C. W. BRAY.

METHOD OF FEEDING PLATES OR SHEETS TO COLD ROLLS.

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947,728. Patented Jan. 25, 1910.

Fig. 2.

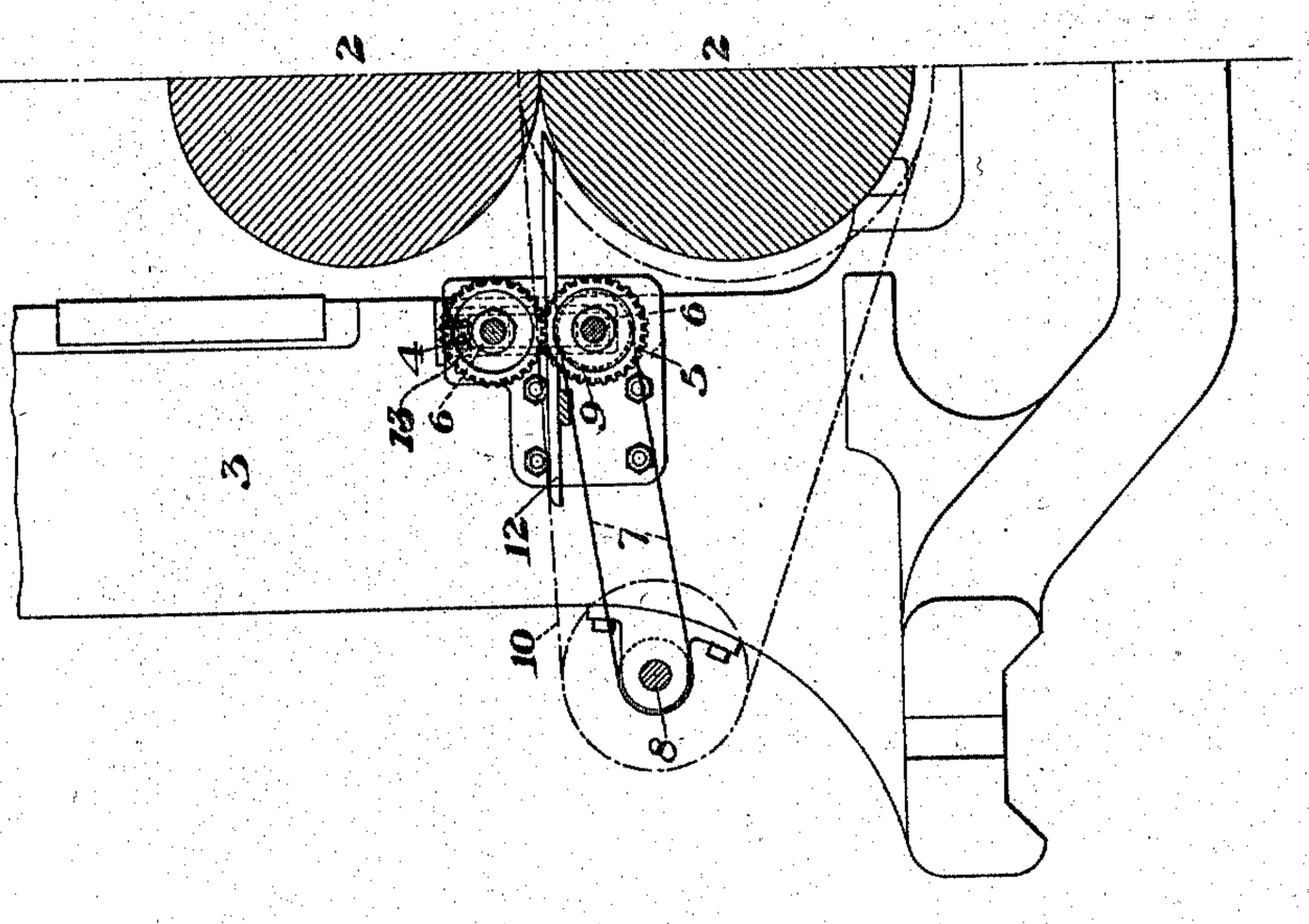
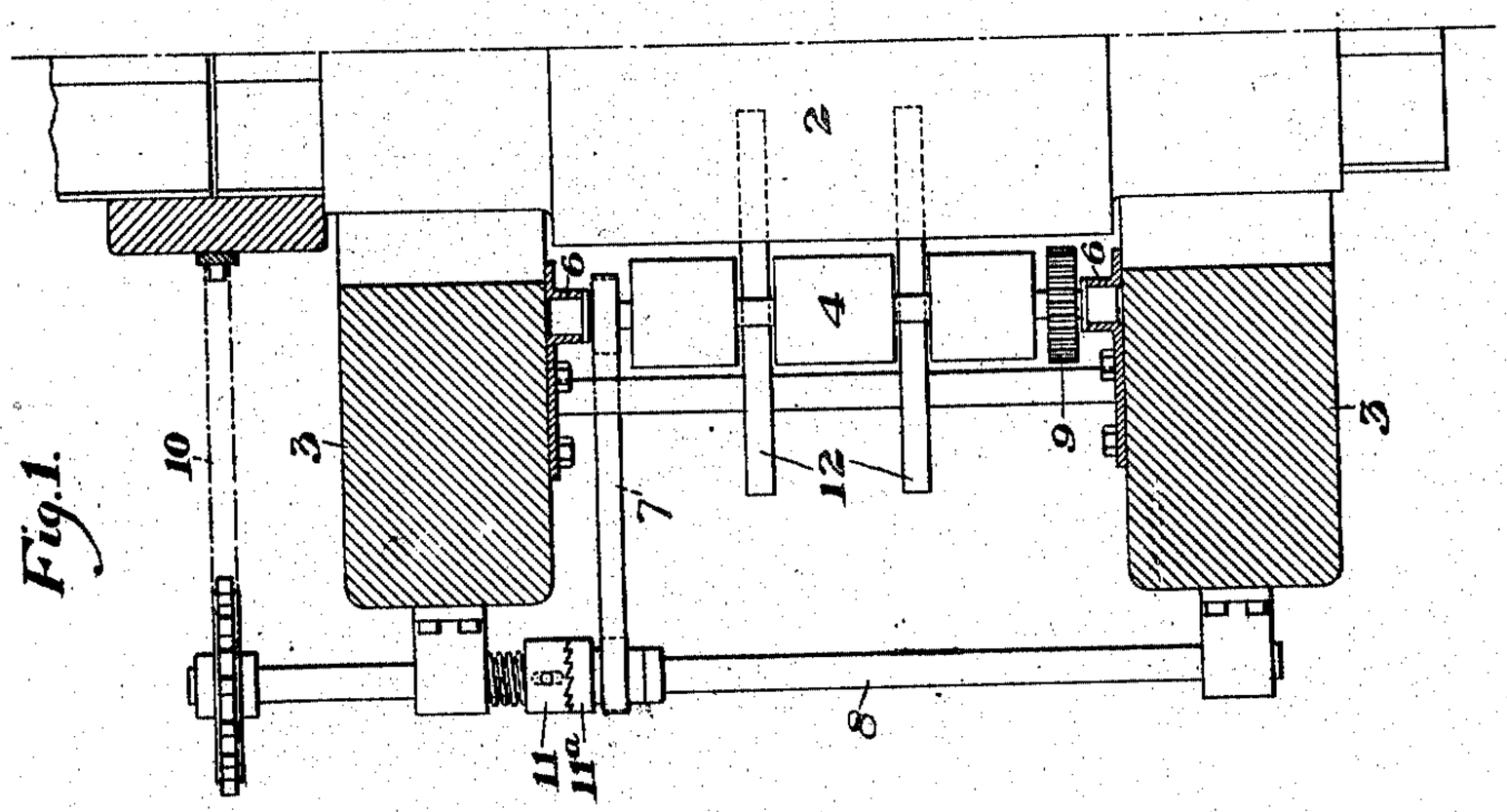


Fig. 1.



WITNESSES

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UNITED STATES PATENT OFFICE.

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METHOD OF FEEDING PLATES OR SHEETS TO COLD ROLLS.

947,728. Specification of Letters Patent. Patented Jan. 25, 1910.

Application filed November 13, 1905. Serial No. 286,987.

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 Method of Feeding Plates or Sheets to Cold Rolls, 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—

Figure 1 is a plan view, partly in section, showing an apparatus for carrying out my method; and Fig. 2 is an end view.

Plates or sheets are fed to cold rolls by boys or other operators, who, although they become skilled in the operation, frequently feed a plate or sheet before the preceding one has left the rolls. This causes a lap of the plates or sheets which results in waste.

My invention is designed to prevent lapping, and the waste resulting therefrom, and to avoid the entering of a plate or sheet in the nip of the rolls, until the preceding plate or sheet has left such rolls. To this end there is provided feeding rolls, normally driven at a slower peripheral speed than the cold rolls, but arranged to be moved at the same speed when a plate or sheet is pulled therethrough by the cold-rolls. By means of this arrangement, if a plate is fed to the feed rolls before a preceding plate has left them, the latter is drawn out of the feed-rolls by the cold-rolls, and the following sheet, owing to the slower speed of the feed-rolls, is not liable to reach the cold-rolls until the preceding sheet has left them.

In the drawings, 2, 2 designate a pair of cold-rolls, mounted in the housings, 3, and driven in the usual, or in any suitable manner.

4 and 5 designate two feed-rolls, placed one above the other in front of the cold-rolls, and rotatably mounted in suitable bearings 6 on the housings 3. One of the rolls,—in the present case the lower one 5—is positively rotated by a driving connection preferably a belt connection 7 with a shaft 8, and the shafts of the two rolls are intergeared as indicated at 9. The shaft 8 is rotated either by a chain gear connection 10 with the coupling box on one of the cold-roll shafts, or by any suitable gear, at such speed that the peripheral speed of the rolls 4 and 5 will be less than the peripheral speed of the cold-rolls. The driving connection for the shaft 8 is preferably made through a suitable clutch 11, 11^a, whose clutch faces are formed as shown, to permit the clutch member 11^a, which is secured to the shaft 8, to slip on the clutch member 11 in one direction of rotation.

12 designates guides for the sheets or plates which preferably extend through the rolls 4 and 5, to admit which the rolls are either cut away, or are made in sections secured to a carrying shaft.

The distance between the rolls 4 and 5, and the nip of the cold-rolls is less than the length of a plate or sheet, whereby the sheet will be caught by the cold-rolls, before it leaves the feed-rolls and will be pulled through the latter, this being permitted by the slippage of the clutch 11, 11^a. If a second sheet is fed into the rolls 4 and 5 too soon, its slower feed will prevent it from reaching the cold-rolls until the preceding sheet has left them.

In order to prevent the feed rolls from marking the sheets if they are fed so as to overlap each other, I preferably use yielding bearings 13 for one of the rolls, in this case the upper roll 4. This allows the feed rolls to yield as the overlapping portions pass through.

Having thus described the invention, what I claim and desire to secure by Letters-Patent is:—

The herein described method which consists in feeding plates singly and successively to working rolls between a pair of feed rolls driven at a less peripheral rate of speed than the working rolls and spaced from said working rolls less than the length of a single sheet, the feed rolls being rotated at a greater rate of speed than their normal rate when engaging a plate which is gripped by both the feed rolls and the working rolls, whereby successive plates will be separated and prevented from being lap-rolled should they become lapped in the feed rolls.

In testimony whereof, I have hereunto set my hand.

CHARLES W. BRAY.

Witnesses:
A. MCWHIRTER,
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