

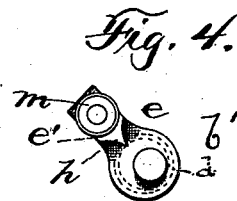
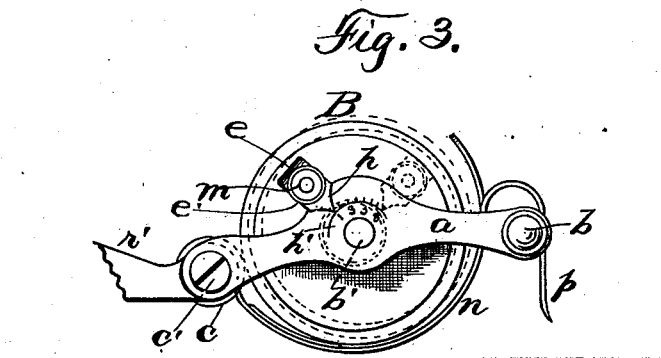
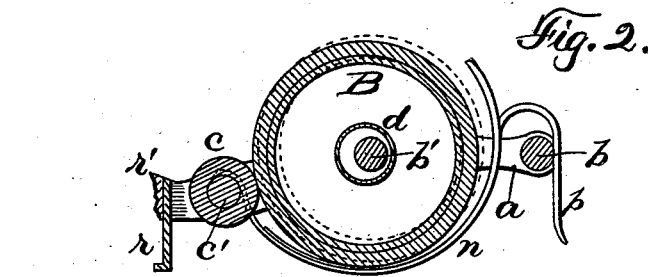
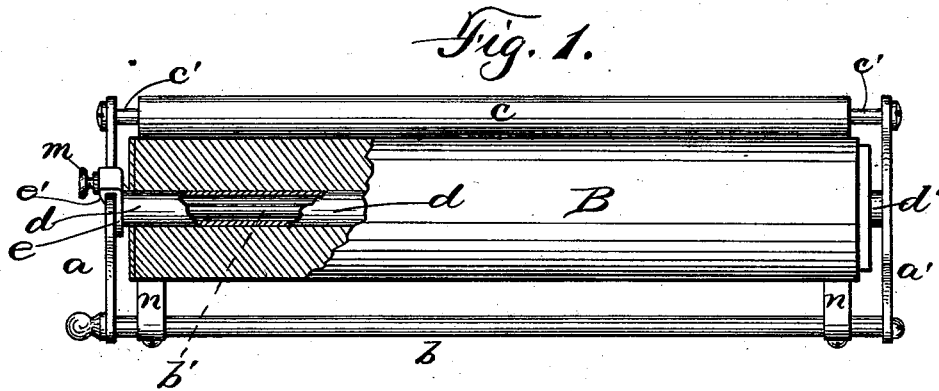
(No Model.)

2 Sheets—Sheet 1.

L. S. CRANDALL.
TYPE WRITING MACHINE.

No. 522,653.

Patented July 10, 1894.



WITNESSES:

H. A. Cachat,
C. B. Winno.

INVENTOR

Lucien S. Crandall.

By

Smith & Venison

ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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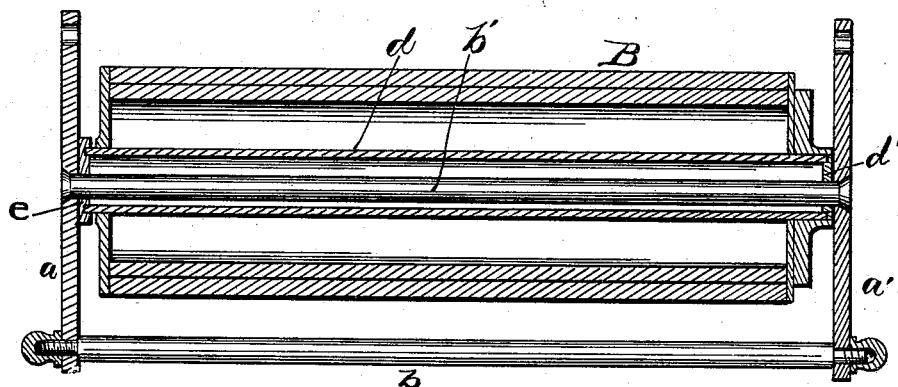


Fig. 3.

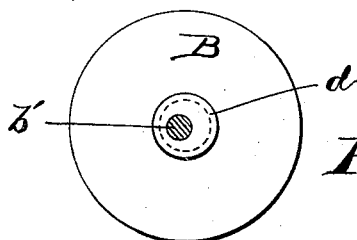


Fig. 6.

WITNESSES:

H. A. Carhart,
C. B. Hume.

Lucien S. Crandall INVENTOR

BY
Smith & Dawson
his ATTORNEYS.

UNITED STATES PATENT OFFICE.

LUCIEN S. CRANDALL, OF PARISH, ASSIGNOR TO WILLIAM A. SWEET, OF SYRACUSE, NEW YORK.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 522,653, dated July 10, 1894.

Application filed January 21, 1893. Serial No. 459,061. (No model.)

To all whom it may concern:

Be it known that I, LUCIEN S. CRANDALL, of Parish, in the county of Oswego, in the State of New York, have invented new and useful Improvements in Type-Writers, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to type-writers, and particularly to mechanisms by means of which the platen can be raised or lowered, so that the printing point will always be in the same horizontal plane, whether a single sheet of paper is being printed upon, or whether there are a large number of sheets in the machine, as in manifolding.

My object is to provide means by which the platen of a type-writer can be raised or lowered in a vertical, or substantially vertical line, from its normal position for a single sheet of paper at which the printing line upon the platen is in the proper horizontal plane for the type to strike squarely thereon, and can be adjusted to any height desired or necessary for an increased number of sheets of paper, and set at any desired point of elevation, such elevation being equal to the thickness of the bunch of paper inserted, and in such manner that the printing line is always in the same horizontal plane, as its normal plane, and is not varied as to its plane, by the increase in the radius of the circle of the platen and the paper thereon; and whereby such variation of radius, or the increase of the distance from the center of the platen, vertically downward, to the outer surface of the paper at the printing line, will not and cannot affect, disturb, vary nor destroy the alignment of the letters in any of the lines of printing upon the paper, which in machines having no such adjustment of the platen, is caused by the fact that none, or substantially none, of the type arms can swing to the normal and fixed degree of elevation, or to the normal point or limit of the upward swing; all such machines being aligned with reference to a single thickness of paper upon the platen; and in which the feed-roll is rigidly mounted, not spring-pressed, and the space between it and the platen is varied by and according to the rais-

ing or lowering of the platen, so that all of the danger of the crocking of the manifold paper, and the irregular and uneven feeding of the sheets, is avoided which is incident to the use of a spring-pressed feed-roller exerting too strong a pressure upon the paper, and too great frictional contact upon the outer sheet.

My invention consists in the several novel features of construction and operation hereinafter described and which are specifically set forth in the claims hereunto annexed.

It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1, is a top plan of the platen frame, and platen partly sectional, and its mounting partly sectional. Fig. 2, is a transverse vertical section of the same. Fig. 3, is an end elevation of the frame and platen, and the cam lever. Fig. 4, is a front elevation of the cam lever, detached. Fig. 5, is a horizontal longitudinal sectional elevation of the platen, its frame, and of the platen mounted therein. Fig. 6, is an end elevation of the platen and the sleeve therein, the arbor or shaft being in section.

The platen frame consists of the frame-bars —*a-a'*—, the front rod —*b*— and the arbor or shaft —*b'*— rigidly secured in the end bars, and —*c'*— is the arbor of the feed roller, if one is used also secured therein.

B, is the printing platen, provided with the loose axial sleeve —*d*— one end of which is closed by the head —*d'*—; and the other by the lever —*e*—, both being secured in place, and the arbor or shaft —*b'*— is journaled in said sleeve closures, eccentric to the bore of said sleeve, and therefore eccentric to the platen. The upper end of said lever is bent over, substantially as shown, creating an arm —*e'*— which is provided on its free end with a pointer —*h*— contiguous to the scale —*h'*— upon said end bar; and also provided with a set screw —*m*— through said arm and the body of said lever, by which said arm is forced against said end bar and by its clamp action secures the lever at any point at which it may be adjusted.

The scale shown, indicates the normal position for a single sheet of paper, and 3, 5 and 8 indicate the position at which the lever

should be set for each of those several numbers of sheets.

The bar —c'— is the arbor of the feed roller —c—, and is also the hinge pintle, loose in the end bars of the frame, and upon which said bars turn when the platen frame is raised or tilted, to expose the line being printed for the inspection of the operator.

It will be seen that by the shifting of the lever to the right and the rotation of the sleeve upon the eccentric center rod will raise the platen in substantially a vertical line, a distance regulated by the throw of the lever and the eccentricity of said rod; that said rotation of the sleeve is adjusted and regulated by the shifting movement of the lever —e—, and that the set screw —m— secures the sleeve at any point of adjustment of rotation according to the degree of the swing movement of said lever, so that said lever and set screw constitute means for adjusting the rotation of the sleeve and consequent vertical adjustment of the platen, and that said rod is the actual support of the platen, though it rotates upon the sleeve.

The fingers —n— mounted upon the front rod and extending under the platen to the feed-roller, are of the usual construction, as is also the pointer —p— upon the front of the platen frame, its lower end being adjacent to a scale (not shown) upon the top plate of the machine.

The post —r— is one erected upon the carriage frame (not shown), of a type-writing machine, and through the arm —r'— connected to it, supports the rear of the platen frame, and the pintle rod which also carries the feed roller.

It will be seen that inasmuch as the arbor —c'— is rigid, the feed roller —c— is also rigid and cannot yield or spring away from the platen; that the paper space between it and the platen is varied by the vertical movements of the platen; and that consequently the feed roll cannot exert sufficient pressure upon the paper to cause crocking, nor suffi-

cient strength of frictional contact with or upon the paper to cause any unequal or irregular feeding of the paper, or any hanging back of the outer sheet, or of any adjacent sheet or sheets.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a type-writer, a platen, a loose sleeve axial thereto, a shaft through said sleeve and eccentric thereto, and means to rotate said sleeve upon said shaft, in combination.

2. In a type-writer, a platen, a loose sleeve axial thereto, a shaft through said sleeve and eccentric thereto, said platen being rotatable upon said sleeve.

3. In a type-writer, a platen, a loose sleeve axial thereto, a shaft through said sleeve and eccentric thereto, and means to adjust the rotation of said sleeve, upon said shaft in combination.

4. In a type writer, a platen, a sleeve loose therein, and axial thereto, a shaft through and eccentric to said sleeve, the platen being rotatable upon the sleeve, and the sleeve upon the shaft independently of each other, in combination.

5. In a type writer, a platen frame, comprising a front rod, end bars to which it is secured, and a shaft secured in said end bars, in combination with a sleeve journaled eccentrically upon said shaft, and a platen journaled axially upon said sleeve.

6. In a type writer, a platen frame, comprising a front rod, end bars to which it is secured, and a shaft secured in said end bars in combination with a sleeve journaled eccentrically upon said shaft, and a platen journaled axially upon said sleeve, and means to adjust the rotation of said sleeve upon said shaft.

In witness whereof I have hereunto set my hand this 24th day of December, 1892.

LUCIEN S. CRANDALL.

In presence of—

C. W. SMITH,

HOWARD P. DENISON.