(No Model.)

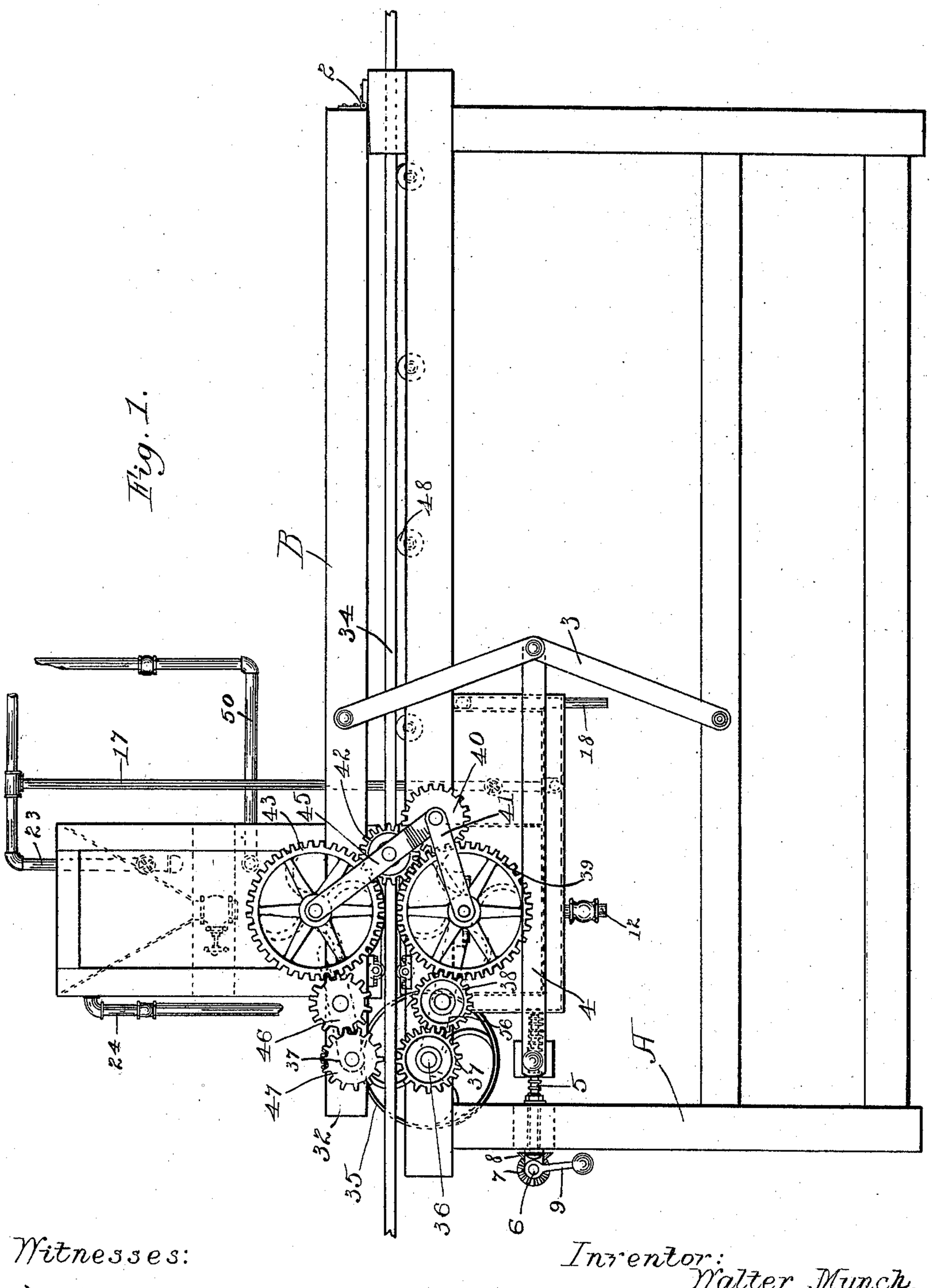
5 Sheets—Sheet 1.

W. MUNCH.

GLUING MACHINE.

No. 598,616. Patented Feb. 8, 1898.

Fig. 1.



Witnesses:

F. D. Bradbury.

H. L. Johnson.

Inventor:

Walter Munch,

per: [illegible]

Attorney.

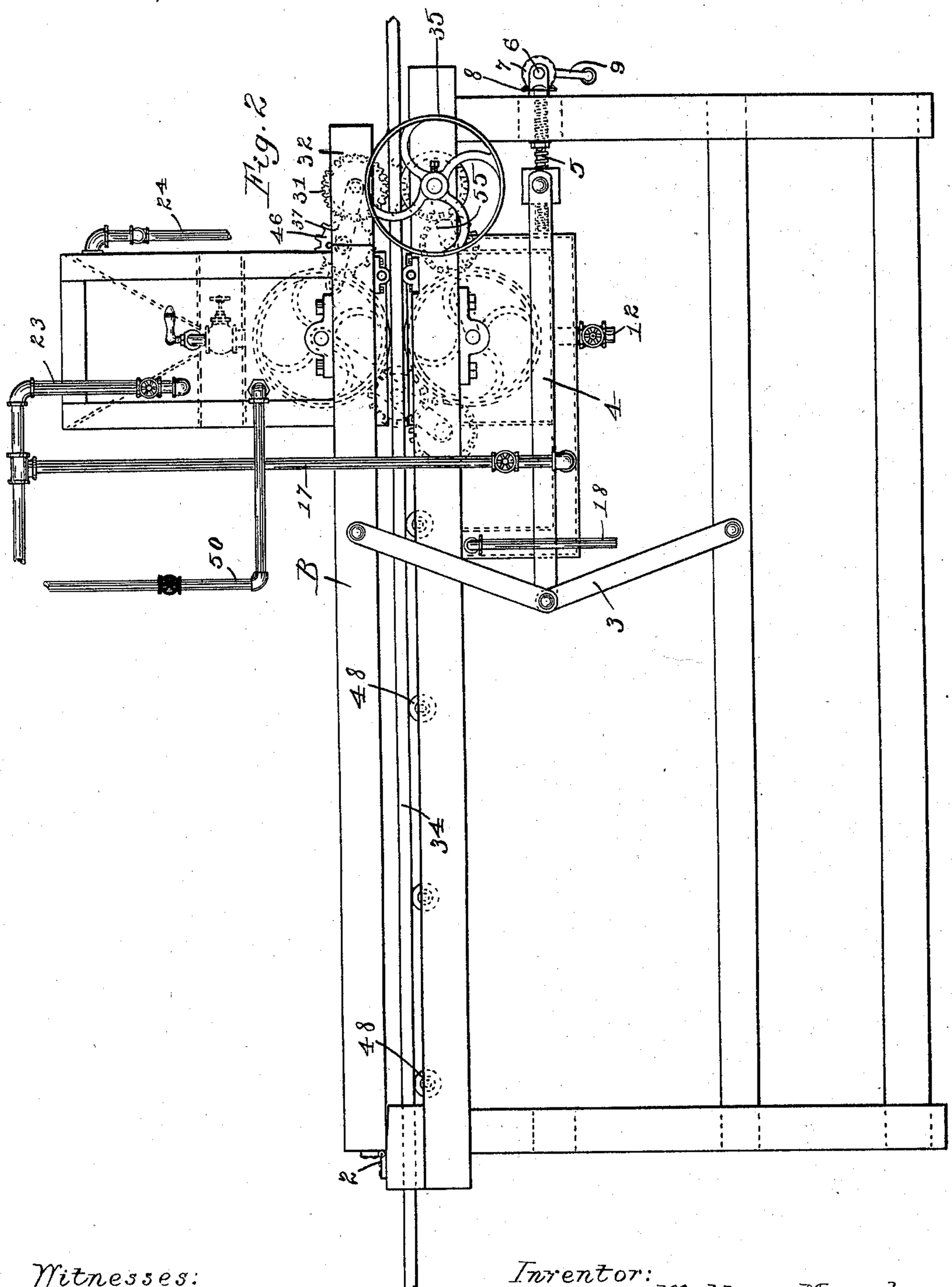
(No Model.) 5 Sheets—Sheet 2.

W. MUNCH.

GLUING MACHINE.

No. 598,616. Patented Feb. 8, 1898.

Fig. 2.



Witnesses:

F. D. Bradbury.

H. S. Johnson.

Inventor:

Walter Munch.

per: A. D. Thomson

Attorney.

(No Model.)

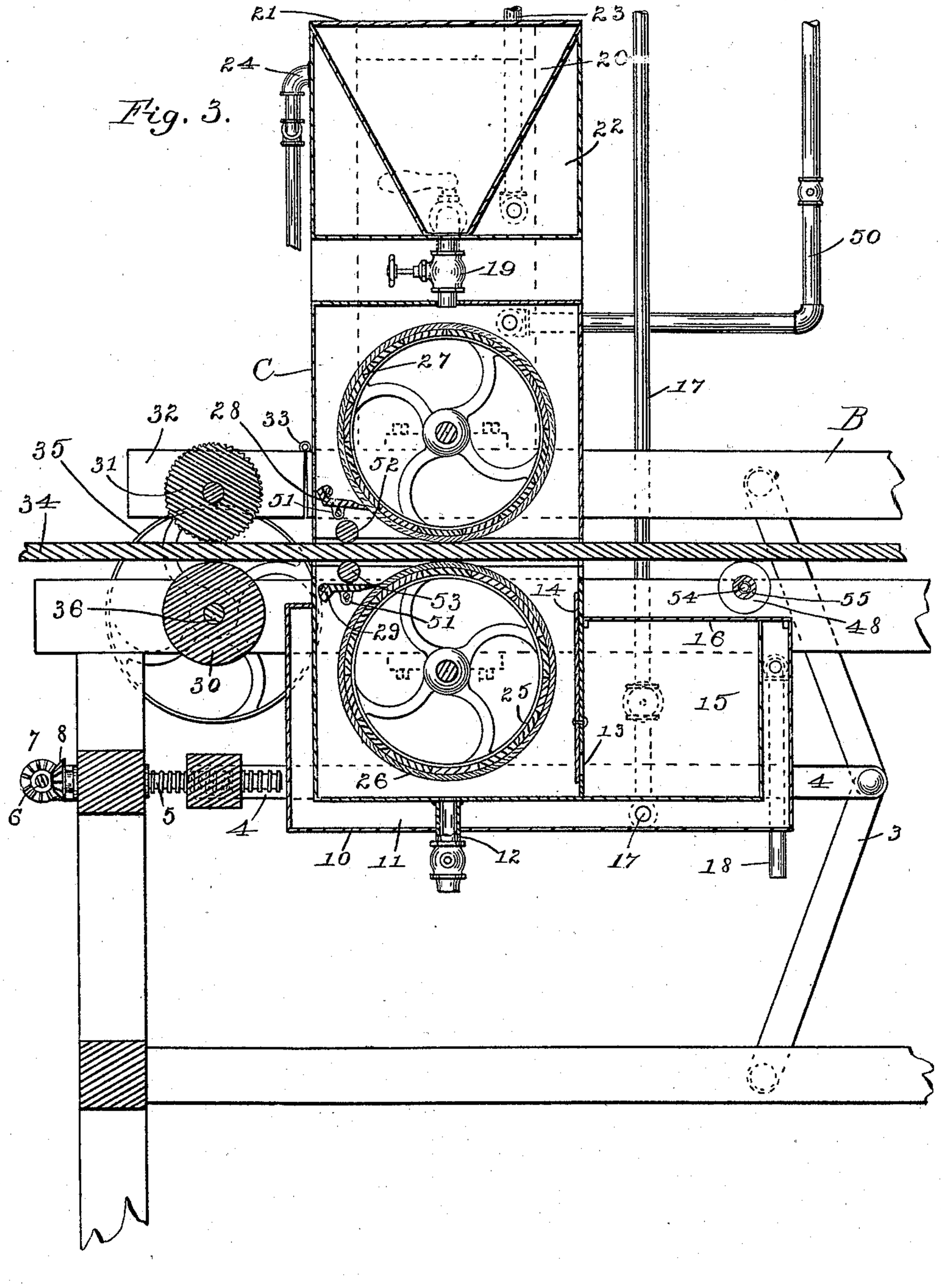
5 Sheets—Sheet 3.

W. MUNCH.

GLUING MACHINE.

No. 598,616. Patented Feb. 8, 1898.

Fig. 3.



Witnesses:

F. D. Bradbury.

H. S. Johnson

Inventor:

Walter Munch.

per: [illegible]

Attorney.

(No Model.)

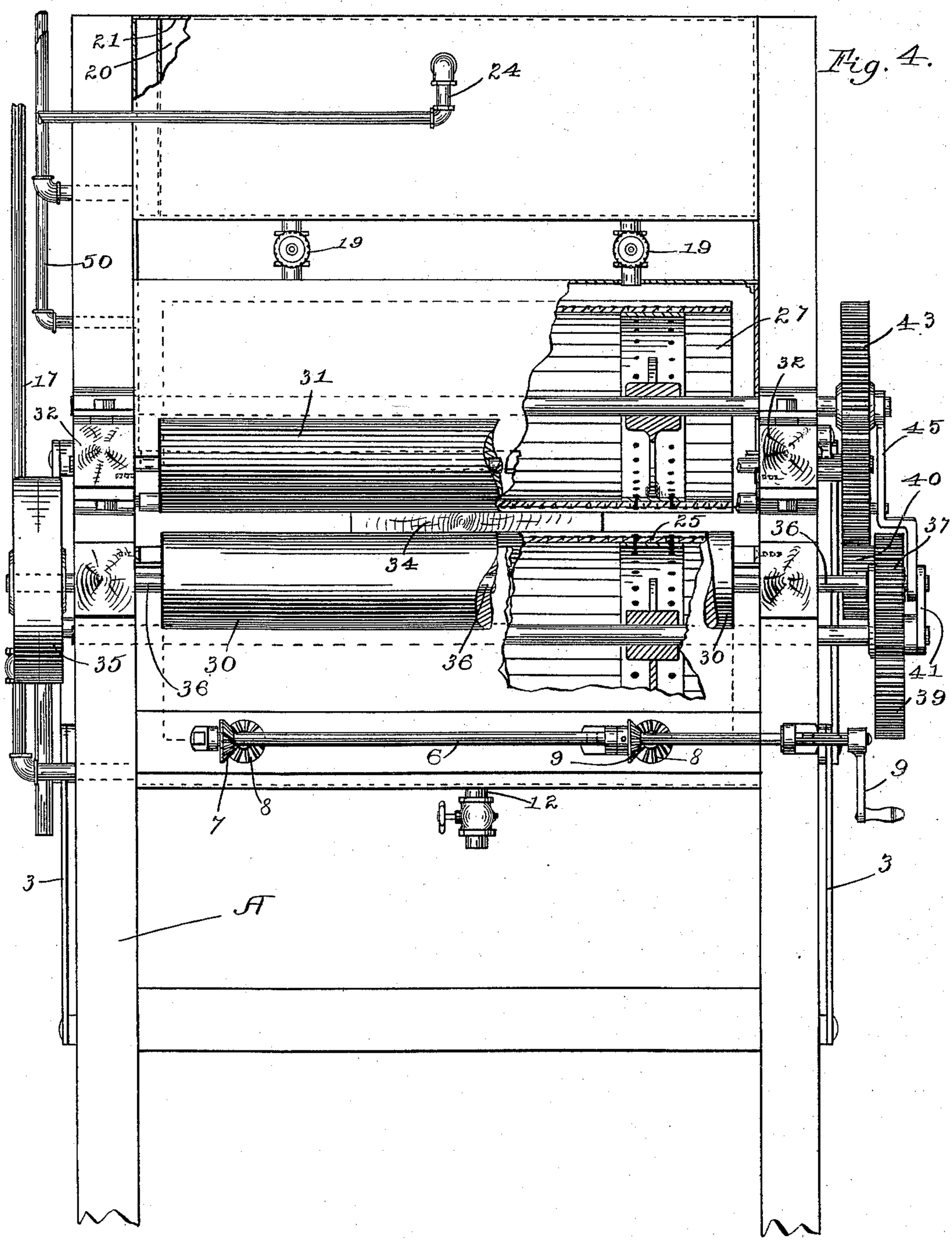
5 Sheets—Sheet 4.

W. MUNCH.

GLUING MACHINE.

No. 598,616. Patented Feb. 8, 1898.

Fig. 4.



Witnesses:

F. L. Bradbury.

N. S. Johnson

Inventor.

Walter Munch.

per: [illegible]

Attorney.

(No Model.) 5 Sheets—Sheet 5.

W. MUNCH.

GLUING MACHINE.

No. 598,616. Patented Feb. 8, 1898.

Fig. 5.

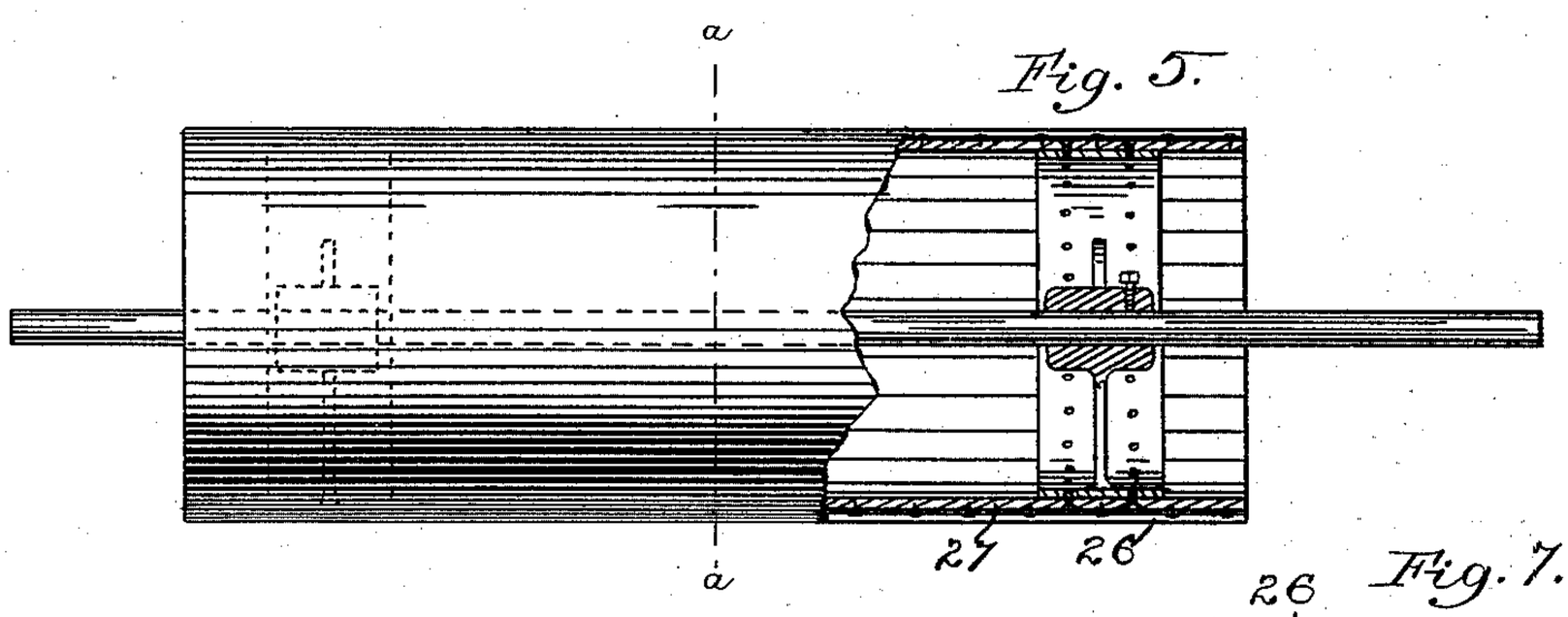
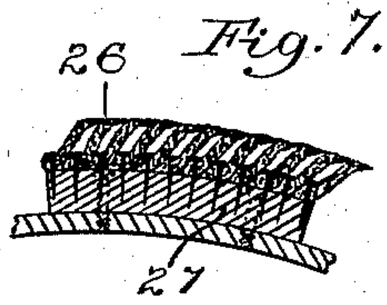


Fig. 7.



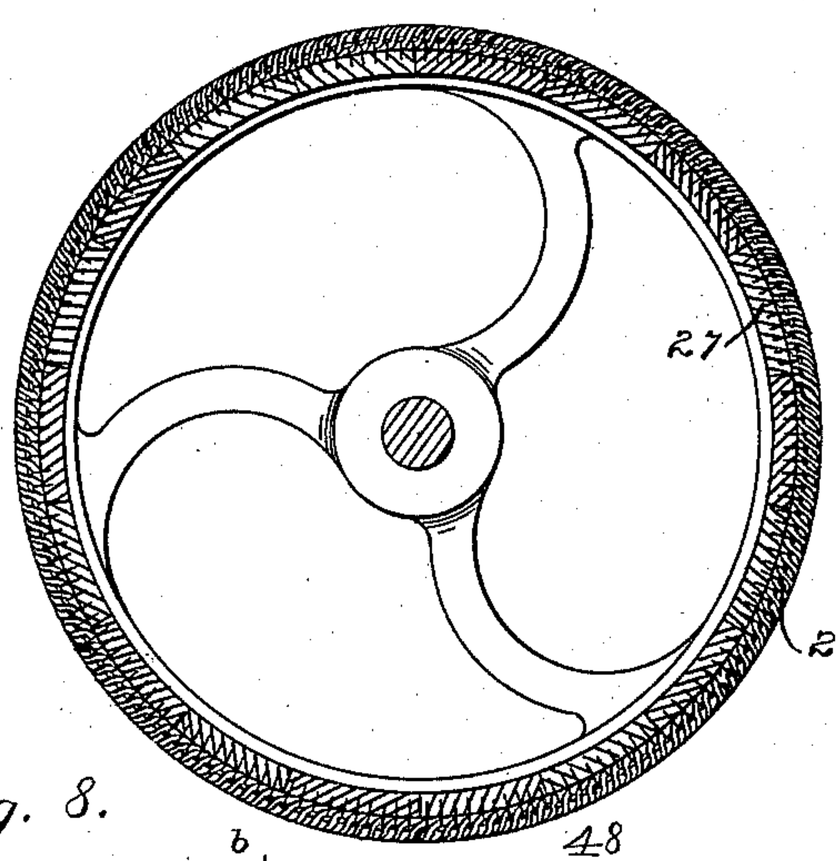


Fig. 6.

Fig. 8.

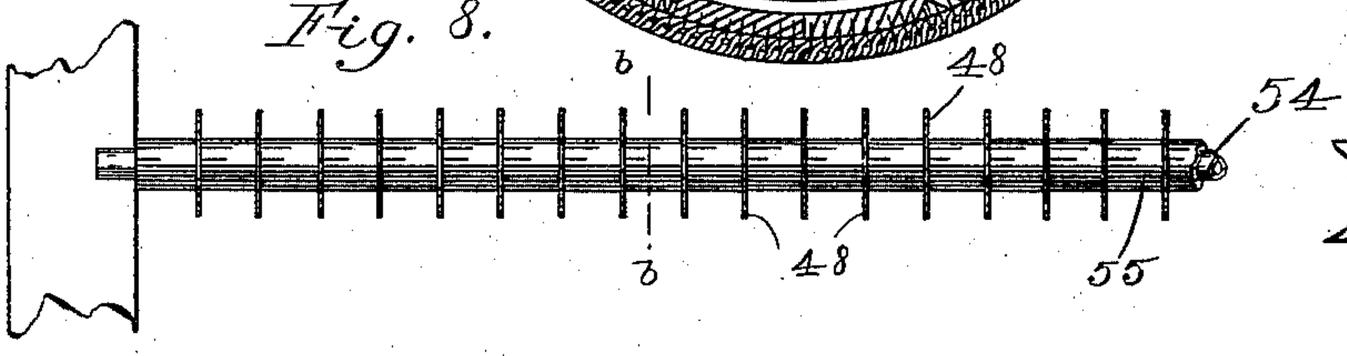


Fig. 9.

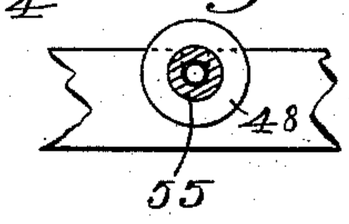


Fig. 10.

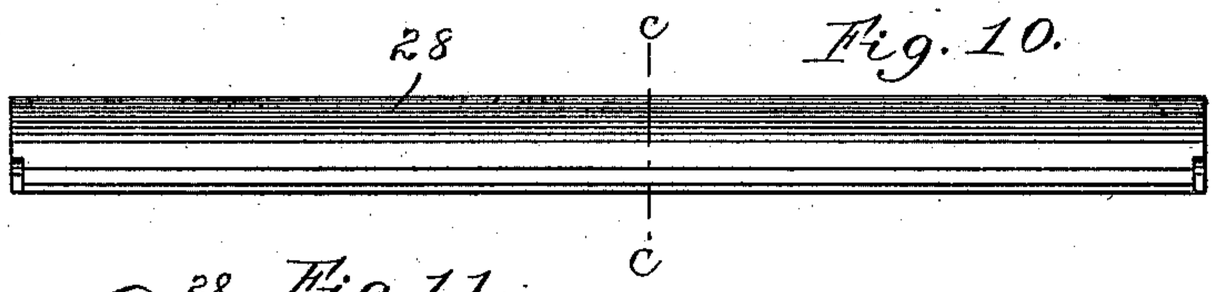
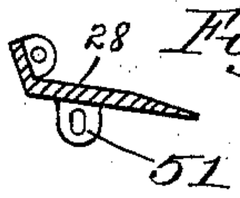


Fig. 11.



Witnesses:

F. C. Bradbury.

N. S. Johnson.

Inventor:
Walter Munch

per: T. S. Munch
Attorney.

UNITED STATES PATENT OFFICE.

WALTER MUNCH, OF ST. PAUL, MINNESOTA.

GLUING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 598,616, dated February 8, 1898.

Application filed February 15, 1896. Serial No. 579,416. (No model.)

To all whom it may concern:

Be it known that I, WALTER MUNCH, of St. Paul, Ramsey county, Minnesota, have invented certain Improvements in Gluing-Machines, of which the following is a specification.

My invention relates to improvements in gluing-machines, its object being to provide a machine which will simultaneously coat with glue both sides of a board or other similar piece of stock to receive veneers or for similar purposes.

To this end my invention consists in providing two similar parallel rolls properly surfaced to carry glue and apply it to the stock, means for adjusting said rolls to and from each other to accommodate them to varying thicknesses of stock, means for applying glue to the surface of said rolls, and suitable guide-supports for the stock after having been glued, by means of which it may be delivered from the machine without the glue upon the same being removed by sliding contact with any part, so as to interfere with the subsequent work.

My invention further consists in the construction and combination hereinafter particularly described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of my improved machine, showing the driving-gear and means for adjusting the relative position of the gluing-rolls and other features. Fig. 2 is an opposite side elevation of the same, showing other attachments and features of construction. Fig. 3 is an enlarged vertical longitudinal sectional detail of the working parts, looking from the same direction as in Fig. 1, showing the glue and water tanks and their connections. Fig. 4 is a front elevation of the machine, partly broken away to show the interior construction. Fig. 5 is detail side elevation of one of the gluing-rolls, partly broken away to show the fastening of the felt strips thereon. Fig. 6 is an enlarged cross-section of the same on line *a a* of Fig. 5. Fig. 7 is a detail of a part of the rim of the roll, showing the felt strips in cross-section and their fastenings. Fig. 8 is a detail side elevation of a series of sheet-metal disk rolls or guides for the glued stock. Fig. 9 is a detail cross-section of the same on line *b b* of Fig. 8. Fig. 10 is a detail plan view of one of the glue-spreaders, and Fig. 11 is a detail cross-section of the same on line *c c* of Fig. 10.

In the drawings, A represents the main frame, and B the secondary frame, connected thereto by the hinges 2 at the rear end. (See Fig. 1.) They are also connected near the front end by the pair of toggle-joints 3, operated by pitmen 4, driven by the screws 5. These screws are operated by the shaft 6 through the interposed bevel-gears 7 and 8, and the shaft is turned by the crank 9 or any suitable means, as desired, so as to raise or lower the front end of the frame B.

Arranged near the front end of the machine is the casing C, the bottom of which is surrounded by the wall 10, forming the hot-water jacket or chamber 11. The case C has a valved drain-pipe 12 at its bottom and a lateral inlet 13, closed by the valve 14, by means of which glue may be admitted from the connected receptacle 15. This receptacle has a removable lid 16 and is also inclosed and surrounded by the water jacket or chamber 11. The steam-pipe 17 connects with the bottom of the chamber 11, so as to admit steam therethrough, and the pipe 18 connects with said chamber near its top and serves as an overflow or waste pipe.

Connected with the top of the case C are valve inlet-pipes 19, which connect with the glue-reservoir 20, having a removable lid 21 and surrounded by the water-chamber 22, near the bottom of which enters the steam-pipe 23, the overflow waste-pipe 24 leading from near its top.

Journaled upon the main frame A and arranged near the bottom of the tank or case C is the cylinder 25, covered by overlapping longitudinal strips of felt 26. Similarly journaled upon the frame B and arranged near the top of the case C is the similar cylinder 27, having a similar covering to that of the cylinder 25. The cylinder 25 is arranged so as to run in a body or mass of the liquid glue at the bottom of the case, while the cylinder 27 receives the glue as it drops from the pipe 19 upon its top surface. The glue thus deposited upon the surface of the cylinders is properly distributed and spread upon their peripheries by means of the spreaders 28 and

29, the edges of which bear upon the peripheries of the cylinders, adjusted by means of bolts passing through the slotted ears 51, so as to determine the amount of glue which remains upon the roll to be deposited upon the stock when passed through the machine.

Mounted upon the frames A and B, respectively, in front of the gluing-cylinders and their inclosing case, are the feed-rolls 30 and 31. The bearings of the roll 31 are preferably connected to an extension part 32, connected by the hinges 33 to the frame B, so as to adapt itself to a piece of stock 34 and carry the same into the machine without varying the position of the gluing-rolls. Intermediate of the feed-rolls and gluing-cylinders are the idler guide-rolls 52 and 53 for accurately directing the stock between the gluing-cylinders.

The feed-rolls and cylinders are all driven from a common source of power by means of the pulley 35, mounted upon the shaft 36 of the feed-roll 30. This shaft carries the pinion 37 and meshes with the pinion 38, which is mounted upon the link 56, connected with the shaft of the feed-roll 31 and the shaft of the roll 25, which latter pinion meshes with the gear 39 upon the shaft of the roll 25. This latter gear in turn meshes with the outer end of the pinion 40, held in fixed radial relation thereto by means of the link 41. The inner end of the pinion 40 meshes in turn with the pinion 42, and it in turn with the gear 43 upon the shaft of the roll 27, the pinions 40 and 42 being in fixed radial relation to the gear 43 by means of the connecting link or bar 45, upon which they are journaled. The gear 43 meshes with the idler-pinion 46, which is mounted upon the pivoted link 57, connected with the shaft of the roll 31, which latter pinion in turn meshes with the pinion 47, mounted upon the shaft of the feed-rolls 31. It will thus be seen that in whatever rellative position the feed-rolls or glue-cylinders stand they are all positively driven from the pulley 35 by the described connected gearing.

In order to protect the layer of glue upon the under side of the stock as the stock passes from the machine, I provide the series of sheet-metal disks 48, arranged parallel with each other upon the shaft or tube 54, having alternating spacing-collars 55, so that they are free to turn as the stock passes over them, making narrow tracks in the glue without otherwise disturbing it.

50 is a steam-pipe connecting with the case C for furnishing steam to the case for the purpose of warming and moistening the same and the included rolls before the machine is set in operation.

In operation, the crank 9 being turned so as to operate the toggle-joints 3 and properly adjust the position of the gluing-cylinders and feeding-rolls, the glue tanks or receptacles having been supplied with glue and the water-tanks with hot water, the valves are opened to admit the glue in proper quantities to the gluing-rolls. The machine then being set in operation the piece of stock 34 is delivered through the feeding-rolls to the gluing-cylinders and the glue upon their peripheries evenly distributed to the required thickness or amount is transferred simultaneously to both sides of the stock. The stock then passes along as actuated by the feeding-rolls over the disks 48 to the adjacent machine, where the veneers are applied.

I claim—

In a machine of the class described, having a relatively-fixed frame and a secondary frame hinged at one end thereto, the combination with the opposed gluing-rolls mounted respectively upon said frames, of the toggle-joints interposed between said frames for adjusting the relative position of said rolls, the hinged extension upon said secondary frame, and the feed-roll journaled in said extension, whereby said roll will be lifted by slight irregularities in the stock without the glue-rolls being adjusted.

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

WALTER MUNCH.

Witnesses:

T. D. MERWIN,

MINNIE L. THAUWALD.