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ADJUSTABLE JOGGING MECHANISM IN SHEET PRINTING PRESS

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Fig. 2.

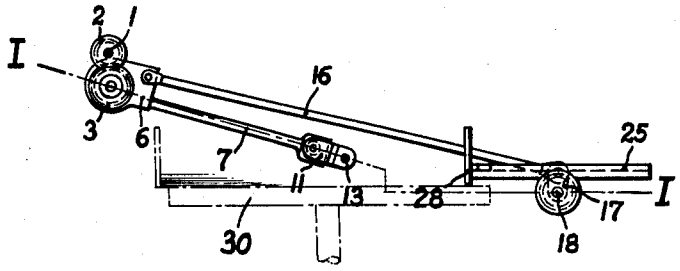
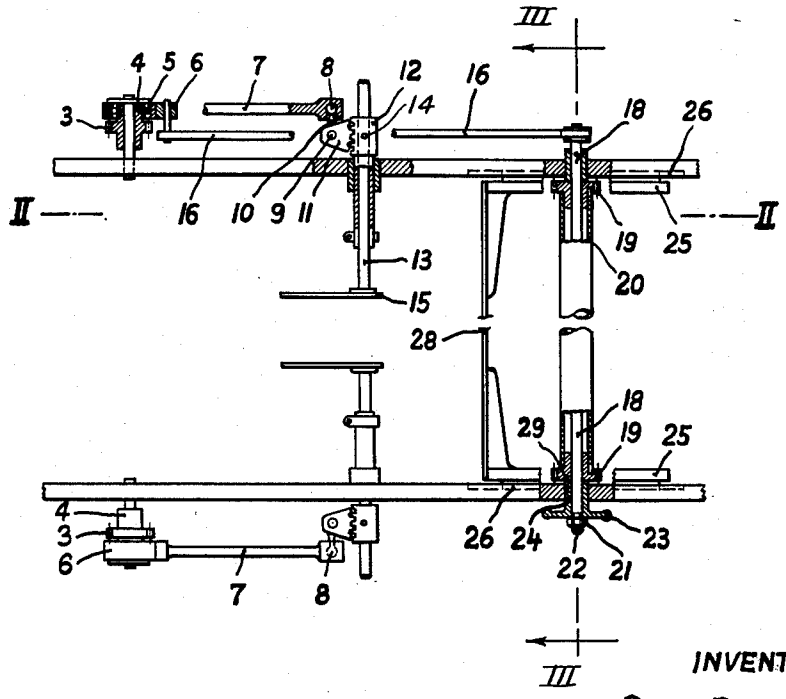


Fig. 1.



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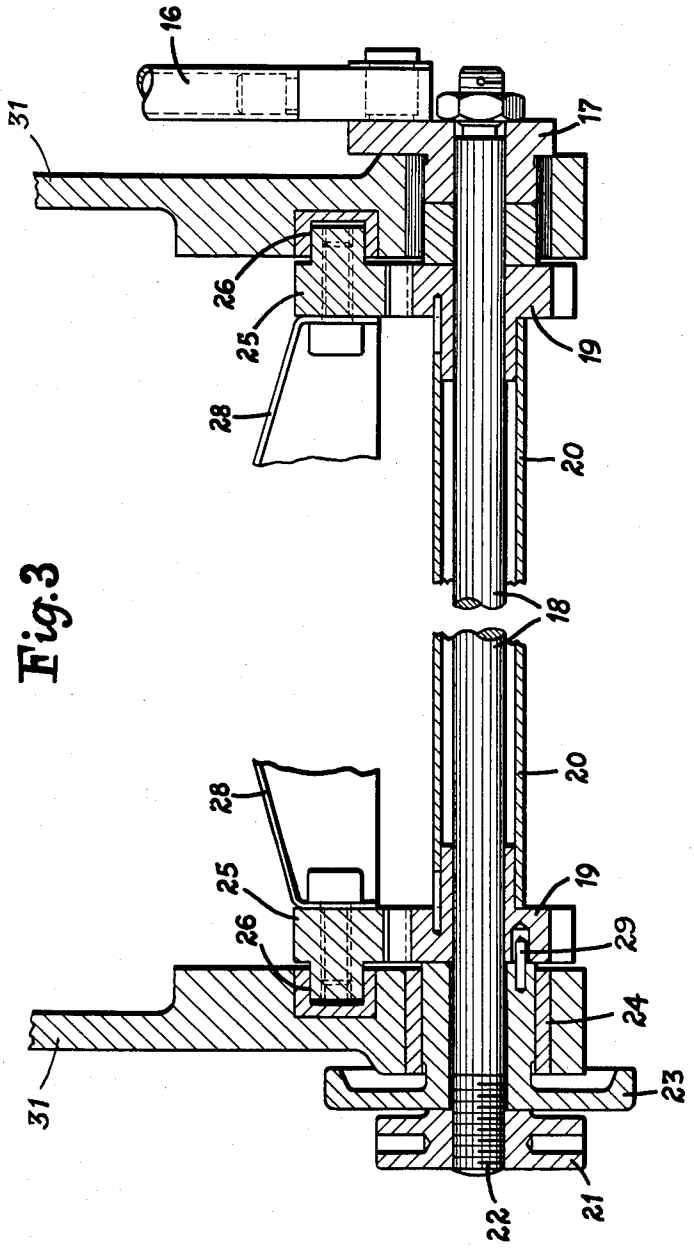


Fig. 3

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ADJUSTABLE JOGGING MECHANISM IN SHEET PRINTING PRESS

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Claims priority, application Germany May 25, 1950

4 Claims. (Cl. 271—89)

This invention relates to certain improvements in sheet printing presses and has particular reference to a device for jogging the printed sheets on the delivery board of such sheet printing presses.

It is an object of the present invention to provide a simple and compact jogging device.

With this and further objects in view, according to the present invention the rearward jogger is reciprocated through a toothed rack from a toothed wheel which for adaptation to variable sizes of sheet is mounted on a rotary shaft mounted in stationary bearings, releasable means being provided for coupling the toothed wheel with the rotary shaft which is driven through a mechanism comprising an oscillating arm, a connecting rod, eccentric lever and eccentric, by a toothed wheel driven from the rearward wheel shaft for reversing the chains of the chain delivery, preferably through speed reduction means. According to a further feature of the invention this eccentric lever serves to reciprocate a two-armed lever mounted on a stationary fulcrum, through a connecting rod and a ball joint, for operating a lateral jogger on each side of the pile of sheets.

It will thus be seen that the whole device consists of parts mounted in stationary bearings in the frame of the chain delivery, said parts being driven by the respective wheel shaft for reversing the chains of the chain delivery which is disposed close to the device and therefore requires the smallest length of transmission means required to bridge the distance and to establish an operative connection.

Other and further objects, features and advantages of the invention will be pointed out hereinafter and appear in the appended claims forming part of the application.

In the accompanying drawings a now preferred embodiment of the invention is shown by way of illustration and not by way of limitation.

Fig. 1 is a plan view, partly in section on line I—I in Fig. 2,

Fig. 2 is a section on line II—II of Fig. 1, the rearward side wall of the machine being omitted, and

Fig. 3 is a view partly in section along the line III—III of Fig. 1 on a larger scale.

The wheel shaft **1** for reversing the chain has mounted a toothed wheel **2** each on its front and rear ends, each meshing with a toothed wheel **3** for reducing the speed, whereby an oscillating member **6** mounted on an eccentric bushing **4** of the toothed wheel **3**, by means of a ball or roller bearing **5**, is set in oscillating motions which by means of a rod **7** and a ball joint **8** are transmitted to an angle lever **10**, **11** swinging about a stationary pivot **9**. The lever arm **11** bears a toothed segment engaging in a corresponding toothed portion of a sleeve **12** traversed by a rod **13** which is longitudinally slidable in the sleeve and can be clamped therein at **14**. Each bar **13** bears one of the lateral joggers **15**. Similar mechanisms **3**—**15** are symmetrically provided in opposite sides of the machine frames, as indicated. The delivery table is indicated at **30**.

Connected to each oscillating member **6** is moreover a rod **16** jointed to a lever **17** fixedly connected to a shaft **18**. A pair of toothed wheels or pinions **19** are fixedly clamped on this shaft **18** by a nut **21**, being spaced from each other by a spacing tube **20**, said nut being threaded on a male thread **22** of the shaft **18** and exerting its clamping pressure through a sleeve **24** provided with a hand wheel **23**. Each of the toothed wheels **19** meshes with a toothed rack **25** sliding in a guide **26** in the side wall of the machine frame **31** and bearing the rearward jogger **28**. On release of the nut **21** the toothed wheels **19** can be rotated freely with respect to shaft **18** by turning the handwheel **23**, through coupling members **29**, for shifting the toothed racks **25** with the jogger **28** in order to adjust this mechanism to different sizes of sheets. It will be understood that the side joggers **15** can be adjusted and readjusted by shifting them in their sleeves **12** on release of the clamping mechanism at **14**.

Thus, it will be understood that motion of oscillating member **6** is transmitted through rods **7** and **16** to be converted to reciprocating motion at **11**—**12** and **19**—**25** for reciprocating the rear jogger **28** from left to right in Fig. 1 and the lateral joggers **15** toward and away from the center line of Fig. 1. When a printed sheet is about to be delivered to the delivery board **30** by the printing press delivery mechanism, all the joggers move outwardly from the center of the delivery board on to which the printed sheet is dropped. After the sheet falls on the delivery board, all joggers move toward the center of the board to square up the pile of sheets thereon in well-known manner.

While the invention has been described in detail with respect to a now preferred example and embodiment of the invention it will be understood by those skilled in the art after understanding the invention that various changes and modifications may be made without departing from the spirit and scope of the invention and it is intended, therefore, to cover all such changes and modifications in the appended claims.

What is claimed is:

1. Printing press sheet jogging mechanisms adapted to be adjusted for various size sheets while the press is in operation comprising in combination a rear jogger, a drive shaft for said rear jogger, drive means for imparting oscillating motion to said drive shaft, rack and pinion gear means interconnecting said shaft and said jogger for imparting reciprocating motion to said jogger, means for selectively engaging and disengaging said rack and pinion gear means from said drive shaft, and means for adjusting the positioning of said pinion along said rack when disengaged from said drive shaft.

2. In printing press sheet jogging mechanism adapted to be adjusted for various size sheets while the press is in operation, the combination which comprises a jogger adapted to be reciprocated toward and away from said sheets, a rotatable drive shaft for said jogger, drive means for imparting oscillating motion to said shaft, a pinion rotatable about said drive shaft, a toothed rack on said jogger in meshing engagement with said pinion, locking means for selectively engaging and disengaging said pinion with respect to said shaft during operation thereof, adjusting means for changing the position of said pinion along said rack, and means disposed laterally outside said press for operating said locking means and said adjusting means and accessible while said press is in operation.

3. Printing press sheet jogging mechanism adapted to be adjusted for various length sheets while the press is in operation and comprising in combination a sheet jogger, a drive shaft for said jogger, eccentric drive means for imparting oscillating motion to said drive shaft, rack and pinion means interconnecting said jogger with said drive shaft for translating said oscillating motion of said shaft

into reciprocating motion for reciprocating said jogger longitudinally of said press, locking means for selectively engaging and disengaging said rack and pinion means from said drive shaft, adjusting means for changing the position of said jogger along the longitudinal center line of said press when said rack and pinion means is disengaged, and means laterally outside said press for operating said locking means and said adjusting means and accessible during operation of said press.

4. In printing press sheet jogging mechanism adapted to be adjusted for various size sheets, the combination which comprises a jogger adapted to be reciprocated with respect to said sheets, a drive shaft for said jogger, drive means for imparting oscillating rotary motion to said drive shaft, a hollow shaft, means for mounting said hollow shaft coaxially around said drive shaft and freely rotatable with respect thereto, a pinion on said hollow shaft, a rack on said jogger in meshing engagement with

said pinion for translating oscillating motion of said hollow shaft to reciprocating motion of said jogger, locking means for selectively interconnecting said drive shaft with said hollow shaft for imparting said oscillating motion of said drive shaft to said hollow shaft, and adjusting means for altering the positioning of said pinion along said rack, both said locking means and said adjusting means being laterally outside said press and accessible during operation thereof.

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