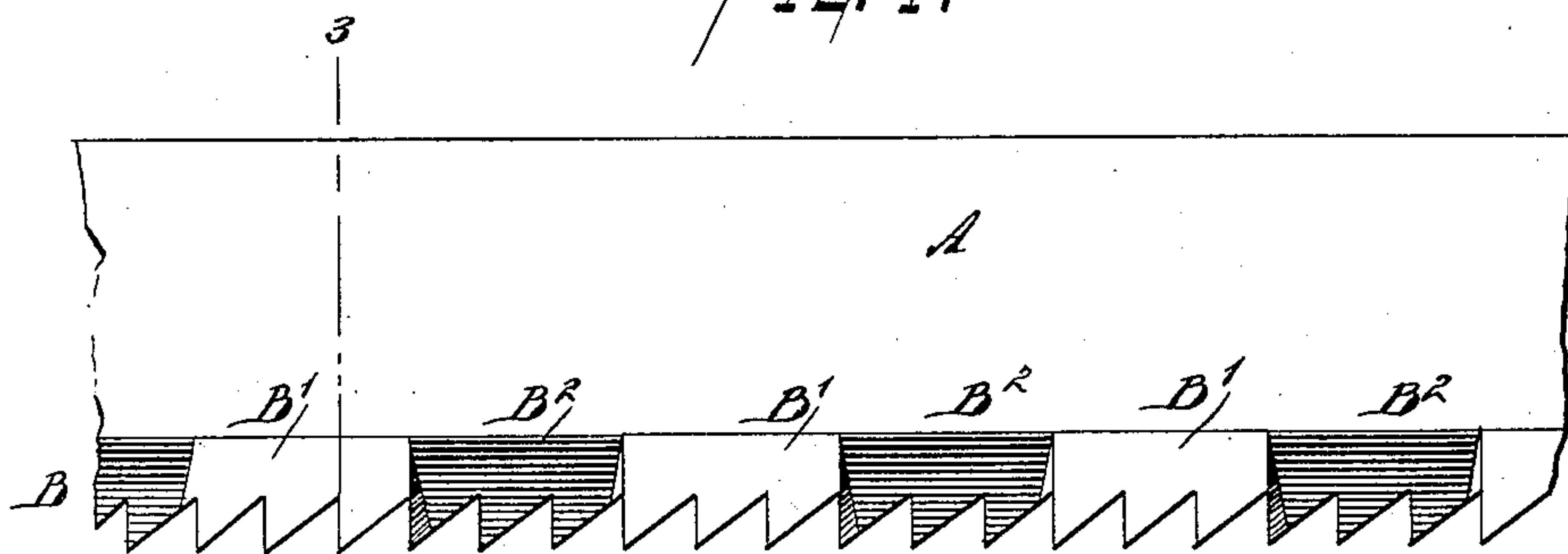


Fig. 2.

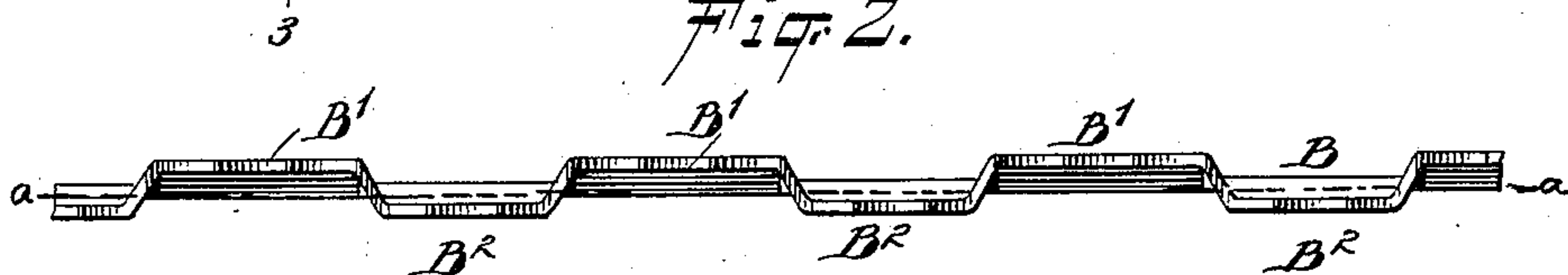


Fig. 3.

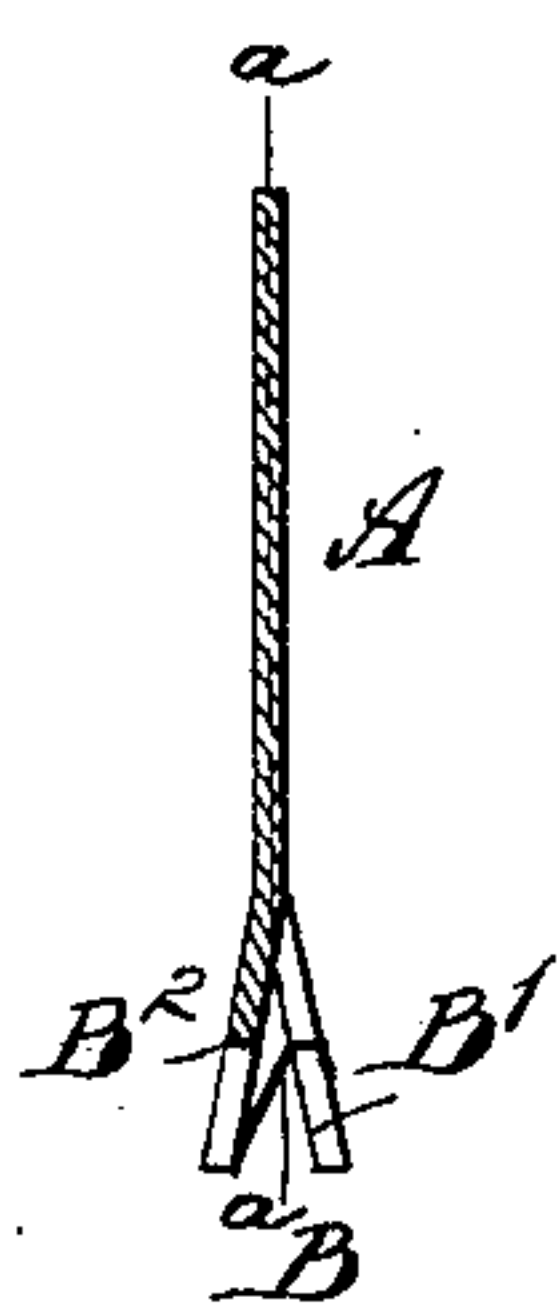


Fig. 4.

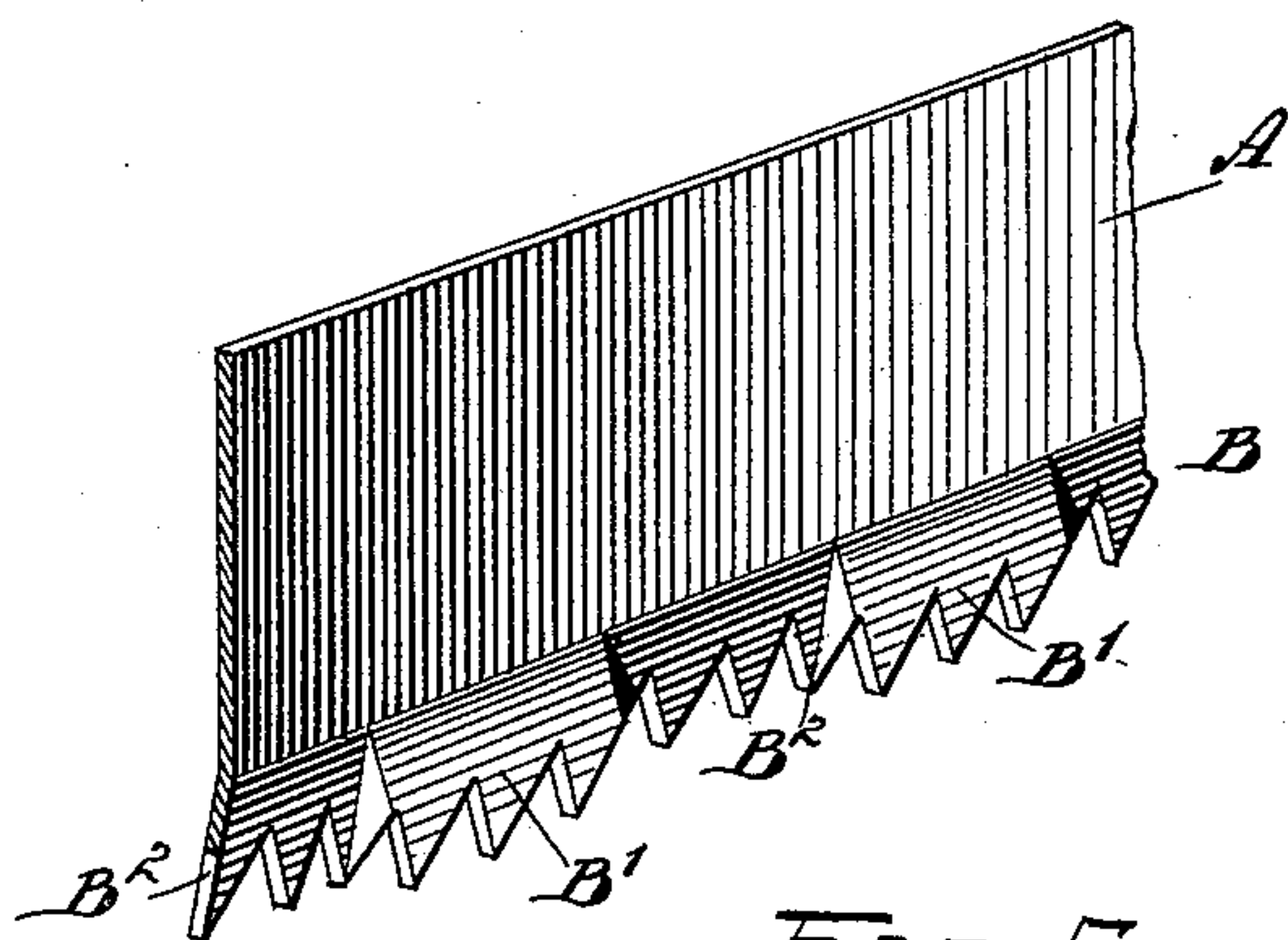


Fig. 5.

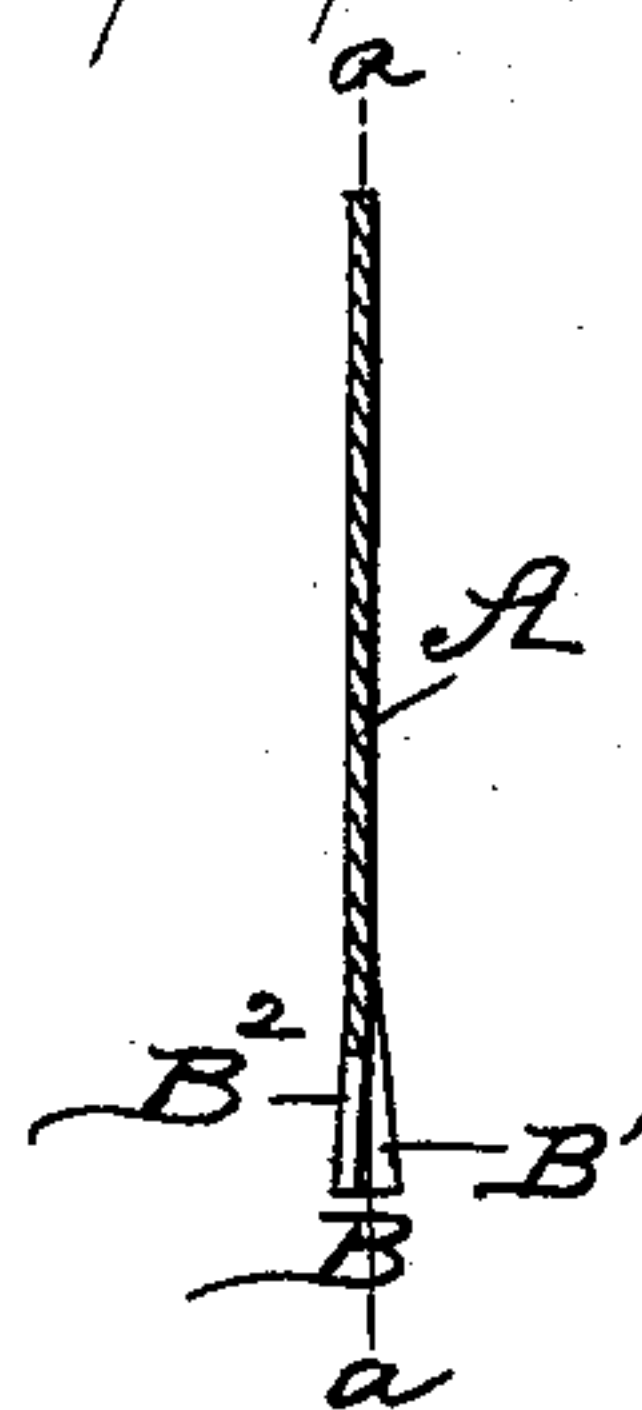
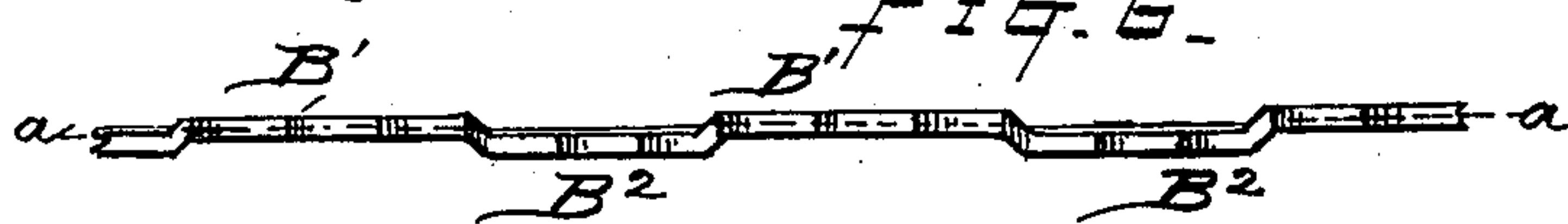


Fig. 6.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

GEORGE N. CLEMSON, OF MIDDLETOWN, NEW YORK.

## HACK-SAW.

SPECIFICATION forming part of Letters Patent No. 601,947, dated April 5, 1898.

Application filed July 27, 1897. Serial No. 646,094. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE N. CLEMSON, of Middletown, in the county of Orange and State of New York, have invented a new and Improved Hack-Saw Blade, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved hack-saw blade arranged to reduce the friction to a minimum when the saw is used, to stiffen the blade and thereby insure against breaking, and to prevent the usual binding of the blade by avoiding wear thereon.

The invention consists of a hack-saw blade having its cutting edge bent alternately in opposite directions, the bends being of rectangular form with a uniform width and depth, and each bend extending over a plurality of teeth.

The invention also consists of certain parts and details and combinations of the same as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is an enlarged side elevation of the improvement. Fig. 2 is an inverted plan view of the same. Fig. 3 is a transverse section of the same on the line 3 3 of Fig. 1. Fig. 4 is an enlarged perspective view of the same. Fig. 5 is a transverse section corresponding to Fig. 3, but showing the parts in their true proportion; and Fig. 6 is a view similarly corresponding to Fig. 2.

The improved hack-saw blade A has its cutting edge B bent alternately in opposite directions with the bends B' B<sup>2</sup> at right angles to the length of the blade and of a rectangular form of uniform width and depth, as is plainly indicated in the drawings. Each bend B' B<sup>2</sup> extends over a plurality of teeth and beyond the base of the teeth, as is plainly indicated in Figs. 1, 3, and 4. The outer portions of those bends which are arranged on the same side form a straight longitudinal line located a distance from the back of the teeth. The faces of the bends B' B<sup>2</sup> thus form flat surfaces, with the faces on each side in a plane at an angle to the corresponding

face of the blade-body. In Figs. 2, 3, and 4 the amount of set or bend has been considerably exaggerated for the sake of clearness. It will be understood that in practice the bends are such that the material at the cutting edge will not be entirely out of the central plane of the blade. (Indicated by the line *a a* in Figs. 2, 3, 5, and 6.)

By the arrangement described the saw-blade A is greatly stiffened at its cutting edge by the bends or corrugations above referred to, and consequently the blade is not liable to break, and at the same time the usual binding of the blade is completely prevented by avoiding any wear thereon by the use of the saw.

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

1. A hack-saw blade having its cutting edge bent alternately in opposite directions, the bends being of rectangular form of uniform width and depth, and each extending over a plurality of teeth, the bends extending inwardly beyond the base of the teeth a distance approximately equal to the height of the teeth, substantially as shown and described.

2. A hack-saw blade having its cutting edge bent alternately in opposite directions, the bends standing at right angles to the length of the blade, the bends being of rectangular form of uniform width and depth and each bend extending over a plurality of teeth, the bends extending inwardly beyond the base of the teeth a distance approximately equal to the height of the teeth, substantially as shown and described.

3. A hack-saw blade provided with approximately rectangular bends arranged alternately on opposite sides of the blade and at an acute angle to the main plane thereof, each of said bends extending over a plurality of teeth and also extending inwardly beyond the bases of the teeth a distance approximately equal to the height of the teeth, substantially as described.

GEORGE N. CLEMSON.

Witnesses:

F. B. HATHAWAY,  
H. H. BLANCHARD.