No. 836,055. PATENTED NOV. 13, 1906.

W. SMITH.

PAPER GAGE.

APPLICATION FILED AUG. 9, 1905.

FIG. 1.

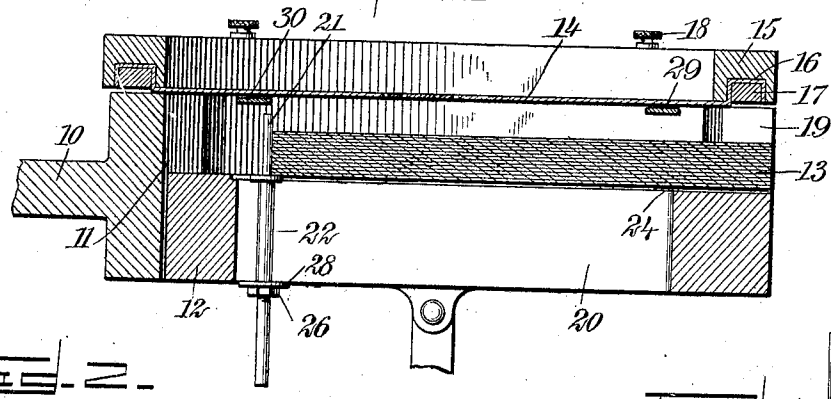


FIG. 2.

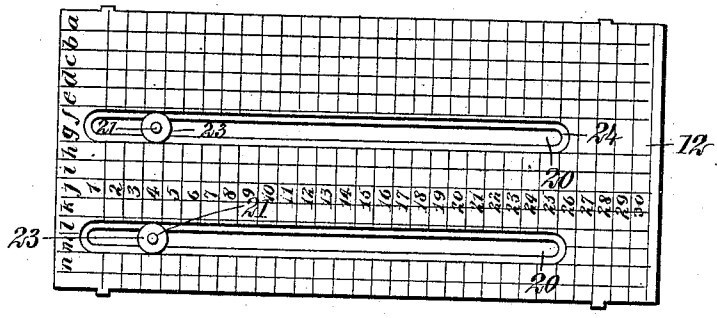


FIG. 4.

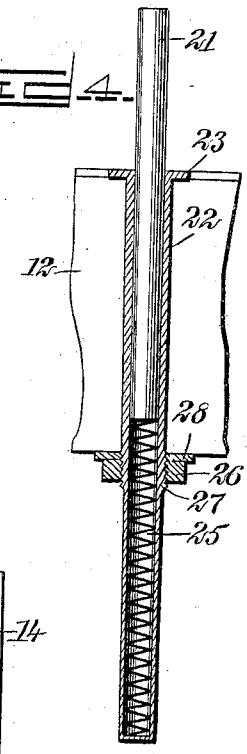
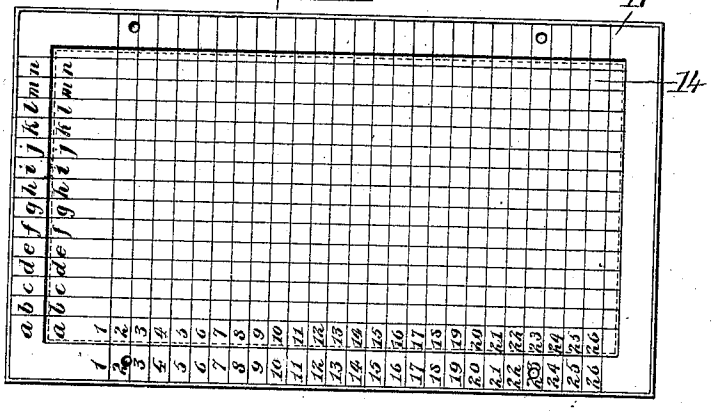


FIG. 3.



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PAPER-GAGE.

No. 836,055. Specification of Letters Patent. Patented Nov. 13, 1906.

Application filed August 9, 1905. Serial No. 273,353.

To all whom it may concern:

Be it known that I, WILLIAM SMITH, a subject of the King of Great Britain, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Paper-Gage, of which the following is a full, clear, and exact description.

My invention relates to paper-gages for machines for reproducing by stencils and the like.

Although capable of general use, I have chosen to illustrate my invention as applied to the apparatus which forms the subject-matter of my Patent No. 639,623, granted December 19, 1899. That machine was designed for use with sheets of paper of one size. The principal object of my present invention is to provide means whereby machines of this general character can be operated in connection with sheets of different sizes. For this purpose I provide movable or adjustable paper-guides on the plunger of the machine and locate registering marks on the plunger, stencil-holder, and stencil.

Another object of my invention is to provide for locating the printing portion of the stencil in any position that may be desired in view of the particular size of paper that is to be used.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal sectional view taken on a vertical plane through a portion of an apparatus of the character hereinbefore referred to, showing my invention applied thereto. Fig. 2 is a plan of the plunger. Fig. 3 is a bottom plan of the stencil-holder and stencil; and Fig. 4 is a sectional view, on an enlarged scale, of one of the gages.

The table 10 of the machine is provided with a well 11, as usual, for the reception of the plunger 12. This plunger may be operated in any desired manner in order to force sheets of paper 13, supported on its upper surface, against the under surface of a stencil 14. This stencil is shown as being supported is a stencil-frame 15, which is provided with a peripheral groove 16 for receiving the edge of the stencil and a stencil-holder 17. The stencil-frame may be secured over the opening in the table by set-screws 18, as has been shown in my aforesaid patent. The drawings also illustrate a front opening 19 in the well, through which the plunger extends. In my previous machine the parts were so proportioned that they would receive a desired size of paper—as, for example, foolscap.

In order to fit the machine for operating upon paper of several different sizes, I provide the plunger with longitudinal grooves 20. In these grooves I place gage-pins 21 and mount these pins in such a manner that they can be adjusted along the grooves and secured in any desired position therein. It is intended that the edges of the pile or pad of paper upon which the impressions are to be made shall engage with the sides of the pins and be thereby fixed in the position which is desired. In order to provide for securing the pins in adjusted positions upon the plunger and for mounting them in such a manner that they will yield when they approach the stencil on the upward movement of the plunger, I provide pin-holders 22. Each of these holders is preferably in the form of a tube having a flange 23 upon its upper end, this flange resting in a countersunk opening 24, surrounding the slot 20, and the top of the flange being flush with the top of the plunger. The tubes may extend down below the bottom of the plunger and are provided with closed lower ends, and in said tubes are mounted springs 25 for supporting the plungers and keeping them in elevated position. Each tube is also provided with means for securing it to the plunger in any adjusted position, this being illustrated in the form of a nut 26, engaging screw-threads 27, on the outside of the tube. A washer 28 is also shown above the nut. I have shown a stationary bar 29 and an adjustable bar 30 across the bottom of the stencil. The latter bar is adjusted so as to engage the pins 21.

In order to provide for indicating the positions at which the pins are to be set, I have shown a series of transverse lines indexed or marked "1 2 3," &c., across the surface of the plunger near one edge. The corresponding edges of the stencil and holder are also provided with similar lines indexed or marked in the same way. I have also shown the plunger, stencil, and holder as being provided with a series of longitudinal lines in-

dexed or marked "*a b c d*," &c. The lines of each set are designed to register with the lines designated by the same characters of the other sets.

The manner of using the device and the operation of the parts is very simple. With the paper that is to be printed upon placed upon the plunger or upon a stencil-sheet the operator can readily see the position in which the printing parts of the stencil will have to come and can locate the same with reference to the numbered and lettered lines on the stencil or plunger. He can then place the stencil-sheet in a type-writer and locate the characters at the desired points, so that they will print in the desired place on the paper when the paper and stencil are placed in proper position on the machine. When prepared, the stencil is placed on the holder and centered by the lines, so that the lines on it will register with the corresponding lines on the plunger. The pile or pad of paper is then placed on the plunger with two edges flush with the edges of the plunger. When this has been done, the operator adjusts the gage-pin holders 22 in the slots 20 so that the pins will come against the rear edge of the paper. When the plunger is elevated to bring the paper into contact with the stencil, the top of the gage-pins will engage with the bar 30, and the pressure exerted will force them downwardly against the force of the spring 25. It will be found that each sheet is printed in the predetermined place.

Instead of the marks on the stencil-holder there can be used any registering device which will insure that the stencils will all be placed in the proper position with respect to the holder, which holder is of course held in registration with the plunger by the walls of the well.

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

1. In an apparatus for reproducing by stencils the combination with a plunger having slots, of pin-holders adjustably mounted in said slots, pins located in said holders, and means connected with the holders for yieldingly forcing said pins upwardly through the top of said plunger.

2. In an apparatus for reproducing by stencils the combination with a plunger having a slot, of a tube supported in said slot in a position perpendicular to the surface of the plunger, means for securing said tube to the plunger, and a paper-gage pin yieldingly mounted in said tube and adapted to project therefrom on a line perpendicular to the surface of the plunger.

3. In an apparatus for reproducing by stencils the combination with a plunger having a countersunk slot, of a tube having a flange resting in the countersunk portion of the slot, means for securing the tube to the plunger, and a paper-gage pin yieldingly mounted in the tube.

4. In an apparatus of the character described, the combination with a plunger having a longitudinal slot, of a pin-holder, means for securing said holder at any desired point along said slot, and a gage-pin mounted in said holder and projecting from the plunger at right angles to the surface thereof.

5. In an apparatus for reproducing by stencils, the combination with a plunger having a longitudinal slot and a countersunk opening at the upper end of said slot, of a tube having a closed lower end and a flange, said flange resting in said countersunk opening, and its upper edge being flush with the top of the plunger, a nut for securing said tube to the plunger, and a paper-gage pin yieldingly mounted in the tube.

6. A paper-gage for machines for reproducing by stencils, comprising a tubular holder, means for adjustably mounting said holder, a spring located in the holder, and a pin resting on the spring in the holder and projecting thereabove.

7. In an apparatus for reproducing by stencils, the combination with a plunger having slots, of pin-holders adjustably mounted in said slots, said pin-holders being provided with springs, and pins located in said holders and yieldingly supported by said springs; said plunger being provided with transverse and longitudinal registering marks.

8. In an apparatus for reproducing by stencils the combination with a plunger of pin-holders adjustably mounted with respect thereto, the plunger and pins located in said holders and yieldingly supported, said plunger being provided with transverse and longitudinal registering marks on a surface of the plunger through which the pins project.

9. In an apparatus for reproducing by stencils, the combination of a plunger; paper-gages mounted thereupon, a stencil disposed over said plunger, a stationary bar connected with said stencil, and an adjustable bar connected with said stencil, said adjustable bar being adapted to be brought into alinement with said paper-gages for the purpose of protecting said stencil from injury by said paper-gages.

10. In an apparatus for reproducing by stencils, the combination of a plunger, paper-gages mounted thereupon and provided with depressible members, a stencil-holder for sustaining a stencil, a bar fixed relatively to said stencil-holder, and a movable bar adjustable relatively to said stencil-holder, said last-mentioned bar being adapted to be brought into alinement with said depressible members.

11. In an apparatus for reproducing by stencils, the combination of a plunger having a slot, a gage-pin adjustably mounted within

said slot, a stencil-holder, and a bar adjustably connected with said stencil-holder and adapted to be engaged by said gage-pin.

12. In an apparatus for reproducing by stencils, the combination of a plunger having a slot, and also having registering marks, a gage-pin adjustably mounted within said slot so that the position of said gage-pin may be located relatively to said registering marks, a stencil-holder disposed adjacent to said plunger, and a bar connected with said stencil-holder and adjustable in relation to said plunger for the purpose of being engaged by said gage-pin and thus protecting said stencil.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM SMITH.

Witnesses:
JNO. M. RITTER,
F. W. HANAFORD.