A. GULLBERG & C. L. SMITH.

ADJUSTABLE JOGGING DEVICE FOR SIGNATURE GATHERING MACHINES.

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1,125,310. Patented Jan. 19, 1915.

Fig. 1.

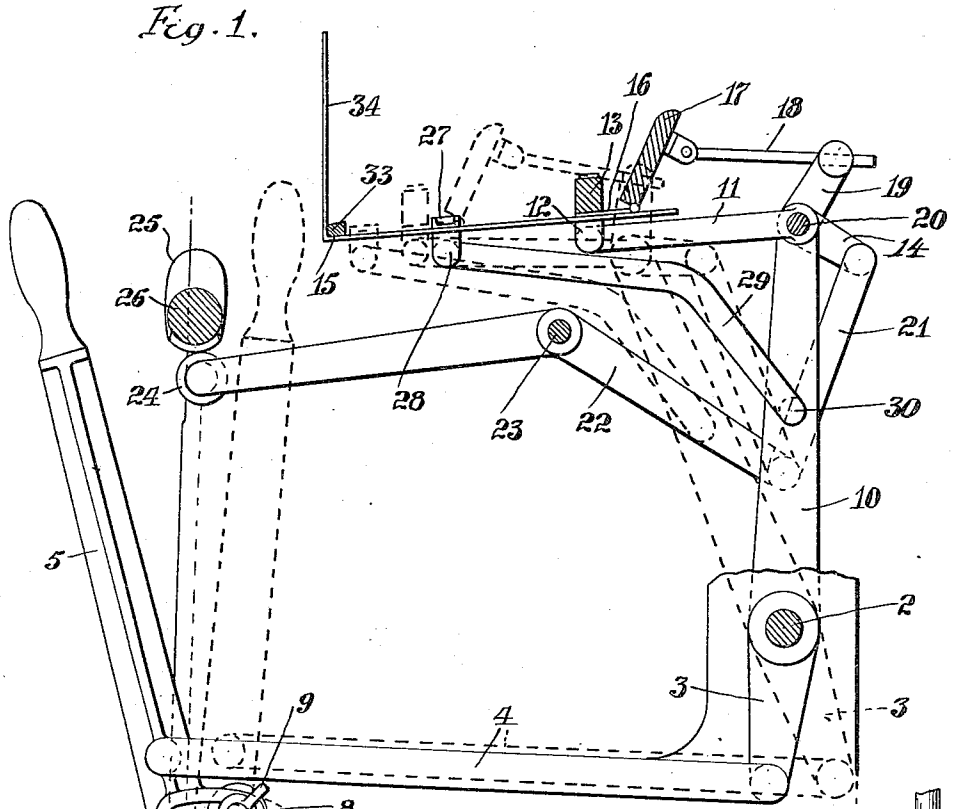
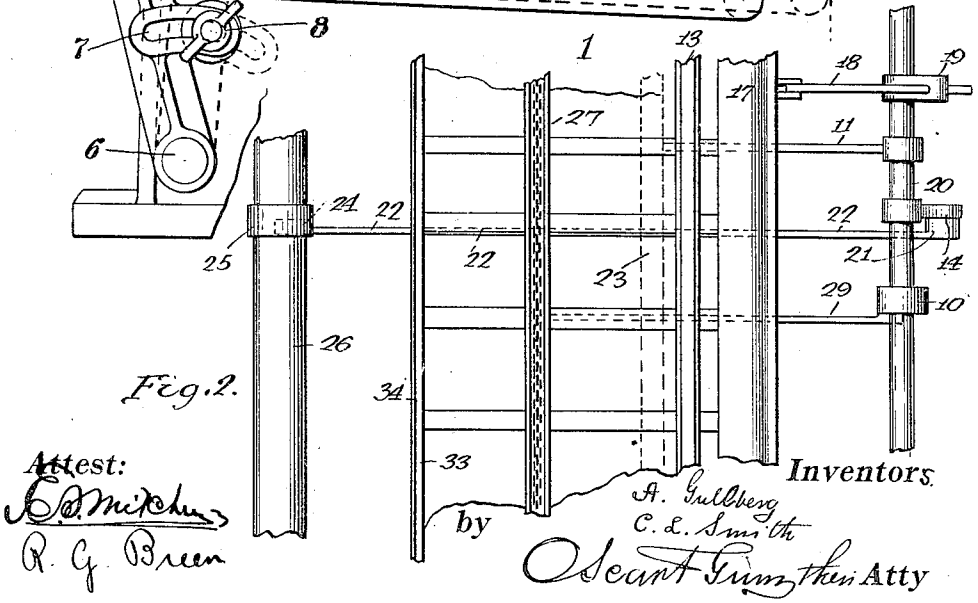


Fig. 2.



Attest:

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UNITED STATES PATENT OFFICE.

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ADJUSTABLE JOGGING DEVICE FOR SIGNATURE-GATHERING MACHINES.

1,125,310. Specification of Letters Patent. Patented Jan. 19, 1915.

Application filed June 12, 1912. Serial No. 703,159.

To all whom it may concern:

Be it known that we, ALEX GULLBERG and CHARLES L. SMITH, citizens of the United States, and residents of Arlington, county of Hudson, State of New Jersey, and New York city, borough of Manhattan, in the county of New York and State of New York, respectively, have invented certain new and useful Improvements in Adjustable Jogging Devices for Signature-Gathering Machines, of which the following is a specification.

The object of our invention is to provide a new and improved adjustable jogging device for signature gathering machines for the purpose of permitting adjustment of this jogging device according to the dimensions of the sheets or signatures gathered, so that when this signature gatherer is in operation and successively gathers sheets for a series of magazines or books, the sheets will be properly jogged for all sizes of sheets and which machine is simple in construction, reliable in operation and can easily be adjusted for the various sizes of the sheets or signatures.

In the accompanying drawings in which like letters of reference indicate like parts in all the figures: Figure 1 is a vertical view of parts of a signature gathering machine provided with our new and improved adjustable jogging device, only such parts of the gathering machine being shown as are requisite for the purpose of showing our invention. Fig. 2 is a plan view of part of the same on a smaller scale.

The machine is provided with the conventional frames 1 in which the shaft 2 is journaled at the rear, which shaft has an arm 3 which is connected by a link 4 with an adjusting hand lever 5 pivoted at 6 at the front of the machine, said lever having an arm provided with a curved slot 7 concentric with the shaft 6 and through which slot a screw 8 projects, which is secured in the frame and on the outer end of said screw a suitable lock nut 9 is screwed by means of which the handle lever 5 can be locked in position after adjustment. From the shaft 2, arms 10 project upward, of which only one is shown in the drawing, and to the upper end of said arm 10 a link 11 is pivoted and this link at its free end is pivoted to a lug 12 projecting downward from a rail 13 on the bottom of the conveyer guide or channel 15 on which the gathered sheets are shifted in the usual manner lengthwise of said conveyer guide by the customary devices provided in machines of this type and which forms no part of the present invention. The rail 13 has a base plate 16 resting on the conveyer guide and to the same a jogging board 17 is pivoted which is connected by a pivoted link 18 with an arm 19 on a rock shaft 20 mounted in the upper end of the several arms 10 of the shaft 2 and an arm 14 of the shaft 20 is connected by a pivoted link 21 with one end of an angle lever 22 suitably pivoted at 23 in the frame of the machine, which angle lever 22 carries at its free end a roller 24 resting against the cam 25 on a rotating shaft 26 extending lengthwise of the machine, so that as said shaft 26 is rotated the cam operates the angle lever 22 and causes the rocking of the arm 19 and a forward and back rocking motion of the jogger board 17.

We are well aware that the combination of the jogger board and an angle lever and a cam on a rotating cam-shaft and connections have been used in signature gatherers heretofore, but the shaft 20 carrying the rocking arms 19 was not mounted in adjustable arms 10 of a shaft 2 as in the present case. A grooved guide-way 27 for the customary endless chain carrying the pins which shift the gathered sheets in the direction of the length of the conveyer guide 15 is provided on the upper surface of the guide-way and is movable transversely to the guide-way. It is provided with lugs 28, of which only one is shown, which project down through transverse slots in the guide-way in the same manner as the lugs 12 project from the rail 13. Each lug 28 of the chain guide-way 27 is connected by a link 29 with an arm 10. This link is made angular so as not to interfere with the shaft 23 and is pivoted at 30 to the arm 10, which pivot 30 is about midway between the shaft 2 and the upper end of the arm 10 of said shaft. If the shaft 2 is given a greater or less rotary movement, the distance traveled by the shaft 20 in the arc of a circle concentric with the axis of the shaft 2 is about twice as great as the distance traveled by the pivot 30 and therefore, for any rotary movement of the shaft 2 the distance traveled by the rail 13 toward or from the flange 34 of the conveyer guide is about twice as great as the

distance traveled by the grooved chain guide 27.

The chain guide is usually midway between the rail 13 and the flange 34 of the conveyer guide 15. Now if the jogger board 17 is to be adjusted nearer the flange 34 for a narrower signature, that is to say, if the jogger board 17 is to be brought into the position shown in dotted lines, the handle 5 is unlocked and pushed to the right whereby the arm 3 is brought into the position shown in dotted lines, the shaft 20 is moved to the left and the jogger board 17 and chain guide 27 are moved into the positions shown in dotted lines, the chain guide again being about midway between the flange 34 and the jogger board 17 in its new position. As the arm 10 swings to the left the link 21 at its upper end swings into the position shown in dotted lines, the lower end, of course, always having its permanent position at the inner end of the lever 22, and the jogging rail or board 17 is thus likewise operated from the cam shaft 26 when the parts are adjusted into the positions shown in dotted lines. By merely shifting the handle lever 15 the operator is thus enabled to adjust the jogging rail for signatures of various widths and for whatever width the jogging rail has been adjusted the jogging rail 17 and chain guide way 27 will be in proper positions. If any signatures are deposited on the conveyer guide the lowermost signature will rest upon the rails 13 and 33 as is customary in such signature gathering machines.

Having described our invention what we claim as new and desire to secure by Letters Patent is:—

1. In a signature gathering machine, the combination with a signature conveyer guide, a jogging board, and a chain guide in said conveyer guide, located between the jogging board and the outer edge of the conveyer guide, the jogging board and the chain guide both being adjustable in relation to the outer edge of the conveyer guide, of a common means for adjusting the jogging board and chain guide toward and from the outer edge of the conveyer guide at the same time and while so adjusting them moving the jogging board a greater distance than the chain guide transversely to the conveyer guide, substantially as set forth.

2. In a signature gathering machine, the combination with a signature conveyer guide, a jogging board and a chain guide between the jogging board and the outer edge of the conveyer guide, said jogging board and chain guide both being adjustable toward and from the outer edge of the conveyer guide, of a rock shaft mounted in the frame of the signature gathering machine, means for moving said rock shaft rotatively a greater or less distance, an arm on said rock shaft, a link-connection between the said arm and the jogging board, a link connection between the said arm and the chain guide, the connection between the said arm and the link connected with the jogging board being at a greater distance from the axis of the rock shaft, than is the connection between said arm and the link connected with the chain guide, substantially as set forth.

3. In a signature gathering machine, the combination with a signature conveyer guide, a jogging board, and a chain guide, the jogging board and the chain guide being adjustable toward and from the outer edge of the conveyer guide, of a rock shaft mounted in the frame of the gathering machine, means for moving said rock shaft rotatively a greater or less distance, arms on said rock shaft, link connections between said arms and the jogging board and the chain guide, respectively, a rock shaft mounted in said arms, a connection between the jogging board and said second rock shaft, a lever for rocking the said second rock shaft, and a cam and means for operating the same, for operating the above mentioned lever, for rocking the second rock shaft, substantially as set forth.

4. In a signature gathering machine, the combination with a conveyer guide, a jogging board and a chain guide, both the jogging board and chain guide being adjustable toward and from the outer edge of the conveyer guide, of a common means for shifting the jogging board and the chain guide transversely to the conveyer guide, at the same time and in the same direction, such means comprising elements for moving the jogging board during adjustment transversely to the conveyer guide a distance approximately twice as great as the distance which the chain guide is moved transversely during such adjustment, substantially as set forth.

Signed at New York city in the county of New York and State of New York this 29 day of March A. D. 1912.

ALEX GULLBERG.
CHARLES L. SMITH.

Witnesses:
JOHN P. WHELAN,
JOSEPH H. BAKER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."