

(No Model.)

C. H. PERKINS.
ROLLS FOR MAKING HORSESHOE BLANK BARS.

No. 487,057.

Patented Nov. 29, 1892.

Fig. 2.

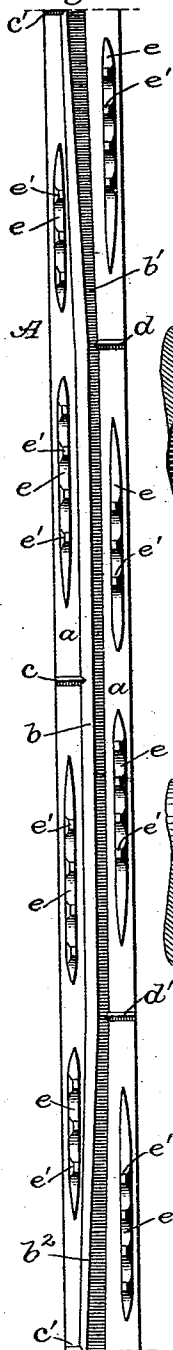


Fig. 1.

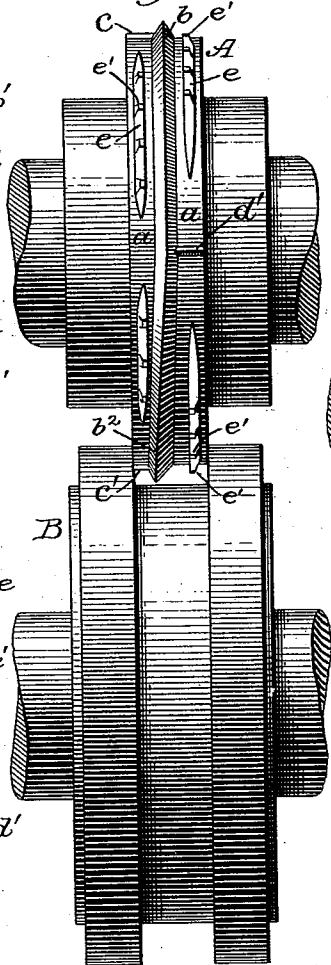


Fig. 3.

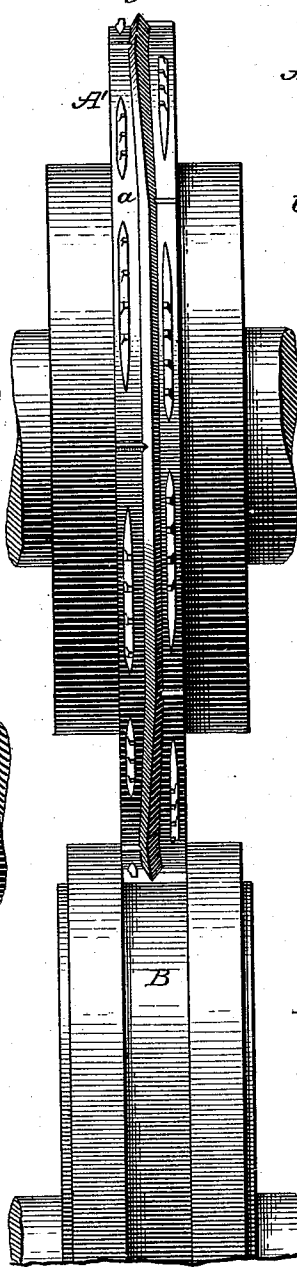
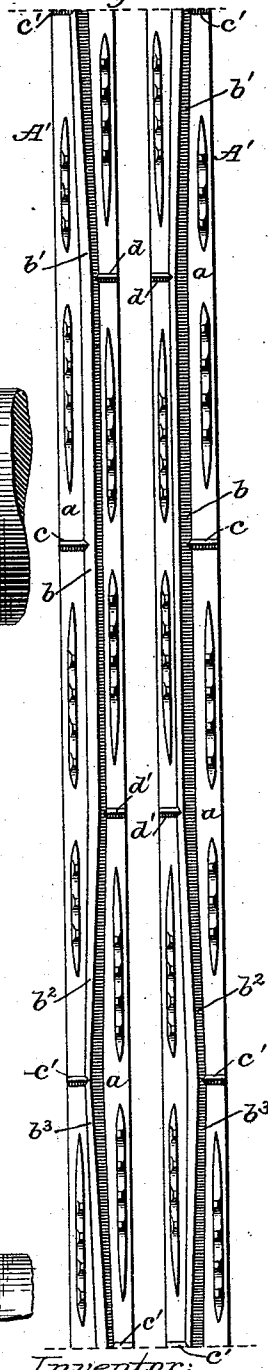


Fig. 4.



Attest:
Philip F. Larnest.
Howell Little

Inventor:
Charles Henry Perkins.
By *Wm. C. Munn* Attorney -

UNITED STATES PATENT OFFICE.

CHARLES HENRY PERKINS, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO
THE RHODE ISLAND PERKINS HORSE SHOE COMPANY, OF JERSEY CITY,
NEW JERSEY.

ROLL FOR MAKING HORSESHOE-BLANK BARS.

SPECIFICATION forming part of Letters Patent No. 487,057, dated November 29, 1892.

Application filed February 5, 1892. Serial No. 420,455. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HENRY PERKINS, of the city and county of Providence, in the State of Rhode Island, have invented certain new and useful Improvements in Rolls for Making Complex Horseshoe-Blank Bars; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear, true, and complete description of my invention.

In my application for Letters Patent, Serial No. 420,266, I disclosed certain novel complex blank-bars devised by me, and these in their best forms contain the blanks arranged in two lines, and it is for the production of said double-line complex blank-bars that I have devised rolls embodying my present invention. My said double-line blank-bars are termed "complex," in that each bar contains three different kinds of blanks respectively required in the production of three types of horseshoes known as the "side-weighted," the "toe-weighted," and still another, which may be either a "snow-shoe" or a mule-shoe.

Broadly stated, my present invention consists in a die or pattern roll having a working face or periphery so constructed that in co-operating with a suitable bed, preferably a roll, it will develop in a double-line blank-bar a series of side-weighted blanks and in the meantime form such metal as would otherwise be waste or scrap into other forms of blanks suitable for other kinds of shoes, it being understood that the peculiar shape of the side-weighted blanks precludes their exclusive formation in a double-line blank-bar without more or less waste or scrap other than that which must occur in the form of end stubs or butts.

Otherwise stated the main feature of my invention consists in a die-roll or pattern-roll having on its face or periphery a continuous grooving-tongue, which is divided into lengthwise sections or parts, some of which are parallel with the edges of the working face, others of said parts or sections being inclined toward and from said edges. Each of the said straight or parallel sections serves with the next preceding and succeeding inclined

or laterally-deflected sections to form the inner edges of a pair of side-weighted blanks abutting each other at their wide ends, and this construction of said grooving-tongue is a characteristic feature in rolls embodying my present invention. Another characteristic feature always present with that last described is such a lateral spacing or width between said non-inclined or straight portions of the tongue and the opposite edge of the working face as will cause in said space another kind of blank to be formed, this blank being as a rule substantially uniform in width from end to end. The remaining portions of the working face of the roll serve for forming toe-weighted horseshoe-blanks, these being wide at the center and tapered toward both ends. In my rolls in one of the most desirable forms said tongue is so constructed as to produce a single toe-weighted blank between and alternating with snow-shoe blanks, although without materially varying the aforesaid characteristic features of my rolls provision may be made for forming additional toe-weighted blanks.

To more particularly describe my invention, I will refer to the accompanying drawings, in which—

Figure 1 in front view illustrates a die-roll embodying my invention in what I deem its most desirable form and also a grooved roll for co-operating therewith. Fig. 2 illustrates the working face of the die-roll of Fig. 1 in plane projection. Fig. 3 illustrates in front view a modification of my die-roll. Fig. 4 illustrates the working face of the die-roll of Fig. 3 in plane projection in two halves side by side.

The die-roll A of Figs. 1 and 2 has a peripheral working face *a*, which has a width equal to that of the widest portion of the side-weighted blank desired plus the width of the desired snow-shoe blank, and said die-roll may co-operate with a grooved sliding bed; but preferably it is operated as a tongue-roll in conjunction with the grooved roll B, preferably operated as a bed-roll, although the die-roll may be located beneath the grooved roll.

On the face of the die-roll A there is a row

grooving-tongue which is peripherally continuous, although at a certain portion of its length it is parallel with the two edges of the working face and substantially central, as at b , and alternating with this straight or parallel portion said tongue is laterally inclined or deflected, as at b' b^2 , toward one edge of the working face, and these inclined portions abut with each other. At one side of the center of the central portion of the groove there is a lateral parting-line spur c extending toward one edge of the working face, and a similar spur c' is located at the one (or same) side at the junction of the two laterally-deflected portions of the tongue. These spurs indicate the lateral parting-lines between those portions of the roll which form side-weighted blanks, and these parting-line cuts in a bar produced by said roll occupy a single line, and any two successive blanks constitute a pair of right and left hand blanks. At the opposite side of the tongue bb' b^2 there are other lateral parting-line spurs d d' similar to those already described; but these are so located that each two spurs d and d' will define the ends of a snow-shoe blank, the latter being formed opposite the central portion of the tongue and therefore uniform in width. In like manner said two spurs d d' will define the ends of a toe-weighted blank, this being wide at its center or toe portion and tapered or inclined at its inner edge toward both ends.

Although it is always preferable to provide the rolls with suitable creases e , having nail-head print e' , it is to be understood that they may be omitted without departing from my invention.

With the die-roll A, as described, a double-line blank-bar may be developed in which there will be as many pairs of side-weighted blanks as there are single blanks of the other two kinds, and hence I deem said roll to be in its most desirable form, because I can thereby produce a maximum proportion of side-weighted blanks and avoid such waste or scrap as would occur if it were not for the simultaneous formation of blanks of the two other varieties. There is, however, substantial value in a complex blank-bar containing blanks suited for two or more different types of shoes; and so far as I know I am the first to devise such a bar and of course the first to devise a complex die-roll capable of producing complex horseshoe-blank bars. I do not therefore restrict myself to any specific arrangement of the grooving-tongue with respect of the edges of the working face, nor to any precise cross-section of said tongue, inasmuch as its sides may be beveled with uniformity or with desired variations, according to the desired character of the inner edges of the blanks to be produced, so long as said roll possesses the two characteristic features hereinbefore described—viz., such a construction of the working face as will form a pair of side-weighted horseshoe-blanks at one side of the tongue and at the directly-opposite side a

single snow-shoe blank or other generally-similar shoe-blank. As hereinbefore indicated, the grooving-tongue may be so varied as to produce a less number of side-weighted blanks in a given length and a greater number of toe-weighted blanks, and such a roll is illustrated in Figs. 3 and 4.

The die-roll A' is somewhat larger in diameter than the roll A; but its working face a is of the same width, (although shown on a smaller scale,) and it is to be used with any suitable grooved bed or roll. The grooving-tongue of this roll differs from that in the die-roll of Figs. 1 and 2, first, in that this has additional laterally-deflected portions b^3 , these being introduced between the deflected portions b' and b^2 ; secondly, in that the parting-line spurs c and c' are located in groups regularly alternating at the two sides of the tongue, instead of being all at the one side, as in the roll A; thirdly, in that the parting-line spurs d and d' alternate as to the two sides of the tongue, instead of being all on one side, and, fourthly, in that the deflected portions b' and b^2 alternate in their approach to the two edges of the working face, instead of always approaching the same edge, as in the roll A. With these variations in the roll corresponding variations are produced in the resultant blank-bar.

The roll A produces a complex double-line blank-bar in which side-weighted blanks occupy one line and snow-shoe and toe-weighted blanks alternating with each other occupy the other line. This roll A' produces a complex double-line bar, which has in each line—in regular succession say—a pair of side-weighted blanks, a toe-weighted blank, a snow-shoe blank, another toe-weighted blank, and then another pair of side-weighted blanks, and so on. In the double-line bars from both rolls a snow-shoe blank is always opposite the main portions of each pair of side-weighted blanks, and there must always be at least one toe-weighted blank to each snow-shoe blank. Inasmuch as the prime duty of the parting-line spurs is that of mere gage-marks for guidance in separating or cutting off the blanks after the double bars have been longitudinally separated, it is obvious that said spurs are not essential features in my novel rolls, although it is generally desirable to employ them.

It is to be understood that the blanks to be formed at one side of the tongue and between the parting-line spurs d and d' may be varied in their character, if desired—as, for instance quite narrow blanks, suitable for mule-shoes, may be formed instead of blanks for snow-shoes—and that the slight variations thereby involved in the form or arrangement of the tongue will not be outside of my invention, the prime object of which is to provide a roll which while capable of forming side-weighted horse-shoe blanks will also form one or more other kinds of blank in the same bar in avoidance of the waste or scrap metal which would

otherwise be incident to the forming of side-weighted blanks.

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

1. A die-roll, substantially as hereinbefore described, for forming complex bars containing different kinds of horseshoe-blanks, said roll having a peripheral working face as wide as the combined width of two of the blanks desired and also having a peripheral grooving-tongue, portions of which at intervals in its length are parallel with both edges of said face, each of said portions being preceded by and succeeded by other portions which are laterally inclined or deflected toward the same edge of the face, the space between one edge of the face and a parallel portion being adapted to form one horseshoe-blank of one kind and the spaces between the opposite edge of said face and the connected parallel and deflected portions being adapted in each instance to form a pair of horseshoe-blanks of another kind, each being of uniform width from one end for a portion of its length and tapered toward the other end.

2. A die-roll, substantially as hereinbefore described, for forming complex bars containing three different kinds of horseshoe-blanks, said roll having a peripheral working face 30 and a continuous peripheral grooving-tongue, which at intervals is parallel with both edges of the working face, in lengths conforming to the length of one kind of blank desired, and which between said parallel portions is de- 35 flected toward and from one edge of said face, each two connected deflected portions conforming in length with the length of a second form of blank desired and each parallel portion with its connected deflected portions 40 conforming in length to that of two of the third form of blanks desired and the spaces between the tongue and the two edges of the working face varying in width in accordance with the varied widths of the several blanks 45 desired, as the side-weighted, toe-weighted, and snow-shoe varieties.

CHARLES HENRY PERKINS.

Witnesses:

R. W. COMSTOCK,
CHARLES B. STARK.