

No. 731,401.

PATENTED JUNE 16, 1903.

L. J. WRIGLEY.
DRAWING FRAME.

APPLICATION FILED SEPT. 8, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

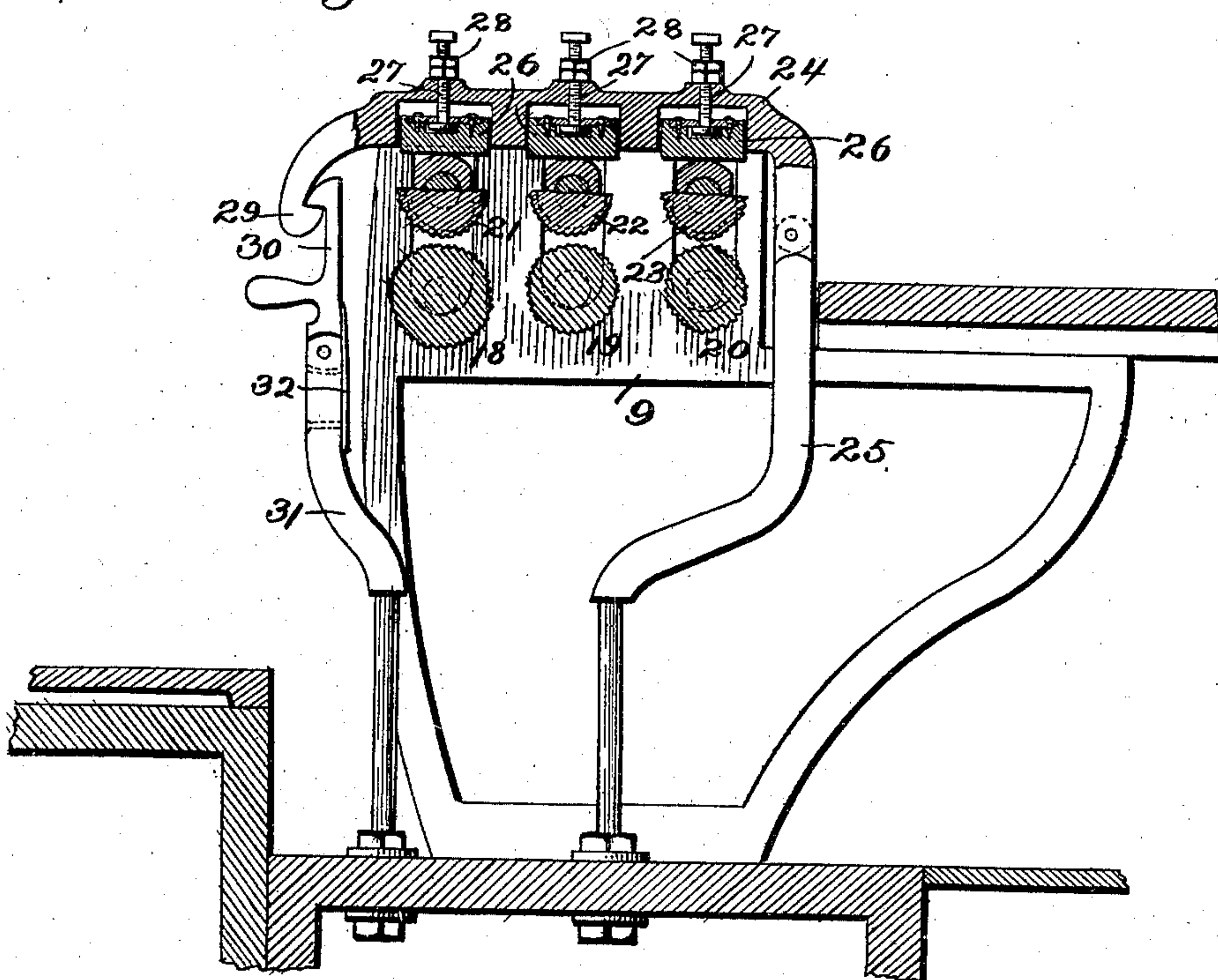
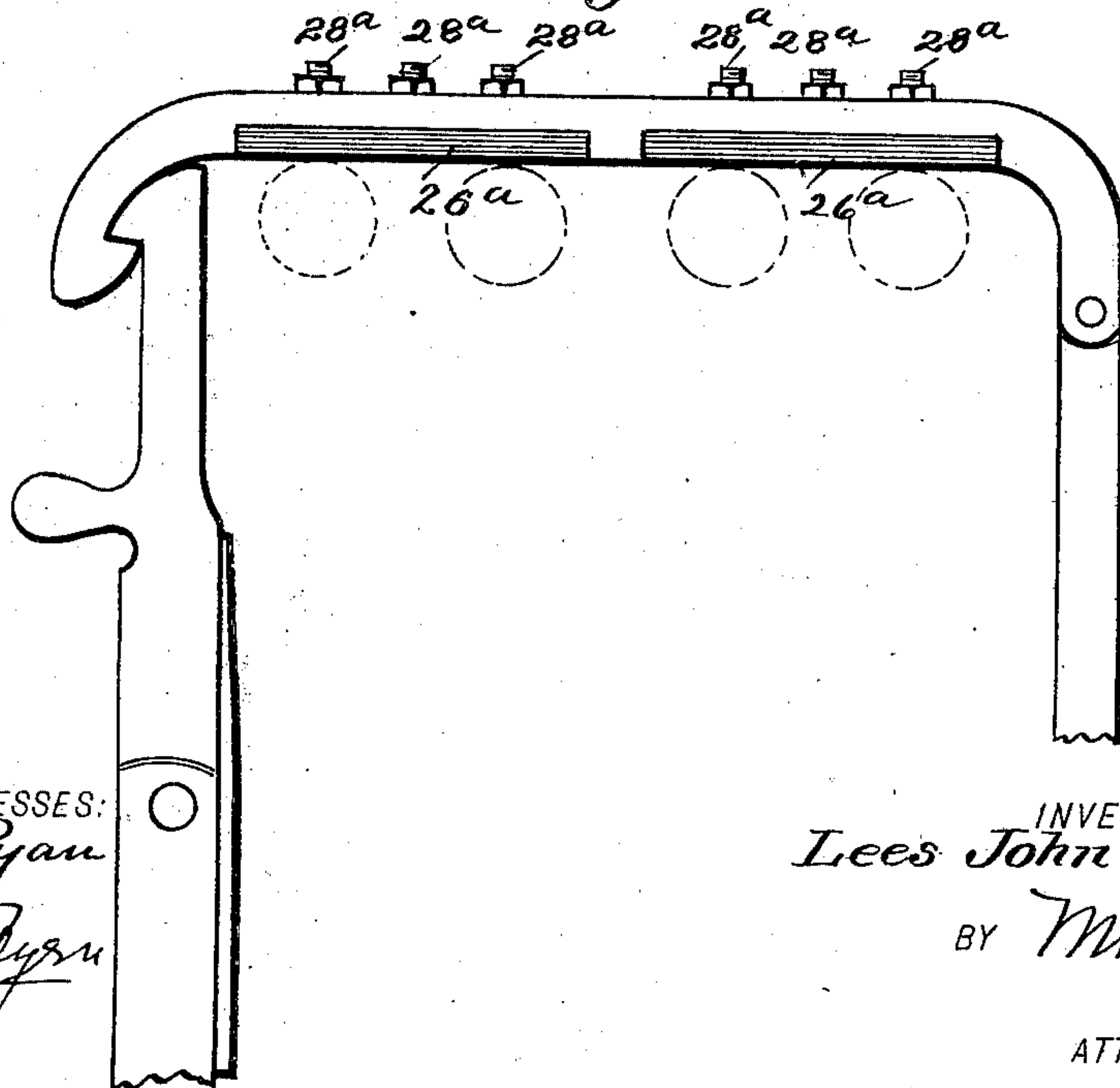


Fig. 3.



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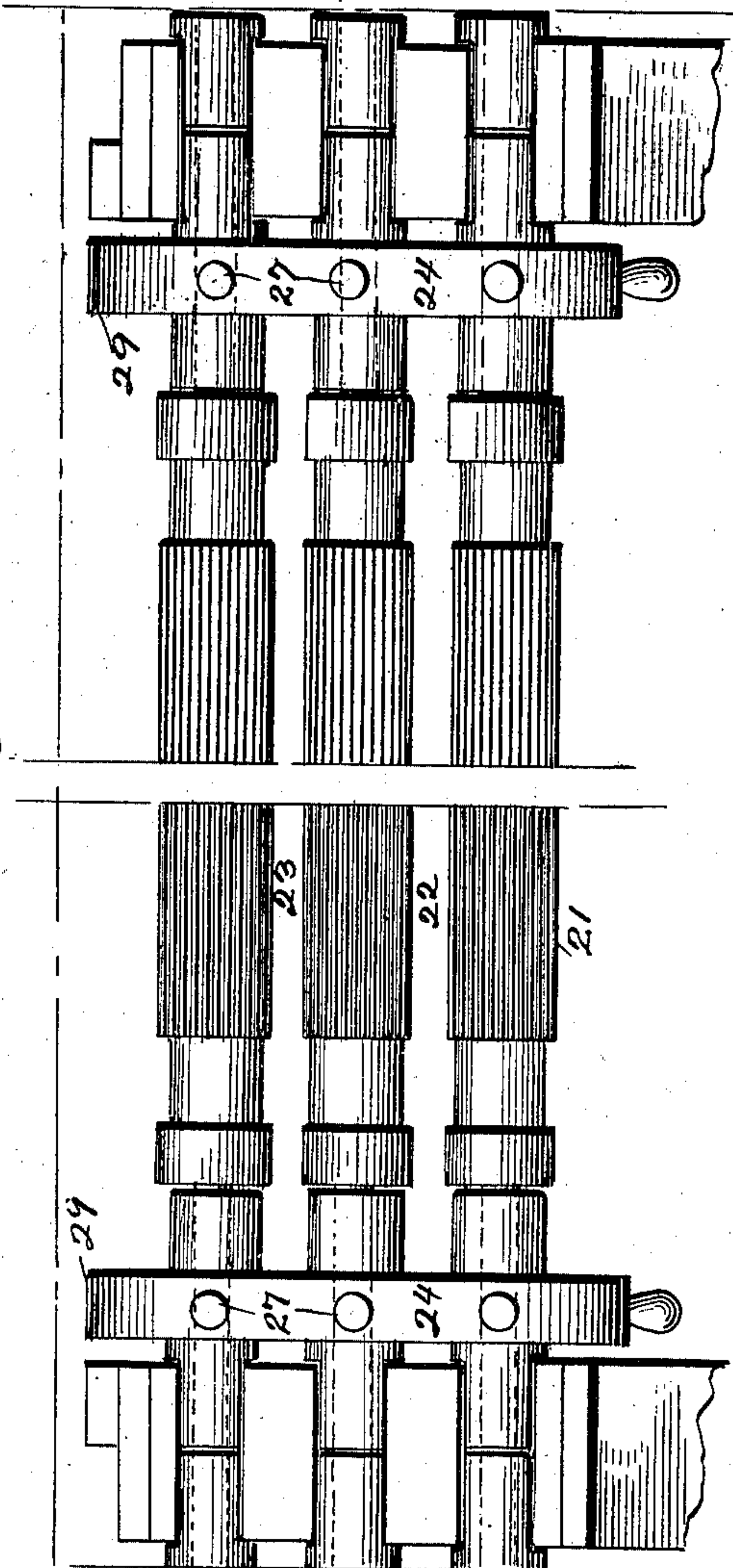
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2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

LEES JOHN WRIGLEY, OF LAWRENCE, MASSACHUSETTS, ASSIGNOR OF
ONE-HALF TO LOUIS I. GUION, OF COLUMBIA, SOUTH CAROLINA.

DRAWING-FRAME.

SPECIFICATION forming part of Letters Patent No. 731,401, dated June 16, 1903.

Application filed September 8, 1902. Serial No. 122,586. (No model.)

To all whom it may concern:

Be it known that I, LEES JOHN WRIGLEY, a citizen of the United States, and a resident of Lawrence, in the county of Essex and State of Massachusetts, have invented a new and Improved Drawing-Frame, of which the following is a full, clear, and exact description.

This invention relates to improvements in drawing-frames for drawing fiber in the several processes in textile-mills, the object being to provide a simple means in lieu of the usual weights, springs, or levers for holding down the rolls and also to provide a means for automatically releasing the pressure should the sliver lap around the drawing-rolls or other obstruction occur in the fiber.

This invention may also be employed in connection with railway-heads, slubbers, intermediates, speeders, and spinning-frames, and all machines for drawing textile slivers by means of rolls providing for the maximum pressure to be exerted by pressure of the rolls from below upward against adjustable bearing-blocks.

In another application, filed by me May 21, 1902, Serial No. 108,354, I have shown, described, and claimed one form of such drawing-frame.

My present invention comprehends another form of such drawing-frame, which I will now proceed to describe, with reference to the drawings, in which—

Figure 1 is a vertical section taken cross-wise the drawing-rolls; Fig. 2, a partial plan view of the same, and Fig. 3 a detail of a modification.

The form of device shown in Fig. 1 is particularly adapted for slubbers, roving-frames, and the like. In these machines there are three lower rollers 18, 19, and 20 and three upper rollers 21, 22, and 23. These rollers are supported in side frames 9. Superposed arms 24 are hinged to the standards 25, which may be adjusted vertically and laterally, and carry adjustable bearing-blocks 26, which press upon the upper surfaces of the upper roller-necks. As here shown, these bearing-blocks 26 are connected to screw-bolts 27, which pass through openings in the arm and are provided at the outer end with jam-nuts 28. These bearing-blocks are made long

enough to allow for the spreading of the rollers. The free ends of arms 24 are provided with hook portions 29 for engaging with latches 30, mounted to swing on standards 31, these latches 30 being held yieldingly in engagement with the hooks 29 by means of springs 32. To prevent the blocks 26 from turning, they may be extended into recesses formed in the arms, as indicated, thus providing independent bearing-blocks, which are held stationary after adjustment, against which all pressure exerted must be from the pressure of the rolls upward. A lap-up of slivers on the rolls or abnormal pressure against the bearing-blocks will cause the release of the hook 29 from catch 30, as the maximum pressure will be from the rolls below upward against the bearing-blocks, which relieves the necks and the bearing of the rolls from wear incident to an unrelieved downward pressure, as exerted by weights, springs, and levers, thereby increasing the life of all drawing-rolls to a maximum and dispensing with all devices for preventing flutes of metallic drawing-rolls from meshing too closely. This device, as shown, is also adaptable to all textile and roving frames using three or more rollers and for both leather-covered or metallic top rolls. It will be seen that the point of articulation between the arm 24 and the standard 25 on the one side and the engagement of hook 29 with latch 30 on the other are practically in the same horizontal plane, and the abutting faces of the hook 29 and the latch 30 are slightly inclined to the horizontal, so they readily and sensitively respond to the upward pressure against the rolls 21 22 23 in effecting the automatic release.

It will be seen that in Fig. 1 I have an independent bearing-block 26 for each one of the upper rolls and independent means for adjusting such blocks for each roll. In Fig. 3 I have shown a modification which while permitting an independent adjustment of the block for each roll employs a single block for two rolls. In such case the block 26^a is made long enough to lap across the necks of two rolls, and each end of said block is provided with an independent screw adjustment 28^a. By turning down the nuts at the right-hand

end of one of these blocks it will be seen that adjustment may be made for the roller immediately beneath said nut without affecting the adjustment of the other end of the block above the roller on the left-hand side. The bearing-blocks are made long enough to allow the rolls to be moved from one position to another. One advantage of these elongated blocks is that it permits the spreading of the rollers.

A machine embodying my invention will operate with much less power than the machines in which weights are employed for holding the rollers down, and the production will be considerably greater than is possible with machines operated with weights.

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

1. In a drawing-frame, the upper and lower rollers, bearings for the same, pressure-arms engaging the bearings of the upper rollers having a fixed point of articulation on one side and a locking-latch on the other arranged at about the same horizontal line with said point of articulation whereby the arms are automatically released by upward pressure against the upward rollers, substantially as described.

2. In a drawing-frame, the upper and lower rollers, bearings for the rollers, superposed

pressure-arms hinged upon one side and having a locking-latch on the other, and having recesses on their lower sides, and adjustable bearing-blocks arranged in said recesses substantially as described.

3. In a drawing-frame, the upper and lower rollers, bearings for the rollers, pressure-arms hinged upon one side and having a locking-latch on the other, said pressure-arms having on their under side, recesses, and independent bearing-blocks arranged in said recesses, one for each upper roller, and means for individually adjusting each bearing-block, substantially as described.

4. In a drawing-frame, the upper and lower rollers, bearings for the rollers, pressure-arms engaging the bearings of the upper rollers, said pressure-arms being hinged upon one side and provided on the other side with a spring locking-latch arranged in about the same horizontal plane with the hinge and having the engaging faces of said locking-latch slightly inclined to the horizontal to facilitate automatic disengagement by upward pressure against the upper rollers, substantially as described.

LEES JOHN WRIGLEY.

Witnesses:

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