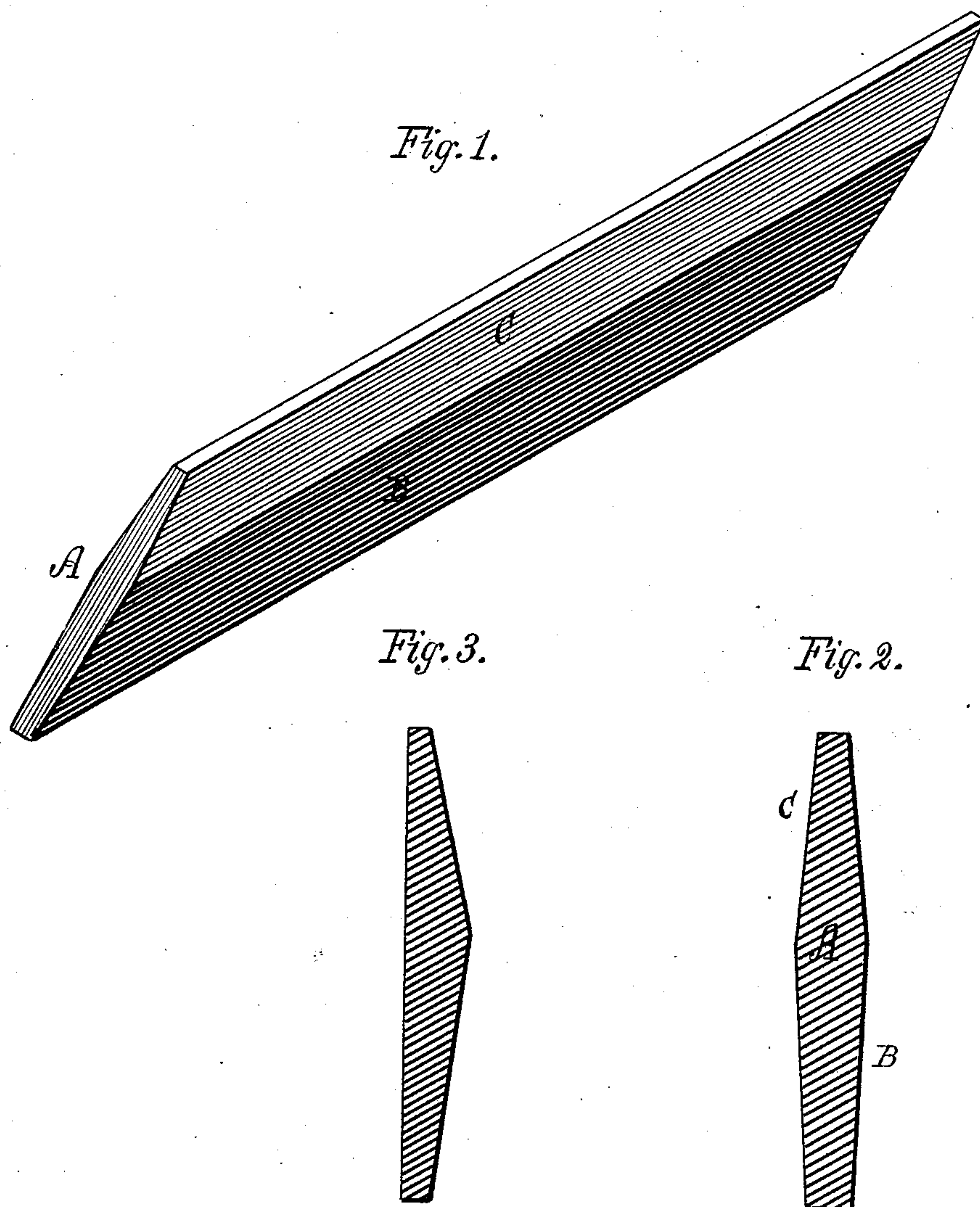


(No Model.)

J. H. HORNE.
ROLL BAR FOR PULP ENGINES.

No. 253,606.

Patented Feb. 14, 1882.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN HENRY HORNE, OF LAWRENCE, MASSACHUSETTS.

ROLL-BAR FOR PULP-ENGINES.

SPECIFICATION forming part of Letters Patent No. 253,606, dated February 14, 1882.

Application filed January 9, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN HENRY HORNE, a citizen of the United States, residing at Lawrence, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Roll-Bars for Pulp-Engines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to the manufacture of "knives" or "bars," so called, with which the grinding-rolls of paper-pulp engines are armed.

In the accompanying drawings, Figure 1 represents a perspective view of a bar rolled according to my invention. Fig. 2 represents a vertical cross-section taken through a bar rolled according to my invention, and Fig. 3 a similar view taken through a bar rolled in the ordinary manner.

In Figs. 2 and 3 the same letters indicate the same parts.

Heretofore these bars have been forged singly, and have been tapered upon one side only, as shown in section in Fig. 3 of the accompanying drawings, the bevel of these tapers being on the back side of the knife. It is essential to taper these bars in order to prevent slipping and misplacement of the strips of wood inserted between them. If the taper is upon one side only, as heretofore, the bars are one-sided, and a given roll containing them is not interchangeable from a right to a left handed engine, and vice versa. This is an objection, as it often becomes desirable to change a roll from one engine to another, and in many instances one of such engines may be a right hand and the other a left hand.

The object of my invention is to obviate these difficulties by producing bars which are interchangeable with right and left hand engines by rolling steel bars having an equal taper upon both sides of each of its edges.

The drawings accompanying this specification represent, in Fig. 1, an isometric elevation, and in Fig. 2 a cross-section, of a bar containing my improvement, while Fig. 3 denotes a section of a bar of the form as heretofore in use.

Referring to said Fig. 3 it will be seen that the bar is straight or flat upon one side, as

shown at *a*, while its opposite side is tapered from each edge inward, as shown at *b* and *c*, the former being the grinding-edge and the latter the portion inserted in the roll.

It will be apparent that if an attempt is made to reverse the roll the grinding portion *b* is not presented in the right direction to induce the "draft," so called—that is, the circulation—in the engine.

In carrying out my improvements I roll steel out into strips or bands of any desired length, and I cut these bands into suitable lengths, *A*, *A*, &c., for the purpose intended. Each band is tapered upon both sides of each edge, as shown at *e e* and *f f*, the longer side *B* being inserted in the roll and the shorter side *C* constituting the grinding-edge. I have shown in the accompanying drawings the two bevels—viz., *B* and *C*—of unequal lengths; but I do not limit myself to this precise construction, as the dividing-ridge between said bevels *B C* may be situated midway of the extreme depth of the plate, thereby making the bevels equal in extent and taper and rendering said bar *A* capable of being reversed, and the edge which at first was contained in the roll used as a grinding-edge and the other and worn edge used as the retaining portion of said bar.

By rolling steel into bars or bands of uniform shape and size from which to cut the grinding-bars of pulp-engine rolls I greatly economize time and material. By tapering a bar equally upon each side of both edges, as shown, I adapt a roll containing these bars to be interchangeable with right or left hand engines, and the draft or circulation induced by the portion *C* is uniform, without regard to the direction in which the roll revolves.

I claim—

1. The method of producing bars for pulp-engine rolls which consists in rolling steel into a band of uniform size and shape and of the form of the destined roll, such band being cut into bars of the desired length, as occasion requires.

2. A bar for pulp-engine rolls having its sides upon opposite edges tapering, for purposes stated.

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

JOHN HENRY HORNE.

Witnesses:

H. E. LODGE,
F. CURTIS.