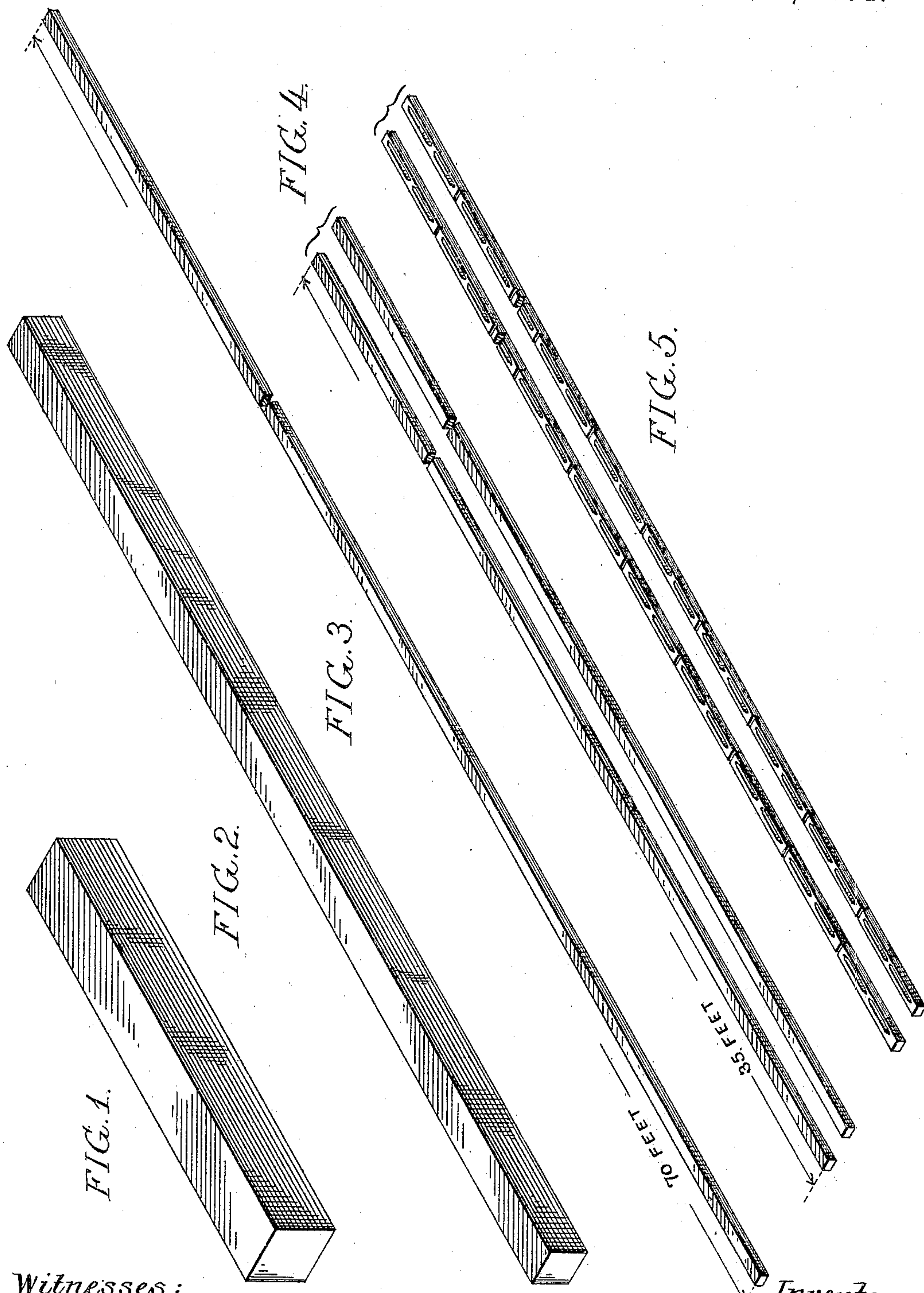


(No Model.)

W. EYNON & W. SEAMAN.  
MANUFACTURE OF CREASED BARS FOR HORSESHOE BLANKS.

No. 446,735.

Patented Feb. 17, 1891.



Witnesses:  
*Alex. Barkoff*  
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# UNITED STATES PATENT OFFICE.

WILLIAM EYNON AND WILLIAM SEAMAN, OF WILMINGTON, DELAWARE.

MANUFACTURE OF CREASED BARS FOR HORSESHOE-BLANKS.

SPECIFICATION forming part of Letters Patent No. 446,735, dated February 17, 1891.

Application filed September 29, 1890. Serial No. 366,514. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM EYNON and WILLIAM SEAMAN, both citizens of the United States, and residents of Wilmington, New Castle county, Delaware, have invented certain Improvements in the Manufacture of Creased Bars for Horseshoe-Blanks, of which the following is a specification.

The object of our invention is to effect economy in the manufacture of creased bars for horseshoe-blanks, and this object we attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figures 1, 2, 3, 4, and 5 represent the various stages in the manufacture of a creased bar for horseshoe-blanks in accordance with our invention.

In the ordinary process of making creased bars for horseshoe-blanks the creasing-rolls form part of the reducing or bar-forming train, and after the bar has been passed through the last of the plain passes it is then fed into the creasing-pass, so as to be delivered as a series of horseshoe-blanks or in condition for separation into horseshoe-blanks. There are several objections to this method of operation. In the first place, the creasing-rolls must be run at a comparatively slow speed in order to prevent injury to the creasing lugs or teeth, thus necessitating a like slow speed for the reducing-rolls, which otherwise might be run at a much higher speed. The length of bar which can be run through the creasing-rolls at one operation is, moreover, limited, for if the bar is of a greater length than from thirty-five to forty feet the rear end of the bar in most cases becomes so cooled before it reaches the rolls as to cause injury to the creasers, thus disabling the creasing-rolls, and consequently rendering the whole train inoperative until the defect can be remedied. The pile or billet from which the bar is to be produced must also be light, so that the rolled bar will not exceed the available length. In carrying out our invention, however, we in the first instance prepare a large billet—such, for instance, as represented in Fig. 1—this billet containing metal enough to produce a horseshoe-bar of, say, from seventy to eighty feet in length. The billet is first reduced in the roughing-rolls to

the form of a crude bar—such, for instance, as represented in Fig. 2—and this crude bar is then subjected to the action of the finishing-rolls, whereby it is reduced to the desired cross-sectional area for the horseshoe-bar, as shown, for instance, in Fig. 3. Supposing that this bar is seventy feet long, it is then cut in half, so as to form two bars each thirty-five feet in length, as represented in Fig. 4, and each of these bars is then passed through a pair of creasing-rolls, so as to have the proper creases or indentations formed therein, as shown in Fig. 5. By this means for a given output of shoes the number of billets to be prepared and heated and the number of bars to be rolled by the roughing and finishing rolls is reduced one-half as compared with the ordinary practice, and the finishing-rolls are permitted to run at full speed while yet maintaining the desired slow speed of the creasing-rolls, for the finishing-rolls must deliver two feet of bar for each foot fed into each pair of creasing-rolls, and the length of bar fed into each pair of creasing-rolls is never of such length as to risk the breaking of said rolls by the cooling of the rear end of the bar before it reaches the same. With the same finishing-roll train, therefore, we are enabled to double the capacity of the mill by simply providing creasing-rolls and horseshoe-making machines in quantity sufficient to utilize the product of said reducing-rolls when the latter are run to their full capacity, and this additional product is obtained with but a comparatively slight increase in the cost of the plant, the cost of the creasing-rolls and horseshoe-machines being slight as compared with the cost of the reducing-train. An incidental advantage of the invention, moreover, is that horseshoes of different sizes can be made from the same bar by simply using creasing-rolls of one size for acting upon one half of the severed bar and of another size for acting upon the other half of the same.

It will of course be understood that all of the operations before described are performed without any reheating of the bar.

Having thus described our invention, therefore, we claim and desire to secure by Letters Patent—

The mode herein described of making creased bars for horseshoe-blanks, said mode

consisting in first rolling a plain finished bar  
of double the length of the required creased  
bar, then severing said plain bar and creas-  
ing the sections of the same independently  
5 but simultaneously, the whole series of opera-  
tions being performed without reheating, sub-  
stantially as specified.

In testimony whereof we have signed our

names to this specification in the presence of  
two subscribing witnesses.

WM. EYNON.  
WM. SEAMAN.

Witnesses:

WM. D. CONNER,  
HARRY SMITH.