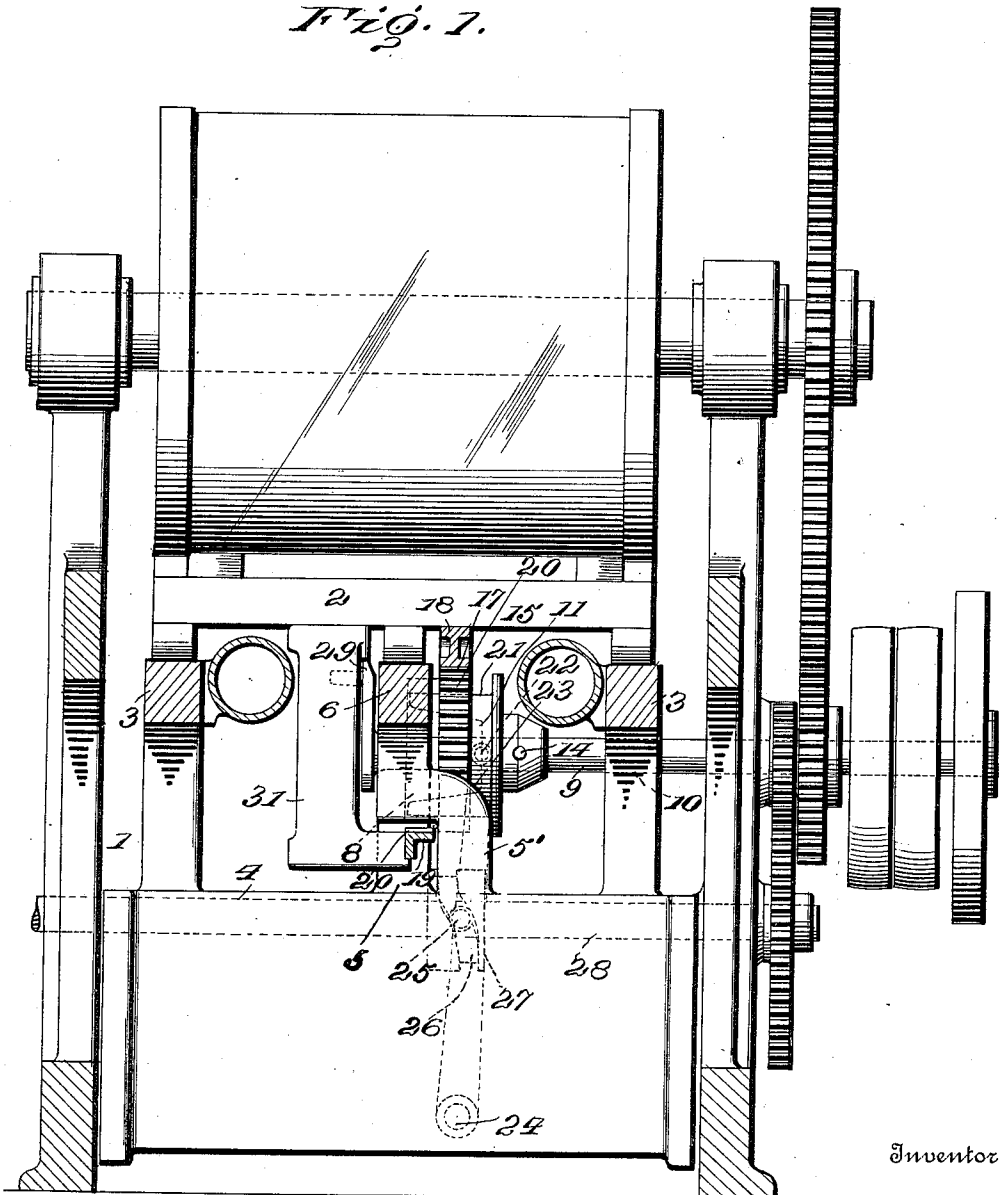


R. T. JOHNSTON.
BED MOVEMENT.
APPLICATION FILED SEPT. 7, 1910.

1,022,557.

Patented Apr. 9, 1912.
2 SHEETS—SHEET 1.

Fig. 1.



Inventor

Witnesses

W. A. Williams.

R. S. Beall.

Robert T. Johnston.

34

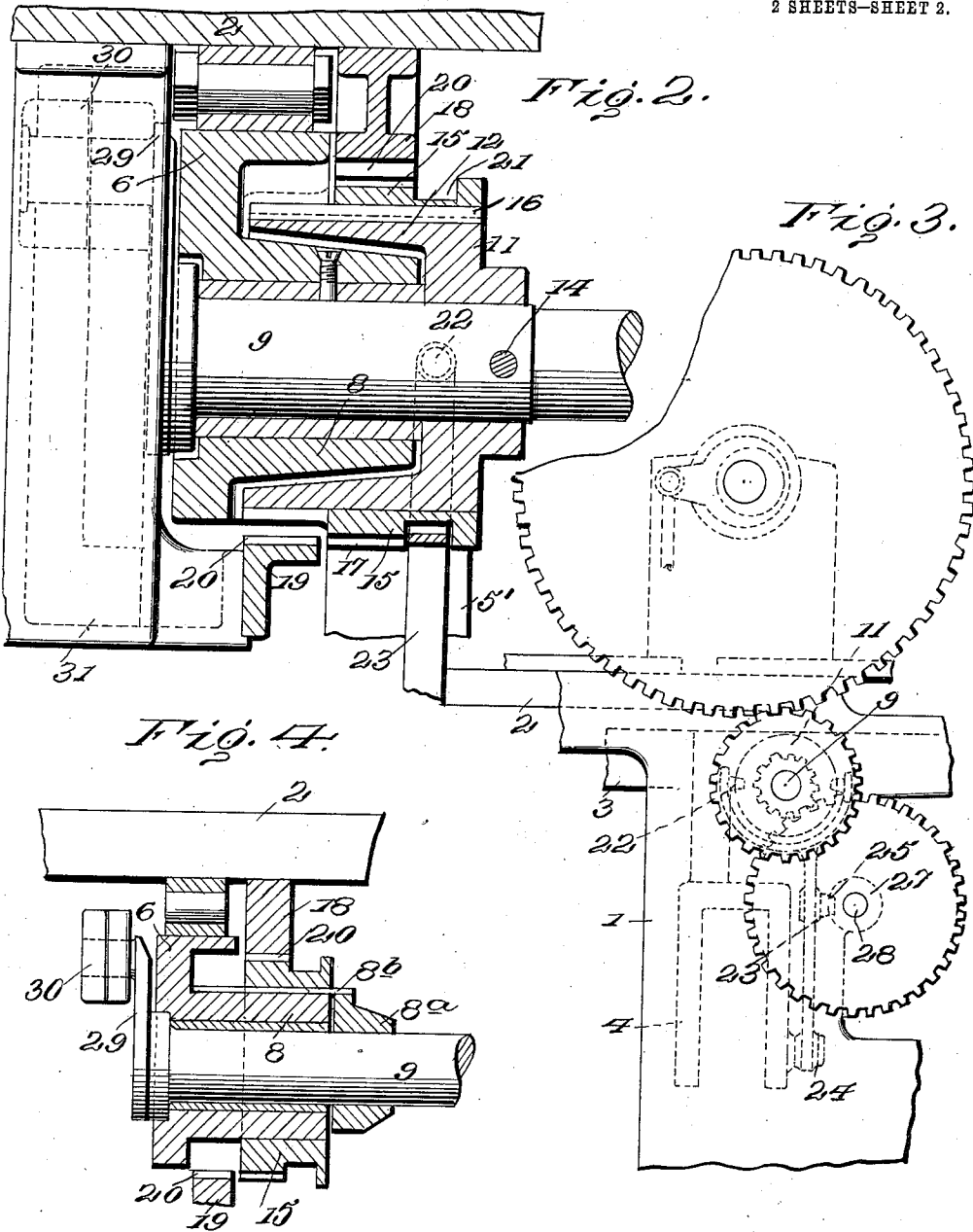
J. H. McLean,
Attorney

R. T. JOHNSTON.
BED MOVEMENT.
APPLICATION FILED SEPT. 7, 1910.

1,022,557.

Patented Apr. 9, 1912.

2 SHEETS-SHEET 2.



Witnesses
W. A. Williams.
R. G. Beall.

Inventor
Robert T. Johnston.

By

R. Johnston

Attorney

UNITED STATES PATENT OFFICE.

ROBERT T. JOHNSTON, OF SCOTCH PLAINS, NEW JERSEY, ASSIGNOR TO THE HARRIS
AUTOMATIC PRESS COMPANY, OF NILES, OHIO, A CORPORATION OF OHIO.

BED-MOVEMENT.

1,022,557.

Specification of Letters Patent.

Patented Apr. 9, 1912.

Application filed September 7, 1910. Serial No. 580,832

To all whom it may concern:

Be it known that I, ROBERT T. JOHNSTON, a resident of Scotch Plains, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Bed-Movements; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The primary object of this invention is to so construct and arrange the driving and reversing mechanism of a flat-bed press that the bed may be effectively supported at its longitudinal center or midway between the side supports, the central support being so arranged as to take its share of the impression strain.

The invention will be hereafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a broken transverse sectional view, partly in elevation, of a portion of a printing press, illustrating particularly my improved bed motion. Fig. 2 is a similar view on an enlarged scale. Fig. 3 is a detail side elevation of a portion of a press, to illustrate the position of the parts, and the gearing. Fig. 4 is a view of a slight modification.

Referring to the drawings, 1 designates the framework of the printing press, and 2 the bed slidably mounted thereon. The bed in the usual type of such devices is supported at its longitudinal side edges upon tracks 3, extending longitudinally of the framework and directly beneath the side edges of the bed.

With the end cross-members 4 of the frame connect the vertical portions 5 of a trackway 6, which trackway extends longitudinally of the frame midway between and in horizontal alinement with the side tracks 3. An effective center support or track is thus provided for the bed, and being rigidly supported by the end members of the press frame, is kept in true alinement with the side tracks so as to take its share of the impression strains.

The center trackway 6, at a point mid-length the extremes of movement of the bed, is also supported by a vertically-disposed upright 5' which carries a laterally-extended bearing sleeve 8 of substantial length.

Mounted in the bearing sleeve is a crank shaft 9, said shaft extending toward and beyond one side of the frame, and mounted at said side in an additional bearing 10, the shaft extending beyond the bearing 10 and connected in any suitable or desired manner for driving.

Secured upon the shaft 9 immediately adjacent the bearing sleeve 8 is a gear sleeve 11, including a solid portion snugly embracing the shaft immediately adjacent the sleeve 8, and a concentrically-disposed portion 12 projecting toward the bearing. This portion 12 of the gear sleeve encircles the sleeve 8 and is spaced therefrom. The gear sleeve 11 is secured, in any desired or appropriate manner, as by pin 14, to the shaft 9 to continuously rotate therewith.

A drive gear 15 is keyed at 16 for independent longitudinal movement on the sleeve 11, that portion of the sleeve 11 on which the gear is permitted movement having length preferably exceeding twice the width of the operative or toothed face 17 of the gear, so that said gear in its movements, as will later appear, may be caused to occupy distinctly separate inner and outer positions with relation to the bearing sleeve 8.

Appropriately secured upon the bed are upper and lower racks 18 and 19, the operative or toothed faces 20 of which are similar in mechanical respects with the toothed face of the gear 15. The respective racks are disposed out of vertical alinement, the upper rack occupying such position as to be engaged by the gear 15 when the latter is in its outer position, while the lower rack is arranged to be engaged by the gear when the latter is in its inner position.

The gear 15 is provided outwardly beyond its operative portion with an annular channel 21 to receive pins 22 of a shifting lever 23. The lower end of the lever 23 is pivoted at 24 upon an appropriate portion of the frame, and is provided above the pivotal support with a laterally-disposed anti-friction roller 25 to fit in a cam groove 26 of a roller 27 secured upon a driven shaft 28, mounted in the frame.

The inner end of the crank shaft 9 is, immediately adjacent the bearing sleeve 8, provided with a crank 29 carrying one or more anti-friction rollers 30 adapted to engage between appropriate shoes or uprights

31 carried by the bed to impart the initial reversal movement to the bed at its limits of play.

From what has been said it will be seen 5 that the bed has a support extending longitudinally thereof at its center midway between the side tracks, and the central track-way being rigid with the end members of the press-frame the bed is kept in true alignment and the central track takes its share 10 of the impressional strains. Effective bed support is thus arranged at the point where all of the strain of reversing and driving the bed is centered, thereby materially lightening the work of driving the bed. 15

In Fig. 4 a construction is shown in which the gear 15 is mounted to revolve on the sleeve or extension 8 and is connected to the shaft 9 by means of a collar 8^a, and a dog 8^b. 20

I claim as my invention:—

1. In combination with a printing press frame having side tracks, a central track carried by the frame at its center midway between the side tracks, a bed supported at its 25 longitudinal edges and center by said tracks, a bearing arranged centrally of the frame, a crank-shaft mounted in said bearing, driving gearing for the bed carried by said crank-shaft and surrounding a substantial portion of said bearing, and bed-reversing means 30 carried by the crank-shaft on the side of said bearing opposite to that on which said driving gear is located.

2. In combination with a printing press frame having side tracks, a central track 35 carried by the frame at its center midway between the side tracks, a bed supported at its longitudinal edges and center by said tracks, a bearing connected to said central track, a crank-shaft mounted in said bear-

ing, driving gearing for the bed carried by said crank-shaft, and surrounding a substantial portion of said bearing at one side thereof, and bed-reversing means carried by the crank-shaft on the other side of said bearing. 45

3. In combination with a printing press frame having end members, side tracks, and a central track rigidly carried by said end members, said central track being midway 50 between the side tracks, a bed supported at its longitudinal edges and center by said tracks, a bearing arranged centrally of the frame, a crank-shaft mounted in said bearing, driving gearing for the bed carried by 55 said crank-shaft, on one side of said bearing, and bed-reversing means carried by the crank-shaft on the other side of said bearing, said central track of the press frame being above and supported by said bearing. 60

4. In combination with a printing press frame having side tracks, a central track, a bed supported by said tracks, a bearing depending from said central track, said bearing 65 having a lateral extension over a portion of which said central track extends, a crank-shaft mounted in said bearing and extension, a sleeve secured to the crank-shaft and telescoping said extension, a drive gear slidably 70 mounted on said sleeve, upper and lower racks carried by the bed with which said drive gear is designed to engage, and bed-reversing means carried by said crank-shaft.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses. 75

ROBERT T. JOHNSTON.

Witnesses:

C. G. PRITCHARD,
A. D. LOOP.