B. C. STICKNEY.

STENCILING MACHINE.

APPLICATION FILED FEB. 15, 1908.

986,031. Patented Mar. 7, 1911.

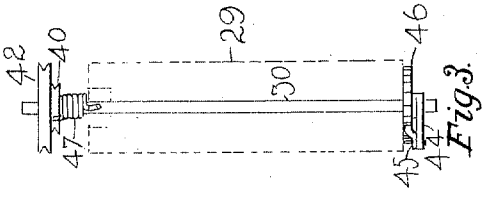

Fig. 3.

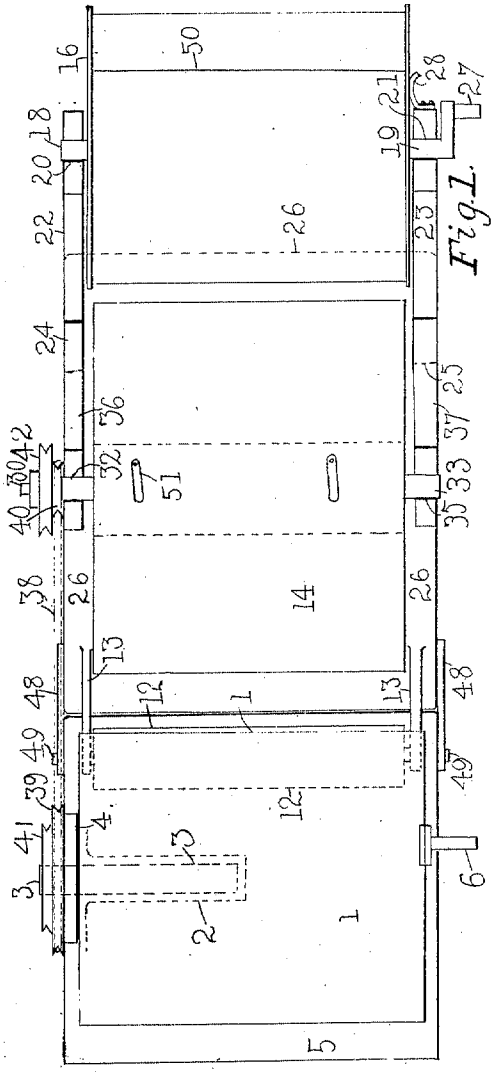

Fig. 1.

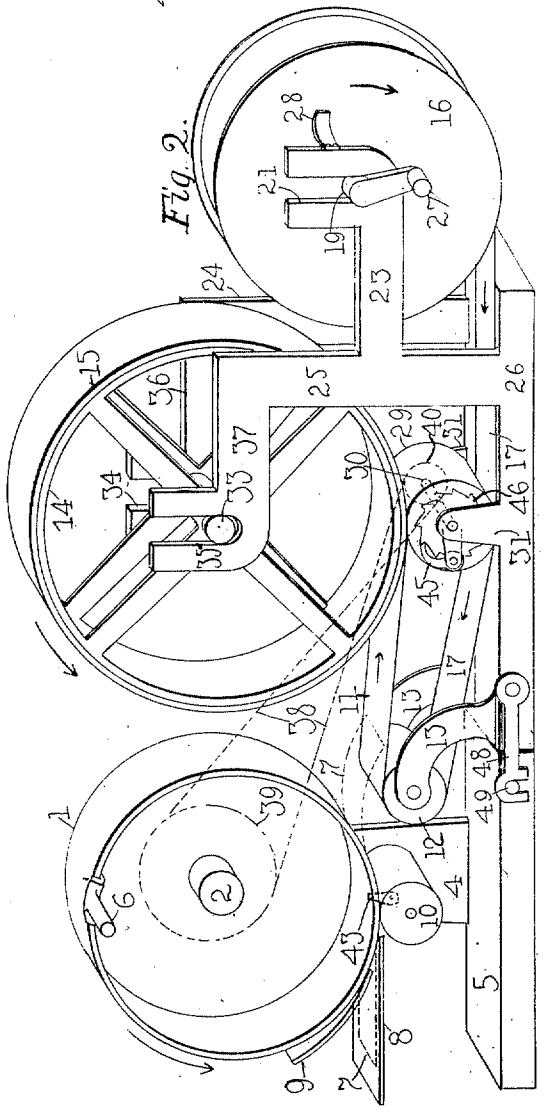

Fig. 2.

WITNESSES

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STENCILING-MACHINE.

986,031. Specification of Letters Patent. Patented Mar. 7, 1911.

Application filed February 15, 1908. Serial No. 416,006.

To all whom it may concern:

Be it known that I, BURNHAM C. STICKNEY, a citizen of the United States, residing in Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Stenciling-Machines, of which the following is a specification.

This invention relates to the art of stenciling by means of wax paper stencils produced by typewriting and otherwise, and particularly to means for disposing of the freshly stenciled sheets.

The ink commonly used upon stenciling machines of this class is a slow drying ink, and is sometimes deposited quite heavily upon the sheets run through the machine, and said sheets sometimes are frequently of a closely woven or hard texture that does not readily absorb the ink. Hence it results that as the sheets are delivered rapidly from the machine and piled one upon another, the ink is offset from one to another, and the stenciled letters are frequently blurred. In order to overcome this difficulty, it is often found necessary to employ an additional attendant to insert blank sheets between the stenciled sheets as the latter are delivered from the machine; and thereafter it is necessary to separate the blank sheets from the stencil sheets.

The principal object of my invention is to dispense with the necessity of inserting blank sheets manually between the stencil sheets, and to dispose of the sheets as they come from the machine in such a manner that they will be neither smudged nor offset.

In carrying out my invention I provide a reel, which is caused to wind when the stenciling machine is in operation. Upon the reel I wind a wide cloth or soft paper ribbon; and I cause the sheets delivered from the stencil cylinder to wind upon said reel between the coils of ribbon. The reel is preferably connected to the stencil cylinder to wind therewith, so that the sheets are automatically taken care of as fast as they are stenciled, and no attention need be given thereto by the operator. The ribbon is preferably of ink-absorbing material, either soft paper or woven cloth, preferably the latter; and it may be woven with selvage edges for durability. The ribbon is originally wound upon a spool, and is led therefrom to the delivery side of the cylinder and thence back to the reel, the sheets falling upon the stretch of the moving ribbon, which extends between the reel and the cylinder, so that they are readily caught and carried around the reel. The reel and spool are detachable from the machine, so that when the spool is empty or when the reel is full a new spool or reel may be substituted. After the stenciling is completed, that part of the frame which carries the spool and reel is removed from the frame which carries merely the stenciling apparatus, and by means of a winch the ribbon is drawn off from the reel and rewound upon the spool. As the sheets emerge from the bite of the ribbon and reel, they fly out and may be caught in a suitable receptacle.

Other objects and advantages will hereinafter appear.

In the accompanying drawings, Figure 1 is a plan of a stenciling and reeling apparatus embodying my invention in one form. Fig. 2 is a perspective side elevation of the same, showing the machine in action. Fig. 3 is a plan of a reel-feeding roller and its appurtenances.

The apparatus which produces the stencil sheets may be of any usual or suitable construction, and usually comprises a stencil cylinder 1 supported by means of an interior hub 2 and axle 3 upon a standard 4 erected upon a base 5, the cylinder rotated by means of a handle 6 or otherwise. Sheets 7 to be stenciled are laid *seriatim* upon a paper shelf 8 and guided by a flaring plate 9 between the cylinder 1 and the pressure roll 10, which causes the writing to be inked upon the sheets in a well known manner. According to my improvements, the sheets 7 are caught up by a ribbon 11, traveling over a roll 12 mounted upon standards 13, backwardly to a reel 14, and are wound thereon between the coils 15 of the ribbon. The ribbon is paid off from a spool 16 extending forwardly therefrom, as at 17, to said roller 12. The latter may be either revolubly mounted as shown, or fixed and polished. The spool 16 is mounted by means of gudgeons 18, 19 in vertical slots 20, 21 formed in arms 22, 23, projecting from standards 24, 25 erected upon a base 26, which is separable from the base 5. The slots 20, 21 are open so that the spool may be withdrawn therefrom, and a winch 27 is provided upon the gudgeon 19 for rewinding

the spool. A brake 28 produces enough friction on the spool flange to cause the ribbon to wind with sufficient tightness upon the reel 14.

The reel rests upon a feeding roll 29, the latter mounted upon an axle 30 turning in standards 31 rising from the base 26. The reel is mounted by means of gudgeons 32, 33 in slots 34, 35 formed upon arms 36, 37 projecting forwardly from the standards 25. These slots permit the reel to rise as it becomes filled with the ribbon and sheets, and when the reel is full, it may be lifted out of the slots and replaced by an empty reel.

The roll 29 feeds or drives the periphery or surface of the reel 14, so that the rate at which the ribbon 11 is wound thereon does not vary as the reel fills. The roll 29 is driven by means of an endless crossed cord 38, extending from a large sheave 39 upon the stencil cylinder to a small sheave 40 upon the roll, the sheaves being proportioned to enable the ribbon to travel at about the peripheral speed of the stencil cylinder 1. In case short sheets are being stenciled, the cord 38 may be shifted to sheaves 41, 42, to cause the roll 29 and reel 14 to rotate more slowly, relatively to the stencil cylinder. The portion 17 of the ribbon is carried forwardly beneath the roll 29, and may be guided partly around the same as illustrated.

When the stencil cylinder is turned by hand, it is usually arrested at each operation, and the handle 6 or a part thereof is set back against a movable stop shown diagrammatically at 43, Fig. 2, to position the cylinder to receive the fresh sheet. It not being desirable to arrest the reel suddenly in this manner, I prefer to effect a loose connection between the stencil cylinder and the reel, which will permit the latter to continue in rotation after the stencil cylinder is arrested. To this end, the roll 29 is mounted loosely upon its axle 30, and the latter is provided with an arm 44, upon which is carried a pawl 45 to engage a ratchet wheel 46 fixed upon the roll 29 to drive the same without restraining its independent advance movement. I also prefer to introduce a yielding connection or spring 47 between the sheave 40 and the axle 30, so as to make it easier to start the apparatus in motion as each sheet 7 is inserted into the bite of the cylinder and the pressure roll 10; the spring rendering it practicable to advance the stencil cylinder without first overcoming the inertia of the reel and the spool and the coils of ribbon thereon.

The base 26 is connected to the base 5 by means of hooks 48 pivoted upon one base and catching over pins 49 upon the other; the relation being such that the roll 12 lies under the delivery side of the stencil cylinder. When it is desired to remove the sheets from the reel, the hooks 48 are cast off, and the reel frame 26 separated from the stenciling frame 5, and set by itself upon a table. Then the winch 27 is turned to rewind the ribbon upon the spool 16. As the reel 14 pays off the ribbon, the sheets emerge from the coils of ribbon and ride along the stretch 11 of the ribbon, and are discharged therefrom, as it passes down around the roll 12, and are deposited upon the table or in a suitable receptacle placed upon the table.

The ends of the ribbon are preferably detachably connected to the reel and spool; as for instance the leading end seen at 50, Fig. 1, may be slipped beneath thin spring clips 51 carried upon the empty reel 14; and similar clips may be provided upon the core of the spool.

Variations may be resorted to within the scope of the invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. In a stenciling machine, the combination with a stencil-cylinder mechanism including a stop which arrests the cylinder at each revolution, of a reel carrying a ribbon for holding the stenciled sheets, a roll against which the periphery of said reel rests, and an operative connection between said roll and said cylinder constructed to permit overrunning of the reel when the stencil cylinder is brought to rest.

2. In a stenciling machine, the combination with a stencil cylinder and a stop to arrest the same at every revolution, of a reel upon which to wind a ribbon for holding the stenciled sheets, a roll against which the periphery of said reel rests, and an operative connection between said roll and said cylinder, said connection including a yielding device to permit the cylinder to start in motion in advance of the reel.

3. In a stenciling machine, the combination with a stencil cylinder, of a reel upon which to wind the ribbon for holding the stenciled sheets, a roll against which the periphery of said reel rests, and an operative connection between said roll and said cylinder, said connection including a yielding device to permit the cylinder to start in motion in advance of the reel, and also including a pawl and ratchet for driving the roll.

4. In a stenciling machine, the combination with a stencil cylinder, of a reel, a spool, a ribbon carried by the spool to wind upon the reel together with sheets delivered from the cylinder, a roll upon which the periphery of the reel rests, a friction driving connection between the cylinder and the axle of the roll, said roll mounted loosely upon said axle, an arm carried by said axle, a pawl upon said arm, and a ratchet wheel upon said roll and engaged by said pawl.

5. In a stenciling machine, the combina-

tion with a stencil cylinder, of a reel to wind the stencil sheets together with a ribbon, a roll upon which the periphery of the reel rests, an axle for said roll, sheaves one upon the axle, and one upon the stencil cylinder, an endless cord connecting said sheaves, and a yielding connection between said axle and sheaves thereon.

6. In a stenciling machine, the combination with a stencil-cylinder mechanism including a stop which arrests the cylinder at each revolution, of a reel carrying a ribbon for holding the stenciled sheets, a roll against which the periphery of said reel rests, and an operative connection between said roll and said cylinder constructed to permit overrunning of the reel when the stencil cylinder is brought to rest; said connection including a pawl and ratchet for driving the roll.

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