

F. SUTTER.
GLUING MACHINE.

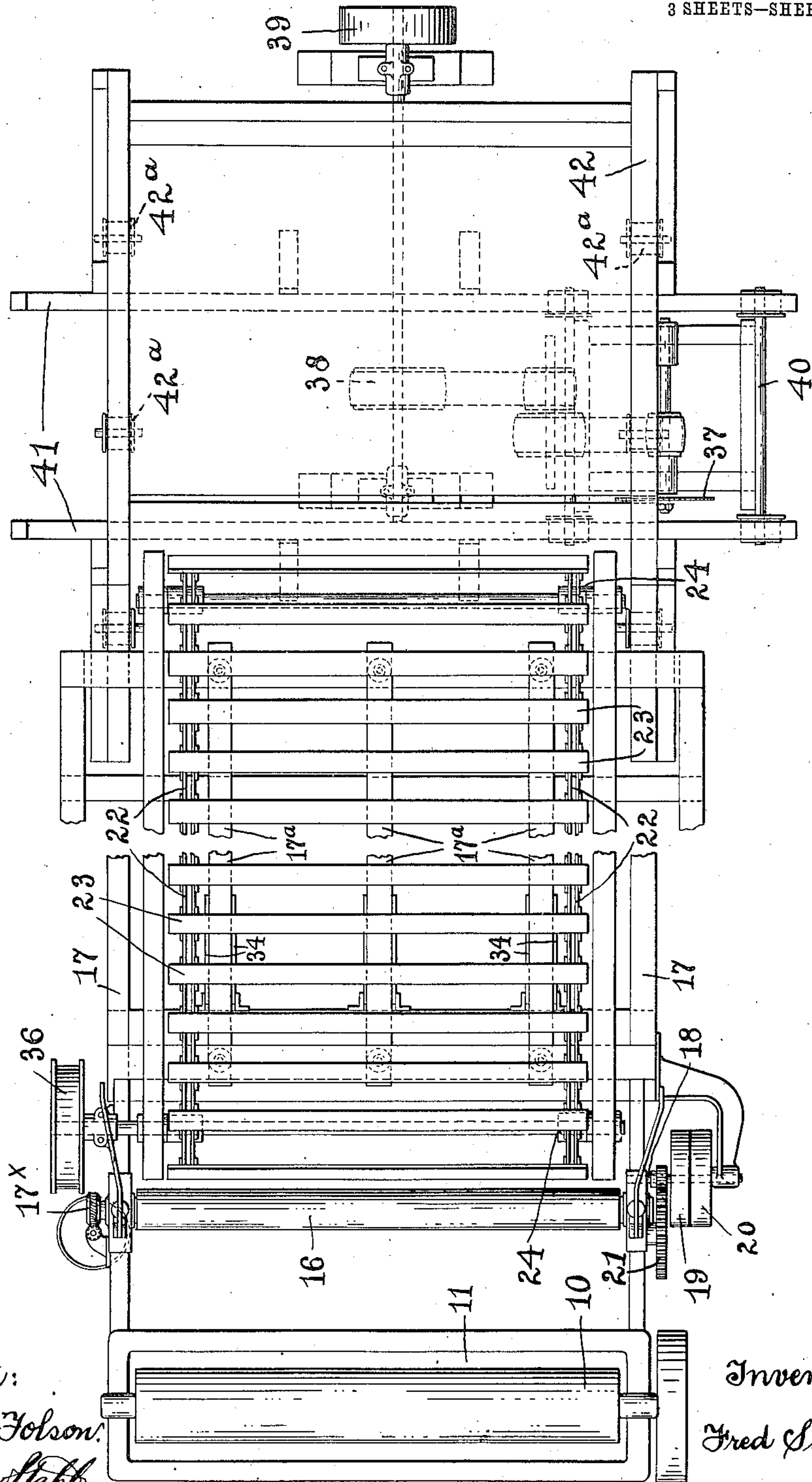
APPLICATION FILED MAY 2, 1908.

Patented Mar. 16, 1909.

3 SHEETS—SHEET 1.

915,504.

Fig. 1.



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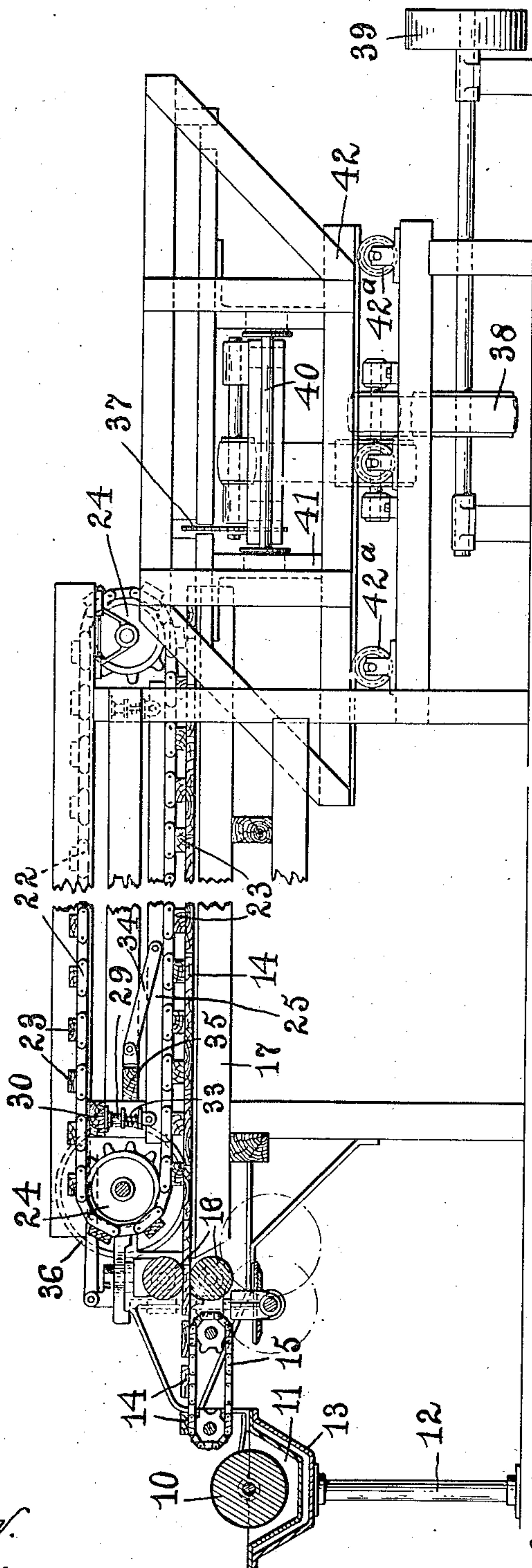
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3 SHEETS—SHEET 2.

Fig. 2.



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3 SHEETS—SHEET 3.

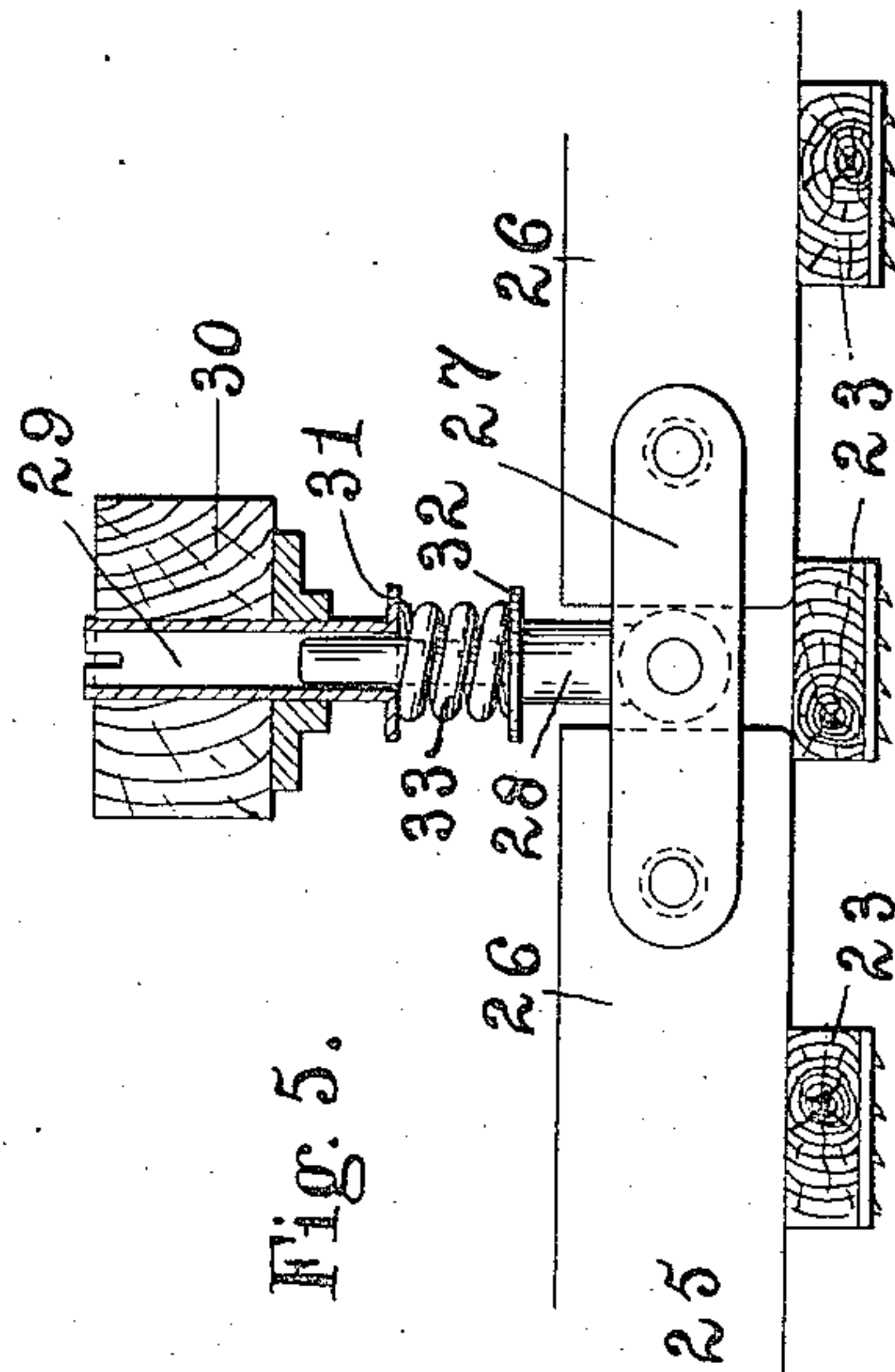
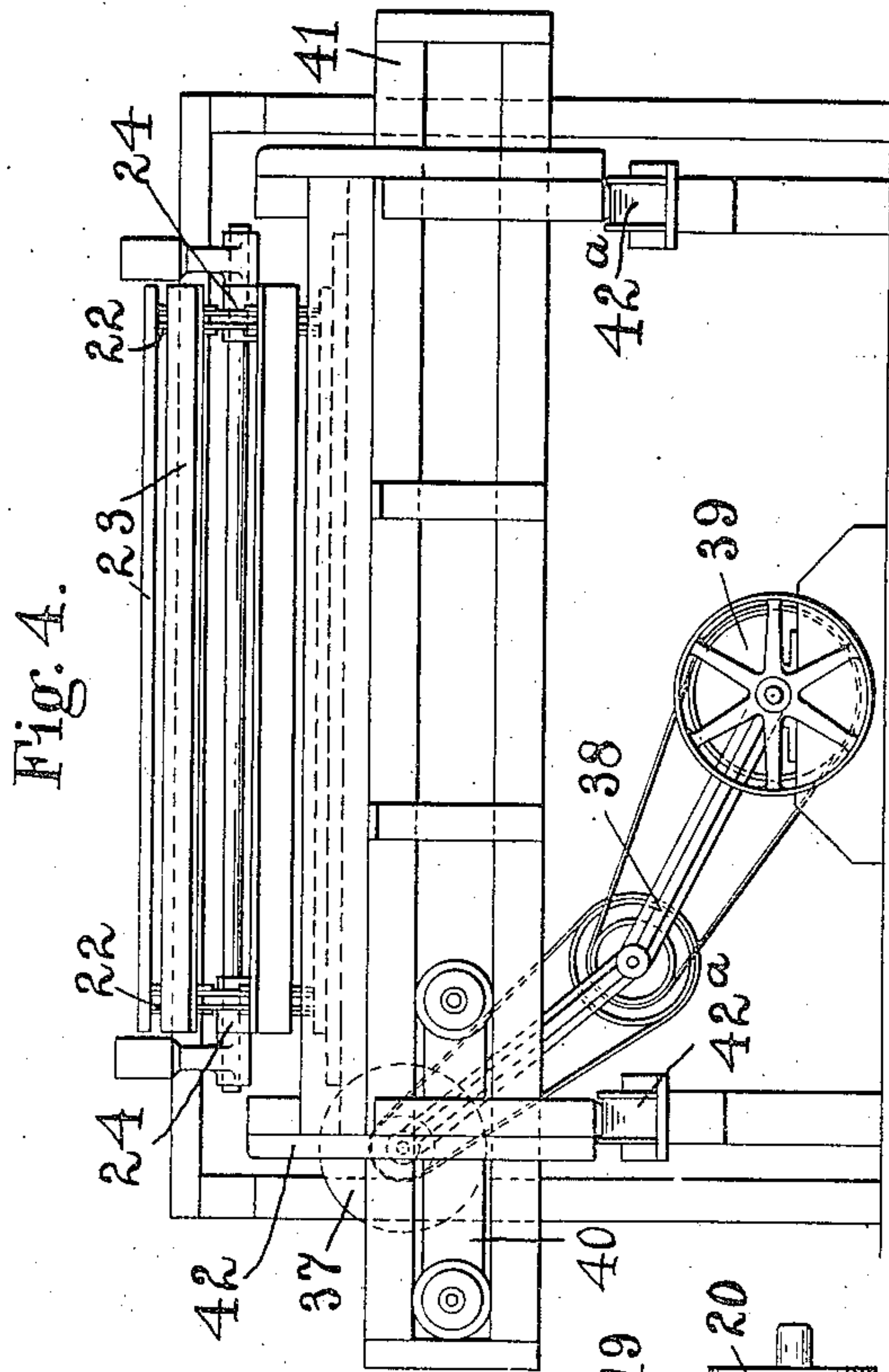
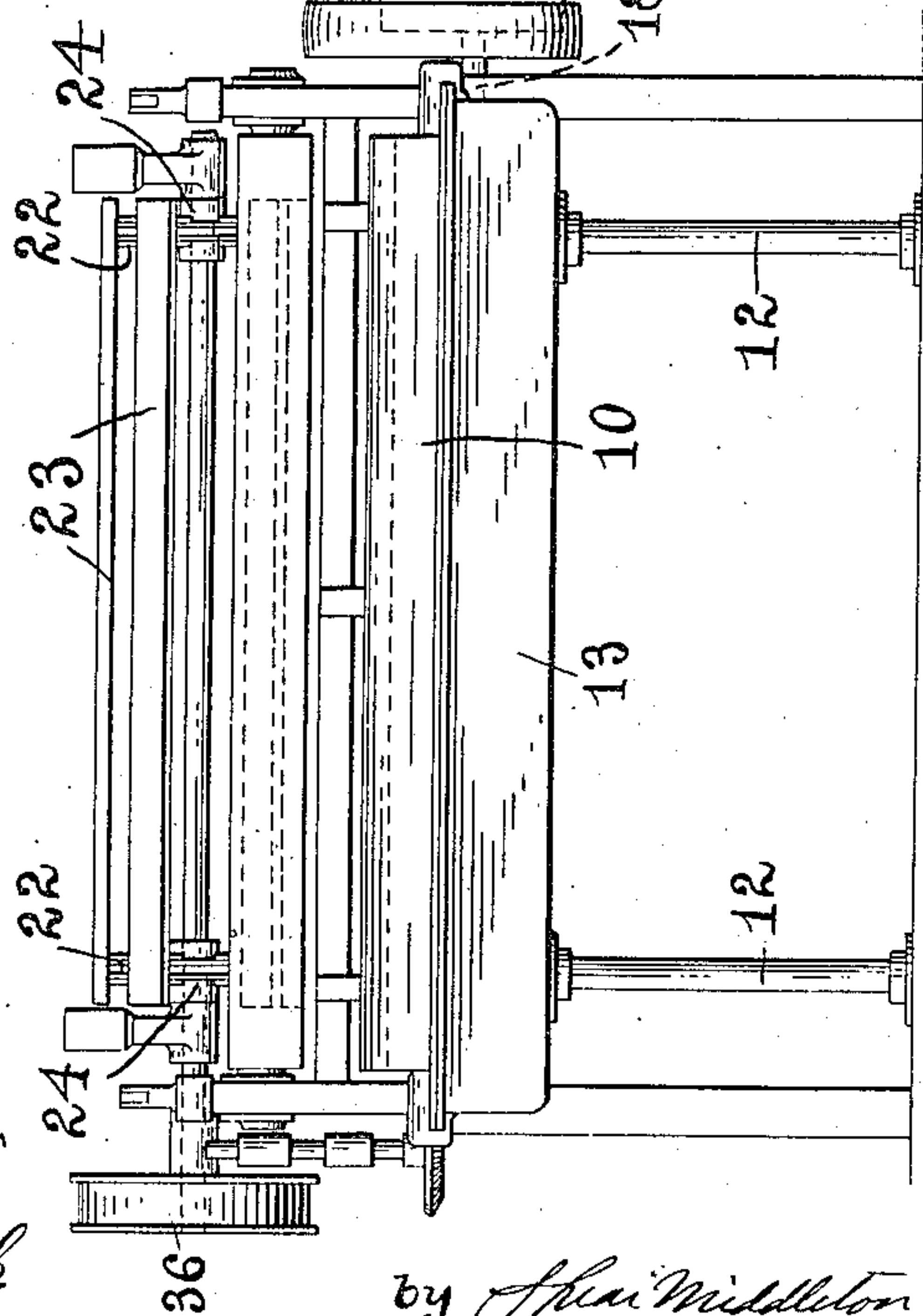


Fig. 3.



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UNITED STATES PATENT OFFICE.

FREDERIC SUTTER, OF SHELBY, OHIO.

GLUING-MACHINE.

No. 915,504.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed May 2, 1908. Serial No. 430,592.

To all whom it may concern:

Be it known that I, FREDERIC SUTTER, a citizen of the United States, residing at Shelby, Ohio, have invented certain new and useful Improvements in Gluing-Machines, of which the following is a specification.

My invention relates to an improved machine for gluing together the edges of boards or strips to produce a large sheet composed of a plurality of such strips firmly secured together.

I have aimed among other things to produce a machine in which the strips or pieces could be fed in successively at one end and passed slowly through the machine, being held in alinement and with their edges pressed firmly together while passing through the machine and for a length of time sufficient to cause the glue to be thoroughly set so that the strips would issue at the opposite end as a single composite or compound sheet.

I have also aimed to provide a machine with means for severing the composite sheet into sections of the desired length.

With these and other objects in view, the invention includes the features of construction and arrangement and combination of parts hereinafter described and particularly set forth in the appended claims.

In the accompanying drawings, illustrating an embodiment of the machine,—Figure 1 is a plan view with the central portion of the machine broken away. Fig. 2 is a sectional elevation of the machine, also with the central portion broken away. Fig. 3 is a front end view, and Fig. 4 is a rear-end view, while Fig. 5 is a detail view.

Referring by reference characters to these drawings, the numeral 10 designates a glue roll which rotates in a glue tank 11 supported upon suitable pedestals 12 and provided with a steam jacket 13, to which steam may be supplied in any suitable manner for keeping the glue in a liquid condition. The strips to be glued together are shown at 14 and first have their edges pressed upon the surface of the glue roll to apply the glue to the edges and they are thereafter placed upon the horizontal upper surface of an endless chain carrier 15, by which they are fed to the feed rolls 16. These are journaled at the front end of a table or supporting structure 17 and may conveniently be operated by worm gearing 17^x, which latter has power imparted thereto from the power

shaft 18 carrying fast and loose pulleys 19—20, the motion being transmitted through suitable speed reducing gearing indicated at 21. The strips are pressed by these feed rolls, which rotate very slowly, on to the horizontal rails 17^a of the table or supporting structure and are held pressed down upon these rails so as to be maintained in alinement by an endless moving presser device. This comprises a plurality of endless chains 22 carrying transverse presser bars 23, the chains traveling around idle wheels or drums 24 at the front and rear ends of the table respectively. As the presser bars 23 pass around and under the front rolls or drums, they pass beneath yielding guides 25 which are shown more in detail in Fig. 5. These guides 25 each consist of a plurality of longitudinally disposed bars 26 arranged end to end and extending the entire length of the table. The ends of adjoining bars are connected by links 27, as shown in detail in Fig. 5, and to these links are connected vertical rods 28 which have reduced upper ends seated in the hollow or tubular screw members 29 which pass through the transverse supporting bars 30.

The screw members 29 have flanges 31 at their lower ends and the rods 28 have similar flanges 32, and between these flanges are located helical springs 33. These springs tend to constantly press the longitudinal bars 26 downwardly, these latter in turn pressing the strips to be glued firmly down upon the rails 17^a. The tension on the springs, as will readily be seen, may be adjusted by simply turning the screws 29 in a proper direction. It will thus be seen that the endless chains with the presser bars 23 move with the strips to be glued, holding them pressed down upon the rails and in perfect alinement and as the rails afford considerable resistance to the passage of the bars, the strips as fast as they are fed in will be pressed tightly against the edges of the preceding strips as the latter are forced forward solely and entirely by the action of the feed rolls 16 upon succeeding strips. The length of the machine is such that by the time the strips have reached the rear end of the machine the glue has become set and the strips issue as a continuous sheet or film.

It will be understood that the machine is of such a length as to require a considerable number of members 26 placed end to end and connected as above described to form a

continuous guide, and, owing to the length of the machine, it has been necessary, in Figs. 1 and 2 showing the plan and side elevation, to break away the central portion and show only the two end portions drawn together, so that only the outer ends of the lengths of guide bars show in these two views, the intermediate portion being illustrated in detail in Fig. 5.

10 In order to hold the presser guides 25 against longitudinal movement, I provide links 34 extending between the transverse bars 35 and the guide bars. I have found that sometimes with strips of certain kinds
15 of wood it is desirable to provide greater resistance to the passage of the strips 14 through the machine than is afforded by the guide rails 17^a. To accomplish this I provide a friction drum 36 upon the shaft of the
20 front rolls or drums 24, encircling this by a suitable machine brake by which additional resistance may be afforded to the movement of the parts. I find also that it may be desirable to provide either corrugations or pro-
25 jections on the contact faces of the presser bars 23 so as to prevent slipping of these upon the strips which pass through the machine.

As the strips issue from the end of the
30 machine as a continuous composite or compound board, I find it desirable to provide means for severing this into sections of the desired size without interrupting the motion of the machine. To accomplish this, I pro-
35 vide a transverse cutter in the shape of a circular saw 37 driven by suitable flexible operating connections 38 from a motor 39, the saw being mounted on a carriage 40 moving in a transverse guide way 41, so as to cut at
40 right angles to the line of movement of the assembled strips. This guide way 41 is carried by a frame 42 and is arranged to move longitudinally, for this purpose being mounted upon rolls 42^a and operated so that during
45 the transverse movement of the saw during the cutting operation, it is moved forward in unison with the travel of the strip, while after it has passed through and clear of the strip it is carried toward the tail end of the
50 machine, an equal amount to be ready for a fresh cut. Means are provided by which the movement of the saw may be timed and thus the material automatically cut into any de-
sired lengths.

55 Having thus described my invention, what I claim is:—

1. A machine for gluing together the edges of a plurality of strips comprising stationary
60 or rails, endless carriers movably supported above said rails, transverse presser bars carried by said endless carriers, and feed rolls for forcing the strips to be glued successively

through between the movable presser bars and stationary rails against the frictional re- 65
sistance of the rails and means at the initial end of the machine for applying glue to the edges of the strips prior to their introduction into the machine.

2. A machine for gluing together the edges 70
of a plurality of strips comprising stationary lower horizontally disposed supporting bars or rails, endless carriers movably supported above said rails, transverse presser bars carried by said endless carriers, feed rolls for 75
forcing the strips to be glued successively through between the movable presser bars and stationary rails against the frictional re-
sistance of the rails, and brake mechanism coacting with the endless carriers for produc- 80
ing additional frictional resistance and means at the initial end of the machine for applying glue to the edges of the strips prior to their introduction into the machine.

3. In a machine of the character described, 85
the combination with the lower stationary guide rails, of the drums, endless carriers passing around said drums and above the guide rails, transverse presser bars carried by said carriers, longitudinal bars above said 90
presser bars, links connecting the ends of said longitudinal presser bars, and springs exerting downward pressure on said links.

4. In a machine of the character described, the combination with the lower stationary 95
guide rails, of the drums, endless carriers passing around said drums and above the guide rails, transverse presser bars carried by said carriers, longitudinal bars above said presser bars, links connecting the ends of 100
said longitudinal presser bars, rods pivotally connected to said links between the ends of said longitudinal bars, screw sockets carried by a stationary part of the frame and engaging the upper ends of the rods, flanges on 105
said rods and sockets, and springs encircling the rods between said flanges.

5. In a machine of the character described, the combination with the lower stationary 110
guide rails, of the drums, endless carriers passing around said drums and above the guide rails, transverse presser bars carried by said carriers, longitudinal bars above said presser bars, links connecting the ends of 115
said longitudinal presser bars, springs exerting downward pressure on said links, and inclined thrust resisting links connecting said longitudinal bars with a stationary part of the frame.

In testimony whereof, I affix my signature 120
in presence of two witnesses.

FRED. SUTTER.

Witnesses:

HELEN McCOOL,
EDWIN MANSFIELD.