

(No Model.)

F. HOLUB & C. S. LOCKE.
Machinery for Rolling Certain Sections of T Rails.
No. 242,536.

Patented June 7, 1881.

Fig. 1,

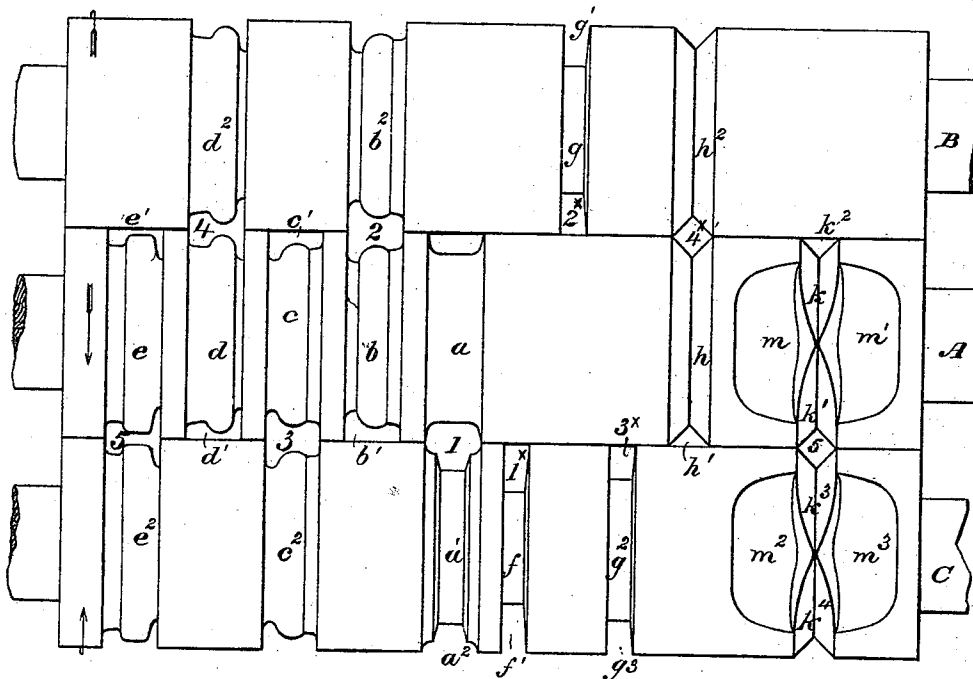


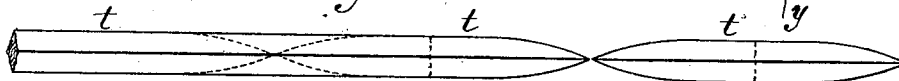
Fig. 7, Fig. 6, Fig. 5, Fig. 4, Fig. 3,



Fig. 8, Fig. 9, Fig. 10, Fig. 11



Fig. 12,



WITNESSES

Wm a Shunk
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FRANK HOLUB AND CHARLES S. LOCKE, OF CHICAGO, ILLINOIS.

MACHINERY FOR ROLLING CERTAIN SECTIONS OF T-RAILS.

SPECIFICATION forming part of Letters Patent No. 242,536, dated June 7, 1881.

Application filed September 22, 1880. (No model.)

To all whom it may concern:

Be it known that we, FRANK HOLUB and CHARLES S. LOCKE, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Machinery for Rolling Certain Longitudinal Sections of Ordinary Steel T Railroad-Rails into Certain Articles of Manufacture, of which the following is a specification.

The object of our invention is to produce small-sized T-rails from the top portions of heavy refuse T-rails and crop ends, and at the same time, by the use of different dies in the same set of rolls, to produce from the base portions of such rails and crop ends a series of double-pointed harrow-teeth blanks, suitable to be severed in the center and form two teeth each.

In the accompanying drawings, Figure 1 represents a front elevation of so much of a set of three-high rolls as is necessary to illustrate our invention. Fig. 2 represents a cross-section of an ordinary T railroad-rail, to be severed longitudinally upon the lines x and y , or thereabout, to form three longitudinal sections, substantially such as are described as being formed in our United States Letters Patent No. 227,010, having cross-sections, respectively, as indicated by the dotted lines and the full lines in Fig. 2.

We propose by the present machinery to work the sections as illustrated in the full lines in Fig. 2. The other section, as illustrated by dotted lines, forms an angle-bar, and is specially well adapted to be manufactured into a series of horseshoe-blanks.

In Fig. 1 the rolls A B C are represented as being provided with suitable dies for accomplishing our objects, which we will now specify in detail.

a indicates a concave annular die in roll A.

a' indicates an irregular-shaped annular die in roll C, of the form in cross-section clearly shown at a^2 and coincident with the die a .

b indicates an annular die in the roll A, having an oval central projection and being of the form in cross-section as clearly shown at b' .

b^2 indicates a like die with a like projection in the roll B coincident with the die b .

c indicates a somewhat similarly-shaped die in the roll A, of the form in cross-section clearly

shown at c' , and c^2 shows a like coincident die in the roll C.

d indicates an irregular-shaped die in roll A, with a central projection, of the form in cross-section clearly shown at d' , and d^2 shows a like coincident die in roll B.

e indicates a somewhat similarly-shaped die in roll A, of the form in cross-section clearly shown at e' , and e^2 shows a like coincident die in roll C.

It will be observed that these dies provide for five passes of the blank shown in cross-section in the upper part of Fig. 2 through the rolls. Commencing from the front at No. 1, the first pass will produce the shape shown in cross-section at Fig. 3. The return pass, at No. 2, gives the shape shown in cross-section at Fig. 4. The next pass, at No. 3, gives the shape in cross-section shown at Fig. 5. The return, at No. 4, gives the shape in cross-section shown in Fig. 6, and the final pass, at No. 5, finishes the bar into a small-sized T railroad-rail, as illustrated in cross-section in Fig. 7.

f indicates an annular die in roll C, polygonal in cross-section, as shown at f' .

g indicates an annular die in roll B of similar cross-section, as shown at g' , but of less depth than die f .

g^2 indicates another annular die in roll C, of similar cross-section, as shown at g^3 , but of still less depth than die g .

h indicates an annular die in roll A, of right-angular-triangular cross-section, as shown at h' , and h^2 indicates a like and coincident die in roll B.

k k' indicate semi-annular dies in roll A, of right-angular-triangular cross-section in their middle parts, as shown at k^2 , and diminishing in both directions around the roll to points at the surface of the roll on opposite sides, and k^3 and k^4 indicate like coincident dies in the roll C. It is essential to our objects, in providing these dies k k' k^3 k^4 , that the roll A be cut away to a depth about equal to the greatest depth of these dies, as shown at m m' , on diametrically-opposite sides, in order that the waste metal, as indicated by the spiral dotted lines in Fig. 12, may escape. The roll C is shown in the drawings as cut away in like manner and in corresponding positions at m^2 m^3 , and may be assumed to be cut away in the

same manner on its diametrically-opposite sides, as will be understood without being shown in the drawings. But while this may be found convenient in some cases, in general it will not
5 be necessary or desirable in practice to cut away the roll C at all.

The series of dies last described provide for five passes of the longitudinal base-section of a railroad-rail, shown in cross-section in the
10 full lines, Fig. 2. The first pass, at No. 1^x, will form the bar in cross-section as shown in Fig. 8; the return pass, at No. 2^x, will form it in cross-section as shown in Fig. 9; the next
15 pass, at No. 3^x, will form it in cross-section as shown in Fig. 10; the return pass, at No. 4^x, will form it square in cross-section, as shown in Fig. 11; and the final pass, at No. 5^x, will finish the series of double-pointed bars *t*, as
20 shown in Fig. 12, ready to be cut in two in the middle, as indicated in Fig. 12 in transverse dotted line, and form two harrow-teeth.

It is, of course, to be understood that the diameters of the rolls are to be suitable to form two such double-pointed bars at each revolution
25 of the proper length to each form two harrow-teeth.

In working up longitudinal sections of railroad-rails it is advantageous to provide in the same set of rolls dies for simultaneously manufacturing different articles of the different sections, whereby but one set of rolls has to be
30 driven, and the first cost of two sets is saved; also, whereby the original heating of the refuse rail for longitudinal severance into sections may serve for the rolling operation; hence in
35 great part arises the utility of our invention.

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

A set of rolls provided with the dies as shown
40 at Nos. 1, 2, 3, 4, and 5 and the dies as shown at Nos. 1^x, 2^x, 3^x, 4^x, and 5^x, whereby a small railroad-rail and a series of double harrow-teeth can be rolled simultaneously, as described.

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Witnesses for Holub:

CHARLES W. STAEHLE,
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Witnesses for Locke:

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