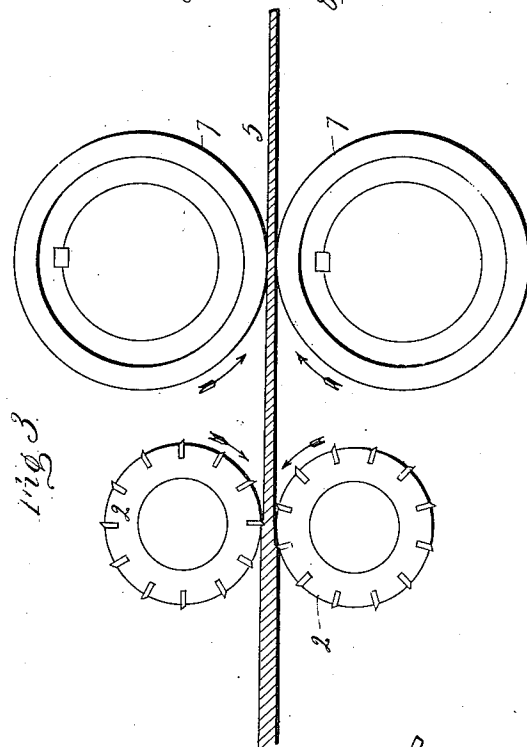
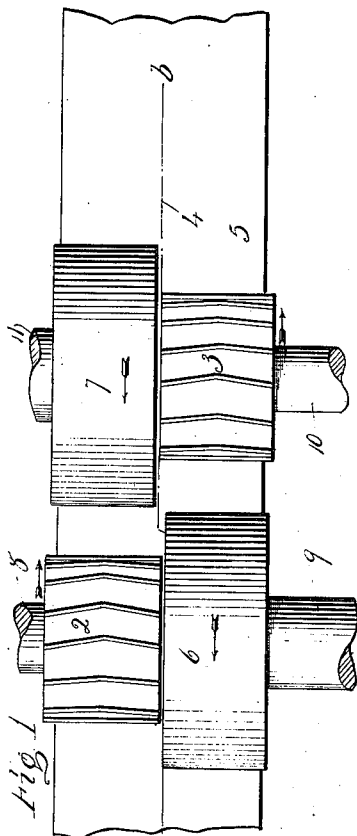
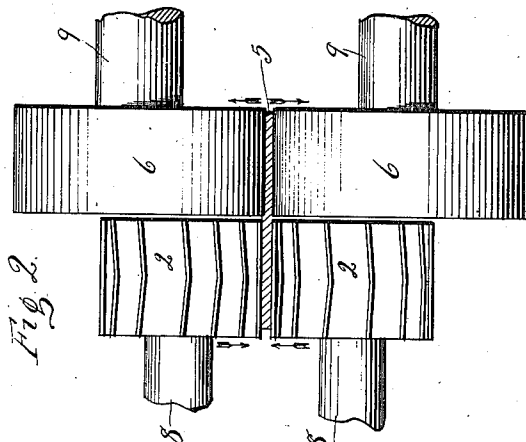
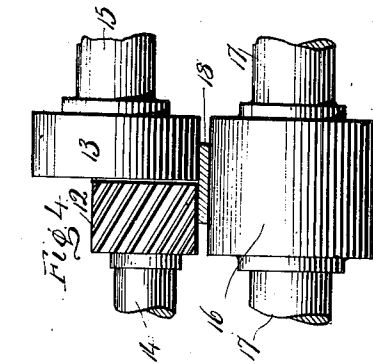


D. L. SUMMEY.
MACHINE FOR AND METHOD OF SCALPING FLAT METAL BARS.
APPLICATION FILED MAY 23, 1910.

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Patented Dec. 12, 1911.



Witness
C. J. Reed.
C. L. Reed

Inventor
David L. Summey
by Seymour Pearce
Att'y

UNITED STATES PATENT OFFICE.

DAVID L. SUMMEY, OF WATERBURY, CONNECTICUT, ASSIGNOR TO CHASE ROLLING MILL CO., OF WATERBURY, CONNECTICUT, A CORPORATION.

MACHINE FOR AND METHOD OF SCALPING FLAT METAL BARS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, DAVID L. SUMMEY, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Machines for and Method of Scalping Flat Metal Bars; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a broken plan view of the scalping and feed-rolls of a machine constructed in accordance with my invention and adapted to carry out my method. Fig. 2 an end view of a machine showing one pair of scalping-rolls and a pair of feed-rolls located in opposition to it and co-acting with it. Fig. 3 a broken view in vertical section on the line *a-b* of Fig. 1 and showing one pair of scalping-rolls and the pair of feed-rolls located on the same side of the center of the line of travel of the metal bars through the machine. Fig. 4 an end view of one of the modified forms which a machine embodying my invention may assume, the said view corresponding to Fig. 2 and showing the scalping-roll, a feed-roll located in opposition to it, and a feed-roll located below the said scalping and feed rolls and co-acting with them both.

My invention relates to an improved method of and machine for scalping flat metal bars preparatory to rolling them, the object being to provide for doing such work effectively and rapidly with the minimum amount of power and hard labor, and with the minimum amount of wear and tear upon the machine employed.

With these ends in view my invention consists in a method of, and machine for scalping flat metal bars, as will be hereinafter described and pointed out in the claims.

In carrying out my method, I employ, as herein shown, a pair of scalping-rolls 2 located one above the other, and a corresponding pair of scalping-rolls 3 located one above the other, these pairs of rolls being arranged diagonally with respect to each other on the opposite sides of a line 4 forming, as may be said, the center of the line of travel of the metal bars 5. I also employ a pair of

feed-rolls 6 located one above the other, and a pair of corresponding feed-rolls 7 located one above the other, these pairs of rolls being also located diagonally with respect to each other and on opposite sides of the said line 4. The pair of scalping-rolls 2 are, however, located directly opposite the pair of feed-rolls 6, while the pair of scalping-rolls 3 are located directly opposite the pair of feed-rolls 7, the axes 8 of the scalping-rolls 2 being located in the same vertical plane as the axes 9 of the feed-rolls 6 and the axes 10 of the scalping-rolls 3 being located in the same vertical plane as the axes 11 of the feed-rolls 7.

The rolls are mounted in any convenient manner so as to be adjusted toward and away from each other as may be required, and are furnished with power connections whereby the scalping-rolls of one pair are rotated in the opposite direction from the feed-rolls located opposite them.

Under the mode above described of arranging the scalping and feed rolls, each metal bar 5 has its upper and lower faces scalped from one edge inward to its longitudinal center by one pair of rolls, while the bar is being fed and guided by the gripping of the opposite half of the bar from the opposite edge thereof inward to its longitudinal center, by the opposite pair of feed rolls. Then as the bar progresses in its movement between the rolls, its scalped faces will be held between the other pair of feed rolls, while the other pair of scalping rolls is scalping the upper and lower faces of the metal just previously used for feeding and guiding the bar by the other pair of feed rolls, and so on, the principle being to employ diagonally arranged scalping and feed rolls and scalping the upper and lower face of the bar from its outer edge inward to its longitudinal center by a pair of scalping rolls, while the bar is fed and held by a pair of feed rolls and then scalping the upper and lower faces from the opposite edge of the bar inward to the center thereof, by the other set of scalping rolls while the bar is fed and guided by the other pair of feed rolls.

In the modified construction shown by Fig. 4, I employ a scalping roll 12 and a feed roll 13 located opposite each other and having their axes 14 and 15 located in the same vertical plane but not in line. The

said rolls 12 and 13 coact with a feed-roll 16 located directly below them with its shaft 17 in the plane of the journals 14 and 15, and adapted in width to extend entirely under the rolls 12 and 13 so as to co-act with them both in its feeding and holding function. This machine contains another set of three rolls corresponding to those shown but with the rolls 12 and 13 reversed in position so that the upper scalping rolls and the upper feed rolls respectively of the two sets of rolls will be arranged diagonally with respect to each other the same as shown in Fig. 1. Since in my modified construction I do not employ any scalping rolls located below the path of the bar 18, the same will be scalped upon only one face at a time, and must therefore be passed between the rolls twice, first with one face up, and then with the opposite face up. But the principle of operation is the same in the machine of Fig. 4 as in the machine of Figs. 1 to 3 inclusive; that is to say, the scalping of the bar is done from its outer edges inward to its longitudinal center, while it is being fed and held by being gripped by that portion of it lying opposite its longitudinal center. In a machine constructed in accordance with Fig. 4, the process requires, as already stated, a double pass of each bar through the machine, but as the bar is scalped upon only one face at a time, it is obvious that the bar may be held and fed with the expenditure of less power. Under my improved method, the work of scalping metal bars preparatory to rolling them, may be done with great rapidity in a superior manner, and with the minimum handling of the bars and wear and tear of the machine.

I claim:—

1. A method of scalping flat metal bars consisting in scalping the upper and lower faces of a bar from its outer edge inward to the longitudinal center of the bar, while the corresponding upper and lower faces of the bar on the opposite side of the longitudinal center thereof are being utilized to hold and feed the bar, the upper and lower faces so used to hold and feed the bar being then scalped while the faces first scalped are used to hold and feed the bar.

2. A method of scalping flat metal bars consisting in scalping the upper and lower faces of a bar from one of its edges inward to the longitudinal center of the bar by means of scalping rolls, while the upper and lower faces of the opposite side of the bar on the opposite side of the longitudinal center thereof are engaged by feed rolls which hold and feed the bar, the upper and lower faces so holding and feeding the bar being then passed between scalping rolls and scalped for which purpose the faces first scalped are passed between feed rolls.

3. In a machine for scalping flat metal bars, the combination with two pairs of scalping rolls arranged diagonally with respect to each other on opposite sides of the center of the line of travel of the bars to be scalped, of two pairs of feed rolls diagonally arranged with respect to each other on opposite sides of the said line but in opposition to the respective pairs of scalping rolls, the axes of each pair of scalping rolls being located in the same or substantially the same plane as the axes of the pair of feed rolls located opposite it.

4. In a machine for scalping flat metal bars, the combination with two pairs of scalping rolls arranged diagonally with respect to each other on the opposite sides of the center of the line of travel of the bars, of two pairs of feed rolls respectively arranged opposite the scalping rolls but diagonally with respect to each other on the opposite sides of the said line, the scalping rolls being rotated in the opposite direction from the feed rolls opposite them.

5. In a machine for scalping metal bars, the combination with two pairs of scalping rolls arranged diagonally with respect to each other on opposite sides of a line passing through the center of the line of the travel of the bars to be scalped, of two pairs of feed rolls diagonally arranged with respect to each other on opposite sides of the said line, but in opposition to the respective pairs of feed rolls, whereby the upper and lower faces of a bar of metal are scalped from one of its edges inward to its center by one pair of scalping rolls, while the bar is being fed and guided by the feed rolls arranged in opposition to the said pair of scalping rolls, and whereby the upper and lower faces of the bar on the opposite side of the said line are subsequently scalped by the other pair of scalping rolls, while the bar is being fed by the other pair of feed rolls, the axes of the scalping and feed rolls located in opposition, being in the same vertical plane and the scalping rolls being rotated in the opposite direction from the feed rolls opposite them.

6. A method of scalping flat metal bars consisting in scalping a portion of a bar on one side of a longitudinal line while another portion of the bar on the other side of the said longitudinal line is utilized to hold and feed the bar and then utilize the scalped portion of the bar to hold and feed the bar while the unscalped portion of the bar is being scalped.

7. A method of scalping flat metal bars consisting in scalping a portion of the face of the bar on one side of a longitudinal line while another portion of the same face of the bar is being utilized to hold and feed the bar, and then utilizing the scalped portion of the said face of the bar to hold and

feed the bar while the unscalped portion of the same face of the bar is being scalped.

5 8. A method of scalping flat metal bars consisting in simultaneously scalping portions of the upper and lower faces of a bar on one side of a longitudinal line while portions of the said upper and lower faces of the bar beyond said longitudinal line are being utilized to hold and feed the bar, and
10 then utilizing the scalped portions of the upper and lower faces of the bar to hold and feed the bar while the unscalped portions of the upper and lower faces thereof are being scalped.

15 9. A method of scalping metal bars in one operation without removing them from the machine in which the work is done, consisting in simultaneously subjecting the opposite faces of the bar to the action of scalping and feeding rolls whereby portions of the bar on one side of a longitudinal line are scalped while the unscalped portions of the bar are being utilized for supporting
20 and feeding the bar and whereby scalped portions of the bar are used for supporting and feeding the bar while unscalped portions of the bar are being scalped.

10. A method of scalping flat metal bars, consisting in scalping a face of the bar from its outer edge inward to the longitudinal center of the bar, while that portion of the face of the bar on the opposite side of the longitudinal center thereof is being utilized to hold and feed the bar, the portion first
25 scalped being used to hold and feed the bar while the portion first used to hold and feed the bar is being scalped.

11. A machine for scalping flat metal bars having scalping rolls, feed rolls located upon

the opposite sides of a vertical plane passed 40 through the longitudinal center line of the bars and arranged to scalp and hold the opposite faces thereof whereby both faces of the bars are completely scalped in one operation without removing the bars from 45 the machine.

12. A machine for scalping flat metal bars having a plurality of scalping rolls arranged on opposite sides of a longitudinal center, and a plurality of feed rolls arranged to co-act with the surfaces of the bar whereby unscalped portions of the bar are utilized to feed the bar while other portions of the bar are being scalped and vice versa to completely scalp both portions of the bar 55 without removing it from the machine.

13. A machine for scalping flat metal bars having a plurality of scalping rolls and a plurality of feed rolls arranged on opposite sides of a longitudinal line to co-act with the surfaces of the bar to utilize portions of said surfaces for supporting and feeding the bar while other portions of the bar are being scalped and subsequently to utilize the scalped portions of the bar for supporting 60 and feeding the bar while the surface previously used for supporting and feeding the bar are scalped, whereby both faces of the bar are completely scalped without removing it from the machine. 70

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

DAVID L. SUMMEY.

Witnesses:

F. L. ADAMS,
FRANK B. NOBLE.