No. 749,113. PATENTED JAN. 5, 1904.

W. D. STERNBERG.

STENCIL PRINTING MACHINE.

APPLICATION FILED SEPT. 25, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1

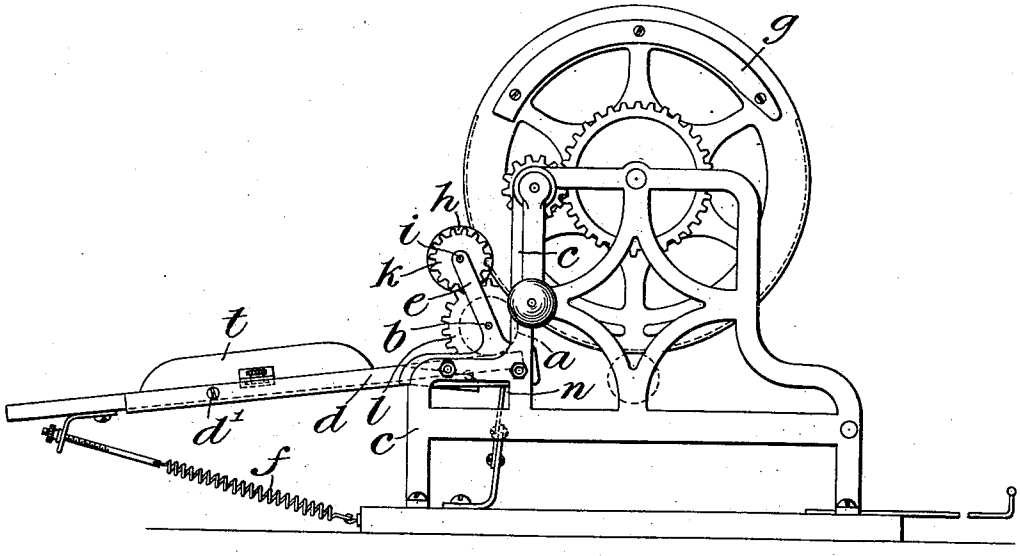
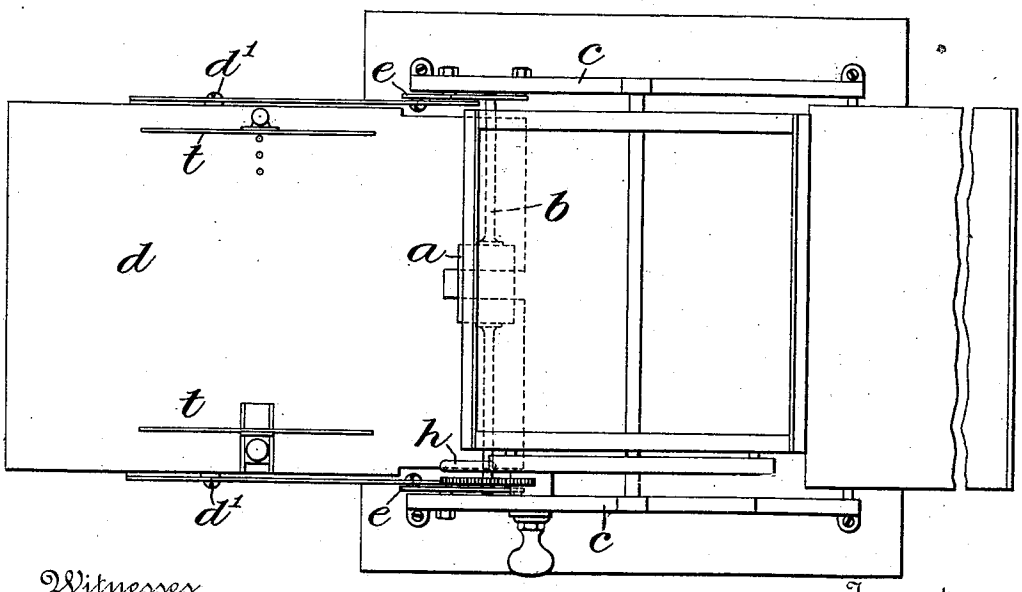


Fig. 2



Witnesses
Chas. F. Clagett
S. W. McIntosh

Inventor
W. D. Sternberg
By his Attorney
J. D. Edwards

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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APPLICATION FILED SEPT. 25, 1902.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3

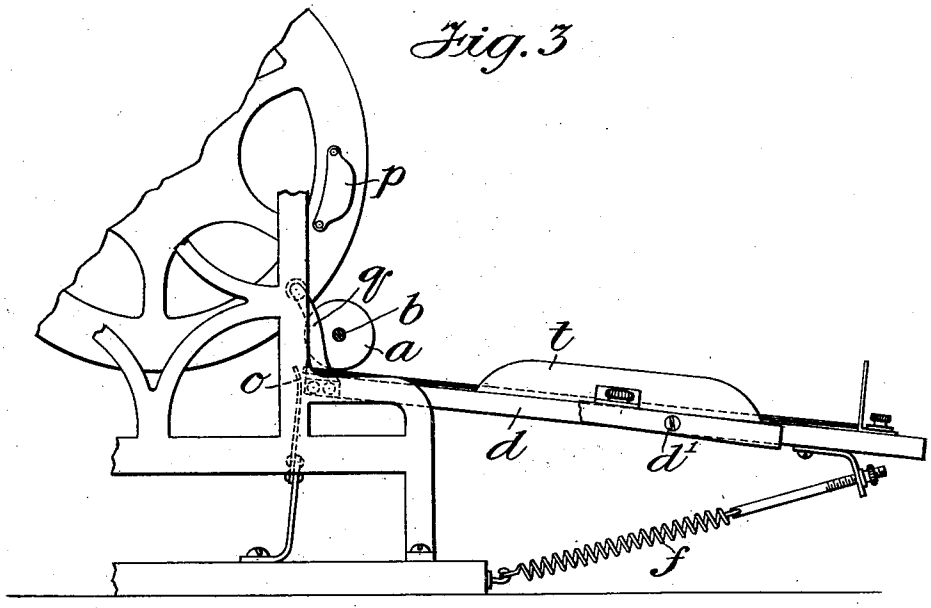
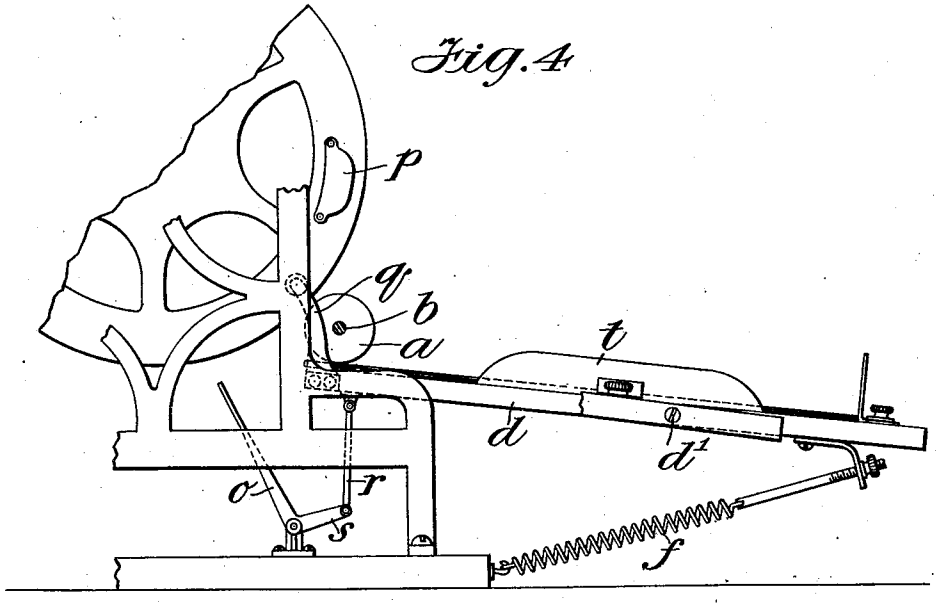


Fig. 4



Witnesses
Chas. F. Clagett
A. M. Intosh

Inventor
W. D. Sternberg
By his Attorney
J. O. Edmonds

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 749,113. Patented January 5, 1904.

UNITED STATES PATENT OFFICE.

WILLIAM DAVID STERNBERG, OF LONDON, ENGLAND, ASSIGNOR TO A. B. DICK COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

STENCIL-PRINTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 749,113, dated January 5, 1904.

Application filed September 25, 1902. Serial No. 124,868. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM DAVID STERNBERG, a citizen of the United States of America, residing at 327 High Holborn, London, W. C., England, have invented certain new and useful Improvements in Stencil-Printing Machines, (for which I have made application for Letters Patent in Great Britain, No. 19,442, and dated the 4th day of December, 1902,) of which the following is a specification.

This invention relates to the paper-feeding arrangements of stencil-printing or like apparatus, and is especially applicable to rotary duplicators. In machines of this kind it has hitherto been usual to place the paper upon a feeding-board adjacent of the machine and then to feed in the paper by hand one sheet at a time.

The object of the present invention is to effect the feeding of the paper automatically.

The invention consists in providing the duplicator or like machine with a frictional feeding-roller and attendant driving mechanism by which the paper may be fed in sheet by sheet automatically on an operation of the machine in the usual way.

The invention further consists in details of construction hereinafter described for rendering the feeding action effective and accurate and in means for retaining the pile of sheets in register.

In the accompanying drawings, Figure 1 is a side elevation of a rotary duplicating-machine with the mechanical feeding device applied thereto, Fig. 2 being a plan corresponding thereto. Figs. 3 and 4 illustrate details for registering the pile of sheets.

In carrying out the invention according to one modification a rubber-faced roller *a* is mounted on a spindle *b*, supported in bearings on the machine-frame *c* or on brackets *e*, secured thereto. The roller is disposed in such a position that sheets fed in by it can be readily seized by the usual gripping or feeding devices of the machine.

A board *d*, for supporting the pile of paper, is pivotally supported at *d'* below the roller *a* in such a manner as to continuously press the pile against the roller, an adjustable spring *f* or other device being provided by which such pressure may be regulated.

The roller *a* is intermittently rotated in order to feed in the top sheet of paper as required, motion being preferably imparted to the roller by a segment *g* on a platen-cylinder engaging a friction-wheel *h*. In the example illustrated the wheel *h* is mounted on a separate axle *i*, spur-gears *k l* being interpolated to transmit the motion and reverse the direction thereof.

A stop *n* is provided to prevent more than one sheet at a time traveling off the pile and to retain the remainder in register, or correct registration may be positively accomplished by intermittently depressing the pivoted feed-board *d*, and thereby causing the edges of the paper to rub against a smooth plate or plates *o*, Fig. 3, arranged at but independent of the end of the board, such plate being suitably curved to press back against a stop any sheets which may have slipped forward. The board may be depressed by a projection *p* on the platen-cylinder engaging with a projecting finger *q* on the board. This positive registration may also be effected by pivoting the plate *o* and imparting a periodic positive movement to it from any moving part of the machine. For instance, a rod or pin *r*, secured to the pivoted board *d*, may depress an arm *s* on the plate, as shown in Fig. 4.

The board *d* is provided with adjustable stops or gages *t*, Fig. 2, which are arranged to grip or press upon the sides or edges of the pile of paper, so as to retain the pile in position, while allowing the top sheet of the pile to be removed. The stops are made adjustable to enable the pressure to be regulated.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a rotary duplicating-machine or like apparatus, the combination with a stencil-carrying drum, of means for supporting a paper pile below said drum, a paper-feeding roller coacting with the upper surface of said pile, and mechanism intermediate of said roller and said drum and actuated by said drum for intermittently rotating said roller to feed successive sheets of paper from the top of said pile, substantially as set forth.

2. In a rotary duplicating-machine or like

apparatus, the combination with a stencil-carrying drum, of means for supporting a paper pile below said drum, a paper-feeding roller, and mechanism coacting with said drum and roller for intermittently rotating said roller to feed in paper sheet by sheet from the upper surface of said pile, substantially as set forth.

3. In a rotary duplicating-machine or like apparatus, the combination with a stencil-carrying drum, of a paper-feeding roller mounted on a shaft in the framework of the machine and coacting with the upper surface of a paper pile, a friction-wheel, and a segment on said drum coacting with said wheel for intermittently driving the same, substantially as set forth.

4. In a rotary duplicating-machine or like apparatus, the combination with a printing-drum, of a paper-feeding roller mounted on a shaft in the framework of the machine and coacting with the upper surface of a paper pile, a friction-wheel intermittently driven by said drum, and gearing between said wheel and said paper-feeding roller, substantially as set forth.

5. In a rotary duplicating-machine or like apparatus, a stencil-carrying drum, a paper-feeding roller intermittently rotated by means of said drum, a paper-feeding board pivoted below the roller and said stencil-carrying drum and carrying a paper pile with which said roller coacts, and a spring for holding the paper on said board against said roller, substantially as set forth.

6. In a rotary duplicating-machine or like apparatus, a paper-feeding roller mounted on a shaft in the framework of the machine, means for intermittently rotating said roller from the machine, a paper-feeding board arranged below the roller and said stencil-carrying drum, an adjustable spring for said board, and a stop for retaining the forward end of a pile of paper in longitudinal register, substantially as set forth.

7. In a rotary duplicating-machine or like apparatus, a paper-feeding roller mounted on a shaft in the framework of the machine, means for intermittently rotating said roller from the machine, a paper-feeding board pivoted below the roller, an adjustable spring for pressing the paper on the board in contact with the roller, a plate for registering the paper and means for intermittently depressing the board so as to press the paper against the said plate, substantially as hereinbefore set forth.

8. In a rotary duplicating-machine or like apparatus, a paper-feeding roller, means for intermittently rotating said roller from the machine, a paper-feeding board pivoted below the roller, an adjustable spring for pressing the paper on the board against the roller, a movable plate for registering the paper, means for intermittently depressing the board and imparting a positive movement to the plate, substantially as hereinbefore set forth.

9. In a rotary duplicating-machine or like apparatus, a paper-feeding roller means for intermittently rotating said roller from the machine, a paper-feeding board pivoted below the roller, an adjustable spring for pressing the paper on the board against the roller, a stop for the forward edge of the paper, and adjustable side gripping-stops on the feeding-board, substantially as hereinbefore set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

WILLIAM DAVID STERNBERG.

Witnesses:

E. A. KLABER,

ALBERT E. PARKER.