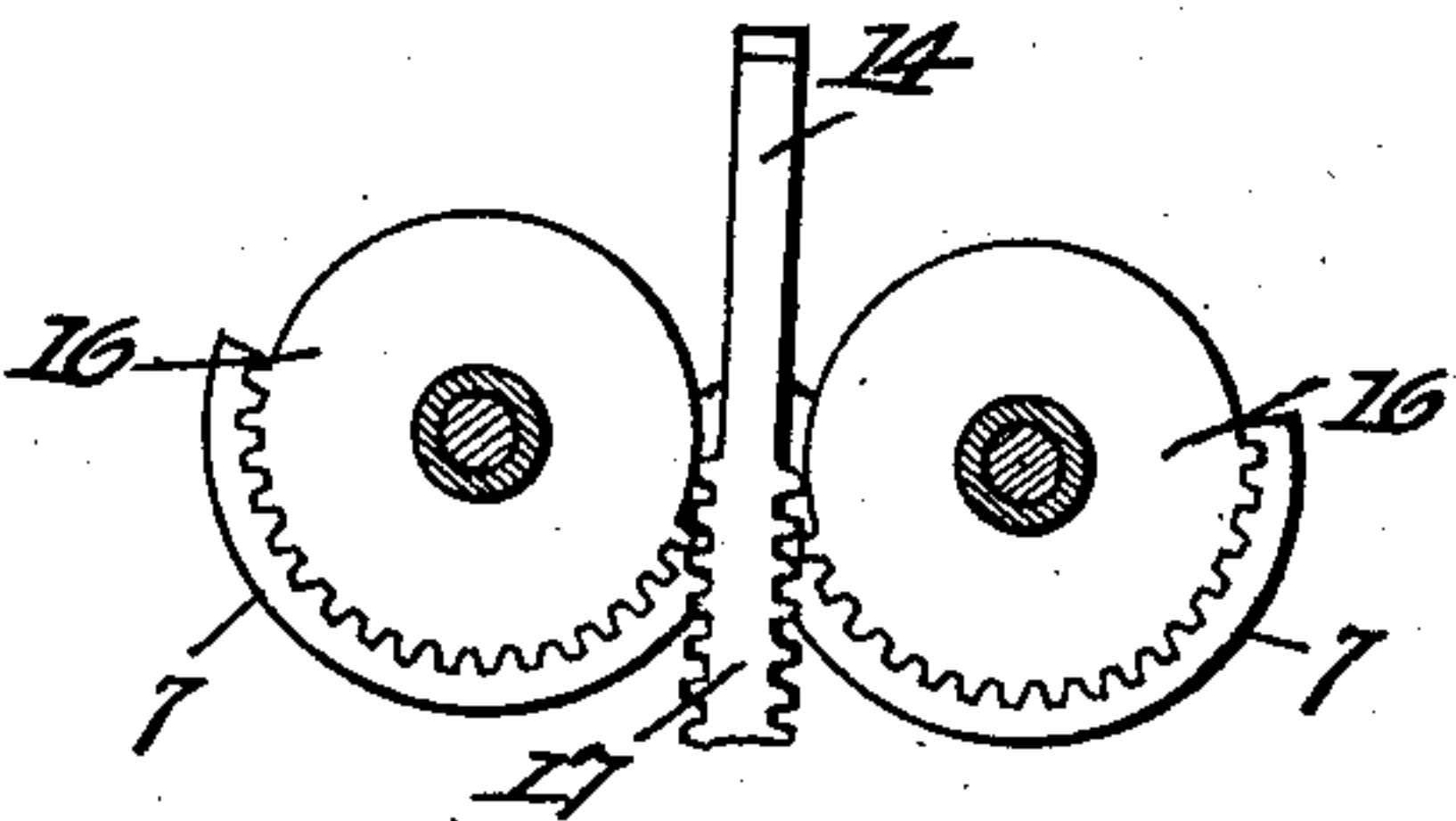
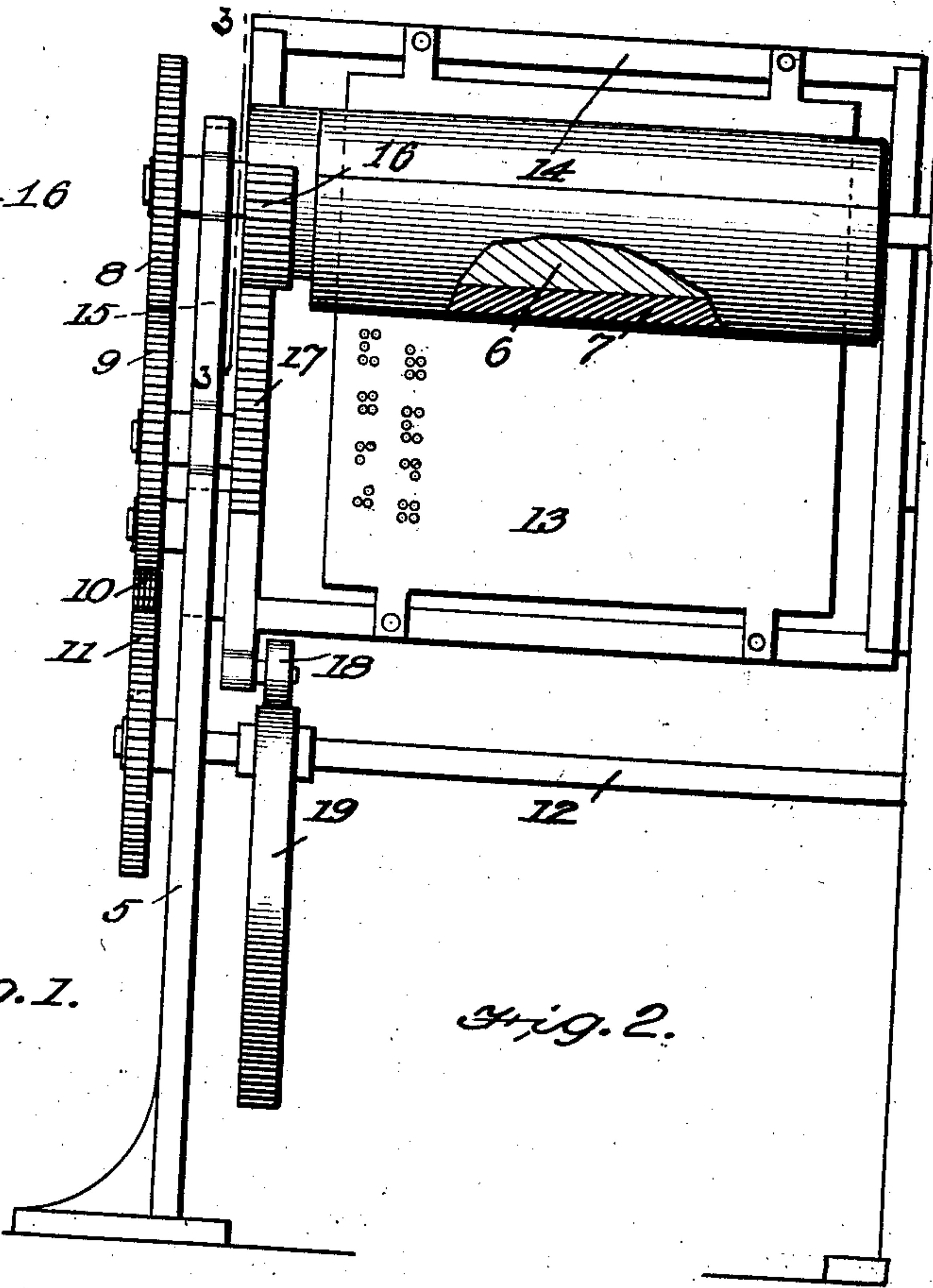
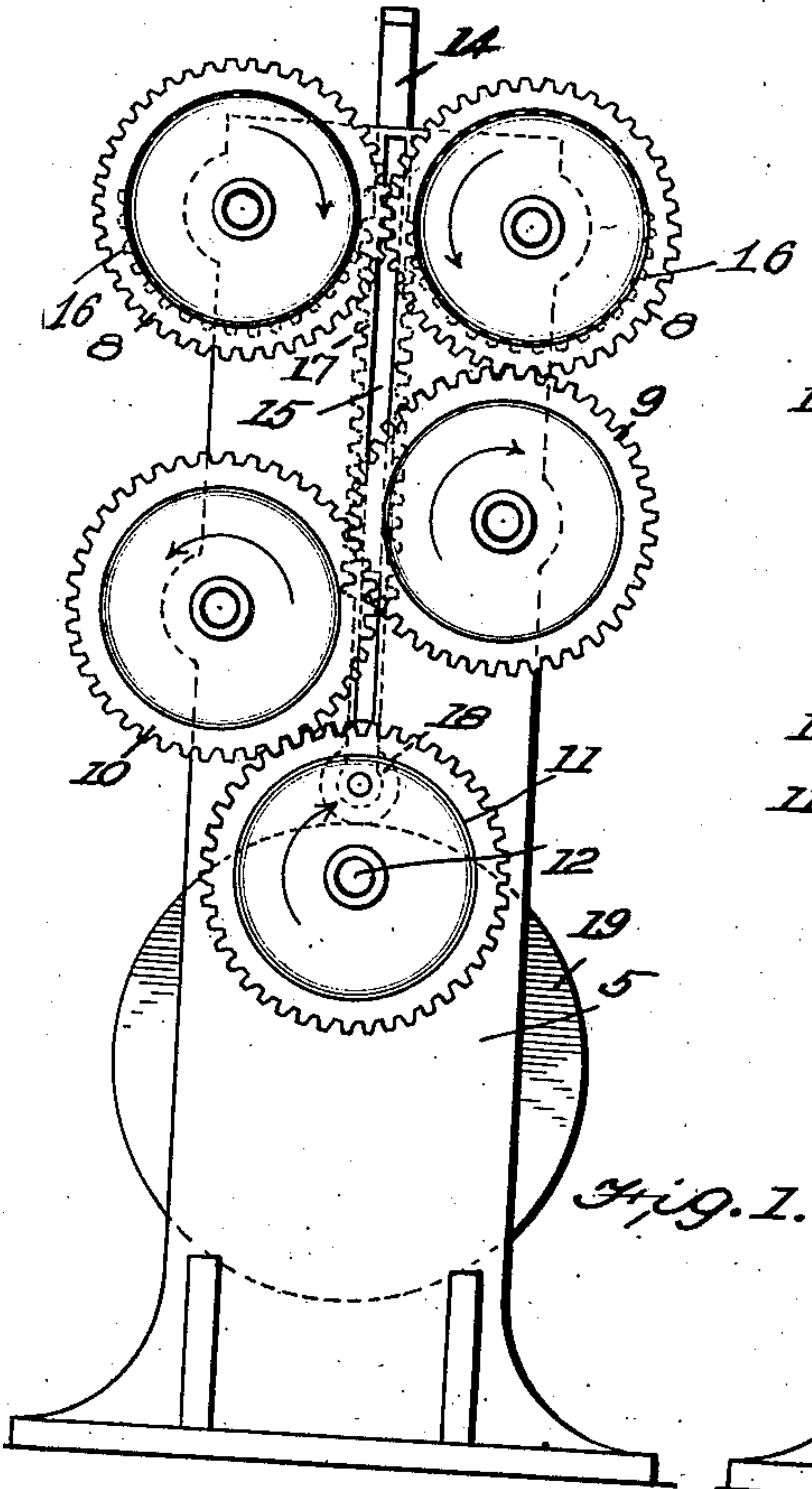


O. McCANN.
EMBOSSING PRESS.
APPLICATION FILED JAN. 7, 1910.

956,140.

Patented Apr. 26, 1910.



Witnesses
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UNITED STATES PATENT OFFICE.

OWEN McCANN, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO THE AMERICAN PRINTING HOUSE FOR THE BLIND, OF LOUISVILLE, KENTUCKY.

EMBOSSING-PRESS.

956,140.

Specification of Letters Patent.

Patented Apr. 26, 1910.

Application filed January 7, 1910. Serial No. 536,821.

To all whom it may concern:

Be it known that I, OWEN McCANN, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Embossing-Presses, of which the following is a specification.

This invention relates to embossing presses designed for printing for the blind, and it has for its object to provide an improved press which will simultaneously emboss more than one sheet of paper on both sides.

With this object in view, the invention consists in a novel construction and combination of parts to be hereinafter described and claimed.

In order that the invention may be better understood, reference is had to the accompanying drawing, in which:

Figure 1 is an end view of a portion of the press, so much only of the press being shown as will suffice to make clear the connection of the invention therewith. Fig. 2 is an elevation. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is an enlarged section of a fragment of the embossing plate, with sheet of paper on each side.

Referring more particularly to the drawing, 5 denotes the frame of the press in which is journaled a pair of impression cylinders 6 partly covered with a rubber cushion 7. On the shafts of the cylinders are spur gears 8 which mesh, and one of said gears meshes with a spur gear 9 geared by an intermediate spur gear 10 to a spur gear 11 on a drive shaft 12 journaled in the frame of the press. This train of gears drives the cylinders 6. The drive shaft is geared or otherwise connected to any suitable driving means.

Between the impression cylinders 6 is located a reciprocating embossing plate 13 similar to the one disclosed in Patent No. 920,872, dated May 4, 1909, said plate having embossing characters formed by projections or relief portions, and intaglio portions. In the patent referred to, the paper is fed between the plate and an impression cylinder, and is embossed on one side by the relief portions, and on the other side by the intaglio portions. Two pages are therefore simultaneously embossed.

The present invention is designed to use the same embossing plate and to provide an arrangement for simultaneously embossing two sheets on both sides, or four pages.

This is effected by feeding a sheet between one side of the plate and one of the impression cylinders 6, and a second sheet between the other side of the plate and the other impression cylinder. This is made possible because the characters are alike on both sides of the plate, the characters being formed by punching the plate from opposite sides, so that relief and intaglio portions are had on both sides of the plate. The punched up projections on one side of the plate form intaglio portions on the other side of the plate, each group of such projections and intaglio portions being alike, or forming the same character. It will therefore be evident that both sides of the plate contain the same characters, in view of which two sheets will be simultaneously embossed on both sides, making four embossed pages, when said sheets are fed between the plate and the impression cylinders as stated. It will also be seen that the capacity of the press may be increased still further by mounting two or more embossing plates, in tandem or parallel, between the impression cylinders.

The embossing plate 13 is mounted in any suitable manner on a carrier 14, comprising a rectangular frame supported for sliding movement in guides 15 on the frame 5. The carrier is reciprocated to move the embossing plate up and down between the impression cylinders 6, by means of gear segments 16 carried by the shafts of the impression cylinders and meshing respectively with rack teeth 17 in opposite edges of one of the side members of the carrier. This side member also extends a short distance below the carrier, and carries a roller 18 which rides on the periphery of a disk 19 mounted eccentrically on the shaft 12. The gear segments 16 move the carrier 14 downwardly, and the eccentric disk upwardly. The relative speed of rotation of the eccentric disk and the gear segments is such, and the eccentric disk is so positioned upon the shaft, that it starts to move the carrier upwardly when the gear segments become disengaged from the rack teeth, and at the end of the upward movement of the carrier, the gear segments again come in mesh with the rack teeth, and thus move the carrier downwardly.

It is thought that the operation of the press will be understood from the foregoing description, but it may be summarized as follows: The shaft 12 being in motion, ro-

tary motion is imparted to the impression cylinders 6, through the gears 11, 10, 9 and 8. The plate carrier 14 is reciprocated through the gear segments 16, rack teeth 17, and eccentric disk 19, whereby the embossing plate 13 is carried up and down between the impression cylinders. The sheets to be embossed are placed between opposite sides of the embossing plate and the contiguous impression cylinders, they being fed to the plate at the end of the upward travel thereof, and embossed on the downstroke.

The press herein described is simple in structure, and it effectually serves the purpose for which it is designed.

The preferred embodiment of the invention has been shown, but it will be understood that various changes and modifications in the structural details may be resorted to without a departure from the invention.

I claim—

1. An embossing couple comprising a pair of impression cylinders, an embossing plate working therebetween, said plate having a series of characters on both sides, and receiving a sheet on each of said sides, and means for operating the cylinders and the plate for simultaneously embossing the characters on both sheets.

2. An embossing couple comprising a pair of impression cylinders, an embossing plate working therebetween, said plate having a series of like characters on both sides, and receiving a sheet on each of said sides, and means for operating the cylinders and the plate for simultaneously embossing the characters on both sheets.

3. An embossing couple comprising an embossing element consisting of a plate adapted to receive a sheet on both sides, said plate having embossing characters in relief on both sides, said relief portions on each side of the plate forming intaglio portions on the opposite side of the plate, and means for embossing said characters on both sheets, the relief portions of the characters on one side of the plate and their component intaglio portions on the other side of the plate forming the same characters on one side of each sheet, and the relief portions of the

characters on the other side of the plate and their component intaglio portions on the opposite side of the plate forming the same characters on the other side of the sheets. 55

4. In an embossing press, a pair of impression cylinders, an embossing plate working therebetween, a carrier for said plate, a rack on the carrier, gears on the shafts of the cylinders periodically meshing with the rack for moving the carrier in one direction, and an eccentric operating to move the carrier in the opposite direction when the gears and rack are out of mesh. 60

5. In an embossing press, a pair of impression cylinders, an embossing plate working therebetween, a carrier for the plate, a rack on the carrier, gears on the shafts of the cylinders periodically meshing with the rack for moving the carrier in one direction, a drive shaft geared to the impression cylinders, and an eccentric on the drive shaft operating to move the carrier in the opposite direction when the gears and rack are out of mesh. 75

6. In an embossing press, a pair of impression cylinders, an embossing plate working therebetween and characterized on both sides, a carrier for said plate, a rack on the carrier, gears on the shafts of the cylinders periodically meshing with the rack for moving the carrier in one direction, and an eccentric operating to move the carrier in the opposite direction when the gears and rack are out of mesh. 80 85

7. In an embossing press, a pair of impression cylinders, an embossing plate working therebetween and characterized on both sides, a carrier for the plate, a rack on the carrier, gears on the shafts of the cylinders periodically meshing with the rack for moving the carrier in one direction, a drive shaft geared to the impression cylinders, and an eccentric on the drive shaft operating to move the carrier in the opposite direction when the gears and rack are out of mesh. 90 95

In testimony whereof I affix my signature in presence of two witnesses.

OWEN McCANN.

Witnesses:

EVERETT JOHNSON,
LEE SHACKLEFORD.