

No. 845,489.

PATENTED FEB. 26, 1907.

G. B. THOMAS.  
CUTTER FOR METAL WORKING TOOLS.  
APPLICATION FILED DEC. 27, 1905.

Fig. 2.

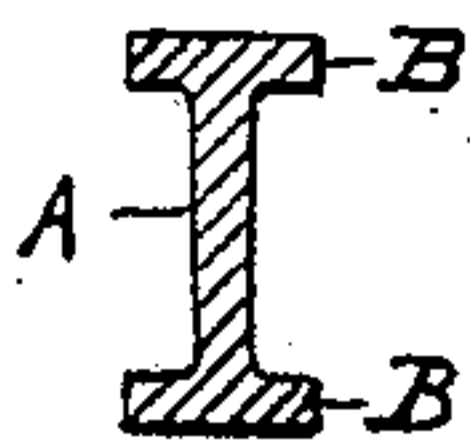


Fig. 1.

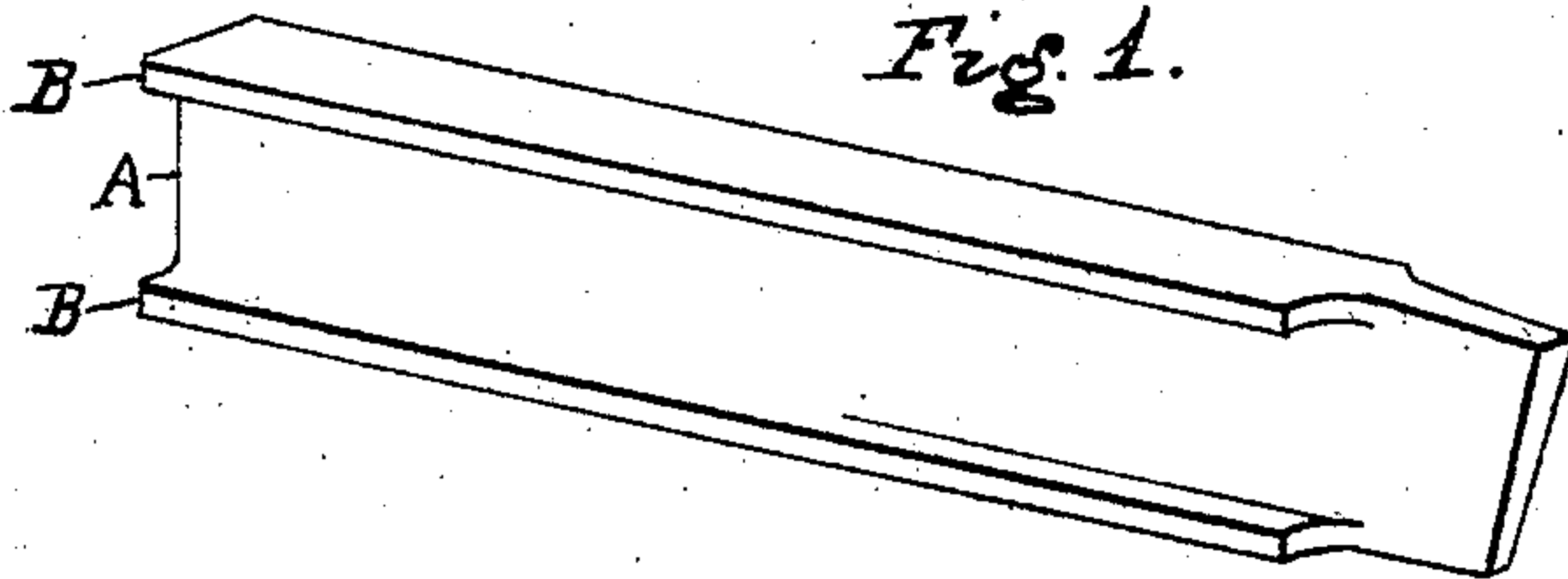


Fig. 3.

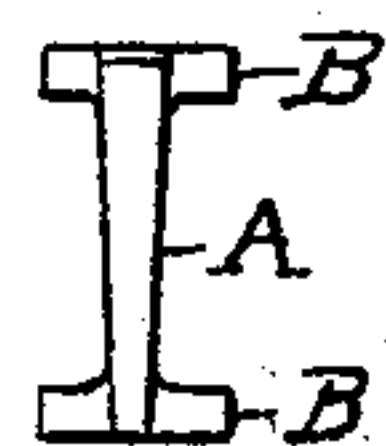


Fig. 5.

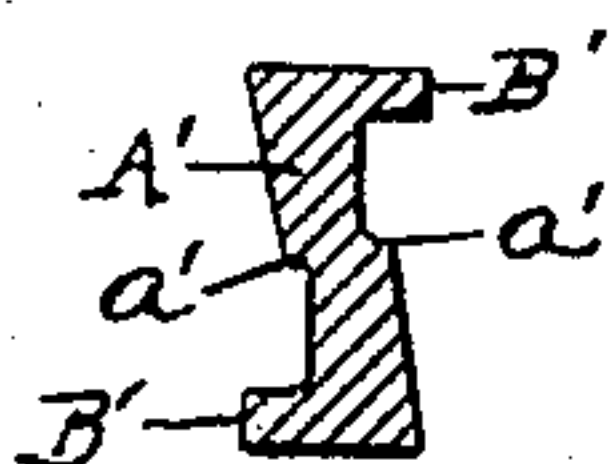


Fig. 4.

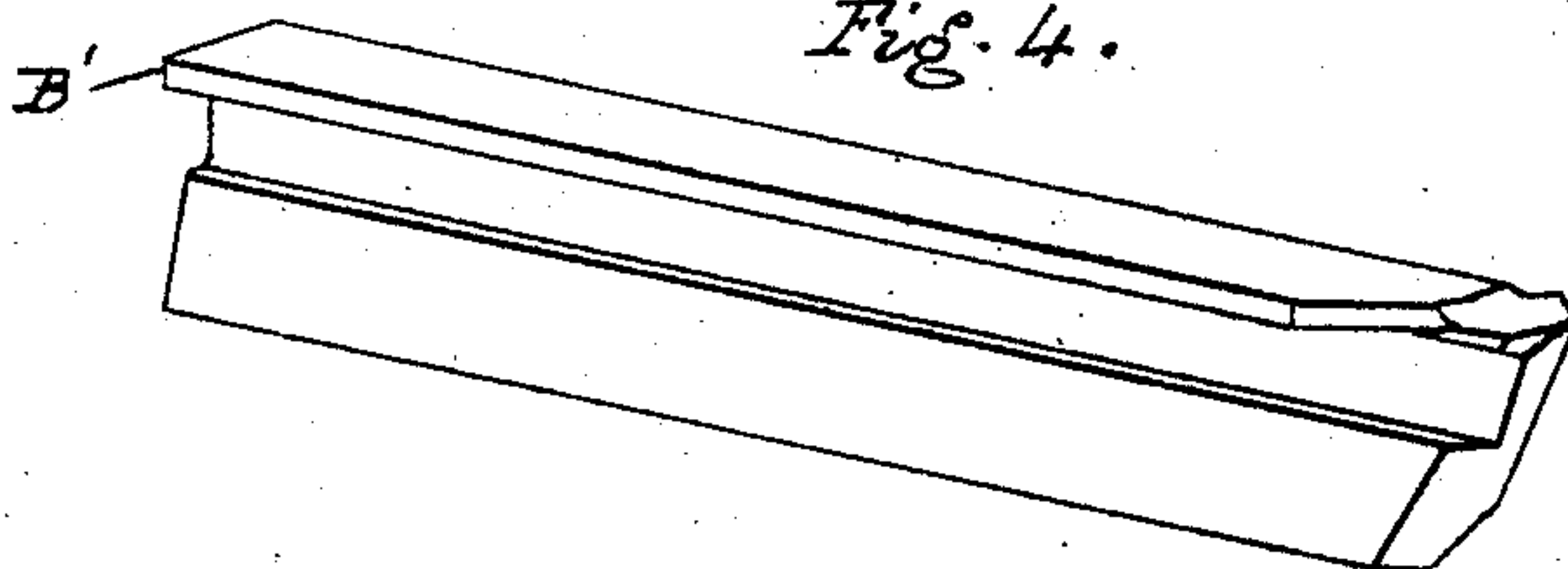


Fig. 6.

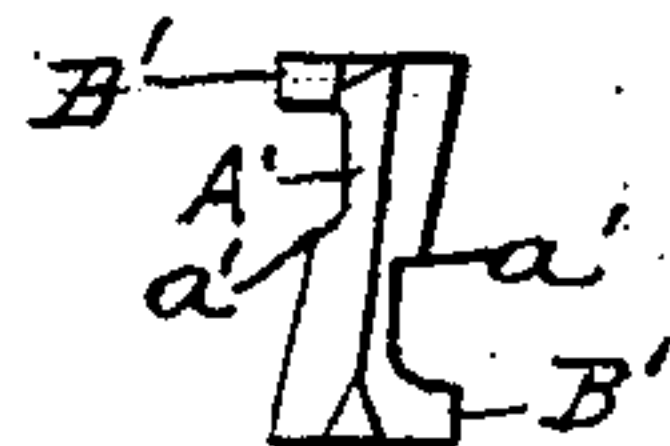


Fig. 7.

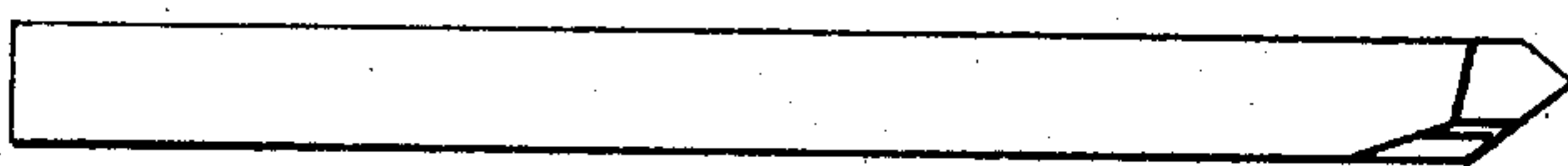


Fig. 9.

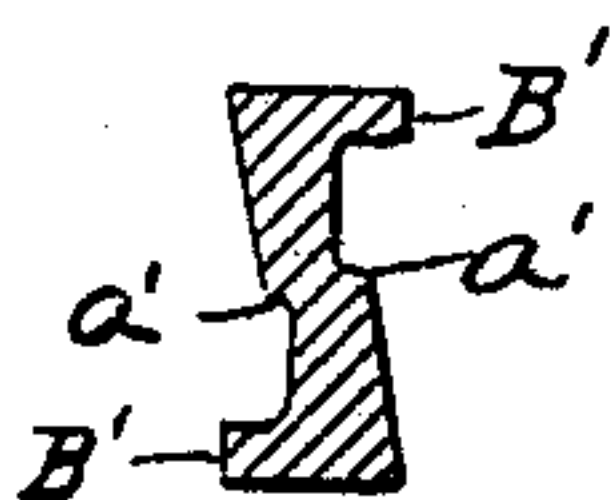


Fig. 8.

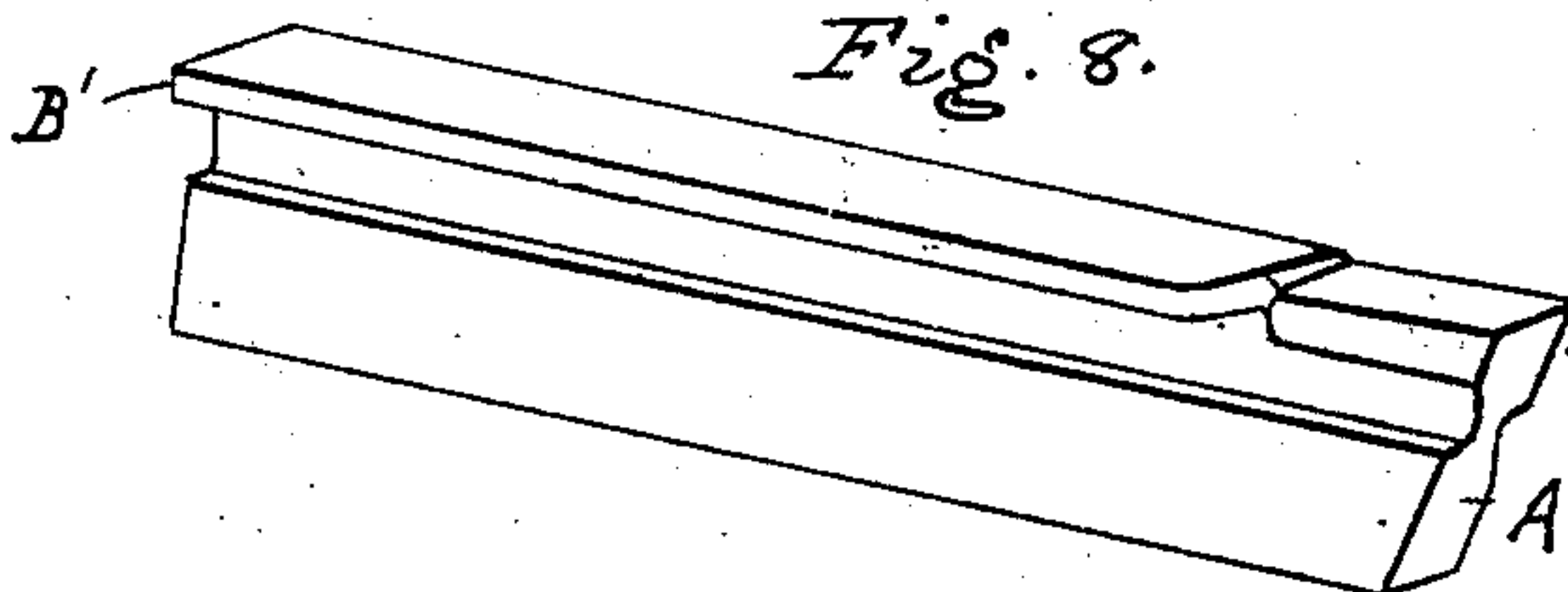


Fig. 10.

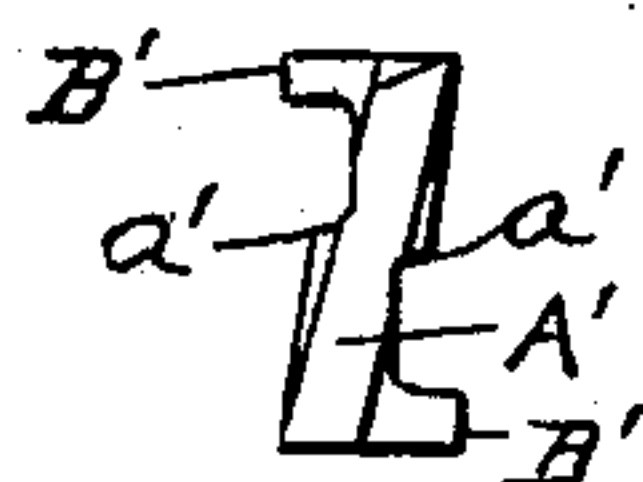


Fig. 11.

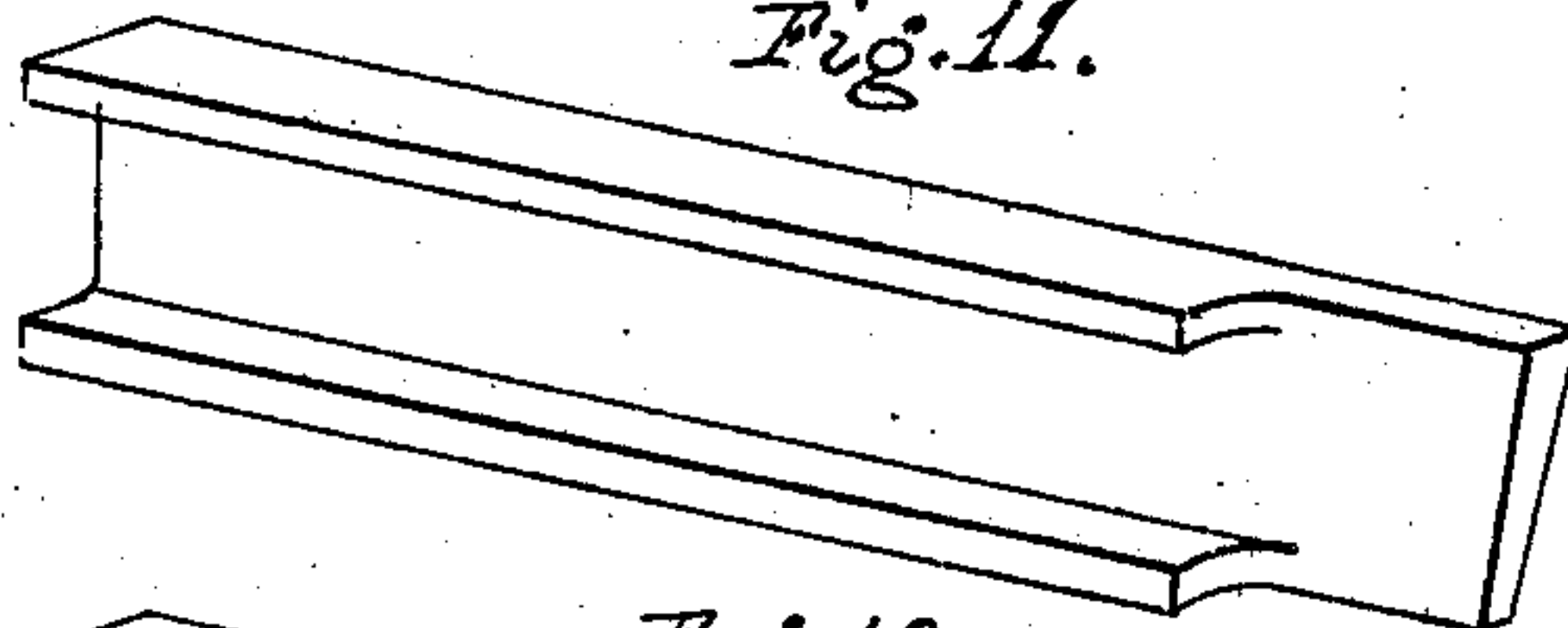
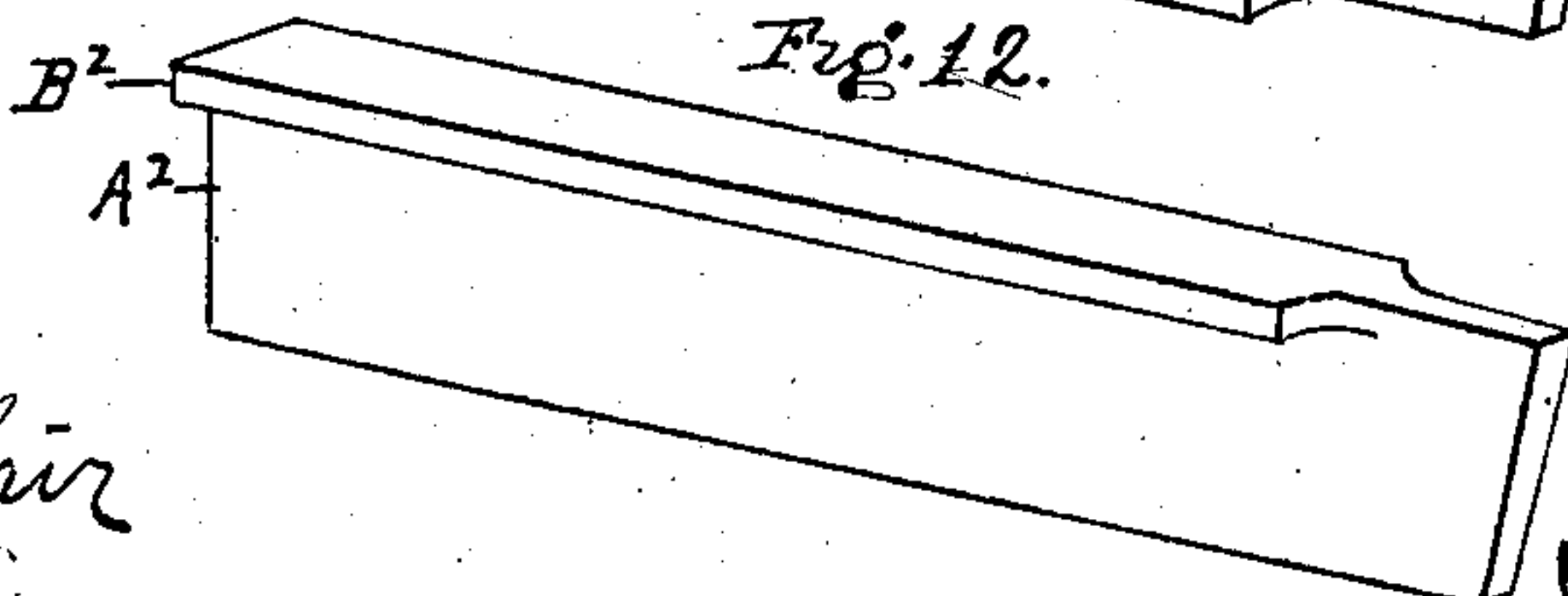


Fig. 12.



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# UNITED STATES PATENT OFFICE.

GEORGE B. THOMAS, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR OF ONE-HALF TO GILBERT W. GOODRIDGE, OF BRIDGEPORT, CONNECTICUT.

## CUTTER FOR METAL-WORKING TOOLS.

No. 845,489.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed December 27, 1905. Serial No. 293,448.

*To all whom it may concern:*

Be it known that I, GEORGE B. THOMAS, a citizen of the United States of America, and residing in Bridgeport, county of Fairfield, State of Connecticut, have invented certain new and useful Improvements in Cutters for Metal-Working Tools, of which the following is a specification.

The object of my invention is to so construct cutters for lathes, planers, and other metal-working tools as to simplify their manufacture, cheapen their cost, and facilitate the sharpening of the cutters.

In the accompanying drawings, Figure 1 is a perspective view of a cutting-off tool for lathes. Fig. 2 is a transverse section through the body of the tool, and Fig. 3 is a view of the cutting end. Fig. 4 is a perspective view of a diamond-point cutter. Fig. 5 is a transverse section through the body of the same cutter. Fig. 6 is a view of the cutting end, and Fig. 7 is a plan view of the same cutter. Fig. 8 is a perspective view of a facing-cutter. Fig. 9 is a transverse section of the body, and Fig. 10 is a view of the cutting end of the same. Fig. 11 is a view of a modification, and Fig. 12 is a view of another modification.

Ordinarily cutting-tools for lathes and planers are made of steel of rectangular section and the cutting end has to be forged down to approximate shape before grinding and sometimes also as a preliminary to sharpening. Besides the time consumed this forging is liable to affect the temper of the metal. In order to do away with this forging operation and at the same time to save metal and reduce cost, I make the bodies of my tools of flanged bars, which may be conveniently rolled to the desired section. Thus in Figs. 1, 2, and 3 I have shown a cutting-off tool formed of an I-bar, the laterally-projecting flanges B B being at opposite edges, while the central connecting-web A provides the metal out of which the cutting end is formed. I prefer to form this web on a slight taper, as shown best in Figs. 2 and 3, in order to provide the necessary clearance behind the top cutting edge instead of requiring it to be ground off. To form this cutter from a blank I-bar, all that is neces-

sary is to grind off the flanges at the end, as shown in Fig. 1, and grind the front end of the web to the shape shown. No forging is required after the original rolling of the bar, and the grinding can be done as quickly as the grinding of the forged end of the ordinary solid blank. So, again, when the cutter has to be sharpened the flanges can be ground off a little further back. Cutters thus constructed are as strong and rigid as tools forged out of solid steel, all the metal needed for strength and rigidity being provided by the construction of web and flanges, while all the metal needed for the cutting end is provided by the web. The time and labor required for forging for solid bars are saved by this construction, and at the same time the amount and cost of steel required for a given size of tool are greatly reduced.

For different styles of cutting-tools the section of the flanged bar may vary, provided there is a combination of web and flanges to provide the necessary strength and rigidity, while the web with the flanges removed forms the cutting end. For example, in Figs. 4 to 7 I have shown a diamond-point cutter formed of a Z-bar and in Figs. 8 to 10 I have shown a facing-tool formed of a bar of similar Z-section. In this section the flanges B' B' are at top and bottom and the connecting-web A' is diagonal, as shown in Figs. 5 and 6, 9 and 10. In the present instance the web is shown as rolled, with shoulders a' a' on opposite faces. To form the cutting end in each case, the flanges B' B' are more or less ground off as the cutter shape requires.

In Fig. 11 I have shown the tool as formed of a channel-bar. Although I prefer flanges at both top and bottom of the bar, a T-bar may in many cases be used, as indicated in Fig. 12; but in this case also the combination of the web A<sup>2</sup> and flanges B<sup>2</sup> provide the necessary rigidity, while the web gives the metal for the cutter.

I claim as my invention—

1. A cutter for lathes, &c., having a web with laterally-projecting flanges, and a cutting end independent of the flanges.

2. A cutter for lathes, &c., having a web

with laterally-projecting flanges at its upper opposite edges, and a cutting end independent of the flanges.

3. A cutter for lathes, &c., having a web  
5 with laterally-projecting flanges at its upper and lower opposite edges, and a cutting end independent of the flanges.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE B. THOMAS.

Witnesses:

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