

C. W. BRAY.
 APPARATUS FOR ROLLING TIN PLATES.
 APPLICATION FILED AUG. 28, 1902.

935,356

Patented Sept. 28, 1909.

Fig. 1.

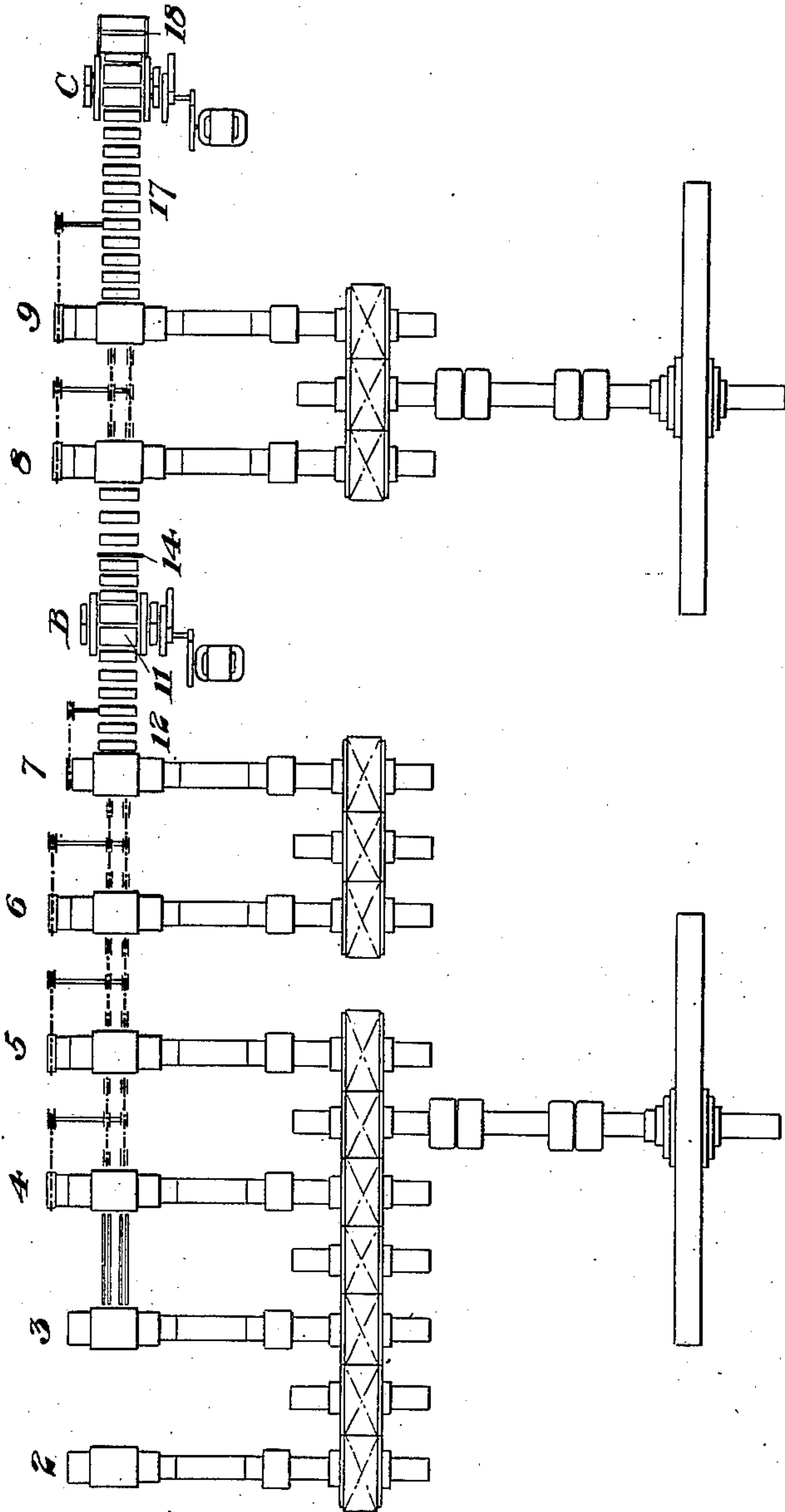
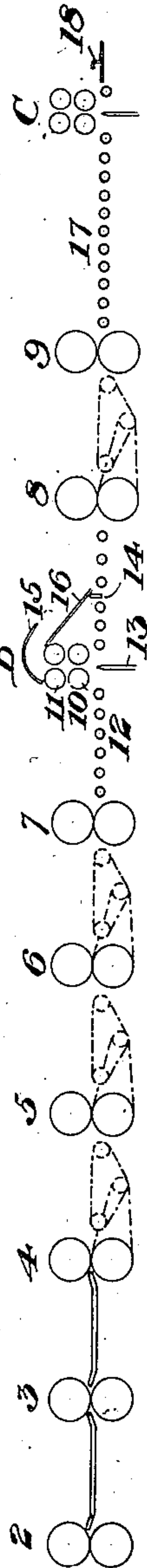


Fig. 2.



WITNESSES

L. A. Comer
E. B. Blanning

INVENTOR

C. W. Bray
by Daxidell & Byrnes
his Attorneys -

UNITED STATES PATENT OFFICE.

CHARLES W. BRAY, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO AMERICAN SHEET & TIN PLATE COMPANY, OF PITTSBURG, PENNSYLVANIA, A CORPORATION OF NEW JERSEY.

APPARATUS FOR ROLLING TIN PLATES.

935,356.

Specification of Letters Patent.

Patented Sept. 28, 1909.

Application filed August 28, 1902. Serial No. 121,279.

To all whom it may concern:

Be it known that I, CHARLES W. BRAY, of Pittsburg, Allegheny county, Pennsylvania, have invented a new and useful Apparatus for Rolling Tin-Plate, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

10 Figure 1 shows in plan view the roughing mill of a rolling plant embodying my invention. Fig. 2 shows the same in vertical longitudinal section.

15 The purpose of my invention is to improve the rolling of tin plate bars into black sheets and packs, and it relates to the construction of the roughing mill of the rolling apparatus.

20 It consists in providing for this purpose a continuous roughing mill for rolling the bars preparatory to passing them through the finishing mill, and interposing between two of the stands of roughing rolls a doubler by which the metal is doubled on its way through the roughing mill.

25 It also consists in the apparatus above mentioned when combined with a second doubler set at the delivery end of the roughing mill so that the metal is first doubled during its passage through the continuous roughing mill, and is again doubled after it has left the last pass of said mill.

30 By use of this mechanism I put the metal in the best form for handling in the rolls, holding it together securely, and obtain thereby improved results.

35 The apparatus is made to enter the doubled piece automatically into the rolls with the doubled end foremost, and all tendency of the rolls to "patch" or buckle the end of the sheets is prevented.

40 In the drawings, 2, 3, 4, 5, 6, 7, 8 and 9 are sets of rolls of a continuous roughing mill, through which the bar is passed after it has been taken from the heating furnace. Between two of these sets of rolls, preferably between the rolls 7 and 8, I place a doubler B which may consist of two sets of rolls 10 and 11 set with their passes in the same vertical plane above a conveying table 12 which

extends between the sets of rolls 7 and 8, and directly below these passes is a vertically moving pusher 13. After the bar has passed through the rolls 7 and is delivered upon the table 12, it is arrested by a stop 14 on said table so that its middle will be directly above the pusher, and the pusher is then raised so as to crease the metal at the middle and to enter it between the rolls 10. It is carried up between the rolls 10 and 11, and is doubled thereby and is delivered upon the table in front of the rolls 8 with its doubled end foremost by guides 15 and 16 which constitute the delivery portion of the doubler. It then passes through the rolls 8 and 9 with the doubled end still foremost to a table 17, on which it is arrested by a stop 18, and it is again doubled by a doubler C which may be similar in construction to the doubler B. The doubled metal sheet is then taken to the finishing rolls where it may be rolled in the usual manner.

The construction and arrangement of the parts may be varied by the skilled mechanic within the scope of my invention, since

What I claim is:

1. A roughing mill having a doubler located between two sets of its roughing rolls, there being a continuous path of feed for all of the rolls, the pusher of the doubler working across said path of feed, substantially as described.

2. A roughing mill comprising a continuous train made up of several sets of roughing rolls, there being a continuous path of feed for all of the rolls, two adjacent sets of rolls being separated by an abnormal space, a doubler located in said space and having a pusher working across said path of feed, a feed table leading from the preceding set of rolls to the doubler, and another feed table leading from the doubler to the succeeding set of rolls, substantially as described.

In testimony whereof, I have hereunto set my hand.

C. W. BRAY.

Witnesses:

THOMAS W. BAKWELL,
GEO. B. BLEMING.