F. E. RICH.

GRIPPER PAD ADJUSTMENT.

APPLICATION FILED JUNE 26, 1917.

1,296,008. Patented Mar. 4, 1919.

Fig. 1

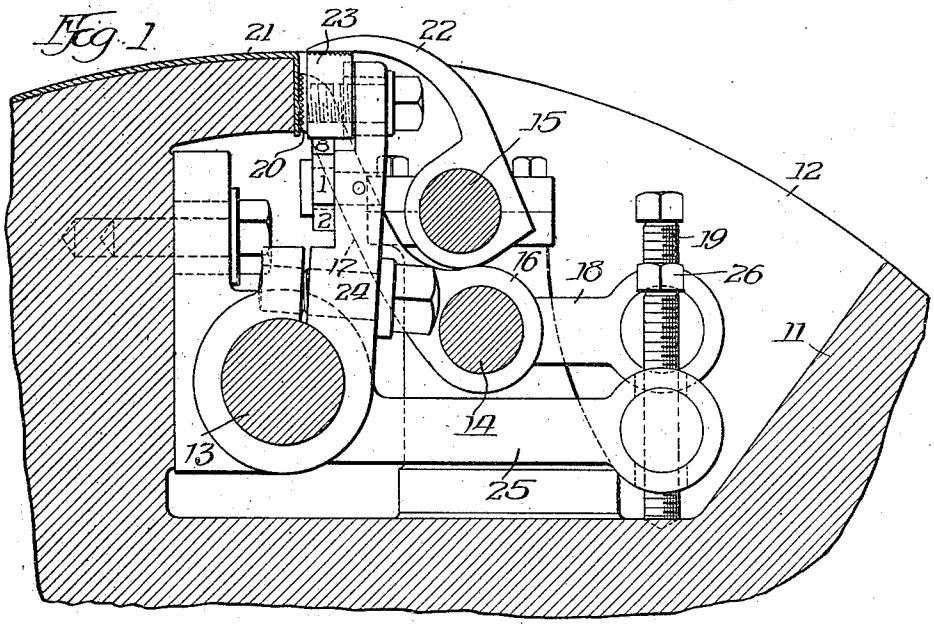


Fig. 2

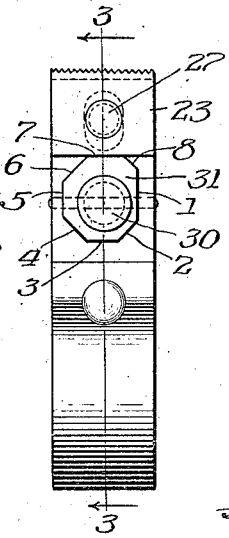


Fig. 3

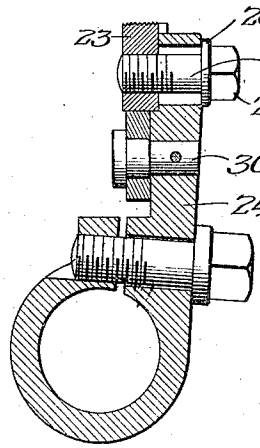
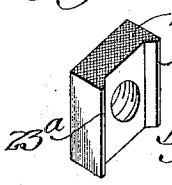


Fig. 4



Witness:

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UNITED STATES PATENT OFFICE.

FRANK E. RICH, OF CHICAGO, ILLINOIS, ASSIGNOR TO MIEHLE PRINTING PRESS & MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

GRIPPER-PAD ADJUSTMENT.

1,296,008. Specification of Letters Patent. Patented Mar. 4, 1919.

Application filed June 26, 1917. Serial No. 176,966.

To all whom it may concern:

Be it known that I, FRANK E. RICH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Gripper-Pad Adjustments, of which the following is a specification.

The object of the invention is the provision of improved means for leveling and clamping in position 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 further adapted for joint assemblage in such manner as to be operated 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.

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 essence of the invention, the drawing 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, fragmentary in character, through the printing press cylinder and showing in side elevation the arrangement of the grippers, gripper pads and blanket clamping device;

Fig. 2 is a detail front elevation of the gripper pad and its support;

Fig. 3 is a vertical section on the line 3—3 of Fig. 2; and

Fig. 4 is a detail perspective view of the gripper pad disassociated from its support.

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 extends three shafts numbered consecutively 13, 14 and 15. The shaft 14 has mounted thereon by means of bosses 16 the arm 17 and also an arm 18 the extremity of which latter arm 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 gripper 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 face of the gripper pad 23 shall bear an exact relation to the upper surface of the plate or blanket 21 and that the upper face of the several pads shall be uniform as to such relation. It is also important that provision be made for adjusting the elevation of the gripper pads in order to accord to the changing conditions of use. This invention, therefore, has to do with the provision of improved means for individually adjusting these gripper pads upon their support.

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.

The gripper pad 23 is adjustably mounted upon the upper extremity of the arm 24 and vertically guided thereon by marginal ribs 23^a, by means of a clamping set screw 27, threaded in the pad and passing loosely through the upper extremity of the arm 24 and provided with a washer 28 and a squared head 29. Mounted within the upper portion of the arm 24 below the gripper pads and set screw is a bearing pin 30 serving as an eccentric mounting for the polygonal adjusting plate 31, upon one of the flat faces of which, unequally distant from its center, the gripper pad 23 is adapted to rest.

For the purpose of individually adjusting the radial position of the gripper pads, the set screw 27 is loosened by means of its head 29, and the polygonal plate 31 is angularly adjusted upon its bearing pin 30 so as to bring into vertical position relative to the pin and beneath the gripper pad 23 such one of its flat faces as may be desired. These faces, numbered respectively from 1 to 8 inclusive and representing the faces arranged at the graduated advanced distance from the center, serve as selective

means for supporting the gripper pads at varying heights. The eccentrically disposed plate 31 having been arranged to support the gripper pad 23 at a proper height, the set screw 27 is again tightened, whereby the gripper pad 23 is firmly held in the adjusted position. While the plate 31 is essentially an eccentric or cam in its action upon the pad 23, its polygonal countour is preferable to that of an ordinary cam by reason of the fact that having been once positioned and the gripper pad having been brought to bear upon the top of the same, its flat face prevents an accidental turning of the same so as to withdraw its support from the pad and enabling the latter to be loosened or gradually lowered by the repeated impact of the gripper upon its upper face.

A further and important advantage of the polygonal eccentric is that of quick adjustment. One of the series of gripper pads having been adjusted by experimentation to the proper height all of the other pads may be adjusted each to rest upon the corresponding face of its polygonal plate, thus bringing all the pads to a uniform level without the necessity of any calculation or measurements.

I claim:

1. The combination with a printing press cylinder, the gripper, the gripper pad, and the gripper pad support, of means to adjustably position the pad on the support radially of the cylinder, said means comprising a polygonal eccentric 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 gripper, the gripper pad, and the gripper pad support, of means to adjustably position the pad on the support radially of the cylinder, said means comprising a polygonal member eccentrically mounted on the support and adapted to have one of its faces brought beneath the pad, and means to clamp the pad and support together in adjusted position.

3. The combination with a printing press cylinder, the gripper, the gripper pad, and the gripper pad support, of means to adjustably position the pad on the support radially of the cylinder, said means comprising a plate rotatably mounted on the support beneath the pad and having a plurality of flat faces at unequal radial distances from its axis, the gripper pad slidably mounted on the support toward and from the plate, and means to clamp the pad upon the support while resting upon one of the faces of the plate.

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

FRANK E. RICH.

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