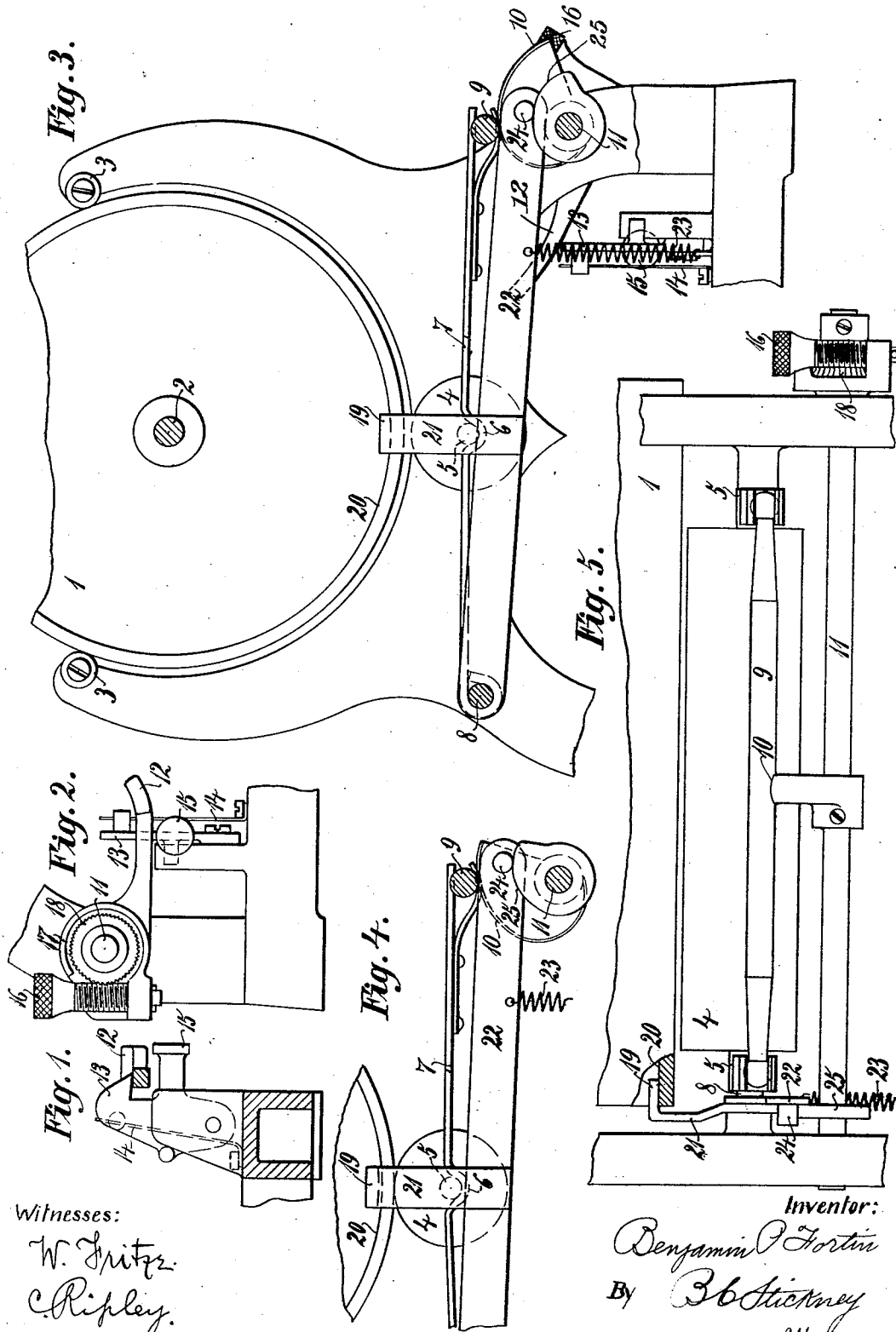


B. P. FORTIN.
STENCILING MACHINE.
APPLICATION FILED JULY 31, 1908.

1,056,983.

Patented Mar. 25, 1913.



Witnesses:

W. Fritz.
C. Ripley.

Inventor:

Benjamin P. Fortin
By B. B. Stickney
Attorney.

UNITED STATES PATENT OFFICE.

BENJAMIN P. FORTIN, OF WOONSOCKET, RHODE ISLAND, ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

STENCILING-MACHINE.

1,056,983.

Specification of Letters Patent.

Patented Mar. 25, 1913.

Application filed July 31, 1908. Serial No. 446,240.

To all whom it may concern:

Be it known that I, BENJAMIN P. FORTIN, a citizen of the United States, residing in Woonsocket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Stencil-Machines, of which the following is a specification.

This invention relates to stenciling machines in which a large revolving drum or cylinder carries a type-whitten or other stencil sheet, and in which a pressure roll is employed to cause the ink to flow through the stencil to the sheet to be stenciled upon. In such machines, it is customary to release the pressure roll from the cylinder for convenience in taking off a discarded stencil sheet and applying a new one thereto and for other purposes; and it has been found necessary to provide means for holding the cylinder stationary, while manipulating the stencil sheet and the cylinder to attach the former to the latter, so that the cylinder will not turn upon its bearings during the attachment of the sheet thereto. It is found in practice that such cylinder-detaining means are objectionable because of the occasional failure of the operator to remember to release them before attempting to rotate the cylinder, and also because of the necessity of remembering to set the detent each time that it is necessary to adjust the stencil sheet or the ink pad or other devices on the cylinder.

The object of the present invention is to overcome these difficulties; and to this end there is provided a cylinder check, which is connected to the roll-releasing means, so that when the cylinder is released from the roll the cylinder check comes into action automatically to hold the cylinder against rotation.

In its preferred form the check consists of a brake having a spring to cause it to press upon the cylinder, so that the brake is rendered instantly effective in any position in which the cylinder may be lying when the roll is cast off.

The brake preferably presses lightly upon the cylinder, so as not to interfere with the rotation of the latter by the operator by application of ordinary force to the hand wheel that turns the cylinder; while the pressure of the brake is strong enough to prevent the unbalanced cylinder from

gravitating about its axis, or from yielding to a light touch. Thus is retained the convenience of being able to rotate the cylinder during the adjustment of a sheet thereon, while danger of accidental rotation or rocking of the cylinder during such manipulation is avoided.

When the operator restores the pressure roll to normal condition, the brake is automatically released from the cylinder; so that no attention is required on the part of the operator in either setting or releasing the brake or other detent.

Other features and advantages will hereinafter appear.

In the accompanying drawings, Figure 1 is a sectional side elevation showing a spring-pressed latch normally in engagement with the finger-piece that controls the pressure roll. Fig. 2 is a front elevation of the same devices, the entire finger-piece being shown as well as the worm gear by which the pressure of the roll is finely regulated. Fig. 3 is a sectional end elevation of the machine, showing particularly the braking devices; the pressure roll being shown released from the cylinder, and the brake being shown in engagement with the cylinder. Fig. 4 is similar to a part of Fig. 3, but showing the parts in normal positions. Fig. 5 is a side elevation showing the cylinder, braking mechanism, and a pressure roll mechanism.

The stencil cylinder 1, usually perforated and carrying an ink blanket and stencil sheet (not shown), as usual is mounted at one end upon a stud 2 and at the other end upon a set of rolls, two of which are seen at 3. A pressure roll 4 is provided with an axle 5, which rests in seats 6 formed in a pair of yielding levers 7, which at their rear ends are mounted on studs 8, and at their forward ends are connected by a pressure equalizing bar 9. A cam 10 is fixed upon a shaft 11 having a finger-piece or lever 12, whereby the shaft and cam may be turned either to release the roll or to set it up against the cylinder to apply pressure thereto. In the latter case the finger-piece is held down by a latch 13, Fig. 1, having a spring 14, to cause it to snap over the finger-piece 12, and also having a button 15, which may be pushed back to release the finger-piece and allow the pressure roll to drop from the cylinder, as at Figs. 3 and 5.

Fine regulation of the pressure of the roll is effected by a screw or worm 16 mounted upon the hub 17 of the finger piece 12 and engaging a worm wheel 18 fixed upon the end of the shaft 11.

A brake or brake-shoe 19 in the form of a hook engages the inner periphery 20 of that end of the cylinder 1 which is mounted upon the stud 2; said brake-shoe consisting of an ear bent inwardly upon the upper part of an upright arm 21, which is fixed upon a lever 22 fulcrumed upon one of the studs 8. The spring 23 holds the brake down to press upon the cylinder as at Fig. 3, the pressure being sufficient to hold the cylinder against accidental movement, while insufficient to prevent rotation of the cylinder by the use of substantially the same amount of rotative force as is generally applied when the brake is released.

Upon the forward end of the lever 22 is a wrist 24, resting upon a cam 25 fixed upon the end of said shaft 11; said cam 25 being formed to raise the brake lever 22 at the same time that the cam 10 raises the bar 9 of the pressure-roll supports; so that the pressure roll 4 and the brake 19 rise simultaneously, one rising against the cylinder, and the other rising up from the inner periphery of the cylinder to release it; as at Figs. 1, 2 and 4.

When the button 15 is pushed back, the finger-piece 12 is released and flies up, (owing partly to the reaction of roll 4 against cylinder 1 and partly to weight of roll 4 and its supporting frame) the roll 4 dropping and the spring 23 pulling down the brake lever 22, thus automatically checking the cylinder against accidental rotation. When desired, the finger-piece 12 may be pressed down past the nose of the latch 13, which is caused by the spring 14 to snap over the finger-piece, Fig. 1. Thus by means of a simple device the checking and releasing of the cylinder is accomplished automatically, and the objections alluded to are avoided.

Variations may be resorted to within the scope of the invention. Portions of the improvements may be used without others.

It will be understood that when the parts are in the Fig. 4 position, the yielding arms 7 are sprung up and hence tend to react downwardly on the equalizing bar and turn the cam 10 down, and thereby to rotate the rock-shaft 11 in a direction to release the lever 22 and permit the spring 23 to cause the brake 19 to act; such movement of the finger-piece being however restrained by the latch 13.

Having thus described my invention, I claim:

1. In a stenciling machine, the combination with a stencil cylinder and a roll, of a lever or handle connected to means to press the roll against the stencil on the cylinder,

and means operated by said lever to concomitantly apply pressure to the pressure roll and move said brake away from the cylinder.

2. In a stenciling machine, the combination with a stencil cylinder and a roll, of a lever or handle connected to means to press the roll against the stencil on the cylinder, a brake, a spring for causing said brake to bear against the cylinder, and means operated by said lever to concomitantly apply pressure to the pressure roll and move said brake away from the cylinder.

3. In a stenciling machine, the combination with a stencil cylinder, of a roll to press the paper against the stencil on the cylinder, releasable means to hold said roll against the cylinder, and a cylinder-brake held out of use by said roll supporting means.

4. In a stenciling machine, the combination with a stencil cylinder, of a roll to press the paper against the stencil on the cylinder, releasable means to hold said roll against the cylinder, a cylinder-brake held out of use by said roll supporting means, and a spring to press said brake against the cylinder, when said roll is released.

5. In a stenciling machine, the combination with a manually rotated stencil carrying cylinder liable to revolve idly while the stencil is being adjusted thereto, and a releasable roll to press the paper against the stencil on the cylinder, of a detent for said cylinder, means tending normally to engage or connect said detent with said cylinder, a restraining device for said detent, and a finger piece having means for concomitantly releasing both said roll and said restraining device, to permit said detent to hold the cylinder steady during the adjustment of a stencil sheet thereto.

6. In a stenciling machine, the combination with a stencil cylinder and a roll to press the paper against the cylinder, of a shaft provided with a handle or lever and having means to press the roll against the cylinder, a spring-pressed brake-shoe to press upon the cylinder, and a cam upon said shaft; said cam operating means to lift said brake shoe from the cylinder when said shaft is turned to press said roll against the cylinder.

7. In a stenciling machine, the combination with a stencil cylinder and a roll to press the paper against the stencil on the cylinder, of a shaft mounted in the framework and provided with a handle or lever, a catch for said handle or lever, a cam upon said shaft connected to means to press the roll against the cylinder, a spring-pressed lever having a shoe to press against the cylinder, and a second cam upon said shaft to act upon said lever to release said shoe when the roll is pressed against the cylinder.

8. In a stenciling machine, the combination with a stencil cylinder and a roll to press the paper against the cylinder, of a shaft provided with a handle or lever and
 5 having means to press the roll against the cylinder, a brake shoe for the cylinder, a lever connected to said brake shoe, a spring to cause said shoe to operate, and a cam upon said shaft and engaged by said lever,
 10 to lift said brake shoe from the cylinder when said shaft is turned to press said roll against the cylinder.

9. In a stenciling machine, the combination with a stencil cylinder, of a shaft provided with a handle or lever, a brake-shoe for the cylinder, a spring for said shoe, a cam upon said shaft, and means operated by said cam to retract said brake-shoe against the tension of said spring, to render the
 20 brake-shoe normally ineffective.

10. In a stenciling machine, the combination with a stencil cylinder, of a shaft provided with a handle or lever, a normally ineffective brake shoe for the cylinder, a
 25 lever connected to said brake shoe, a spring to cause said shoe to operate, and a cam upon said shaft and engaged by said lever, to release said brake shoe from the cylinder.

11. In a stenciling machine, the combination with a stencil cylinder and a roll to press the paper against the stencil on the cylinder, of a shaft mounted in the frame-
 30 work and provided with a handle or lever, a cam upon said shaft, means operated by said cam to press the roll against the cylinder, a shoe to press against the cylinder, and a second cam upon said shaft to release said shoe when the roll is pressed against the cylinder.

12. In a stenciling machine, the combination with a stencil cylinder and a releasable roll to press the paper against the stencil on the cylinder, of a clamp for said cylinder, a normally idle device for holding said clamp mechanically against said cylinder, and a
 40 finger piece having means to release said roll and concomitantly cause said device to set said clamp to effective position.

13. In a stenciling machine, the combination with a stencil cylinder and a roll to
 50 press the paper against the stencil on the cylinder, of a spring-pressed brake to bear upon said cylinder, a finger-piece having means to cause said roll to press against the cylinder, and means also controlled by said
 55 finger-piece for holding said brake out of use.

14. In a stenciling machine, the combination with a revolving cylinder, of a normally ineffective brake to oppose the action of the
 60 cylinder, a spring to cause the brake to operate, a cam, and a finger-piece to operate

said cam; means being operated by the cam to release the brake against the tension of said spring.

15. In a stenciling machine, the combination with a stencil cylinder and a releasable roll to press the paper against the stencil on the cylinder, of a check or brake for said cylinder, means for mechanically holding said check or brake in effective position with
 70 relation to said cylinder, a device for moving the roll to the cylinder, and means operated by said roll moving device for releasing the cylinder from the control of said brake.

16. In a stenciling machine, the combination with a stencil cylinder, of a shaft provided with a handle or lever, a normally ineffective brake shoe for the cylinder, a spring for said shoe, a cam upon said shaft, said
 80 cam operating means to release said brake shoe, a pressure roll for said cylinder, and means connected to said shaft to press said pressure roll against the cylinder when releasing the brake shoe.

17. In a stenciling machine, the combination with a stencil cylinder, of a shaft provided with a handle or lever, a normally ineffective brake shoe for the cylinder, a spring for said shoe, a device upon said
 90 shaft to release said shoe, a pressure roll to run upon the cylinder, and means to enable said shaft to press said roll against the cylinder concomitantly with the release of said brake shoe.

18. In a stenciling machine, the combination with a stencil cylinder, of a shaft provided with a handle or lever, a normally ineffective brake shoe for the cylinder, a lever connected to said brake shoe, a spring
 100 to cause said shoe to operate, a cam upon said shaft and engaged by said lever, to release said brake shoe from the cylinder, a pressure roll for said cylinder, and means connected to said shaft to press said pressure roll against the cylinder when releasing the brake shoe.

19. In a stenciling machine, the combination with a revolving cylinder, of a normally ineffective brake to oppose the action
 110 of the cylinder, a spring to cause the brake to operate, a cam, a finger-piece to operate said cam, means being operated by the cam to release the brake against the tension of said spring, a pressure roll for said cylinder, and means connected to said shaft to
 115 press said pressure roll against the cylinder when releasing the brake shoe.

B. P. FORTIN.

Witnesses:

S. T. SMITH, Jr.,
 EUGENE E. BASQUIN.