F. WAITE.

PLATEN PRINTING PRESS.

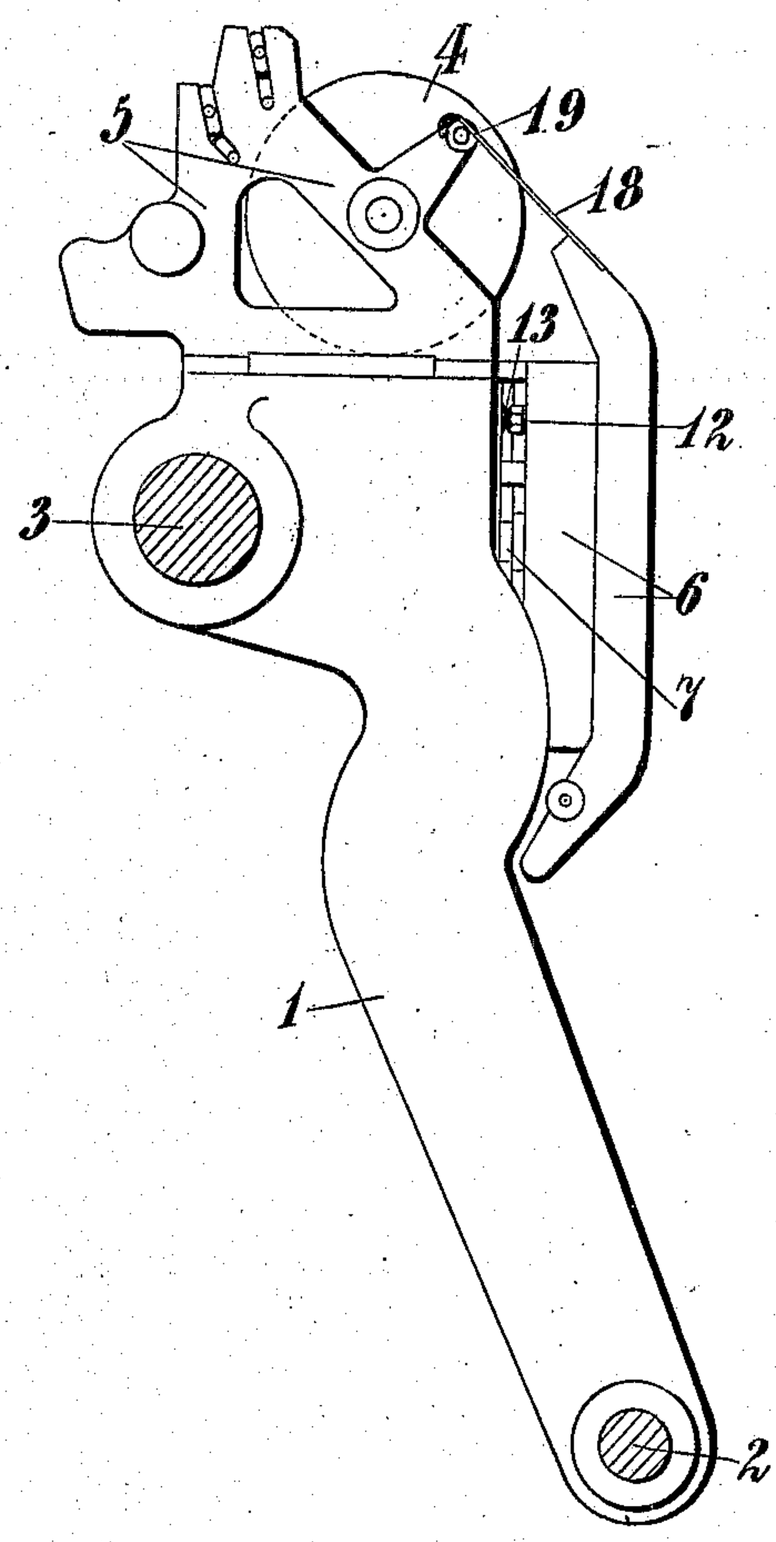
APPLICATION FILED DEC. 1, 1906.

900,805.

Patented Oct. 13, 1908.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 3.

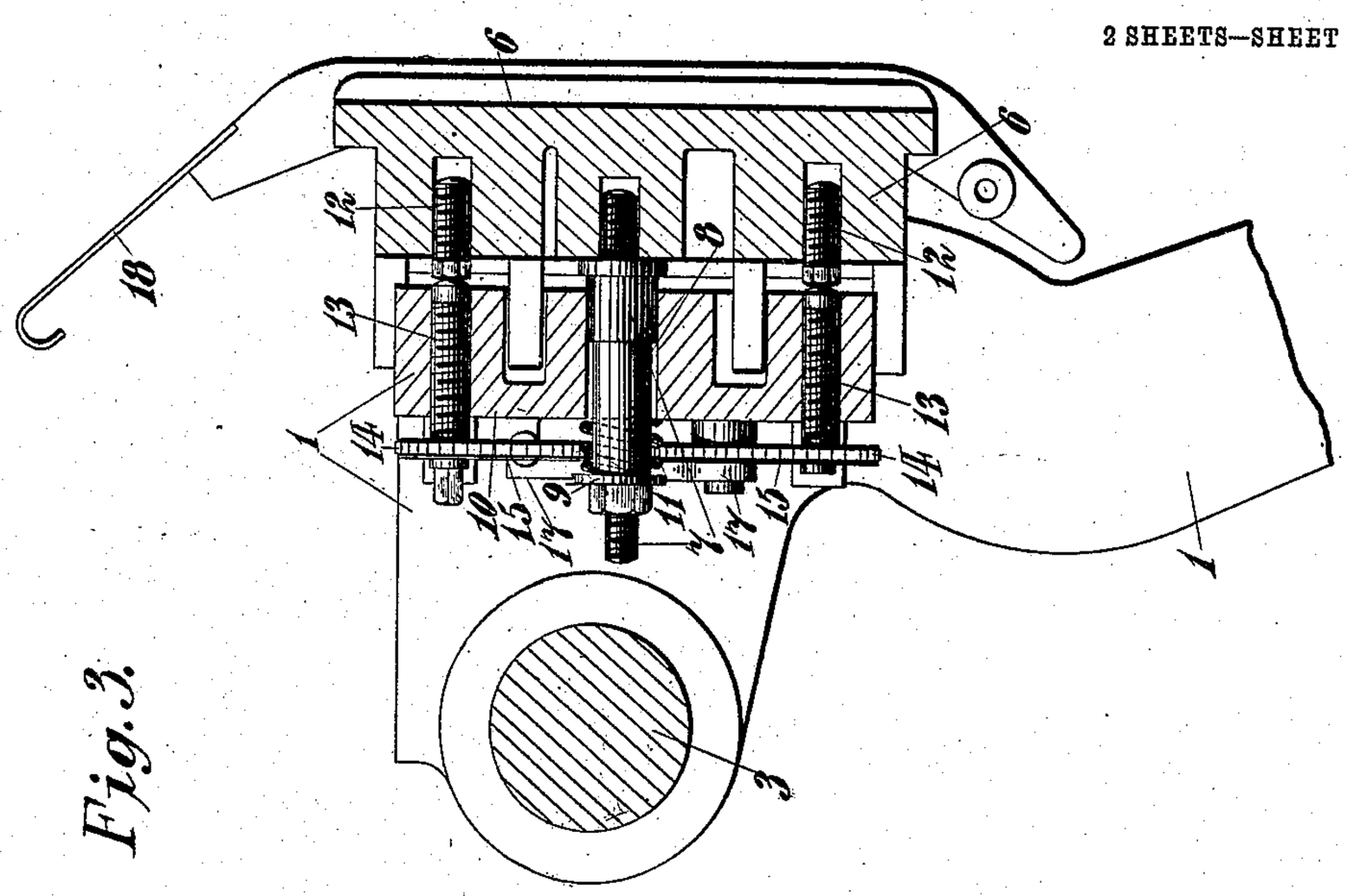
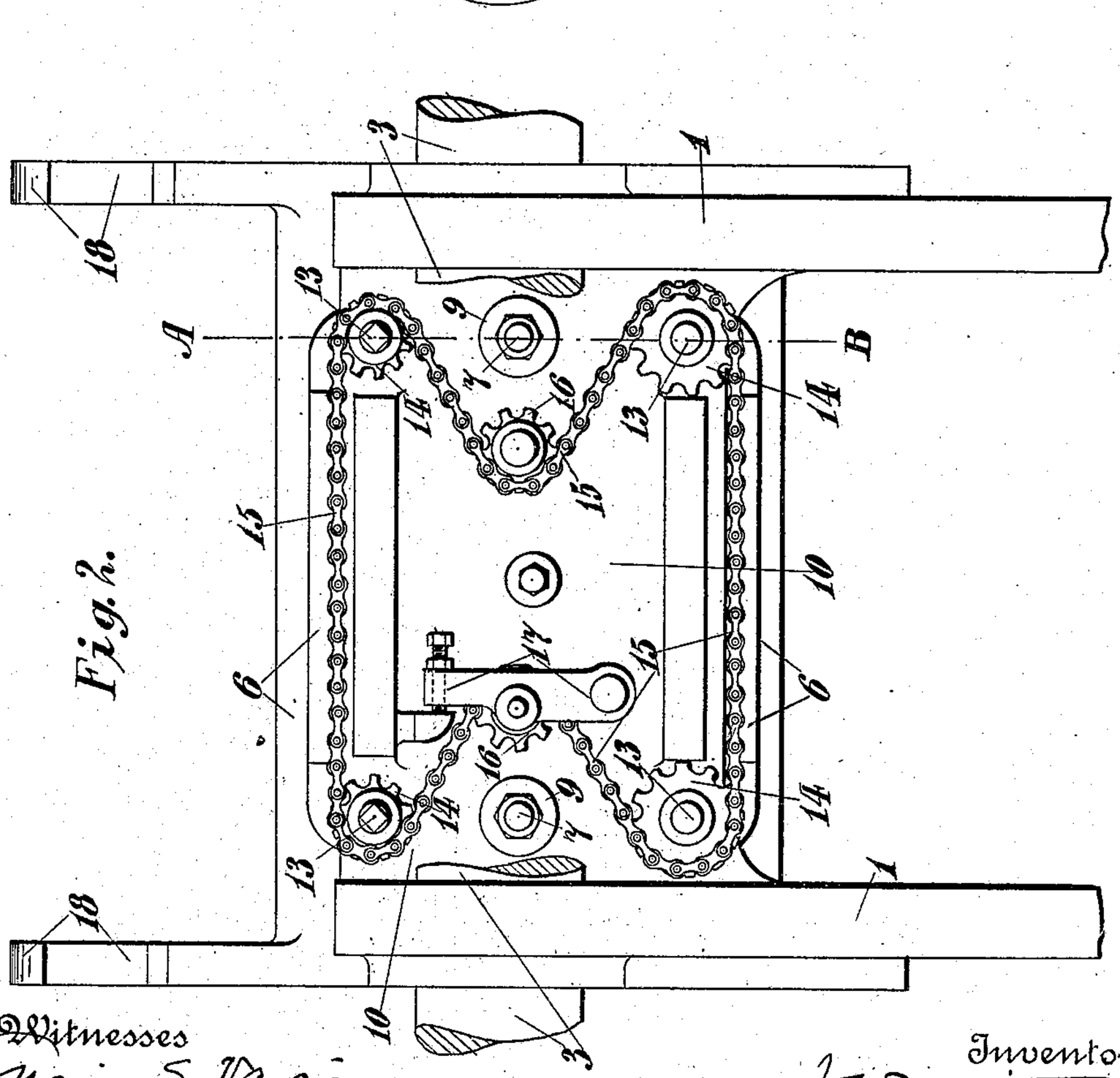


Fig. 2.



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FRED WAITE, OF OTLEY, ENGLAND.

PLATEN PRINTING-PRESS.

No. 900,805. Specification of Letters Patent. Patented Oct. 13, 1908.

Application filed December 1, 1906. Serial No. 345,893.

To all whom it may concern:

Be it known that I, FRED WAITE, a subject of the King of Great Britain, residing at Otley, in the county of York, England, have invented certain new and useful Improvements in Platen Printing-Presses, and of which the following is a specification.

This invention relates to platen printing presses wherein the type-bed or form carrier is mounted on an oscillating frame or rocker which brings the printing surface into contact with the sheet to be printed, to give the impression, when the sheet is in position on the face of the platen. In these machines, it has hitherto been customary to attach the type-bed to its oscillating carrying-frame or rocker by means of a number of fixing-bolts which could only be adjusted separately, so that the necessary adjustment between the form and the platen when "making ready" has been effected by moving the whole of the carrying-frame or rocker forward or backward, as desired, by turning the back shaft having eccentric ends to which the connecting-rods that apply the pressure are coupled. This method of adjustment however is objectionable, owing to the fact that the adjustment is effected by altering the position of the carrying-frame or rocker instead of only the type-bed itself, which adjustment results in altering the movement of the part or parts connected with and operated by the said frame or rocker.

Now, the object of this present invention is to so mount the type-bed on its carrying-frame or rocker as to admit of it being readily adjusted to or away from the platen as may be required when "making ready", without altering the movement of the said frame or rocker. To this end I provide or fix to the back of the type-bed, at about the center thereof, outwardly projecting studs, preferably two in number, which studs are passed through holes formed in the carrying-frame, while on each stud between the back of the carrying-frame and a fixed end collar I employ a strong spiral-spring, which springs tend to hold the said type-bed firmly in contact with its carrying-frame. In conjunction with this elastically mounted type-bed I employ adjusting screws, preferably four in number, one at each corner thereof, which screws engage and pass through the carrying-frame so that their inner ends come into contact with bearing studs provided on the back of the type-bed. On the outer end of each of the frame screws I provide a chain wheel, around which wheels is passed an endless chain so as to gear the four screws together, while guide wheels or rollers may be provided in connection with the chain, one of which wheels may be adjustable so as to enable the tension of the chain to be adjusted at will. The outer ends of the said screws are preferably squared; and on applying a key to one of the screws, all the said screws are simultaneously rotated through the medium of the chain so that the entire type-bed is adjusted relatively to its carrying-frame against the action of the retaining springs.

Instead of employing a chain gear for operating the adjusting screws, I may couple the said screws together by spur gearing, the gear ratio of the wheels in either case being such as to move the upper adjusting screws quicker relatively to the lower adjusting screws to suit the desired angle of the bed on its frame, or the gear or chain wheels on each screw may be of the same diameter and more movement of the top of the type-bed obtained by making the top screws of a coarser pitch thread than the bottom ones. In this way, I am able to make the type-bed advance or recede exactly the same as in the case where the whole rocking-frame had to be moved forward or backward on its pivot.

In order to effect a finer adjustment of the type-bed, I may employ in conjunction with the above mentioned screws, coaxially arranged auxiliary adjusting screws in the type-bed itself, so that by rotating the auxiliary screws in conjunction with the main screws a fine adjustment can be obtained which may not be possible in the case of employing the main screws by themselves.

In order to form a suitable track or guide for the inking rollers when using this adjustable type-bed on a machine in which the supply of ink is derived from a roller, I provide the upper ends of the said type-bed with spring-arms or rails which engage studs provided on the frame of the roller. In this way the inking rollers are caused to travel smoothly back and forth from the supply roller to the type-bed irrespective of the position of the type-bed.

In order that my invention may be clearly

understood, I will proceed to describe the same with reference to the example of construction shown in the accompanying drawings, in which similar numbers of reference indicate like parts in all the figures, wherein:—

Figure 1 is a side elevation of the oscillating frame or rocker of a roller-inking machine, with the type-bed fitted thereto in accordance with my invention. Fig. 2 is a back elevation of the upper portion of the same rocker and type-bed drawn to an enlarged scale; and Fig. 3 is a sectional side elevation taken on the line A. B of Fig. 2.

In the drawings, 1 is the rocking-frame and 2 is the pivot thereof.

3 is the back shaft having eccentric ends to which the connecting rods that apply the pressure are coupled, and 4 is the inking roller carried in side-frames 5 situated on the upper portion of the rocking-frame 1; all of ordinary construction.

6 is the type-bed, to the back of which are fixed two outwardly projecting studs 7 which pass through holes 8 formed in the rocker or carrying-frame 1, on which is formed the bed-plate for the type-bed. On each stud 7 between a fixed collar 9 provided thereon and the back 10 of the carrying-frame 1 a strong spiral-spring 11 is provided, which springs 11 tend to hold the said type-bed 6 firmly in contact with its carrying-frame 1. This elastically mounted type-bed 6 is provided with four auxiliary back adjusting screws 12, one at each corner thereof, while the carrying-frame 1 is provided with four main adjusting screws 13 arranged coaxially with the auxiliary screws 12 of the type-bed 6, which main screws 13 pass directly through the carrying-frame 1 with their inner ends in contact with the bearing ends of the screws 12 provided in the back of the type-bed 6. On the outer ends of each of the frame screws 13 is provided a chain wheel 14, around which wheels 14 is passed an endless chain 15 so as to gear the four screws 13 together, which chain 15 is provided with two guide wheels 16 rotatably mounted on the back of the frame 1, and one of the wheels 16 is carried on an adjustable bracket 17 so as to enable the tension of the said chain 15 to be adjusted at will. The outer ends of the two upper main screws are squared; and on applying a key to one of the said screws 13, all the said screws 13 are simultaneously rotated through the medium of the chain 15 and the chain wheels 14, so that the entire type-bed 6 is adjusted relatively to its carrying-frame 1 against the action of the retaining springs 11.

The gear ratio of the chain wheels 14 is such as to move the two upper main adjusting screws 13 quicker relatively to the two lower main adjusting screws 13, to suit the desired angle of the type-bed 6 on to its carrying-frame 1. In this way, I am able to make the type-bed 6 advance or recede exactly the same as in the case where the whole rocking-frame 1 had to be moved forward or backward on its pivot 2; while by rotating the auxiliary screws 12 in the type-bed 6 relatively to or in conjunction with the main screws 13 in the carrying-frame 1, a fine adjustment of a type-bed 6 is readily obtained.

The upper ends of the type-bed 6 are provided with spring arms or guides 18 which engage studs 19 on the side frames 5 which support the inking or supply roller 4. It will be obvious that these spring guides will form a continuous track for the traveling ink rollers (not shown) between the type-bed and the main or supply inking roller 4, whatever the position of the type-bed may be.

It will be understood that the improvements may be applied to the platen of a press as well as to the type-bed, the improvements of course contemplating the relative position of the platen and type-bed with respect to each other.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In a printing press, the combination with the type-bed and bed-plate, of screws operatively engaging the type-bed and bed-plate, connections between said screws whereby said screws may be rotated together, and means whereby the rotation of said screws varies the angular position of the type-bed.

2. In a printing press, the combination with the type-bed and bed-plate, of screws operatively engaging the type-bed and bed-plate, connections between said screws whereby said screws may be rotated together, and means whereby the rotation of said screws varies the angular position of the type-bed, and independent screws for securing a fine adjustment of the type-bed.

3. In a printing press, the combination of the type-bed and bed-plate, of screws operatively engaging the type-bed and bed-plate, gears of different sizes on the screws, and an endless chain connecting said gears whereby said screws may be rotated together to vary the angular position of the type-bed.

4. In a printing press, the combination with the bed-plate, the type-bed, and means to secure the type-bed to the bed-plate including springs to hold the type-bed yieldingly to the bed-plate, screws extending through the bed-plate, gears of different sizes on said screws, connections between said gears whereby said screws may be rotated together to vary the angular position of the type-bed, and independent screws in the type-bed and against which the other screws operate.

5. In a printing press, the combination with the type-bed, the bed-plate, a supply inking roller, and means to vary the angular position of the type-bed, of spring guides or tracks between the type-bed and supply inking roller to guide the traveling inking rollers.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

FRED WAITE.

Witnesses:
JOHN JOWETT,
CHARLES EDWARD TAYLOR.