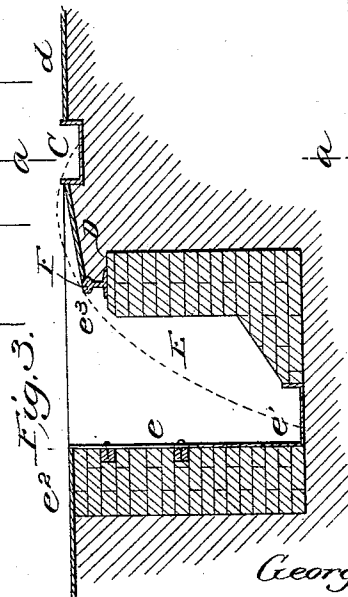
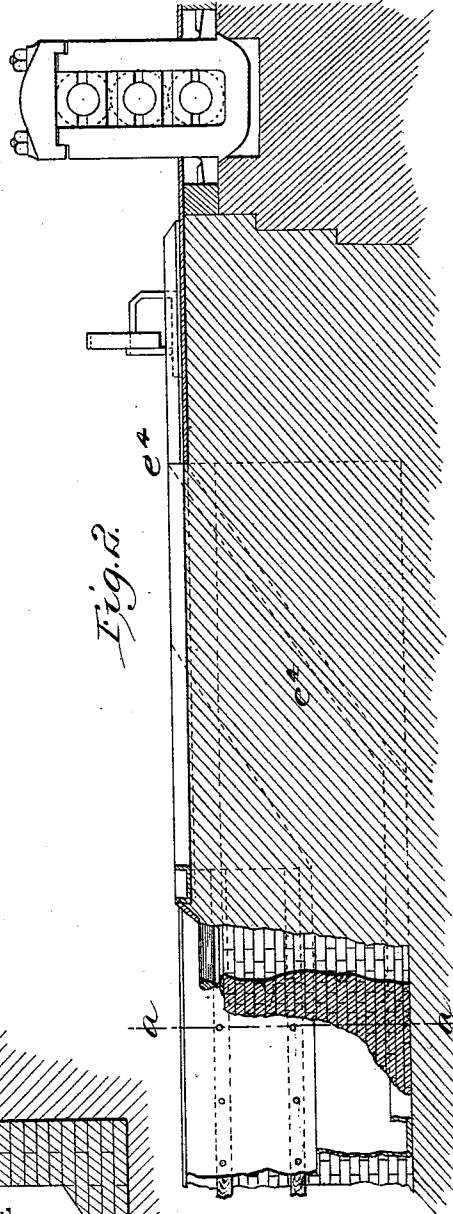
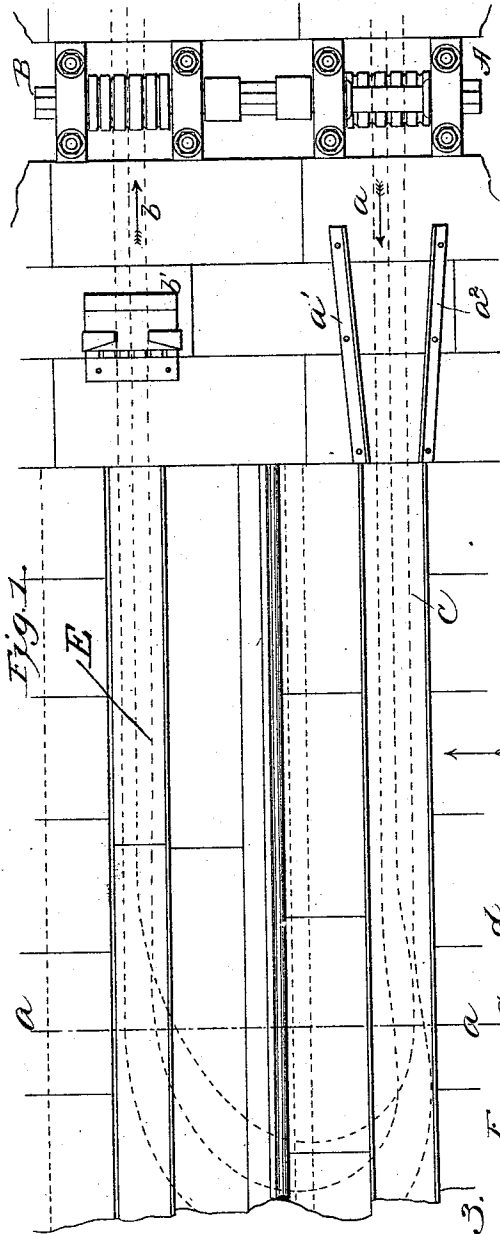


(No Model.)

G. LEHBERGER.
ROD MILL FLOOR.

No. 517,224.

Patented Mar. 27, 1894.



witnesses:
Harry D. Rohrer.
H. Bradley.

Inventor:
George Lehberger.
By W. H. Singleton,
Att'y.

UNITED STATES PATENT OFFICE.

GEORGE LEHBERGER, OF NEWBURG, NEW YORK, ASSIGNOR TO THE
KILMER MANUFACTURING COMPANY, OF SAME PLACE.

ROD-MILL FLOOR.

SPECIFICATION forming part of Letters Patent No. 517,224, dated March 27, 1894.

Application filed November 10, 1893. Serial No. 490,606. (No model.)

To all whom it may concern:

Be it known that I, GEORGE LEHBERGER, a citizen of the United States, residing at Newburg, county of Orange, State of New York, have invented a certain new and useful Improvement in Rod-Mill Floors; 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 pertains to, make and use the same.

This invention relates to an improvement in rod mills, more especially to appliances for quickly handling the red hot rods as they pass through the rolls.

In rod mills, more especially since recent improvements therein such as automatic reels and repeaters by which the output has been largely increased and the mills have been able to roll several rods passing through them at substantially the same time, it has been found exceedingly difficult, if not almost impossible, for the "hooker boys" to handle the loops of the rods as they pass out on the oval side. And even with some mechanical appliances which have been attempted to be used upon that side of the train, it has been found that loops would more or less interfere one with another and become tangled up.

The object of the present invention is to produce an appliance which, added to a rod mill, will permit several loops at the same time to be passing through the rolls, the several loops overlapping one another without any interference or without any danger of becoming tangled up.

To this end the present invention consists in an improved floor extending rearwardly from the rolls, such floor having on one side a lengthwise trench or pit, into which one side of the loop falls and from which it is withdrawn by the roll.

In the drawings: Figure 1 represents in plan view so much of a rolling mill floor as is necessary to display the present invention. Fig. 2 represents a longitudinal section of Fig. 1 looking in the direction of the arrow. Fig. 3 represents a transverse section of Figs. 1 and 2 down the line $x-x$.

In the drawings, the letters A and B indicate two sets of rolls of a rolling mill, the rod supposing to traverse in the direction indi-

cated by the two arrows, a and b , such arrows being upon the oval side of the mill. In this side of the mill is placed my improved floor. Leading from the rolls A are the usual guide pieces a' and a'' and on the side of the roll B the usual guard b' , the intention of these parts being well known and needing no description. Continuing rearwardly from the guide pieces a' and a'' is a shallow trough or channel C. From this channel C sideways toward the side of the floor to the rear of the rolls B, the floor is preferably sloped as shown at D, though it may be flat. At the side of the floor and immediately back of the rolls B and away from the side on which is the channel C, the floor is made with a longitudinal trench or pit E. This pit may be made of brick work as shown, and may have its side e and its bottom e' , sheathed with metal plates. There also may be metal plates on each side of the pit as shown at E^2 and E^3 . The edge e^3 of the pit on the side of the slope D may be made rounded and as shown in the drawings a good and cheap way to form such rounded edge and a durable way is to put in a piece of railroad rail as indicated at F. At the front end e^4 toward the rolls B, this trench or pit E may be made with an upward slope as clearly indicated by the dotted lines at this place.

In operation after the front end of the rod passes through the rolls A it is immediately fed into the rolls B through the guard b' . As the rod continues to be forced through the rolls A the loop is first thrown between the guides a' and a'' and one side of it is conducted down the channel C. As the loop extends backwardly the other side of the loop slides over the edge F of the pit E and falls down into such pit. As the loop continues to elongate more and more of the metal falls down into said trench or pit, the latter permitting and allowing all the elongation that is necessary in the loop, to compensate for the difference in the reduction of the rolls A and B. Should a second rod pass through the rolls A and the rolls B at the same time that the first loop is on the floor, the side of the loop which is in the channel C will slide in underneath the curved portion of the first loop lying on the portion D of the floor, and the other side of the second loop will drop down into the pit.

In this way the front side of the second loop only tends to interfere with the first side of the first loop and readily lifts this side up, instead of having to lift up the entire first loop as is the case in the automatic appliances heretofore used upon this side of the rod mill. This lifting of only a portion of the front loop by the second loop is readily accomplished and prevents any interference or any entanglement of the two loops which is liable to occur when the second loop has to lift up the entire first loop in order to become free therefrom.

From the foregoing description it will be seen that the primary object of the present invention is to produce a rod mill floor which shall have in it a pit or trench of such a capacity that the main portion of the rod in passing from one set of rolls to the other will be down within said pit or trench, whereby there is always a constant tendency to keep the outcoming portion of the loop in a straight line, thereby preventing any kinking or twisting. I desire to be understood that this is the spirit of my invention broadly considered, and that any pit or trench of any shape or size, width or depth whatever by which this result will be produced, comes within the scope of my invention. In speaking of the main weight of the wire, what is meant is not simply that the main portion of the wire should be down in the pit, but that there should be such a pull downward in the pit by reason of the portion of the rod being therein, that the gravity of the rod downward in the pit would produce the result above explained, that is, the keeping straight of the outcoming portion of the loop. The action of this floor upon the loop is somewhat similar to that given by a hooker boy, that is to say, the outcoming portion of the rod is kept straight and the other portion is thrown out in a similar manner to the way in which it is

acted upon by a hooker boy, the result in both cases being that the outcoming portion of the rod is kept in a straight line and is prevented from being tangled up with the other side of the loop, this being kept open and free. The incline *e'* simply facilitates the upward pull of the loop through the rolls B and is not at all a necessary part of the invention.

Of course it is to be understood that while I have described the use of this invention on the oval side of the mill, it may also be used on the other side.

Having described my invention, what I claim is—

1. In a rod mill, a floor extending rearwardly from the rolls and having on one side a lengthwise trench or pit into which one side of the loop may fall, as set forth.

2. In a rod mill, a floor extending rearwardly from the rolls and having a trench or pit on that side of the floor at which the metal is received into the roll and into which trench or pit one side of the loop may fall, as set forth.

3. A rod mill floor having on one side a guide and on the other side a pit or trench deeper than the guide, as set forth.

4. A rod mill floor having on one side a guide and on the other side a longitudinal pit or trench and an incline between them as set forth.

5. A rod mill floor having on one side a guide, on the other side a longitudinal pit or trench and a rounded edge between them as set forth.

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

GEO. LEHBERGER.

Witnesses:

JOHN H. BANCROFT,
WILLIAM A. KILMER.