

No. 695,753.

Patented Mar. 18, 1902

J. W. MOORE & J. A. WHITE.
FOURDRINIER PAPER MAKING MACHINE.

(Application filed July 19, 1897.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 2.

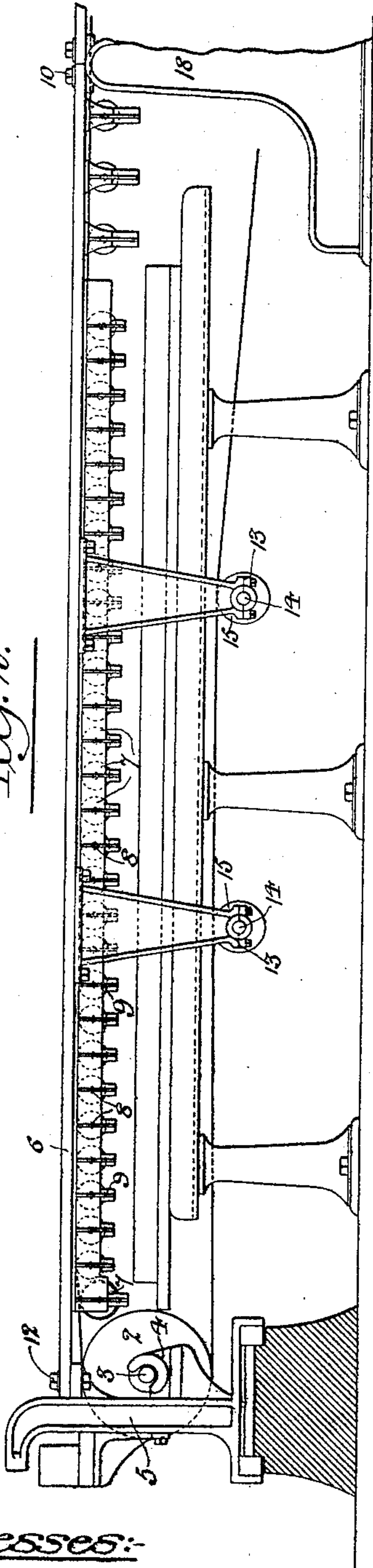
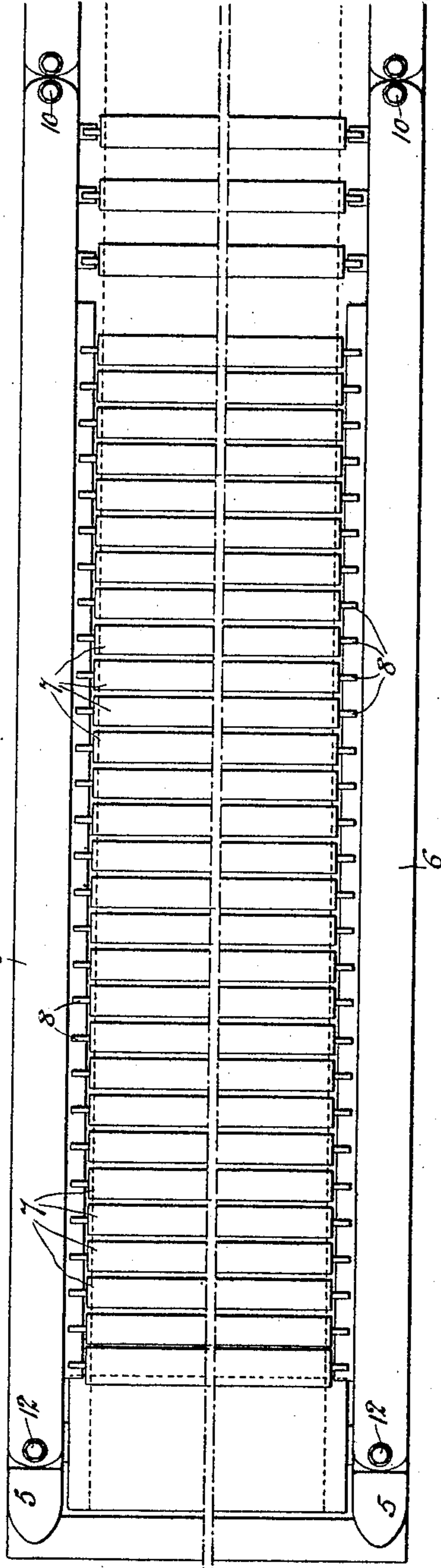


Fig. 1.



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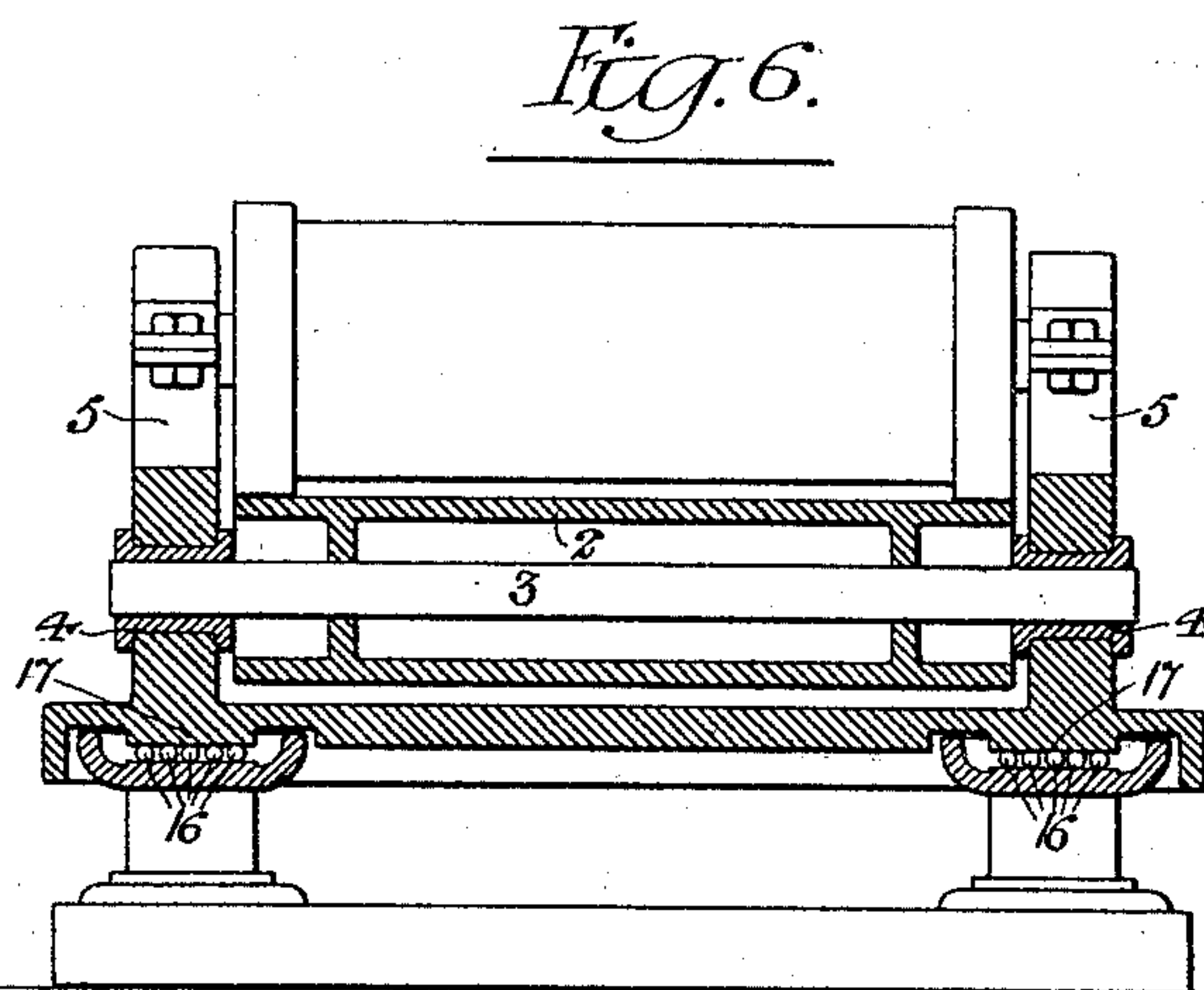
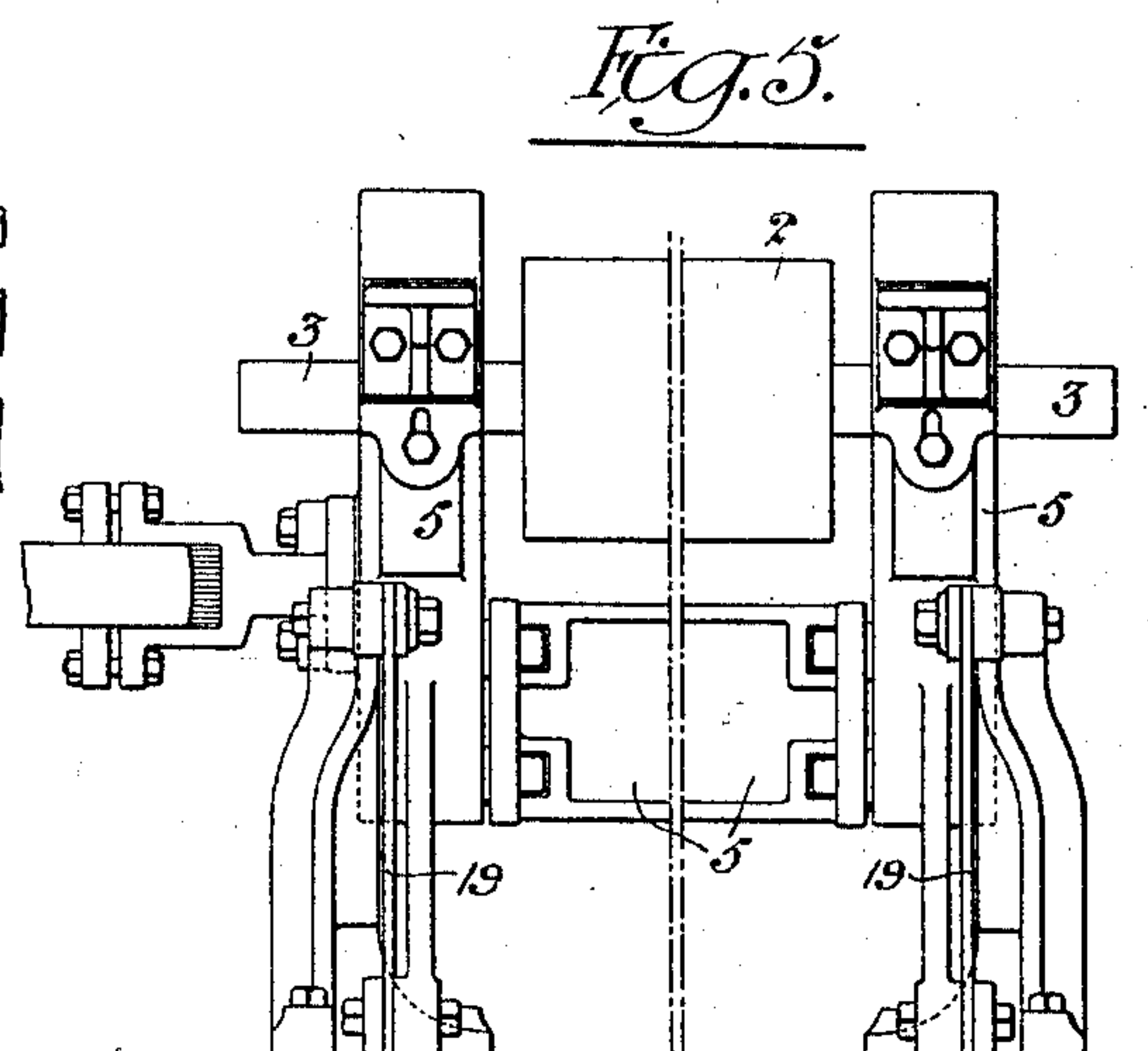
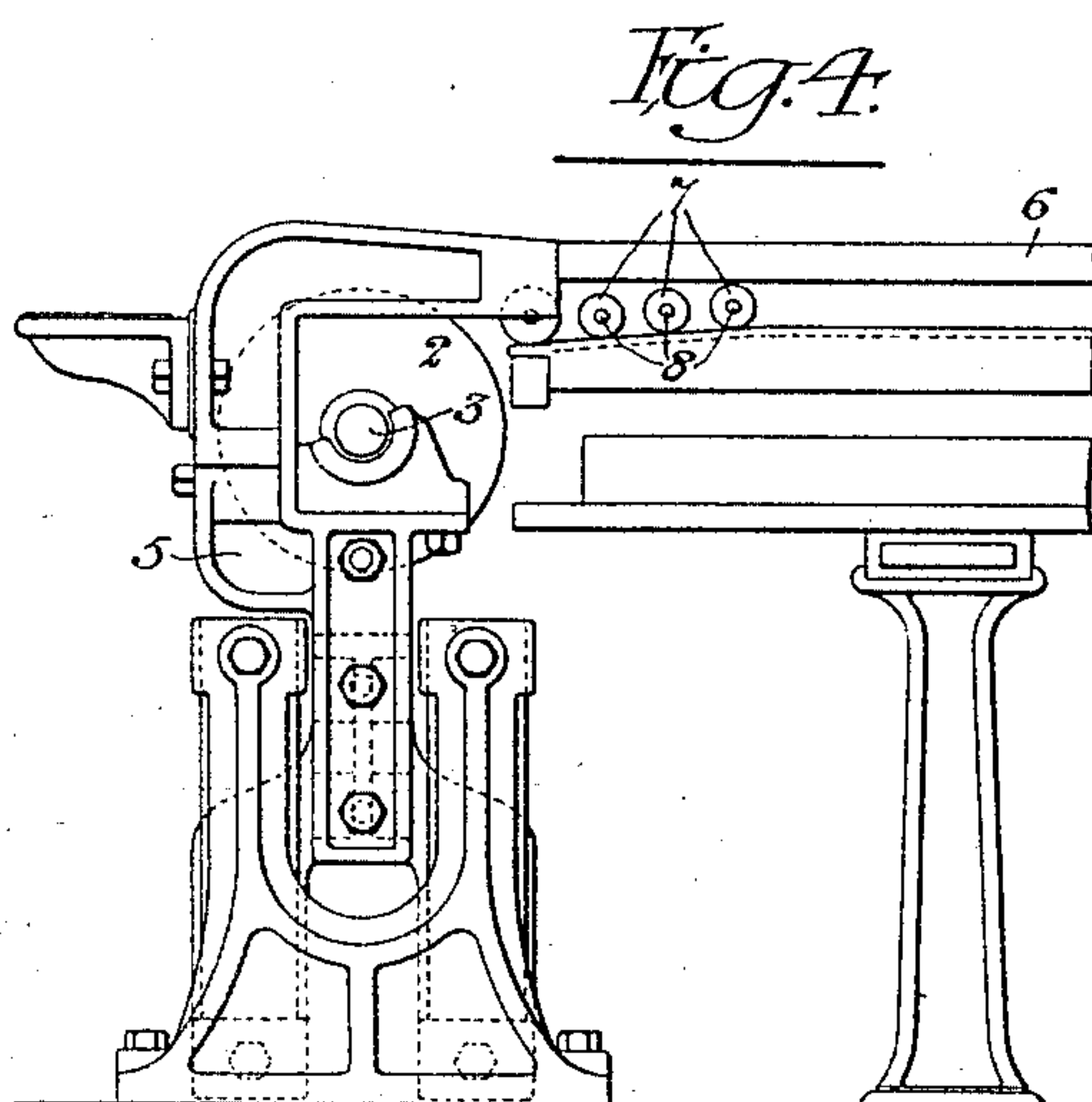
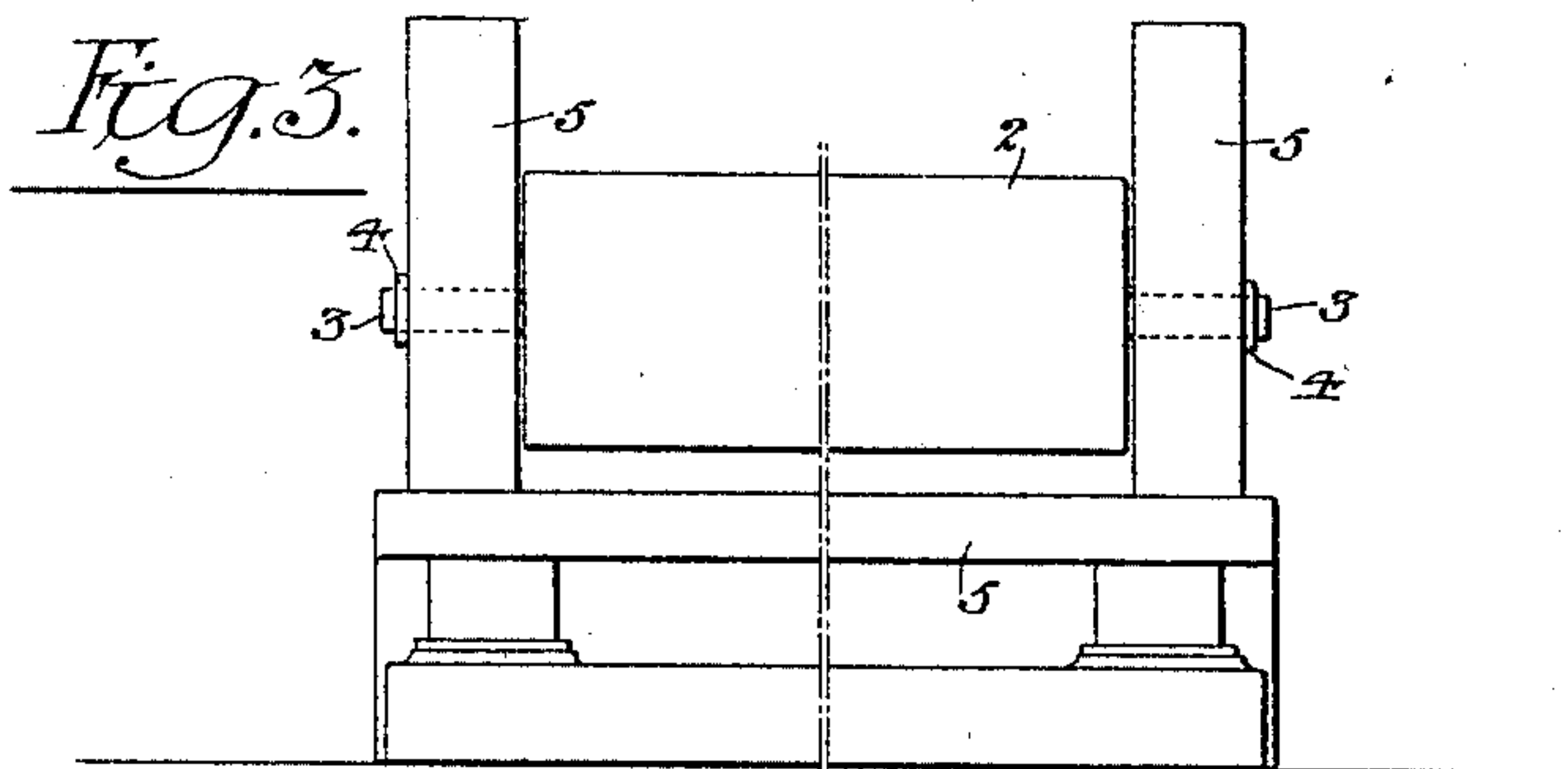
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UNITED STATES PATENT OFFICE.

JOHN W. MOORE AND JOSEPH ATWOOD WHITE, OF PHILADELPHIA,
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FOURDRINIER PAPER-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 695,753, dated March 18, 1902.

Application filed July 19, 1897. Serial No. 645,187. (No model.)

To all whom it may concern:

Be it known that we, JOHN W. MOORE and JOSEPH ATWOOD WHITE, citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Fourdrinier Paper-Making Machines; and we do hereby declare the following to be a sufficiently full, clear, and exact description thereof as to enable others skilled in the art to make and use the said invention.

This invention relates to Fourdrinier paper-making machines.

The object of our invention is to so mount the shake-frame upon supports as to materially reduce friction and to give to the shake-frame a perfectly horizontal vibrating motion, and, further, to carry the supporting-rolls, breast-roll, and return-rolls for the making-wire on the shake-frame, so that the upper and lower portions of the making-wire will move in unison.

In the accompanying drawings, Figure 1 is a plan view of sufficient of a paper-making machine to illustrate our invention. Fig. 2 is a side view, partly in section. Fig. 3 is an end view of the machine. Figs. 4 and 5 are views of modifications of the device, and Fig. 6 is a transverse section of Fig. 1.

Referring to the drawings, 1 is the making-wire.

2 is the breast-roll, mounted on a shaft 3, adapted to bearings 4, formed with or rigidly secured to an end frame 5 of the shake-frame.

6 represents the side rails of the shake-frame, which are secured to the end frame 5 and attached to the fixed frame 18 of the machine by pivots 10.

7 represents the supporting-rolls for the making-wire, having shafts 8, adapted to bearings 9, attached to the side rails 6. The end rails may be pivoted to the end frame 5 by pivots 12, or they may be attached without pivots and have sufficient flexure of themselves to allow for the proper vibration of the shake-frame. To the side frame 6 are also attached the bearings 13, which sustain the journals 14 of the rollers 15, which support the making-wire as it returns to the breast-roll 2.

The end frame 5 is supported so as to be susceptible of vibration horizontally, as shown

in Figs. 1 and 6, and the end frame has surfaces 17, which rest upon rollers 16, carried by fixed standards on the foundation of the machine.

The end frame 5 and the side bars 6, the bearings 12, and the rollers 14 vibrate in unison, with a varying extent of motion at different points in the length of the shake-frame, so that there is a minimum of sliding motion and friction between the making-wire and the several rollers contacting therewith and entirely avoiding the wear incident to making-wires supported on rollers in shake-frames mounted on rocking pillars having their pivoted supports below.

In some instances we may support the shake-frame, as shown in Figs. 4 and 5, by a spring-plate 19. In Figs. 4 and 5 we have shown a spring-plate at each side of this frame, adapted to a fixed standard and to a depending portion of the end frame 5. This form we prefer to use when the shake-frame consists simply of the end frame and the side rails.

We claim as our invention—

1. The combination in a Fourdrinier paper-making machine, of a shake-frame connected at one end by vertical pivots to a fixed frame and supported at the opposite end so as to be free to vibrate in a horizontal plane, said shake-frame consisting of an end frame and side rails together with supporting-rollers carried by the side rails, return-rollers and bearings therefor depending from the shake-frame, and a breast-roll having its bearings on the end frame, substantially as described.

2. The combination in a paper-making machine of a shake-frame having an end frame and side bars, the said end frame being pivoted to the side bars, and the side bars in turn being pivoted to the fixed frame of the machine by vertical pivots, thereby allowing said bars to vibrate freely in a horizontal plane, a breast-roll carried by the end frame, and supported rolls for the wire, and guide-rolls for the return run of the wire, all carried by the shake-frame, and means for vibrating the shake-frame, substantially as described.

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