J. R. BLAINE.

ADJUSTABLE GRIPPER PAD.

APPLICATION FILED APR. 6, 1916.

1,208,731.

Patented Dec. 19, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

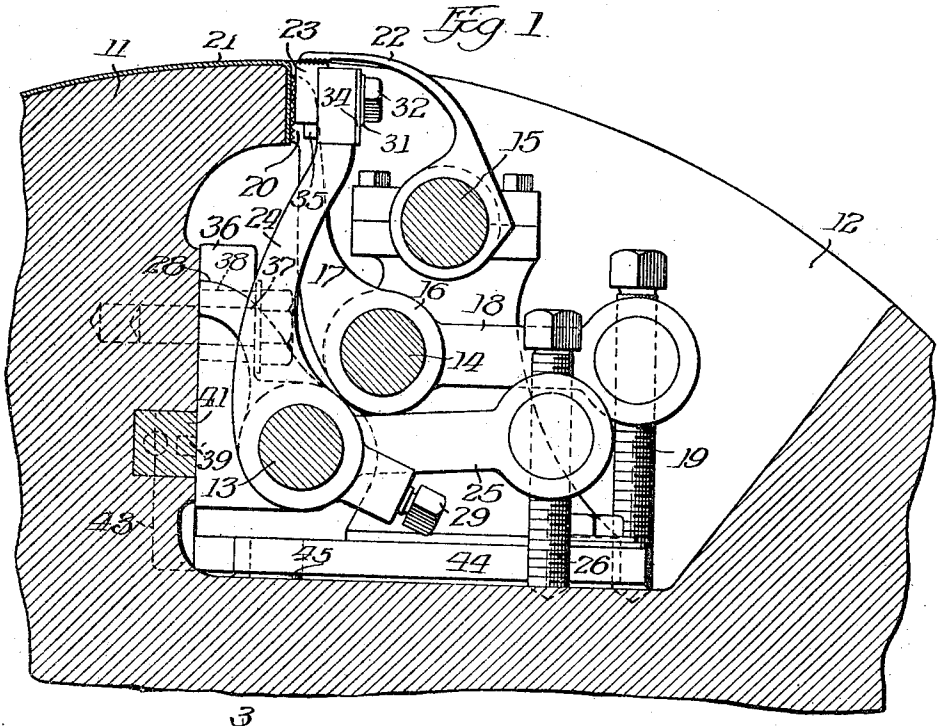


Fig. 2.

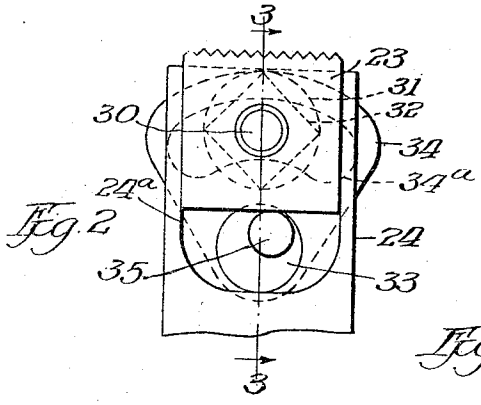


Fig. 3.

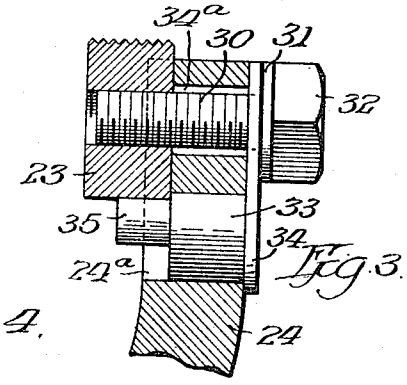
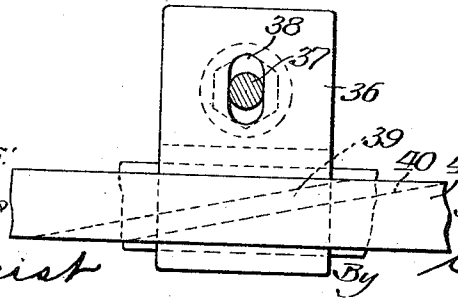


Fig. 4.



Witnesses:

Fred C. Dorsey

Louis Preist

Inventor

Joseph R. Blaine.

By C. C. Linthicum

Atty

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

J. R. BLAINE.

ADJUSTABLE GRIPPER PAD.

APPLICATION FILED APR. 6, 1916.

1,208,731.

Patented Dec. 19, 1916.

2 SHEETS—SHEET 2.

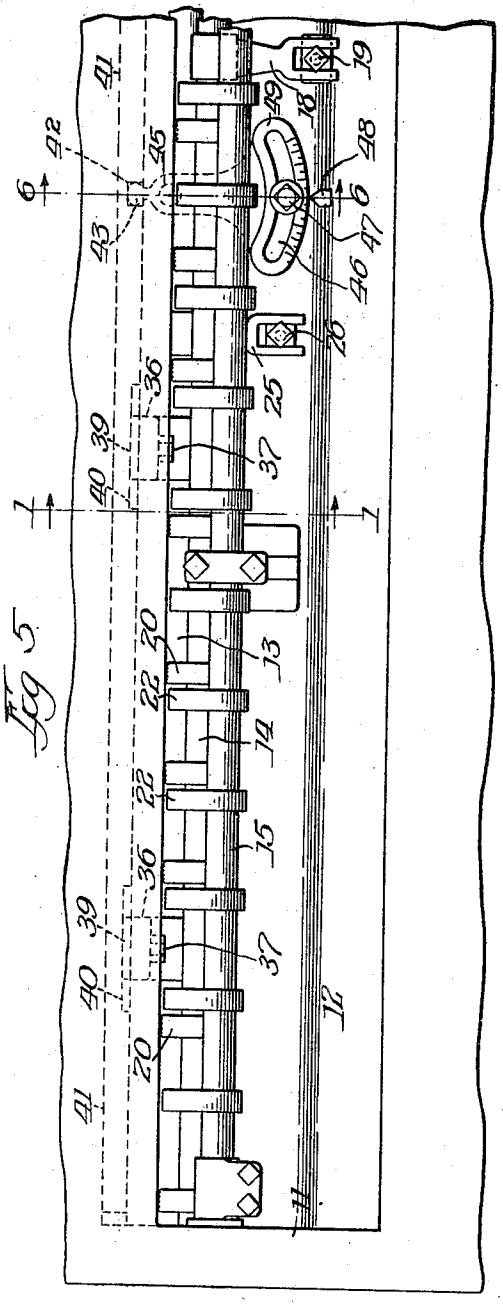


Fig 5

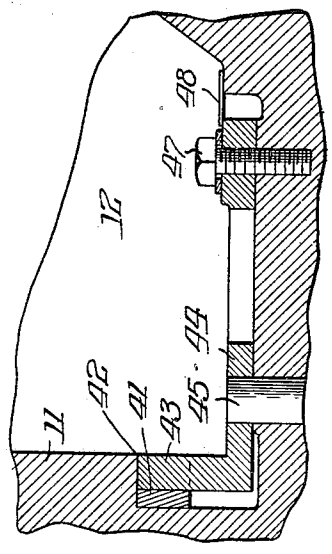


Fig 6

Witnesses:
Geo. G. Dixon
Louis F. Geist

Inventor
Joseph R. Blaine,
By Blakeslee
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH R. BLAINE, OF OAK PARK, ILLINOIS, ASSIGNOR TO MIEHLE PRINTING PRESS & MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

ADJUSTABLE GRIPPER-PAD.

1,208,731. Specification of Letters Patent. Patented Dec. 19, 1916.

Application filed April 6, 1916. Serial No. 89,295.

To all whom it may concern:

Be it known that I, JOSEPH R. BLAINE, a citizen of the United States, residing at Oak Park, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Adjustable Gripper-Pads, of which the following is a specification.

The object of the invention is the provision of improved means for leveling and clamping in position the gripper pads of a printing press, said means comprising a series of local elevating and clamping devices arranged at intervals longitudinally of the cylinder and a further device acting upon the local devices in unison whereby to simultaneously and uniformly raise or lower the gripper pads throughout the length of the cylinder in order to adapt them to varying thicknesses of paper, together with means for visually gaging the amount of such simultaneous adjustment.

In order that the invention may be readily understood a preferred embodiment of the same is set forth in the accompanying drawings and in the description based thereon. As, however, the invention is susceptible of embodiment in other and varied constructional forms without departure from the essence of the invention, the drawings and description are to be taken in an illustrative and not in an unnecessarily limiting sense.

In the drawings Figure 1 is a transverse sectional view on the line 1—1 of Fig. 5 showing in side elevation the arrangement of the grippers, gripper pads and the blanket clamping device; Fig. 2 is a detail front elevation of the gripper pads; Fig. 3 is a vertical section through the gripper pads on the line 3—3 of Fig. 2; Fig. 4 is a fragmentary rear elevational view of the connection between the shifting bar and the gripping pads; Fig. 5 is a top plan view of the parts shown in section in Fig. 1; and Fig. 6 is a transverse sectional view on the line 6—6 of Fig. 5.

In the drawings the cylinder is indicated at 11, mounted in the usual manner in the side frame of the press and cut away at 12 to provide for the mounting of the various devices by means of which the blanket or plate is clamped in position and the gripper pads are held in proper adjustable position for coöperation with the grippers themselves.

Between the end walls of the cut away portion 12 of the cylinder extend three shafts numbered consecutively 13, 14 and 15. The shaft 14 has mounted thereon by means of bosses 16 the arms 17, and also an arm 18 the extremity of which latter is provided with the adjusting screw 19 while the extremity of the arm 17 carries the clamp 20 by means of which the blanket or plate 21 is firmly clamped in position upon the cylinder. The shaft 15 carries the grippers 22 arranged to be operated in the usual manner and to coöperate with the gripper pads 23 to clamp therebetween the sheet of paper which is being acted upon by the press.

It is important that the upper roughened face of the gripper pads 23 shall bear an exact relation to the upper surface of the plate or blanket 21 and that they shall be uniform as to such relation. It is also important that provision be made for adjusting the elevation of the gripper pads not only individually but also collectively in order to accord with changing conditions of use. This invention, therefore, has to do with the provision of means for individually and collectively adjusting the gripper pads.

Upon the shaft 13 are mounted arms 24 upon the extremity of which the gripper pads 23 are carried, and also another arm 25, the extremity of which is provided with the adjusting screw 26. Between the arms 24 and upon the shaft 13 is mounted a tail piece 28 arranged to be clamped to said shaft by means of the set screw 29, the end of the tail piece 28 bearing upon the rear wall of the cylinder cut-away portion as clearly shown in Fig. 1.

The gripper pad 23 is adjustably mounted upon the upper extremity of the arm 24 within guides 24^a by means of a clamping set screw 30, threaded in the pad and passing loosely through the upper extremity of said arm 24 and provided with a washer 31 and a squared head 32. Mounted within the upper portion of the arm 24 below the gripper pad and set screw is a bearing pin 33 carrying a segment plate 34 provided with an arcuate slot 34^a through which the set screw 30 passes, the said plate being con-

fined between the upper extremity of the arm 24 and the washer 31. The bearing pin 33 carries upon the opposite end a stud 35 eccentrically arranged, which stud impinges against the lower face of the gripper pad 23.

For the purpose of individually adjusting the radial position of the gripper pads, the set screw 30 is loosened by means of its head 32 and the bearing pin 33 is angularly adjusted by tapping upon the edge of the segment plate 34 whereby the eccentric stud 35 is moved to raise or lower the gripper pads 23. When the desired adjustment is obtained the set screw 30 is tightened by means of its head upon the segment plate so as to hold the eccentric stud and the pad itself securely in position. The same procedure is followed with reference to all of the gripper pads 23 so as to bring the same to a common level.

In order to secure simultaneous and uniform leveling of the gripper pads 23 the following means are provided: The shaft 13 is mounted in two or more bearing brackets 36 which are clamped to the rear wall of the cylinder cut-away portion by means of the bolts 37 extending through elongated slots 38 of said brackets. These brackets 36 are also provided on their rear faces with obliquely arranged lugs or ribs 39 which are received within oblique grooves 40 formed in the outer face of the adjusting bar 41, which bar is seated within a recess in the back wall of the cut-away portion of the cylinder as clearly shown in Fig. 1.

It will be understood that the set screws 37 having been loosened, any longitudinal shifting movement of the adjusting bar 41 will cause the brackets 36 and with them the shaft 13 to be adjusted vertically by the cooperation of the oblique rib 39 within the oblique recess 40 of the adjusting bar, this oblique rib and slot connection serving to translate the longitudinal movement of the bar into a transverse movement of the brackets.

In order to longitudinally shift the adjusting bar 41 and to visually gage and determine the extent of uniform simultaneous vertical adjustment of the gripper pads by means of said bar 41, the latter is provided with a recess 42 into which takes the upper end 43 of a sector plate 44, which sector plate is pivoted at 45 in the horizontal wall or bottom of the cut-away portion 12 of the cylinder, the plate 44 extending horizontally beneath the shafts 13, 14 and 15. The outer extremity of the plate 44 is provided with an arcuate slot 46 through which passes a clamping set screw 47 into threaded engagement with the bottom wall of the cut-away portion. The extremity of the sector plate adjacent the slot 46 is provided with a scale by means of which the shifting movement of the adjusting bar 41 is read in multiplied degree by means of the pointer 48.

I claim:

1. The combination with a printing press cylinder, the grippers, the gripper pads, and the gripper pad support, of means to adjustably position the pads on said supports radially of the cylinder, said means comprising a cam member acting on the pad and a portion of the support, and means to clamp the pad and support together in adjusted position.

2. The combination with a printing press cylinder, the grippers, the gripper pads, and the gripper pad support, of means to adjustably position the pads on said supports radially of the cylinder, said means comprising a pin rotatably mounted in the support and having an eccentric portion bearing upon the lower face of the pad, means for rotating said pin, and means to clamp the pad and support together in adjusted position.

3. The combination with a printing press cylinder, the grippers, the gripper pads, and the gripper pad supports, of means to adjustably position the pads on said supports radially of the cylinder, said means comprising a pin rotatably mounted in the support and having projecting therefrom an eccentric stud bearing upon the lower face of the pad, means to angularly position the pin comprising a segment plate mounted thereon and having an arcuate slot, and means to clamp the pin in adjusted position comprising a set screw passing through the slot into the gripper pad, said set screw acting to clamp the segment plate, the support and the gripper pad together in adjusted relation.

4. The combination with a printing press cylinder, and the grippers, of a shaft, arms projecting from said shaft, a gripper pad carried by each of said arms, and means to adjustably position the pads on said arms radially of the cylinder, said means comprising a cam member acting on the pad and a portion of the arm, and means to clamp the pad and arms together in adjusted position.

5. The combination with a printing press cylinder, and the grippers, of a shaft, arms projecting from said shaft, a gripper pad carried by each of said arms, and means to adjustably position the pads on said arms radially of the cylinder, said means comprising a cam member mounted on the arm and bearing on the pad, and means to clamp the pad and arm together in adjusted position.

6. The combination with a printing press cylinder, and the grippers, of a shaft, arms projecting from said shaft, a gripper pad guided on each of said arms, and means to

adjustably position the pads on said arms radially of the cylinder, said means comprising a pin rotatably mounted in the arm and having an eccentric stud bearing upon the lower face of the pad, means for rotating said pin, and means to clamp the pad and arm together in adjusted position.

7. The combination with a printing press cylinder, and the grippers, of a shaft, arms projecting from said shaft, a gripper pad carried by each of said arms, and means to adjustably position the pads on said arms radially of the cylinder, said means comprising a pin rotatably mounted in the arm and having projecting therefrom an eccentric stud bearing upon the lower face of the pad, means to angularly position the pin comprising a segment plate mounted thereon and having an arcuate slot, and means to clamp the pin in adjusted position comprising a set screw passing through the slot into the gripper pad, said set screw acting to clamp the segment plate, the arm and the gripper pad together in adjusted relation.

8. The combination with a printing press cylinder, and the grippers, of a shaft, arms projecting from said shaft, a gripper pad carried by each of said arms, means to adjustably position the pads on said arms radially of the cylinder, means to adjustably position the shaft with the arms and pads bodily in a radial direction whereby to simultaneously and collectively position all of the gripper pads, and means to visually gage and determine the amount of the bodily radial movement of the shaft and pad.

9. The combination with a printing press cylinder, and the grippers, of a shaft, arms projecting from said shaft, a gripper pad guided on each of said arms, means to adjustably position the pads on said arms radially of the cylinder, means to adjustably position the shaft with the arms and pads bodily in a radial direction whereby to simultaneously and collectively position all of the gripper pads, and means to visually gage and determine the amount of the bodily radial movement of the shaft and pad, said gaging means comprising a scale and index whereby such radial movement may be read in multiplied degree.

10. The combination with a printing press cylinder, and the grippers, of a shaft, arms projecting from said shaft, a gripper pad carried by each of said arms, means to individually adjust the pads on said arms radially of the cylinder, means to adjustably position the shaft with the arms and pads bodily in a radial direction, whereby to simultaneously and collectively position all of the gripper pads, and means to visually gage and determine the amount of radial adjustment of the shaft and pad, said means for positioning the shaft comprising shaft-bearing brackets, means to permit the movement of the brackets on the supports transversely of the shaft, an adjusting bar shiftable parallel to the shaft, a connection between the bar and bracket whereby to translate the longitudinal movement of the bar into a transverse movement of the bracket, and bar shifting means comprising a sector plate mounted as a lever, with one arm engaging the bar as with a gear and tooth connection, and the other arm of the lever plate being of greater length and provided with graduations coöperating with a pointer whereby to indicate in multiplied degree the longitudinal movement of the bar.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOSEPH R. BLAINE.

Witnesses:
A. G. FISCHER,
E. F. DUDLEY.

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