May 21, 1929. F. C. GOTTSCHALK 1,713,826

STENCIL DUPLICATOR

Filed April 20, 1926 3 Sheets-Sheet 1

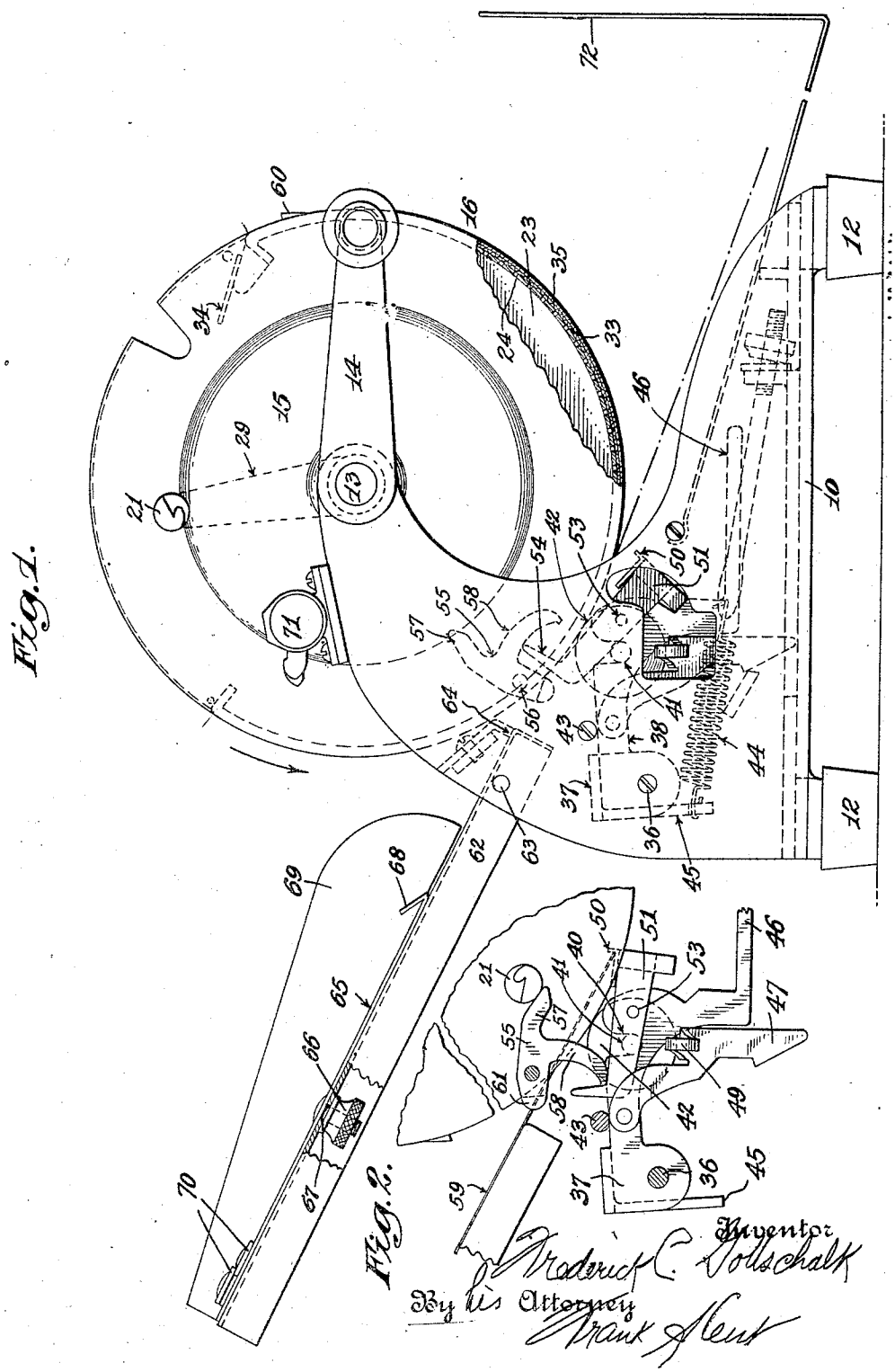


Fig. 1.

Fig. 2.

Inventor
Frederick C. Gottschalk
By his Attorney
Frank Kent

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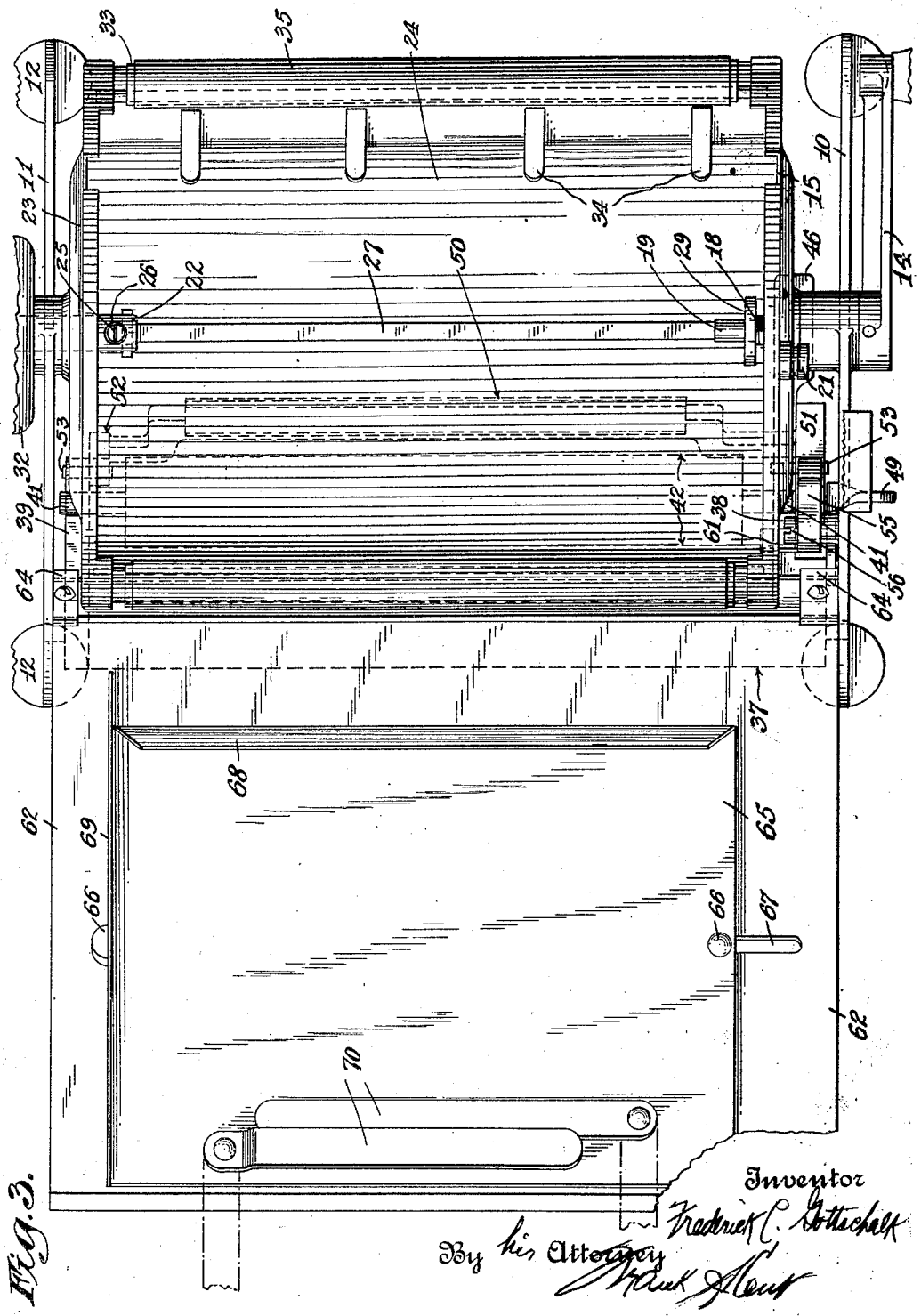


Fig. 3.

Inventor
Frederick C. Gottschalk
By his Attorney

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Fig. 5.

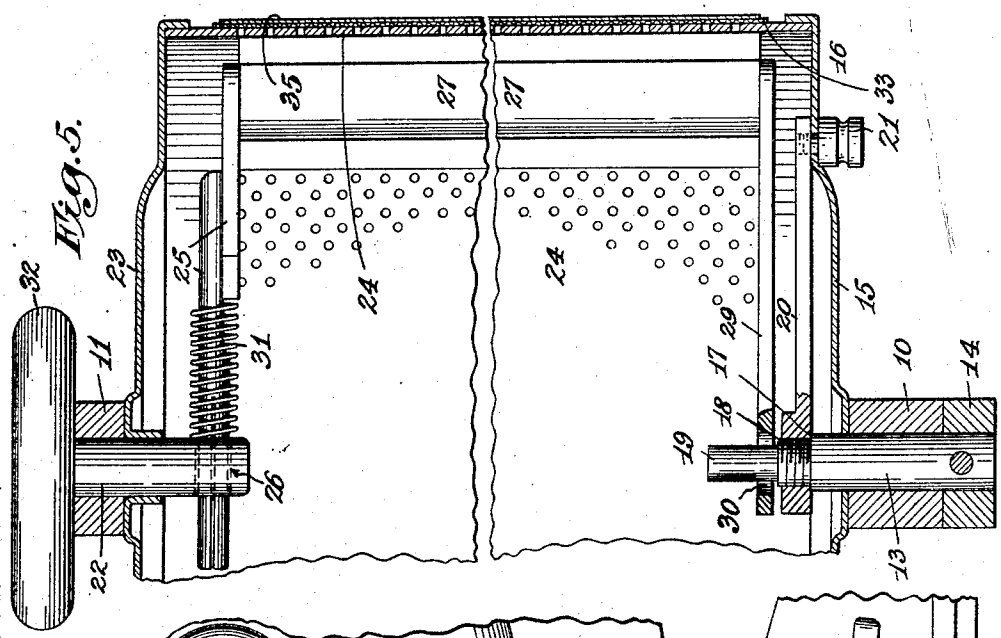


Fig. 4.

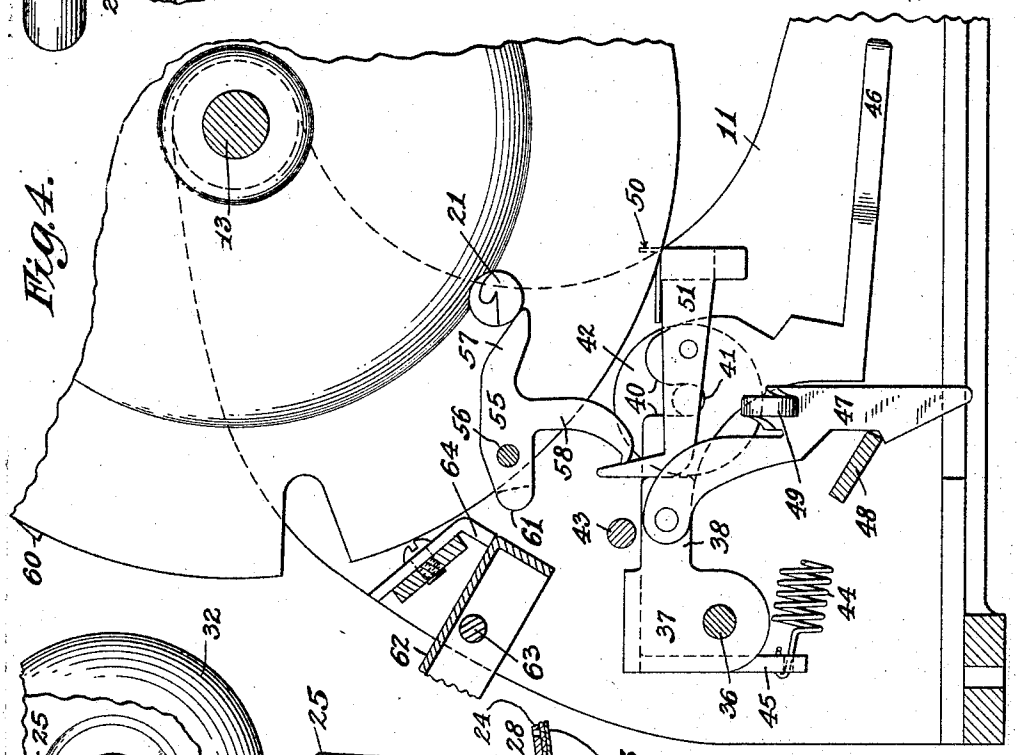
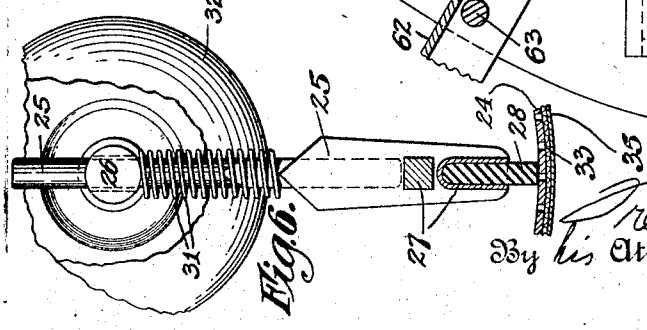


Fig. 6.



Inventor
Frederick C. Gottschalk
By his Attorney
Frank J. Mead

Patented May 21, 1929. 1,713,826

UNITED STATES PATENT OFFICE.

FREDERICK C. GOTTSCHALK, OF NEW YORK, N. Y.

STENCIL DUPLICATOR.

Application filed April 20, 1926. Serial No. 103,256.

This invention relates to a stencil duplicator, and aims to provide a duplicator of this type that can be operated rapidly and conveniently and that can be manufactured at a reasonable cost.

The machine includes a stencil drum and an impression roll for pressing the sheets against the drum during the printing operation, means being provided for holding the impression roll out of contact with the drum when desired. A shiftable paper gage is provided for stopping the sheets in the preparatory position, and parts are provided for moving the gage into receiving position. The feed table embodies special features for facilitating hand feeding of the machine.

A further object is the provision of a stencil drum carrying a rubber squeegee for distributing ink over the interior of the printing surface and having a convenient means exterior of the drum for operating the squeegee.

While I have disclosed a preferred embodiment of the invention it will be understood that various changes and modifications can be made without departing from the spirit and scope of the invention as hereinafter defined and claimed.

In the drawings;

Fig. 1 is a side elevation partly broken away;

Fig. 2 is a detail view showing the means for operating the paper gage;

Fig. 3 is a plan view of the machine;

Fig. 4 is a detail view showing the parts controlling the impression drum.

Fig. 5 is a vertical section through the axis of the cylinder with certain parts shown in full.

Fig. 6 is a detail view of the inker.

Referring to the drawings more particularly, the side frame members 10 and 11 are mounted on the feet 12. A shaft 13 is journaled in the upper part of frame member 10 and has a crank arm 14 keyed to its outer end. The inner end of shaft 13 extends through disc 15, which forms one side of the stencil drum 16. A shoulder 17 is formed on the shaft 13, the reduced portion of the shaft carrying a left-handed thread 18 and a smooth stub 19. An arm 20 extends radially of the disc 15 and its outer end is clamped thereto by a stud 21. The inner end of the arm has an aperture threaded to cooperate with the threaded part 18 of the shaft. The shaft is rotated in a counter-clockwise direction until the shoulder 17 is brought firmly against the arm 20, after which further rotation of the shaft will carry with it the arm and hence the drum 16.

A shaft 22 is journaled in the frame member 11 and extends rotatively through the disc 23 forming a side of the drum 16, the drum being completed by having part of its periphery covered by a foraminate member 24. A rod 25 is slidably mounted in a diametrical opening 26 formed in shaft 22, the outer end of the rod 25 being secured to a squeegee member 27 carrying a rubber squeegee 28 in contact with the foraminate member 24. The opposite end of the squeegee member carries an arm 29 which has an aperture 30 fitting over the stub 19. A spring 31 is mounted on arm 25 and tends to press the squeegee member against the inside of the drum. A knob 32 is keyed to shaft 22 for operating the squeegee.

The outer surface of the foraminate member is covered by a fabric 33, while one end of the member carries a plurality of spaced fingers 34 directed inwardly. In preparing the machine for use a well-known type of viscous ink is placed inside the drum 16 and is spread evenly over the foraminate member 24 by operating the squeegee 28 through the knob 32, thereby forcing the ink into the fabric 33. A stencil sheet 35 bearing the matter to be duplicated is attached to the fingers 34 and is laid against the fabric 33 where it is held in place by the sticky ink.

A rod 36 extends between the frame members 10 and 11, and pivotally-carries a cradle member 37 which has an arm 38 extending along the frame member 10 and an arm 39 extending along the frame member 11. Each of the arms 38 and 39 is formed with an upwardly opening notch 40 into which extends one of the pintles 41 of the impression roll 42. The impression roll is adapted to press the sheet of paper against the stencil drum, and a tie rod 43 extends across the frame in such a position as to contact with arms 38 and 39 and act as a stop to prevent the impression roll from overrunning its operating position. Springs 44 are attached to downward ears 45 formed on the cradle 37 and are adjustably tied to the frame to provide adjustable spring tension for holding the impression roll in contact with the stencil drum. The arm 38 carries a lever 46 projecting forwardly for depressing the im-

pression roll to a position out of contact with the stencil drum, and a gravity latch member 47 is pivoted to arm 38 and engages a lug 48 on the frame for holding the roll in depressed position. The latch member 47 carries a finger 49 projecting through the frame member 10 for releasing the latch.

A paper gage 50 is carried on arms 51 and 52 pivoted to the arms 38 and 39 at 53. The arm 51 carries an extension 54. The operating member 55 which is pivoted to the frame member 10 at 56 has a contact leg 57 and a cam leg 58 cooperating with the extension 54.

While the stencil drum is being rotated to print a copy the parts are in the position shown in Fig. 1 with the paper gage in lowered position. After the rear end of the surface of the stencil drum has passed the impression roll the stud 21 carried by the drum moves against the contact leg 57 of operating member 55, thereby rotating the member in a clockwise direction and causing cam leg 58 to move extension 54 until the parts are in the position shown in Fig. 2. In this position the paper gage is in raised position extending within the open portion of the stencil drum and is ready to receive a sheet of paper. The cam leg 58 acts as a lock to hold the gage in this position. A fresh sheet of paper 59 is now fed along the feed table and is stopped in preparatory position by the paper gage. As the drum is now rotated the front edge of the surface of the stencil drum engages the paper and presses it against the impression roll, and immediately thereafter the lug 60 carried by the drum contacts with an inwardly extending releasing lug 61 formed on the operating member 55 to rotate said member in a counter-clockwise direction and allow the paper gage to drop to lowered position.

The paper feeding table 62 is pivoted to the frame at 63 and is held in an elevated position by contacting with the lugs 64 formed on the frame members. The guide member 65 is laterally adjustable on the table by means of thumb screws 66 carried by the guide member and extending through slots 67 formed in the table. The lower end of the guide member is bent back at an angle to form a holding pocket 68, while one side of the guide member carries a lateral guide 69. Extensible arms 70 are pivoted at the upper end of the guide member to support very long sheets.

When a pile of sheets is placed in the holding pocket the sheets will be held in stepped relation by the inclined shape of the pocket. This position makes it very convenient to grasp the top sheet and allow it to slide over the holding pocket and into contact with the raised paper gage.

It will be evident that the crank arm 14 can be operated with one hand while the paper is being fed with the other. The paper gage is automatically moved during the operation of the machine by the stud 21 carried by the drum, which also operates a counter 71 mounted on frame members 10. The printed sheets are caught in a receiving basket 72 attached to the frame. The impression roll can readily be moved out of contact with the stencil drum by depressing the lever 46.

I claim:—

1. A stencil duplicator comprising a frame, a stencil drum journaled in the frame, a normally stationary cradle pivoted to the frame, an impression roll carried by the cradle, a paper gage carried by the cradle, and a manual lever atached to the cradle.

2. A stencil duplicator comprising a frame, a stencil drum journaled in the frame, a normally stationary cradle pivoted to the frame, an impression roll carried by the cradle, a paper gage carried by the cradle, a spring mounted cooperatively with the cradle to bias the impression roll toward the stencil drum, and a manual lever attached to the cradle to move the impression roll away from the stencil drum.

3. A stencil duplicator comprising a frame, a stencil drum journaled in the frame, a normally stationary cradle pivoted to the frame, an impression roll carried by the cradle, a paper gage pivoted to the cradle, and means operated upon rotation of the drum for moving the gage, while said cradle remains stationary.

4. A stencil duplicator comprising a frame, a stencil drum journaled in the frame, a normally stationary cradle pivoted to the frame, an impression roll carried by the cradle, a paper gage pivoted to the cradle, an operating member pivoted to the frame for moving the gage, and means carried by the drum for actuating the operating member.

5. A stencil duplicator comprising a frame, a stencil drum journaled in the frame, a normally stationary cradle pivoted to the frame, a paper gage pivoted to the cradle, an operating member pivoted to the frame for moving the gage, and means carried by the drum for actuating the operating member.

6. A stencil duplicator comprising a frame, a stencil drum journaled in the frame, a cradle pivoted to the frame, a paper gage pivoted to the cradle, an operating member pivoted to the frame for moving the gage, said operating member serving to move the paper gage to gaging position and to latch it in said position, a part carried by the drum to move the operating member to latched position, and a part carried by the drum to unlatch the operating member.

7. A stencil duplicator comprising a frame, a stencil drum journaled in the

frame, a normally stationary cradle pivoted to the frame, an impression roll carried by the cradle, a paper gage pivoted to the cradle, an operating member pivoted to the frame for moving the gage, and means carried by the drum for actuating the operating member.

8. A stencil duplicator comprising a frame, a stencil drum journaled in the frame, a cradle pivoted to the frame, a paper gage pivoted to the cradle, an operating member pivoted to the frame for moving the gage, said operating member serving to move the paper gage to gaging position and to latch it in said position, and means for actuating said operating member.

In testimony whereof I affix my signature.

FREDERICK C. GOTTSCHALK.