

H. P. MACDONALD.
 ROLL RAMMING APPARATUS.
 APPLICATION FILED JAN. 22, 1912.

1,058,078.

Patented Apr. 8, 1913.

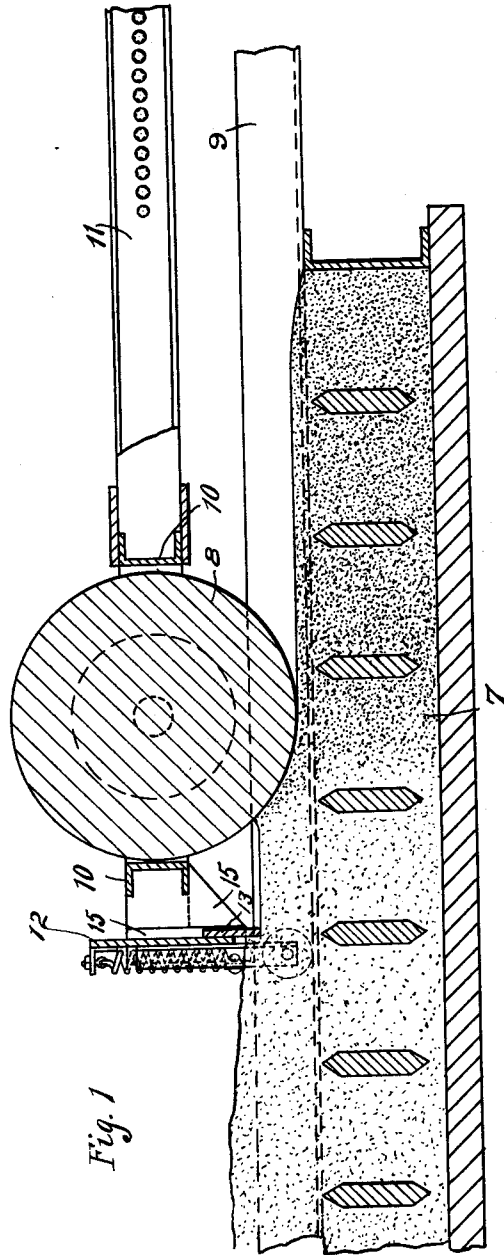


Fig. 1

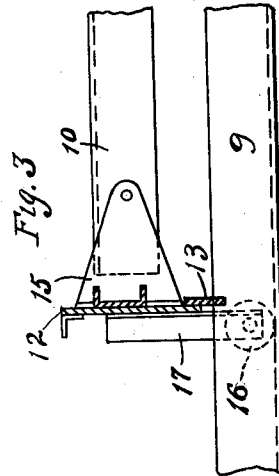


Fig. 3

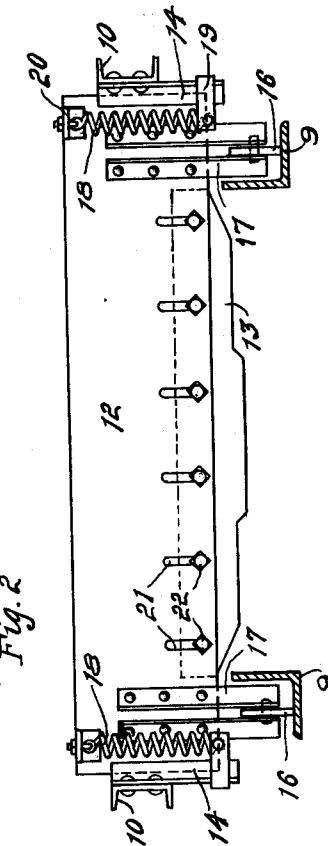


Fig. 2

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UNITED STATES PATENT OFFICE.

HARRY P. MACDONALD, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO THE SNEAD AND COMPANY IRON WORKS, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

ROLL-RAMMING APPARATUS.

1,058,078.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed January 22, 1912. Serial No. 672,644.

To all whom it may concern:

Be it known that I, HARRY P. MACDONALD, a citizen of the United States, residing in Jersey City, in the county of Hudson, State of New Jersey, have invented certain new and useful Improvements in Roll-Ramming Apparatus, of which the following is a specification.

This invention relates to roll ramming molding apparatus, and it has for its primary objects: the provision of an improved strike-off mechanism for leveling the sand in the flask to the proper depth previous to the ramming operation; and the provision of a strike-off mechanism of the character described which can be readily adjusted to suit different kinds of work. These, together with such other objects as may hereinafter appear, or are incidental to my invention, I attain by means of a construction illustrated in preferred form in the accompanying drawing, wherein—

Fig. 1 is a longitudinal section through a portion of a roll ramming machine and flask showing the application of my improvement, Fig. 2 is an end view of the strike-off mechanism, and Fig. 3 is a side elevation and partial section of a modified form of my invention.

My invention is primarily designed for use in connection with roll ramming machines wherein the sand is rammed or packed by passing a heavy roll back and forth over the sand in the flasks, and in Fig. 1 I have shown a flask 7 in which the sand has been partially rammed by a roll 8. The roll travels on the angle-iron tracks 9 in substantially the same manner as that indicated in my copending application, Serial No. 672,645 filed January 22, 1912, and is provided with a frame 10 having a rack 11 driven by a pinion not shown in any preferred manner. Mounted on the frame 10 in front of the roll is my improved strike-off mechanism which comprises a main plate 12 to the lower edge of which is adjustably secured the strike-off plate 13. The plate 12 is loosely mounted in the frame work 10 between the angles 14 and angle plates 15 and can move vertically relative to the said frame work. It is supported directly on the tracks 9 by means of the rollers 16 mounted in the brackets 17 bolted to the plate, and is normally held in engagement with the tracks 9 by means of the tension springs 18. One

end of each spring is secured to the frame work 10 by a bracket 19 and the other end to the plate 12 by means of a bracket 20. By this arrangement the strike-off mechanism will always level off the sand uniformly regardless of the elevation of the frame 10 which occurs when the roll 8 rides onto the sand in the flask. It is important that the depth of the sand above the flask be even and uniform in order to secure proper and uniform ramming of the sand throughout the flask, and I attain this end by mounting the strike-off mechanism so that it will remain in fixed relation with respect to the tracks 9.

The strike-off plate 13 is adjusted vertically on the plate 12 by means of the slots 21 and nuts 22, whereby it may be readily adapted for use on flasks of different depths.

In Fig. 3 I have illustrated a strike-off mechanism which is of the same general construction as the mechanism already described, but which is maintained in fixed relation with the tracks 9 by gravity. In this form the angle plates 15 are pivoted to the frame work 10 so that the strike-off mechanism will rotate as the frame is raised by the passing of the roll onto the sand in the flask. The weight of the strike-off mechanism will maintain the rollers 16 in engagement with the tracks 9 and the sand in the flask will be leveled off at a predetermined depth as previously pointed out.

It will be noted that the strike-off plate 13 may have its edge shaped, as in Fig. 2, to the contour of the pattern or may be of any other suitable form. Where the pattern projects up well within the flask it is preferable to have less sand above the pattern than at either side thereof.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is the following:

1. A roll ramming apparatus comprising in combination a flask, a roll for ramming the sand in the flask, a strike-off member preceding the roll, and means whereby the strike-off member is maintained in predetermined relation with respect to the flask regardless of the elevation of the roll.

2. A roll ramming molding apparatus comprising in combination, a track, a roll mounted thereon, a frame carried by the roll, a strike-off member loosely mounted in

the frame and means for maintaining the strike-off member in fixed relation with respect to the track.

3. A roll ramming molding apparatus comprising in combination, a track, a roll mounted thereon, a frame carried by the roll, a strike-off member loosely mounted in the frame and spring means for maintaining the strike-off member in fixed relation with respect to the track.

4. A roll ramming apparatus comprising in combination a track, a roll mounted thereon, a frame carried by the roll, a strike-off plate loosely mounted in the frame provided with a pair of rollers engaging the track, and means for maintaining the rollers in engagement with the track.

5. A roll ramming apparatus comprising in combination a track, a roll mounted thereon, a frame carried by the roll, a strike-off plate loosely mounted in the frame provided with a pair of rollers engaging the track, and spring means for maintaining the rollers in engagement with the track.

6. In combination in a roll ramming mechanism, a flask, a roll, a frame carried by the roll, a strike-off member loosely mounted in the frame, and means for maintaining the strike-off member in fixed relation to the flask.

7. In combination in a roll ramming mechanism, a flask, a roll, a frame carried by the roll, a strike-off member loosely mounted in the frame, means for adjusting the level of the strike-off member with respect to the flask, and means for maintaining the strike-off member in fixed relation to the flask.

8. A roll ramming apparatus comprising in combination a flask, a track, a roll mount-

ed thereon, a frame carried by the roll, a strike-off plate loosely mounted in the frame provided with supports engaging the tracks and means for maintaining the strike-off member in fixed relation to the flask.

9. A roll ramming apparatus comprising in combination a flask, a roll for ramming the sand in the flask, a strike-off member preceding the roll, and yielding means whereby the strike-off member is maintained in predetermined relation with respect to the flask regardless of the elevation of the roll.

10. A roll ramming molding apparatus comprising in combination, a track, a roll mounted thereon, the said track being adapted to support the roll over a flask, a frame carried by the roll and a strike-off member having fixed relation to the flask regardless of the elevation of the roll and frame, said strike-off member being mounted in the frame for relative movement with respect thereto.

11. A roll ramming apparatus comprising in combination a flask, a roll for ramming the sand in the flask, means for supporting the roll over the flask, a frame carried by the roll, and a strike-off member loosely mounted on the frame and engaging the supporting means for the roll whereby the strike-off member remains in fixed relation with respect to said supporting means regardless of the elevation of the roll.

In testimony whereof I have hereunto signed my name in the presence of the two subscribed witnesses.

H. P. MACDONALD.

Witnesses:

C. C. GREENLEE,
J. F. ARNOLD.