

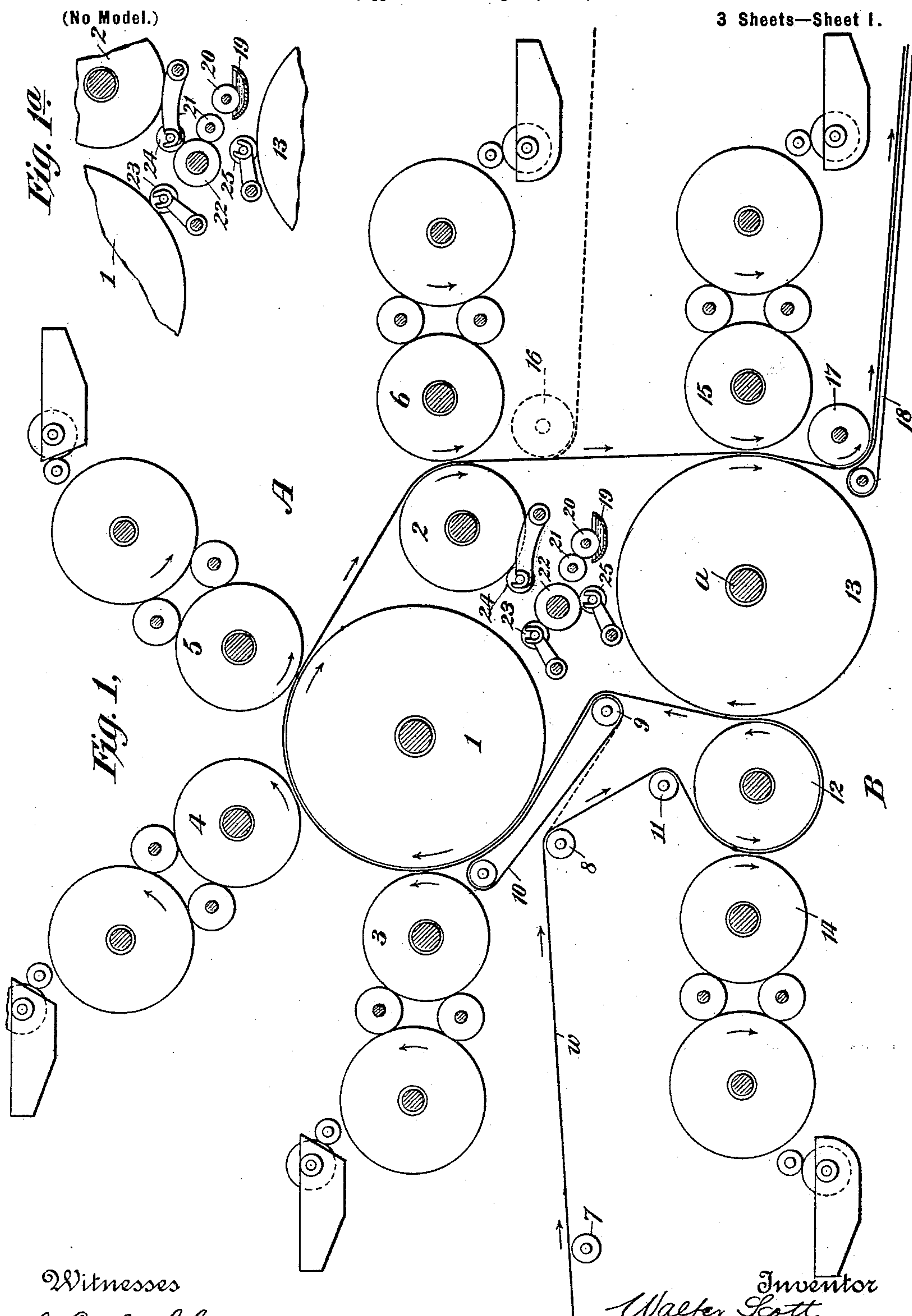
**No. 625,470.**

**Patented May 23, 1899.**

**W. SCOTT.**  
**PRINTING MACHINE.**

(Application filed Aug. 30, 1893.)

**3 Sheets—Sheet 1.**



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(No Model.)

3 Sheets—Sheet 2.

Fig. 3,

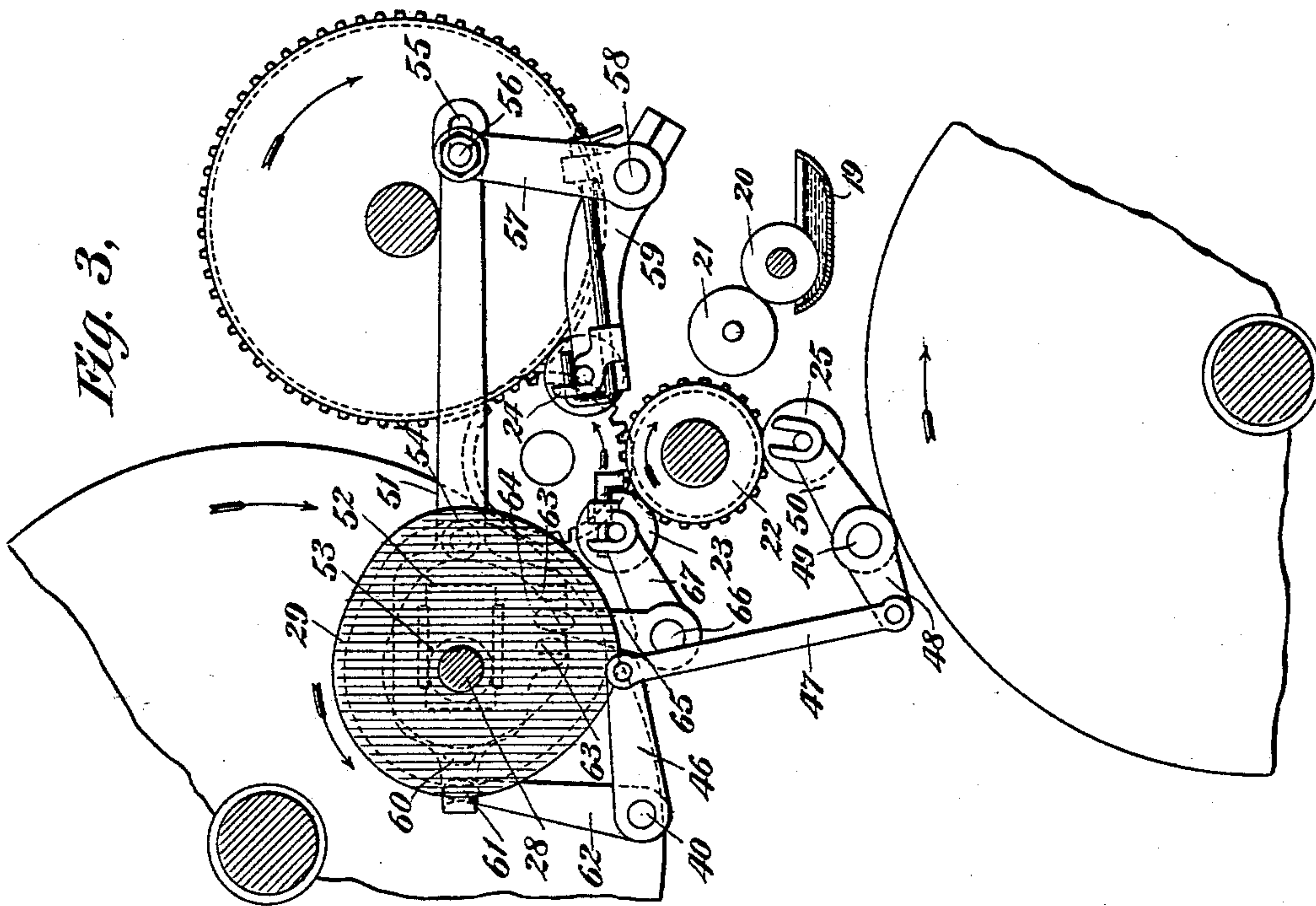
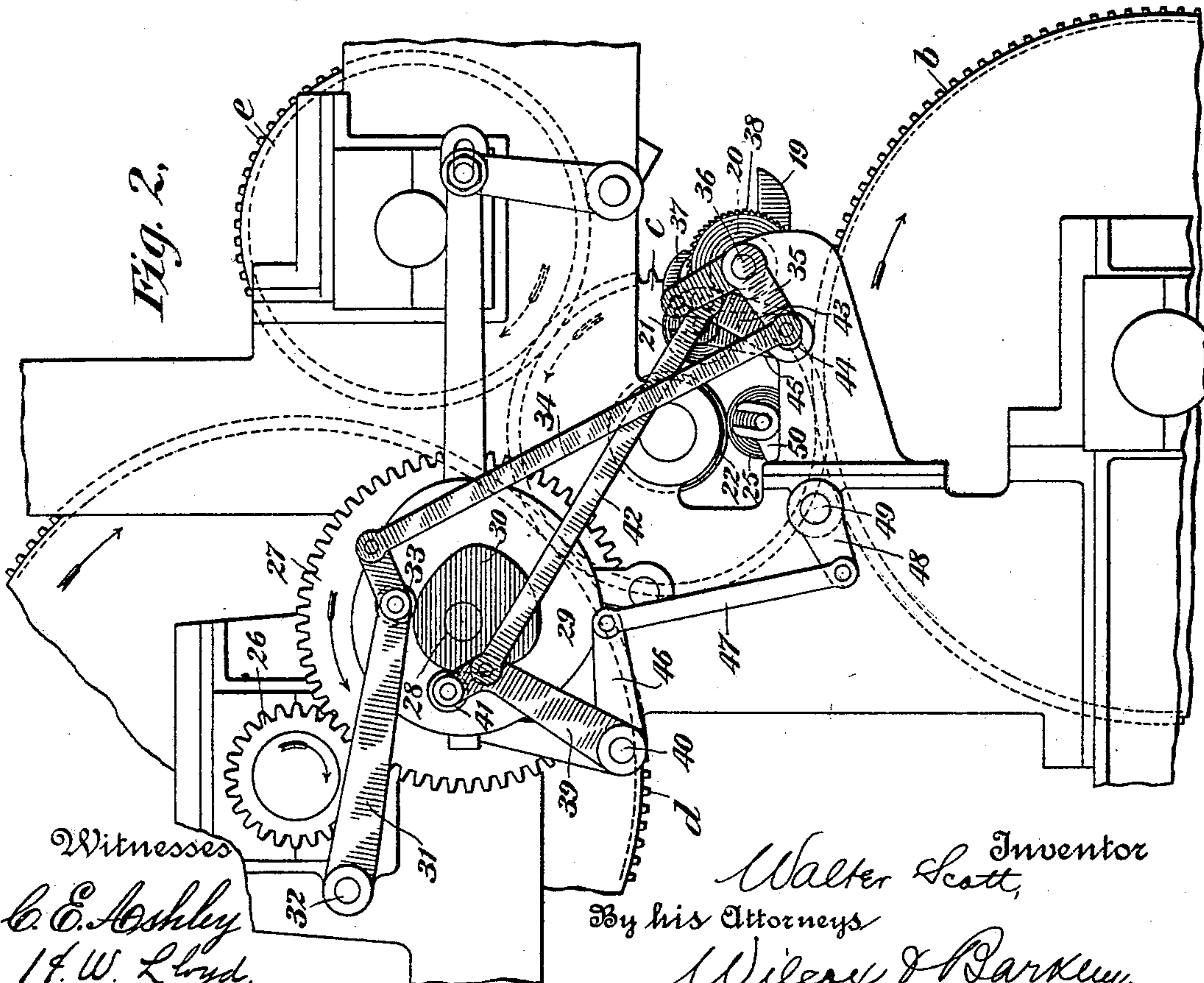


Fig. 2,



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# UNITED STATES PATENT OFFICE.

WALTER SCOTT, OF PLAINFIELD, NEW JERSEY.

## PRINTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 625,470, dated May 23, 1899.

Application filed August 30, 1893. Serial No. 484,358. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER SCOTT, a citizen of the United States, and a resident of Plainfield, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Printing-Machines, of which the following is a specification.

The invention relates, primarily, to printing-presses wherein several colors are printed on one or both sides of the web, and has for its objects the simplification and improvement of this class of printing-machines, the oiling of a number of impression-cylinders from one oil-fountain, the prevention of the transfer of color from one part of the web or sheet to another non-corresponding part of the same, and other objects, as will hereinafter appear.

To these ends the invention consists of the combination, with a plurality of impression-cylinders, of an oil-fountain and means supplying oil therefrom to the said cylinders and hereinafter more particularly described and claimed.

The invention is shown in the accompanying drawings, forming part hereof, in which—

Figure 1 is a side view of the printing mechanism, no framework being shown. Fig. 1<sup>a</sup> is a view of the oiling devices shown in Fig. 1, but in a different position of the parts. Fig. 2 is a side view of part of the machine, showing part of the operating mechanism for the oilers. Fig. 3 is a like view taken on a vertical plane inside that of Fig. 2, omitting the framework and showing the remainder of said mechanism. Fig. 4 is a side view of the printing mechanism of a modification of the invention shown in Fig. 1.

Referring to the accompanying drawings, a press adapted to print upon one side of a web is shown at A, the said press consisting of the impression-cylinders 1 and 2, the plate or type cylinders 3 4 5, coacting with the cylinder 1, plate-cylinder 6, coacting with impression-cylinder 2, and the usual inking apparatus for each plate-cylinder. The web *w* may be led to this machine from a roll (not shown) about rollers 7 8 9 and over tapes 10 to and between the cylinders 1 3; but I prefer to first lead the web to the printing-machine B as over roller 11. The machine B, which is below machine A, consists of im-

cylinders 14 15, and the usual inking devices. From machine B the web *w* passes around roller 9 to machine A. This roller 9 may be mounted in pivoted arms and so act as a web take-up to obtain register of the impressions of the two machines; but I prefer the construction hereinafter described for a take-up. After leaving cylinder 2 the web may lead about roller 16 to a suitable cutting and folding mechanism or between cylinders 13 15 and about roller 17 over tapes 18 to a like mechanism. During its course through the two machines the web will have received impressions on one side from cylinder 14 and impressions in different colors on the other side from the cylinders 3, 4, 5, 6, and 15 or such of them as have forms on them.

The various cylinders of each machine are geared together in the usual manner, the power required to drive them being applied to the shaft *a* of the cylinder 13. The gear *b* of cylinder 13 is connected by the intermediate gear *c* with the gears *d e* of the cylinders 1 2. (See Fig. 2.)

For the purpose of preventing set-off on the cylinders 1, 2, and 13, and so to the web, the cylinders are oiled. Each cylinder may have its own independent oiling devices; but I prefer to oil them from a common oil-supply by suitable means. The means for this purpose (shown in Figs. 1, 2, and 3 of the drawings) will now be described. The oil-fountain 19 has a fountain-roller 20 therein, from which the vibrating ductor 21 takes oil at intervals and supplies the roller 22 therewith. The roller 22 is mounted for rotation in the framework of the machine. From roller 22 the oil is taken by the vibrating rollers 23 24 25, which in turn apply the oil to cylinders 1, 2, and 13, respectively. These various rollers may receive their motion in any suitable way. The mechanism shown for moving them will now be described. The shaft *f* of cylinder 1 carries a gear 26, which meshes with a larger gear 27, mounted on a short shaft 28, journaled in the framework of the machine. This shaft 28 carries two cams 29 30. A rock-arm 31, journaled at 32 to the framework, carries an antifriction-roller 33, which coacts with cam 30. A link 34 connects arm 31 with a lever 35, journaled on the shaft 36 of fountain-roller 20. A pawl 37 on lever 35 coacts



with ratchet 38, fast on the shaft 36, to turn the roller 20. The roller 33 is kept in contact with cam 30 by the weight of arm 31 or a spring, (not shown,) or both. A rock-arm 5 39, pivoted on shaft 40 to the framework, carries an antifriction-roller 41, which also engages cam 30. A link 42 connects arm 39 with arm 43 of the rock-shaft 44, which has arms 45, carrying the ductor-roller 21. An arm 10 46 is connected by link 47 with an arm 48 of shaft 49. This shaft 49 has arms 50, which support the roller 25. The arm 46 is fast on a short shaft 40, which is connected with cam 29. The slide 51 has a slot 52, which fits over 15 the loose sleeve 53 on shaft 28 and carries a roller 54, which engages groove-cam 29. It also has a slot 55, which engages a pin 56 on arm 57 of shaft 58. This shaft 58 has arms 59, which carry roller 24. The slide 51 has 20 two lugs 60, which engage a head 61 on arm 62, which is fast to shaft 40. It also has two other lugs 63, which engage head 64 of arm 65 of rock-shaft 66. Arms 67 on shaft 66 support the roller 23. The various parts are so 25 timed that the whole impression-surfaces of the cylinders are oiled in proportion to their requirements. Figs. 1 and 3 show rollers 23 25 as taking oil from roller 22 and roller 24 as oiling its cylinder. Fig. 1<sup>a</sup> shows an in- 30 version of positions of these parts.

In Fig. 4 is shown a modification of the arrangement shown in Fig. 1. An impression-cylinder 68 is placed between the plate-cylinder 3 and cylinder 1 to form machine A<sup>2</sup>, 35 while the lower machine B is unchanged. The web *w'* leads, as shown, through machine A<sup>2</sup> and may lead thence to a cutting and folding machine, or it may lead to machine B around roller 69, the take-up T, and to and 40 between either cylinders 12 14 or 13 15. The web *w* may be used when machine A<sup>2</sup> delivers around roller 16, as hereinafter described. The take-up T consists of end pieces 70, tie-shafts 71, and journals 72, and rollers 73 on

the shafts 71. The web passes on opposite 45 sides of the rollers. Any suitable means (not shown) for regulating the position of the take-up may be used.

The cylinders 1 and 2 in machine A<sup>2</sup> are oiled by the rollers 23<sup>a</sup> 24<sup>a</sup>, respectively, and 50 by the common oil-roller 74. The rollers 23<sup>a</sup> 24<sup>a</sup> do not vibrate in this instance. (See Fig. 4.) Cylinders 12 13 may have suitable oilers 75 76, respectively.

No claim is made herein to independent 55 printing-presses adapted each to perfect its own web and web take-up devices between said presses, whereby one web may be run through all said presses to be printed upon, as the same forms the subject-matter of 60 claims in my application for Letters Patent filed on the 23d day of November, 1894.

I remark that when more than two impression-cylinders are used in giving the multiple 65 impressions on one side of the web or sheets their axes can be arranged in closed geometrical figures—as triangles, quadrilaterals, &c.—according to the number employed and that the oiling devices can be placed partly 70 or wholly within such figures, thus economizing space.

What I claim is—

In a printing-machine, the combination of three or more impression-cylinders arranged 75 in a closed geometrical figure, an oil-fountain and means for supplying oil therefrom to said cylinders, said oiling devices being partly or wholly within said figure, substantially as described.

In testimony that I claim the foregoing as 80 my invention I have signed my name, in presence of two witnesses, this 22d day of July, 1893.

WALTER SCOTT.

Witnesses:

GEO. A. BAKER,  
RICHARD W. BARKLEY.