Sept. 21, 1937. H. M. BARBER 2,093,747

SIGNATURE DELIVERY MECHANISM FOR PRINTING PRESSES

Filed May 21, 1936 3 Sheets-Sheet 1

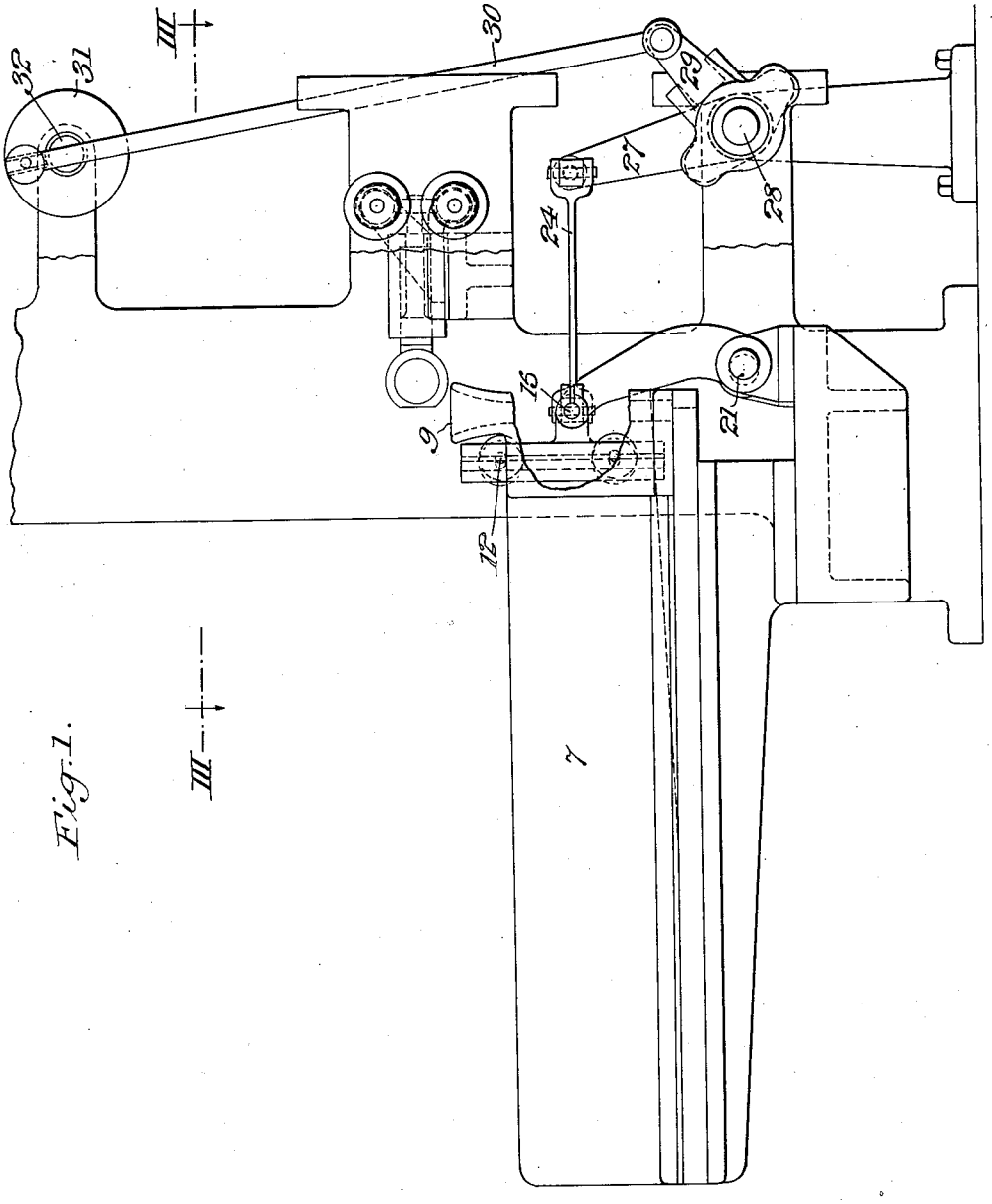

Fig. 1.

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Filed May 21, 1936 3 Sheets-Sheet 2

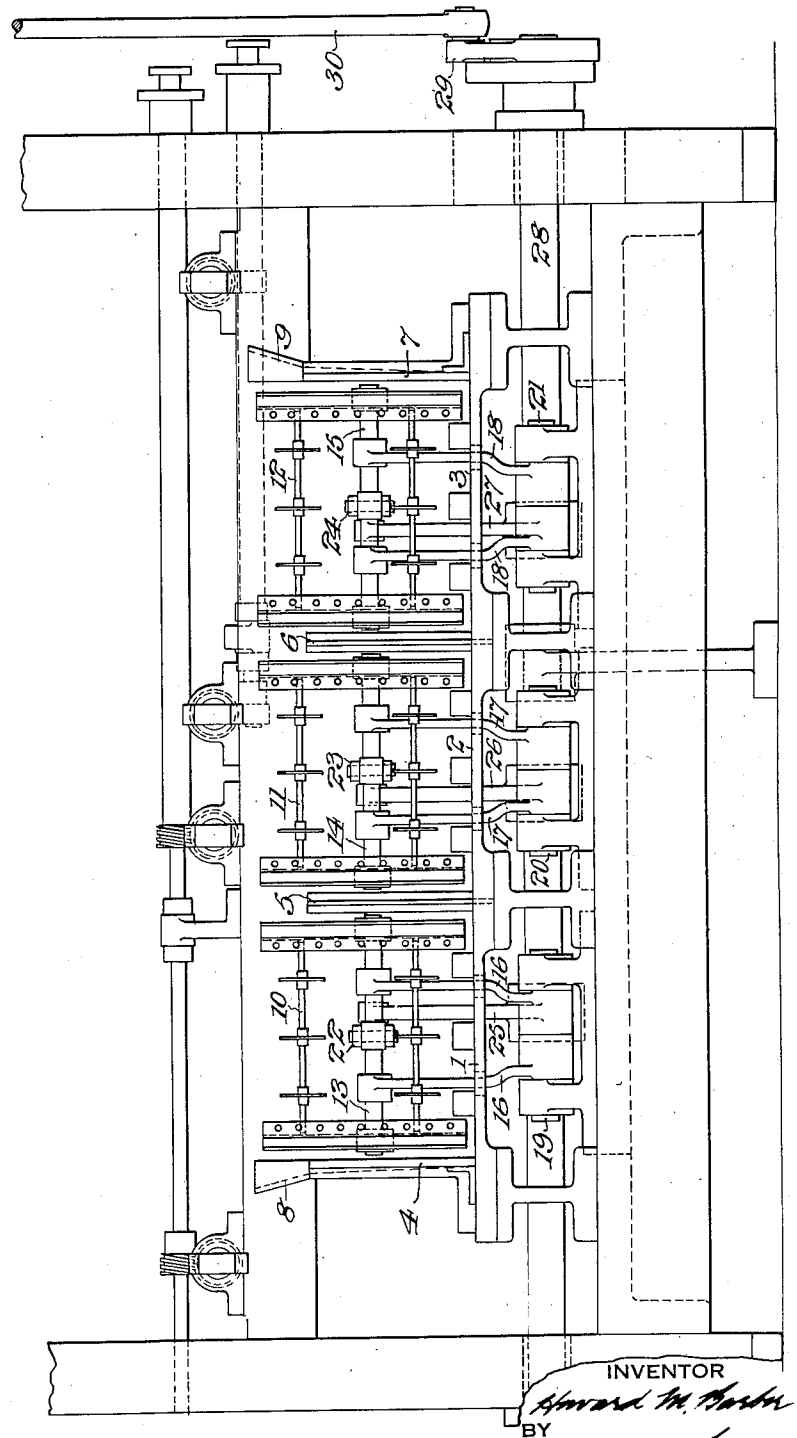

Fig. 2.

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Filed May 21, 1936 3 Sheets-Sheet 3

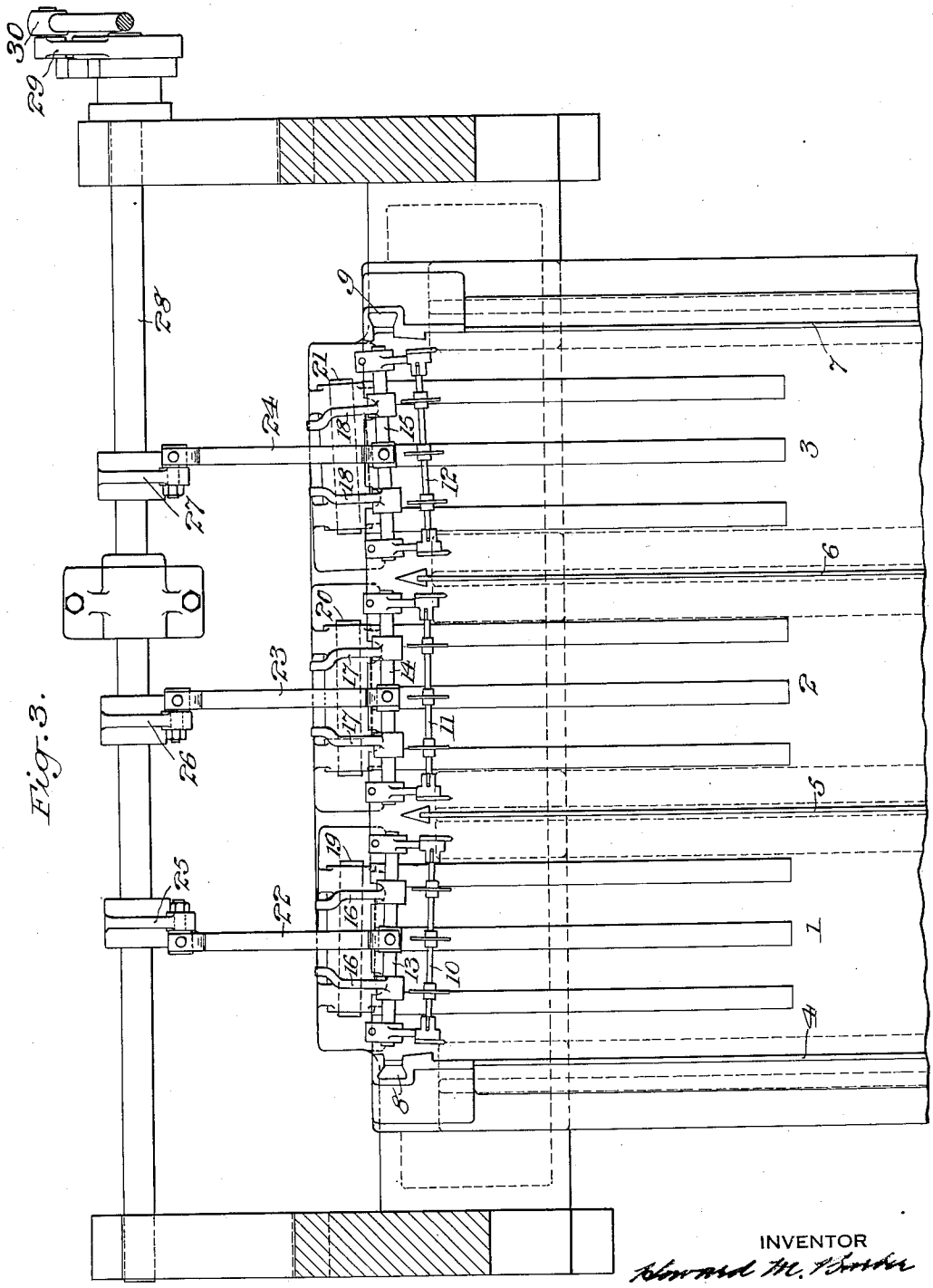

Fig. 3.

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SIGNATURE DELIVERY MECHANISM FOR PRINTING PRESSES

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Application May 21, 1936, Serial No. 80,957

6 Claims. (Cl. 271—87)

Heretofore in printing presses where a plurality of signatures have been fed side by side to packer troughs arranged side by side, there has necessarily been a slight lateral shifting of the signatures, one upon another, as they are packed, caused by the signatures seeking to aline themselves in their packer troughs. This tends to smut the printed matter and also causes a curling of the side edges of the signatures as they are forced forwardly over the partitions which separate the packer troughs.

I have found that these undesirable features may be eliminated by slightly deflecting the course or courses of the signatures to separate them as they are fed to their packer troughs. For instance, where three lines of signatures are fed side by side to three parallel packer troughs the courses of the two outside lines of signatures will be slightly deflected away from the course of the middle line of signatures to bring these outside signatures into alinement with their packer process.

A practical embodiment of my invention is represented in the accompanying drawings, in which

Fig. 1 represents a side view of a signature delivery for three lines of signatures, side by side;

Fig. 2 represents a front view of the same; and

Fig. 3 represents a horizontal section, taken in the plane of the line III—III of Fig. 1, looking in the direction of the arrows.

In the embodiment illustrated, the signature delivery is arranged to handle three lines of signatures, side by side. The three packer troughs are formed by the bottoms 1, 2, 3 and the parallel sides 4, 5, 6, 7, the outer sides 4 and 7 having the usual chutes 8 and 9 for receiving and guiding the outer edges of the signatures of the outer lines. The pushers of the packers are denoted by 10, 11, 12 and they are movable into and out of their respective packer troughs. These pushers have crossbars 13, 14, 15 respectively, which crossbars are mounted in uprising arms 16, 17, 18 fixed to separate rock shafts 19, 20, 21. Rods 22, 23, 24 have universal joint connections with the arms 16, 17, 18 and with the uprising arms 25, 26, 27 fixed to a common rock shaft 28. This rock shaft 28 has adjustably fixed thereon an arm 29 which is connected by a rod 30 to a crank disc 31 on the end of a rotary drive shaft 32. It will thus be seen that the rotary movement of this shaft 32 imparts a forward and rearward movement to the pushers 10, 11, 12. The slight lateral deflection of the outside lines of signatures away from the middle line of signatures to space the three lines apart is provided for as follows: The outside pushers 10 and 12, their crossbars 13 and 15 and rock shafts 19 and 21 are all slightly inclined rearwardly from the middle pusher 11, its crossbar 14 and rock shaft 20.

By the arrangement as above set forth, it will be seen that the outside signatures are each moved slightly diagonally forward by the packer pushers to bring the signatures into alinement with their troughs before the signatures are pushed into contact with their next preceding signatures in the troughs. This arrangement will prevent the shifting of and the consequent liability of smutting the signatures as they are packed and will also prevent the curling of the edges of the signatures.

It is evident that various changes may be resorted to in the construction, form and arrangement of the several parts without departing from the spirit and scope of my invention, and hence I do not intend to be limited to the particular embodiment herein shown and described, but

What I claim is:

1. In a signature delivery for printing presses arranged to deliver a plurality of lines of signatures, a plurality of packer troughs, and a plurality of means operable to feed signatures of different lines side by side thereto one of the said means being slightly inclined rearwardly from its adjacent means and thereby operating to deflect the course of the signatures of one of the lines.

2. In a signature delivery for printing presses arranged to deliver a plurality of lines of signatures, a plurality of packer troughs, and pushers operable to feed signatures of different lines side by side thereto, one of the said pushers being slightly inclined rearwardly from its adjacent pusher and thereby operating to deflect the course of the signatures of one of the lines.

3. In a signature delivery for printing presses arranged to deliver a plurality of lines of signatures, a plurality of packer troughs, pushers operable to feed signatures of different lines side by side thereto, one of the said pushers being slightly inclined rearwardly from its adjacent pusher and thereby operating to deflect the course of the signatures of one of the lines, and separate rocking supports for the pushers.

4. In a signature delivery for printing presses arranged to deliver three lines of signatures, three packer troughs, and three means operable to feed the signatures of three different lines side by side thereto, the two outside means being

slightly inclined rearwardly from the middle means and thereby operating to deflect the courses of the signatures of the two outside lines slightly away from the course of the signatures of the middle line.

5. In a signature delivery for printing presses arranged to deliver three lines of signatures, three packer troughs and three pushers operable to feed signatures of three lines side by side thereto, the two outside pushers being slightly inclined rearwardly from the middle pusher and thereby operating to deflect the courses of the signatures of the two outside lines slightly away from the course of the signatures of the middle line.

6. In a signature delivery for printing presses arranged to deliver three lines of signatures, three packer troughs and three pushers operable to feed signatures of three lines side by side thereto, the two outside pushers being slightly inclined rearwardly from the middle pusher and thereby operating to deflect the courses of the signatures of the two outside lines slightly away from the course of the signatures of the middle line, and separate rocking supports for the pushers.

HOWARD M. BARBER.