

No. 635,831.

Patented Oct. 31, 1899.

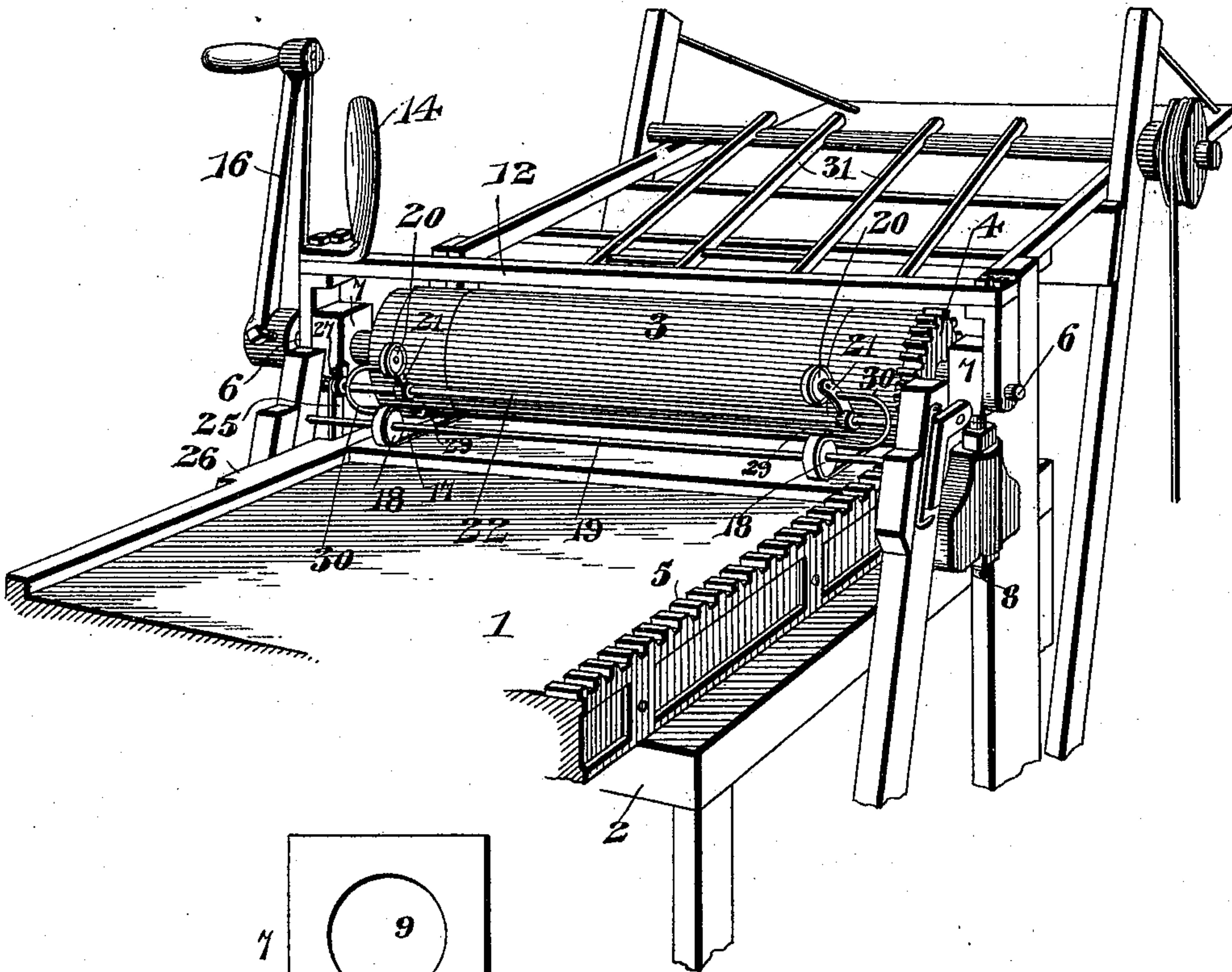
P. S. WISE.  
PRINTING PRESS.

(Application filed Aug. 16, 1898.)

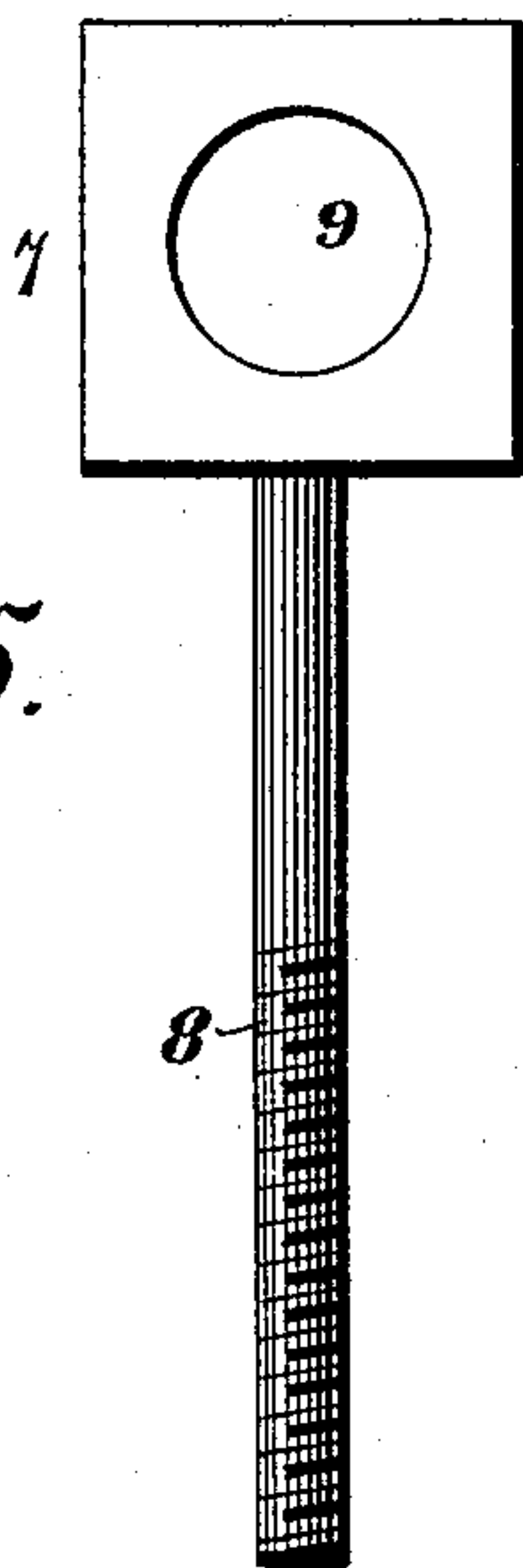
(No Model.)

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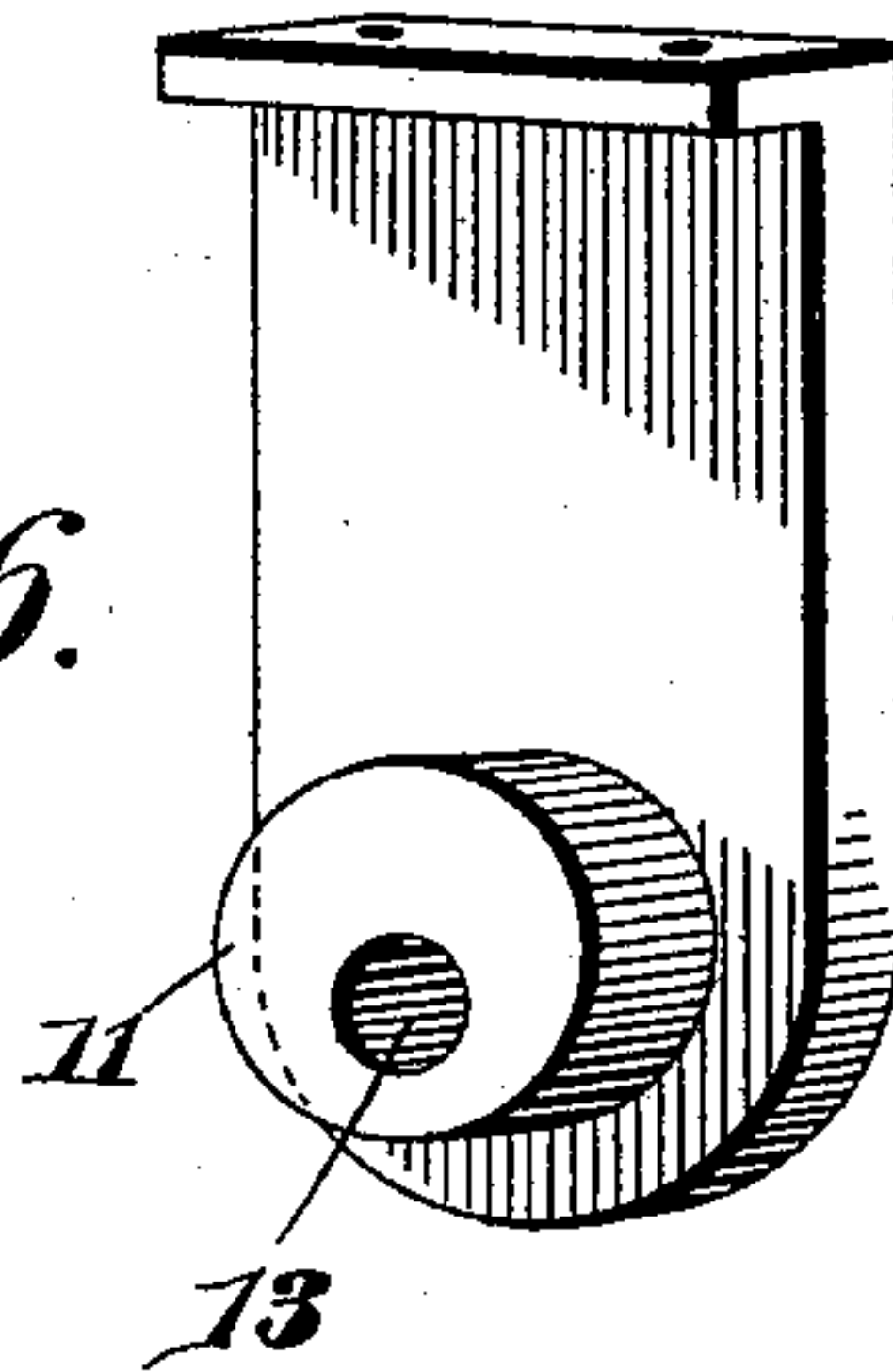
*Fig. 1.*



*Fig. 5.*



*Fig. 6.*



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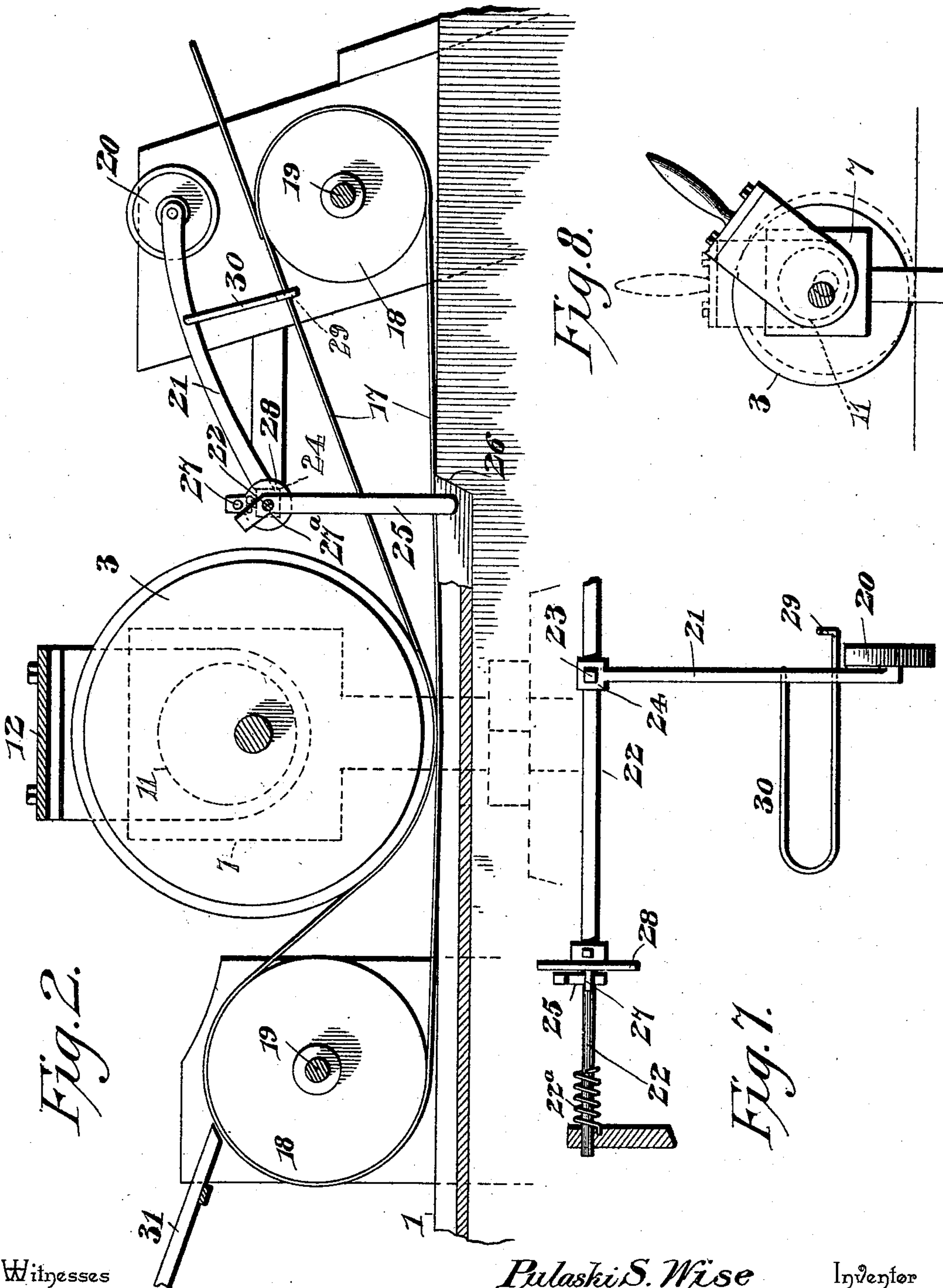
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(No Model.)

3 Sheets—Sheet 2.



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3 Sheets—Sheet 3.

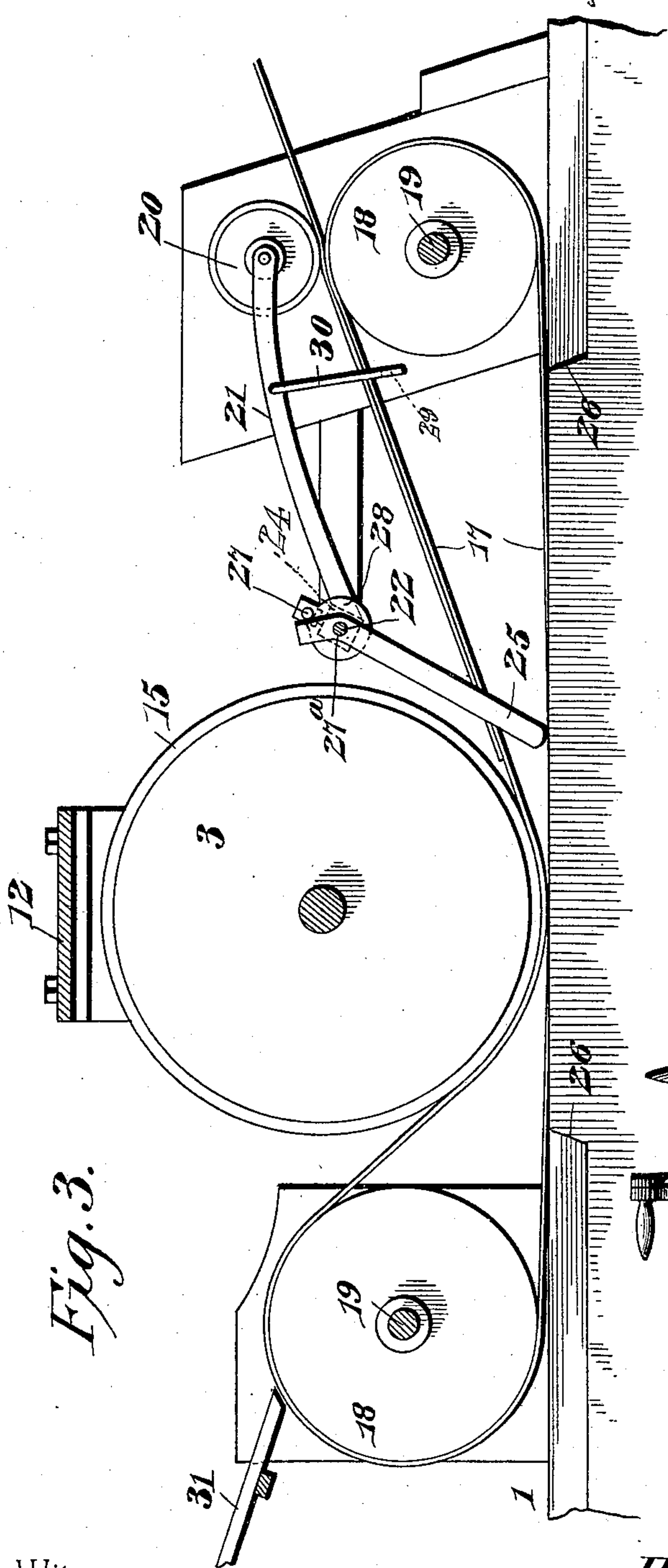


Fig. 3.

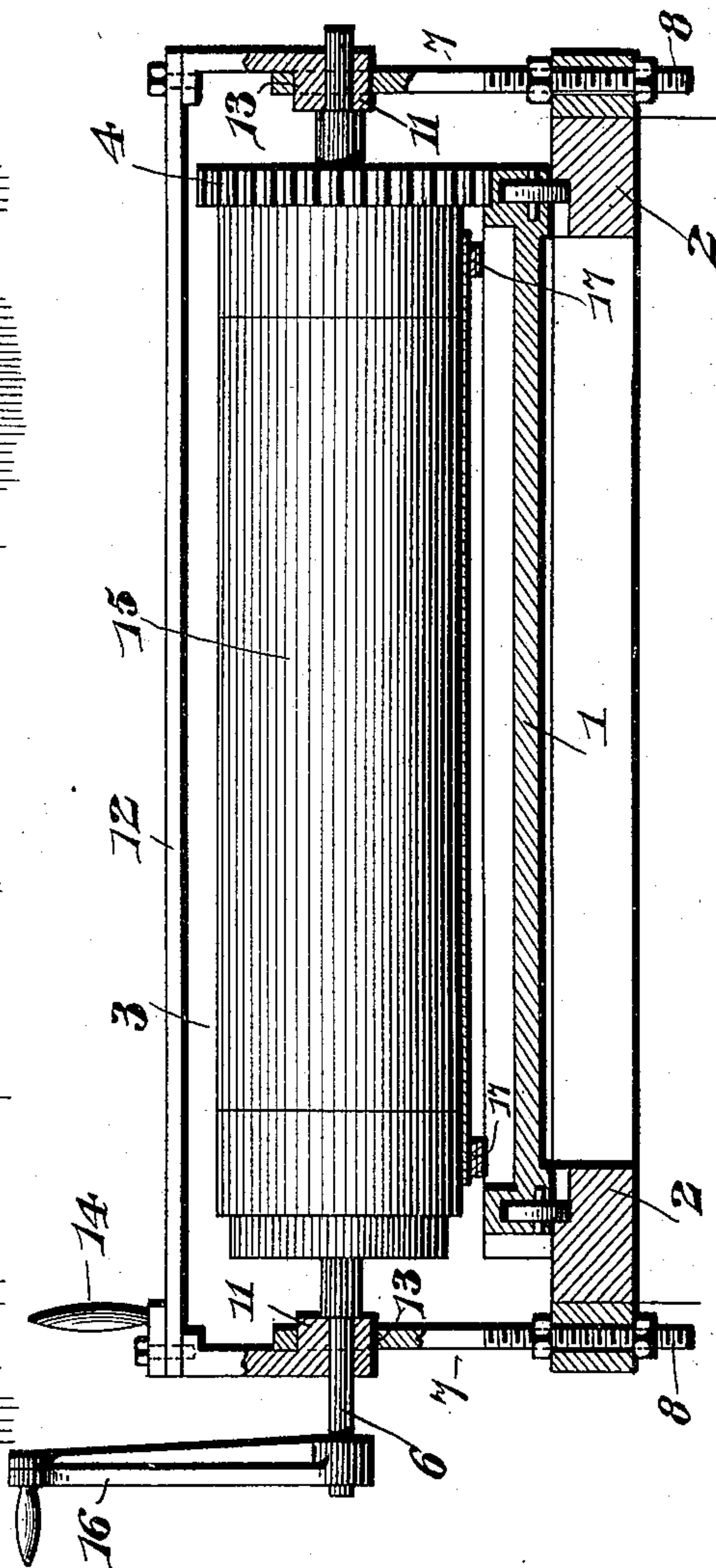


Fig. 4.

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# UNITED STATES PATENT OFFICE.

PULASKI S. WISE, OF ST. CHARLES, IOWA.

## PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 635,831, dated October 31, 1899.

Application filed August 16, 1898. Serial No. 688,708. (No model.)

*To all whom it may concern:*

Be it known that I, PULASKI S. WISE, a citizen of the United States, residing at St. Charles, in the county of Madison and State of Iowa, have invented a new and useful Printing-Press, of which the following is a specification.

The invention relates to improvements in printing-presses.

10 The object of the present invention is to improve the construction of that class of printing-presses employing a reciprocating type-bed and an impression-cylinder, more especially the manner of mounting the impression-cylinder, whereby it may be readily raised during the return movement of the type-bed to prevent the blanket or other covering of the cylinder from receiving any ink of the type.

20 A further object of the invention is to improve the construction of the feeding mechanism and to provide a simple and comparatively inexpensive device whereby the paper will be automatically carried forward at the proper time to receive an impression.

25 The invention consists in the construction and novel combination and arrangement of parts, as hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

30 In the drawings, Figure 1 is a perspective view of a printing-press provided with my improvements, the feed-table being removed to show the feeding mechanism more clearly.

35 Fig. 2 is a longitudinal sectional view, the upper or oscillating feed-roll being elevated. Fig. 3 is a similar view, the oscillating feed-rolls being depressed for engaging a sheet of paper. Fig. 4 is a transverse sectional view.

40 Fig. 5 is a detail view of one of the standards. Fig. 6 is a detail perspective view of one of the eccentric bearings. Fig. 7 is a detail view illustrating the manner of mounting the rock-shaft. Fig. 8 is a detail view illustrating the manner of adjusting the impression-cylinder.

45 Like numerals of reference designate corresponding parts in all the figures of the drawings.

50 1 designates a reciprocating type-bed carriage mounted in suitable ways of a framework 2 and arranged to reciprocate beneath an impression-cylinder 3, and the shaft of the

impression-cylinder carries a cog-wheel 4, which meshes with the teeth of a rack-bar 5 on the type-bed carriage, whereby the impression-cylinder will be alternately reversely rotated as the type-bed carriage is reciprocated. The journals of the impression-cylinder, formed by the shaft 6, are supported by vertical standards 7, having threaded shanks 8 engaging suitable threaded openings of the framework. The upper portions of the standards are rectangular and have circular openings 9, in which are arranged eccentric bearings 11, consisting of bars or shanks and annular enlargements or hubs arranged on the inner faces of the shanks or bars and provided with eccentric openings 13, which are adapted to be raised and lowered to elevate and depress the cylinder when the shanks or bars are oscillated. The shanks or bars are connected by a transverse top bar 12, whereby they are adapted to be oscillated in unison. In order to enable the bearings to be oscillated, a handle 14 is secured to one end of the transverse connecting-bar 12 and arranged to be readily grasped by the operator. The bearings 11 are oscillated to raise the impression-cylinder and hold it elevated during the backward reciprocation of the type-bed carriage in order to prevent any ink from the type from getting on the blanket 15 or other covering of the impression-cylinder. One end of the shaft 6 is extended and is provided with an operating crank-handle 16, arranged adjacent to the handle 14.

The paper is carried beneath the impression-cylinder on endless tapes 17, passing around guide-pulleys 18, as clearly shown in Figs. 2 and 3 of the accompanying drawings, in which the pulleys 18 are considerably exaggerated in proportion to the cylinder for the sake of clearness, and the said pulleys 18, which are located at opposite sides of the cylinder, are mounted on transverse shafts 19, which are journaled in suitable bearings. The endless tapes extend from one end of a feed-table upon which the paper is placed, and in order to enable the paper to be fed forward positively and automatically at the proper time a pair of oscillating feed-rollers 20 are employed and are located above one pair of the guide-pulleys 18, being provided with rubber-covered peripheries to enable



them to feed the paper positively. The feed-rollers are carried by longitudinal arms 21 of a transverse rock-shaft 22, which has its ends journaled in suitable bearings, and the rock-shaft, which is preferably squared or of other polygonal shape, has the arms 21 adjustably secured to it by means of set-screws 23. The inner ends of the arms 21 are provided with loops or sleeves 24, conforming to the configuration of the rock-shaft and having threaded perforations for the reception of the set-screws which engage the shaft.

A depending lever 25 is loosely mounted on one end of the rock-shaft adjacent to one side of the type-bed carriage, and it is adapted to be engaged by an oppositely-beveled lug 26 of the same, whereby when the carriage starts forward the rock-shaft will be rotated to cause the feed-rollers to engage the paper, and thus cause it to be carried forward by the tapes, causing the feeding of the paper to be positive, reliable, automatic, and properly timed. The lever 25 is loosely mounted on the rock-shaft in order to permit the oppositely-beveled lug 26 to pass it on the return movement of the carriage without affecting the position of the rock-shaft, and the said lever 25, which is fulcrumed near its upper end 27<sup>a</sup>, has the latter projecting above the shaft and arranged to engage a stop 27 on the same. The stop 27 consists of a lug or projection extending laterally from the outer face of a disk or plate 28, which is keyed or otherwise secured to the rock-shaft. The forward movement of the beveled lug 26 of the type-bed carriage carries the upper end of the lever into engagement with the stop of the rock-shaft and produces a partial rotation of the latter, the feed-rollers being held in their depressed position until the paper passes beneath the impression-cylinder by means of the lug 26, which is of sufficient length to produce this result. After the lug leaves the lower end of the lever the latter resumes its normal vertical position, and the feed-rollers are elevated by a suitable spring. The return movement of the carriage swings the upper end of the lever 25 away from the stop of the rock-shaft.

In order to enable the paper to be properly positioned with relation to the feed-rollers, a pair of oppositely-disposed guide-pins 29 are employed, and these pins, which are connected with the arms of the rock-shaft by curved shanks or bars 30, are automatically brought into operative position when the feed-rollers are raised. The curved shanks or bars 30, which are secured at their upper ends to the arms 21, extend outward and downward therefrom, passing inward beneath the upper flights of the endless tapes to arrange the guide-pins at the inner edges of the same. After the paper receives an impression of the type it passes upward at the opposite side of the impression-roll and is carried by the fingers 31 to a suitable table in the usual manner.

The invention has the following advantages: The eccentric bearings of the impres-

sion-cylinder enable the latter to be lifted clear of the type to prevent ink from getting on the blanket, and the feed mechanism, which is positive, reliable, and automatic in its operation, enables the paper to be rapidly and accurately fed and greatly increases the printing capacity of the press. The guide-pins, which limit the forward movement of the paper in placing the same in position for feeding the press, are automatically brought into operative position and are similarly carried out of the path of the paper before the feeding movement begins.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What is claimed is—

1. In a press, the combination with a framework, and a reciprocating type-bed, of an impression-cylinder, eccentric bearings mounted on the framework, receiving the journals of the cylinder and provided with shanks or bars, a transverse bar extending over the cylinder and connecting the shanks or bars, and means for oscillating the transverse bar, substantially as described.
2. In a press, the combination with a framework, and an impression-cylinder, of eccentric bearings consisting of upwardly-extending shanks or bars, and annular enlargements arranged at the inner faces of the shanks or bars and provided with eccentric openings receiving the journals of the cylinder, a transverse bar connecting the shanks or bars, and a handle secured to the transverse bar, at one end thereof, substantially as described.
3. In a press, the combination with a reciprocating type-bed, of a feed-roller arranged to swing upward and downward and adapted to engage the upper face of the paper, and a depending arm connected with the feed-roller and arranged to be engaged by the type-bed, whereby the feed-roller will be operated, substantially as described.
4. In a press, the combination with a reciprocating type-bed, and an impression-cylinder, of endless feed-tapes extending beneath the cylinder, guide-pulleys supporting the endless tapes, feed-rollers arranged to engage the upper face of the paper, a rock-shaft supporting the feed-roller, and an arm depending from the rock-shaft and arranged to be engaged by the type-bed, whereby the feed-rollers will be carried into and out of engagement with the paper, substantially as described.
5. The combination with a reciprocating type-bed, of feed-rollers arranged to engage the paper at the upper face thereof, means for carrying the paper forward, and a rock-shaft supporting the feed-rollers and having an arm or lever arranged to be engaged by the type-bed, whereby the feed-rollers will be carried into engagement with the paper when the type-bed moves forward, substantially as described.



6. In a press, the combination with a reciprocating type-bed, of means for feeding paper forward, a rock-shaft provided with arms located above the said means, feed-rollers mounted on the arms and arranged to engage the upper face of the paper, and an arm or lever depending from the rock-shaft and arranged to be engaged by the type-bed, substantially as described.

7. In a press, the combination of a reciprocating type-bed provided with an oppositely-beveled lug, a rock-shaft provided with a stop and having arms, feed-rollers mounted on the arms of the rock-shaft, and a lever fulcrumed between its ends on the rock-shaft and having its upper end arranged to engage the stop thereof, the lower end of the lever being located in the path of the said lug and adapted to be engaged by the same, substantially as described.

8. In a press, the combination of a reciprocating type-bed having an oppositely-beveled portion, feed-rollers arranged to engage the paper, a rock-shaft supporting the feed-rollers, and an arm depending from the rock-shaft and loosely mounted on the same, said arm being free to swing in one direction and interlocking with the shaft when moved in the opposite direction, substantially as described.

9. In a press, the combination with an endless tape, of an oscillating arm located above the tape, a feed-roller carried by the arm, and a bar carried by the arm and extending beneath the tape and provided with a guide-pin, substantially as described.

10. The combination with feeding mechanism, of a rock-shaft having an arm, a feed-

roller carried by the arm and located above the feeding mechanism, said feed-roller being adapted to be carried into engagement with the paper by the downward movement of the arm, a guide-pin connected with the arm of the rock-shaft and arranged to be carried into the path of the paper by the upward movement of said arm, and a reciprocating type-bed adapted to operate the rock-shaft, substantially as described.

11. In a press, the combination with endless tapes, of guide-pulleys receiving the same, a rock-shaft provided with arms located above the tapes, feed-rollers carried by the arms, guide-pins arranged in the path of the paper at points between the endless tapes, and curved bars connecting the guide-pins with the arms of the rock-shaft, located at the outer sides of said arms and extending beneath the upper flights of the belts, and means for operating the rock-shaft, substantially as described.

12. In a press, the combination with a reciprocating type-bed, of a rock-shaft provided with arms, feed-rollers mounted on the arms, a disk or plate mounted on the shaft and provided with a laterally-projecting stop, a lever loosely fulcrumed on the rock-shaft and arranged to engage the stop, and a reciprocating type-bed arranged to engage the lever, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

PULASKI S. WISE.

Witnesses:

J. W. BAKER,

E. J. ARMSTRONG.