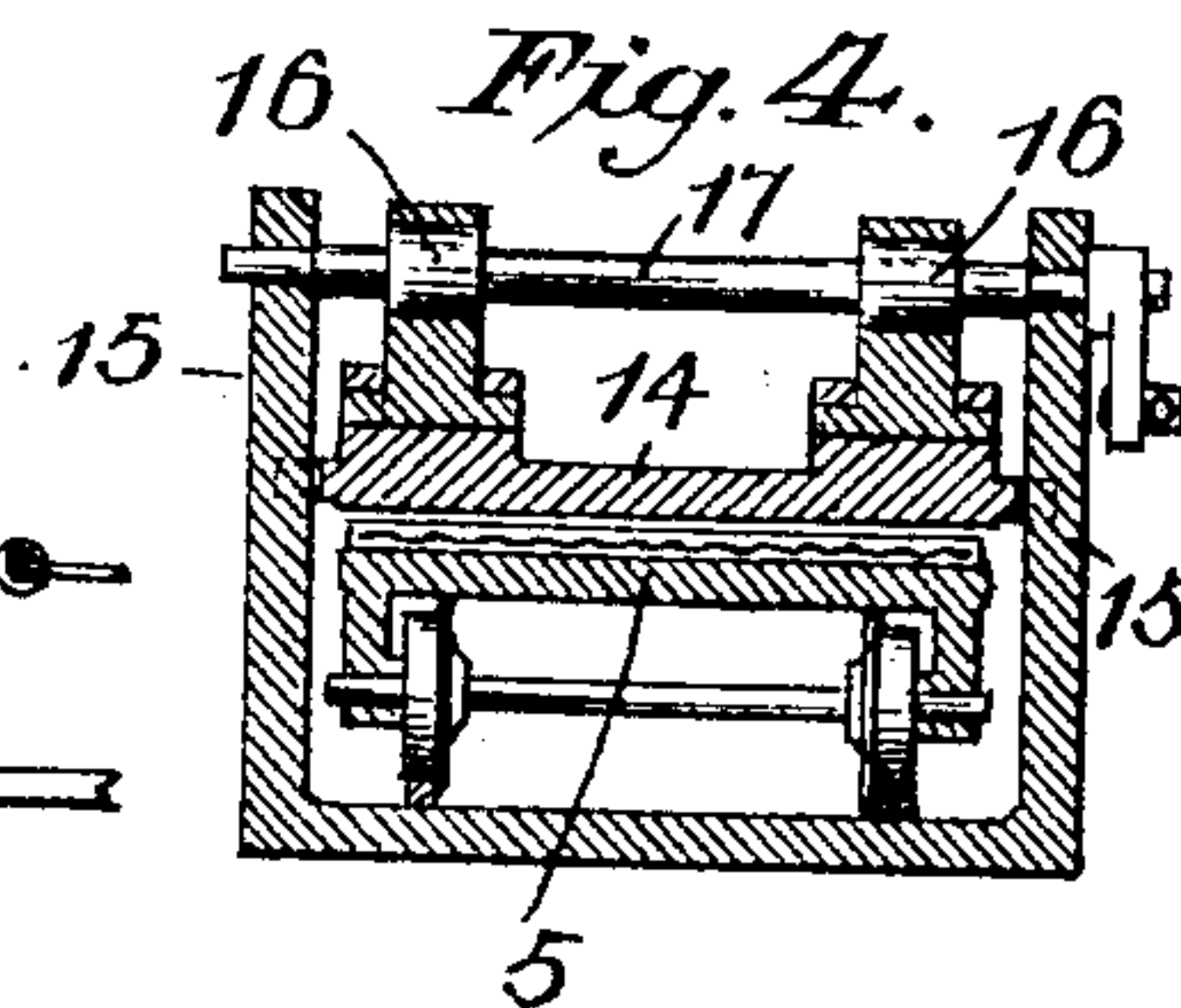
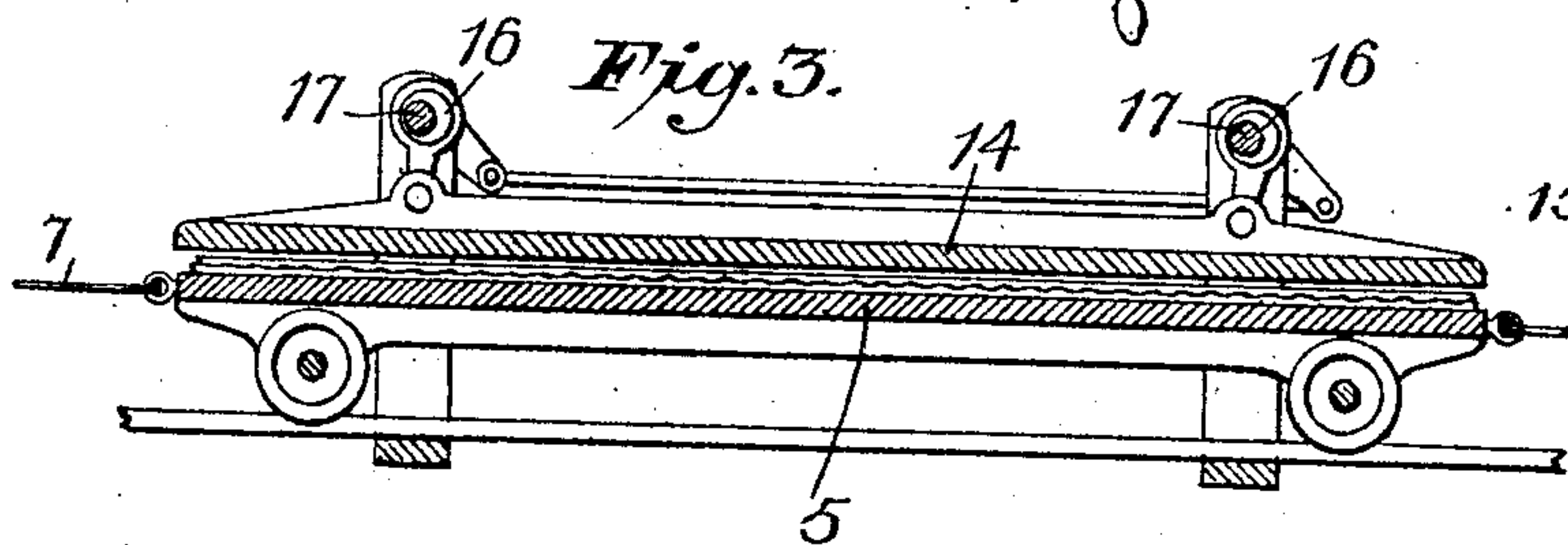
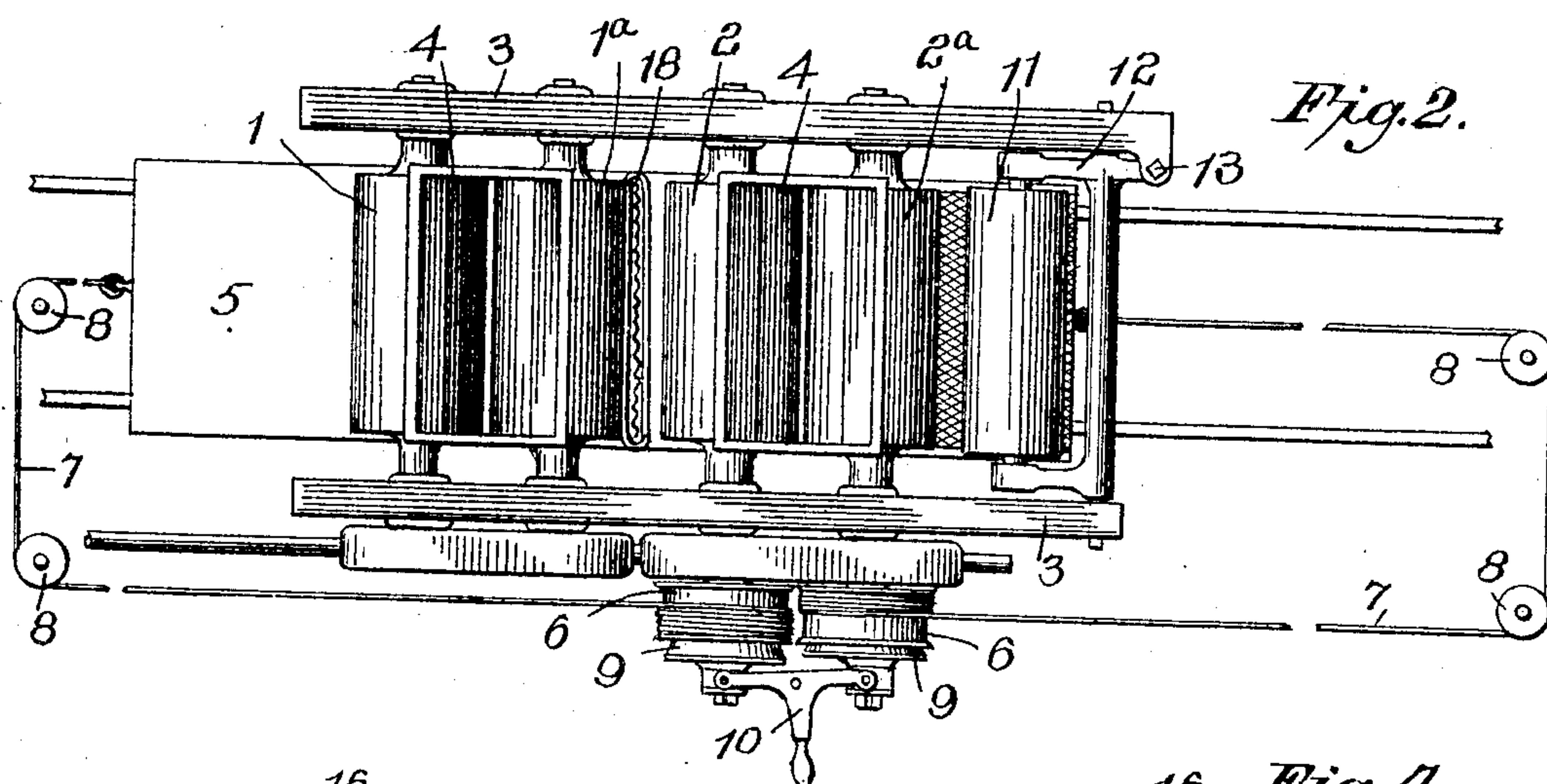
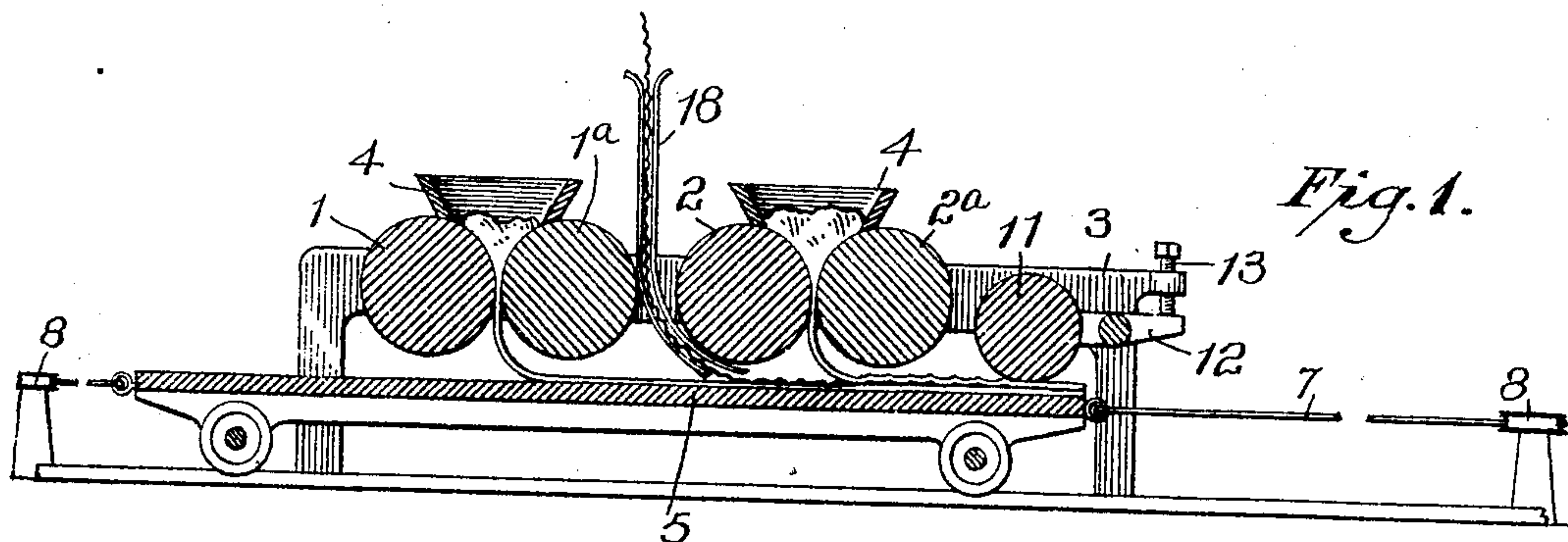


No. 805,609.

PATENTED NOV. 28, 1905.

B. C. WHITE.
MANUFACTURE OF GLASS PLATES.
APPLICATION FILED JUNE 17, 1905.



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UNITED STATES PATENT OFFICE.

BRUCE CLARK WHITE, OF MOSGROVE, PENNSYLVANIA.

MANUFACTURE OF GLASS PLATES.

No. 805,609.

Specification of Letters Patent.

Patented Nov. 28, 1905.

Application filed June 17, 1905. Serial No. 265,814.

To all whom it may concern:

Be it known that I, BRUCE CLARK WHITE, a citizen of the United States, residing at Mosgrove, in the county of Armstrong and State of Pennsylvania, have invented or discovered certain new and useful Improvements in the Manufacture of Glass Plates, of which improvements the following is a specification.

The invention described herein relates to certain improvements in the manufacture of compound sheets of glass, the improvements being especially applicable to the manufacture of wire-glass.

The invention has for its object the production of two or more sheets of glass and the deposition of the formed sheets upon a bed or platen, the successive sheet or sheets being arranged upon the previously-deposited sheets.

The invention has also for its object the interposition between adjacent sheets of glass of a metallic web having interstices, such as wire-netting.

The invention is hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a sectional elevation of my improved glass-forming machine. Fig. 2 is a top plan view of the same, and Figs. 3 and 4 are sectional elevations illustrating a modification of a portion of the machine.

In the practice of my invention I employ two or more pairs of rolls 1 1^a, 2 2^a, &c., which are mounted in suitable bearings on a frame 3. Provision is made for driving these rolls in such direction as to feed the glass contained in the hoppers 4 down between the rolls and impart thereto the desired sheet form. The hoppers 4 may be supported in any suitable manner—as, for example, by the rolls themselves—and have suitably-inclined sides for directing the glass down between the rolls. The sheets as they are formed are deposited one directly upon a table or platen 5 and the other upon the previously-formed sheet already in position on the table. The apparatus may be constructed so that either the sheet-forming rolls or the platen have a movement relative to each other, so that the sheets as formed will be deposited uniformly and evenly upon the bed or previously-deposited sheet. In the construction shown the platen is made movable back and forth under the rolls and is shifted by any suitable power mechanism—such, for example, as drums

on the shafts of two of the rolls, as 2 2^a, and ropes 7, extending from the drums around suitable guide-pulleys 8 to the bed or platen. Provision is made, as by clutches 9, operated by the lever 10, to connect the drums alternately with the driving-shafts. In order to compress the sheets when deposited upon the table, a presser-roller 11 is mounted in suitable bearings on levers 12, mounted on the frame of the machine. In order to regulate the pressure to which the sheets are subjected and also the amount of reduction to be effected by the roller, adjusting-screws 13 are provided, which will bear against the ends of the levers and prevent too great a movement of the pressing-roller. In lieu of the roller 11 for compressing the glass on the table I may employ a presser-plate 14, as shown in Figs. 3 and 4. This plate is arranged to move between suitable posts or standards 15 and may be operated in any suitable manner—as, for example, by eccentrics 16 on the shafts 17, which should be driven in unison by a suitable connection to a power mechanism.

In the operation of my machine the table or platen 5 is shifted so that one end, as the right-hand end thereof, is above the gap between the rolls 1 and 1^a. As these rolls rotate, causing the glass to pass down onto the table, the table is moved to the right, so that the sheet will be spread smoothly and uniformly over the platen or bed. As the end of the table passes under the next succeeding pair of rolls 2 2^a the sheet formed thereby will pass down onto the previously-deposited sheet, and as the table or platen moves on it will be smoothly and uniformly distributed over the previous sheet. When it is desired to manufacture wire-glass or glass reinforced by a metallic web, the latter is fed down onto the first-deposited sheet through a suitable guide 18, as the forward end of the table passes between two pairs of sheet-forming rolls, so that the second or any succeeding sheet of glass will be deposited upon the metallic web or netting. By the action of the presser-roller 11 or the presser-plate 14 heretofore described the sheets of glass are firmly pressed together thereby, when a metallic web or netting has been arranged between the sheets, embodying the same between the sheets formed by the rolls.

I claim herein as my invention—

1. In a machine for making glass plates, the combination of two or more pairs of rolls each pair of rolls being adapted to form between

them a sheet of glass and a bed or platen arranged to receive the sheets when formed, one of said elements, *i. e.* the pairs of rolls or the platen being movable relative to the other the rolls being arranged to deposit the sheets formed by them in succession on the platen.

2. In a machine for making glass plates, the combination of two or more pairs of rolls, each pair of rolls being adapted to form between them a sheet of glass, a bed or platen arranged to receive the sheets when formed one of said elements, *i. e.* the pairs of rolls or the platen being movable relative to the other the rolls being arranged to deposit the sheets formed by them in succession on the platen and means for pressing said sheets together.

3. In a machine for making glass plates, the combination of two or more pairs of rolls, each pair being adapted to form between them a sheet of glass, a bed or platen arranged to receive the sheets when formed, one of said elements, *i. e.* the pairs of rolls or the platen being movable relative to the other the rolls being arranged to deposit the sheets formed by them in succession on the platen, and means for placing a metallic web between the sheets.

4. In a machine for making glass plates, the combination of two or more pairs of rolls, each pair being adapted to form between them a sheet of glass, a bed or platen arranged to receive the sheets when formed one of said elements, *i. e.* the pairs of rolls or the platen being movable relative to the other the rolls being arranged to deposit the sheets formed by them in succession on the platen, means for placing a metallic web between the sheets and means for exerting pressure on the sheets.

5. In a machine for making glass plates, the combination of a bed or platen, a series of two or more pairs of rolls arranged in succession, each pair of rolls being adapted to form between them a sheet of glass, one pair of rolls cooperating with the bed or platen to deposit the sheet formed by the rolls on the bed or

platen, and the other pair or pairs of rolls cooperating with the bed or platen to superimpose the sheet or sheets formed thereby on the previously-formed sheet or sheets.

6. In a machine for making glass plates, the combination of a bed or platen, a series of two or more pairs of rolls arranged in succession, each pair of rolls being adapted to form between them a sheet of glass, one pair of rolls cooperating with the bed or platen to deposit a sheet formed by the rolls on the bed or platen, the succeeding pair of rolls cooperating with the bed or platen to superpose the sheet formed thereby on the previously-formed sheet, and a roll for compressing the sheets when arranged on the table or platen.

7. In a machine for making glass plates, the combination of a bed or platen, a series of two or more pairs of rolls, each pair of rolls being adapted to form between them a sheet of glass, said rolls and platen cooperating to deposit the sheets in succession on the bed or platen, means for depositing a metallic web on the glass sheet in advance of the placing the succeeding sheet thereon, and a roll cooperating with the platen to compress the sheets.

8. The method herein described of making glass plates which consists in forming two or more sheets of glass, depositing one of them along a supporting-surface and then depositing the second sheet on the previously-arranged sheet and subjecting the sheets to pressure.

9. The method herein described of making glass plates which consists of forming two or more sheets of glass, depositing them in succession one upon a supporting-surface and the other upon the first sheet and interposing a metallic web or fabric between the sheets.

In testimony whereof I have hereunto set my hand.

BRUCE CLARK WHITE.

Witnesses:

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