

No. 636,941.

Patented Nov. 14, 1899.

W. J. BARRON.
TYPE WRITING MACHINE.

(Application filed June 17, 1898.)

(No Model.)

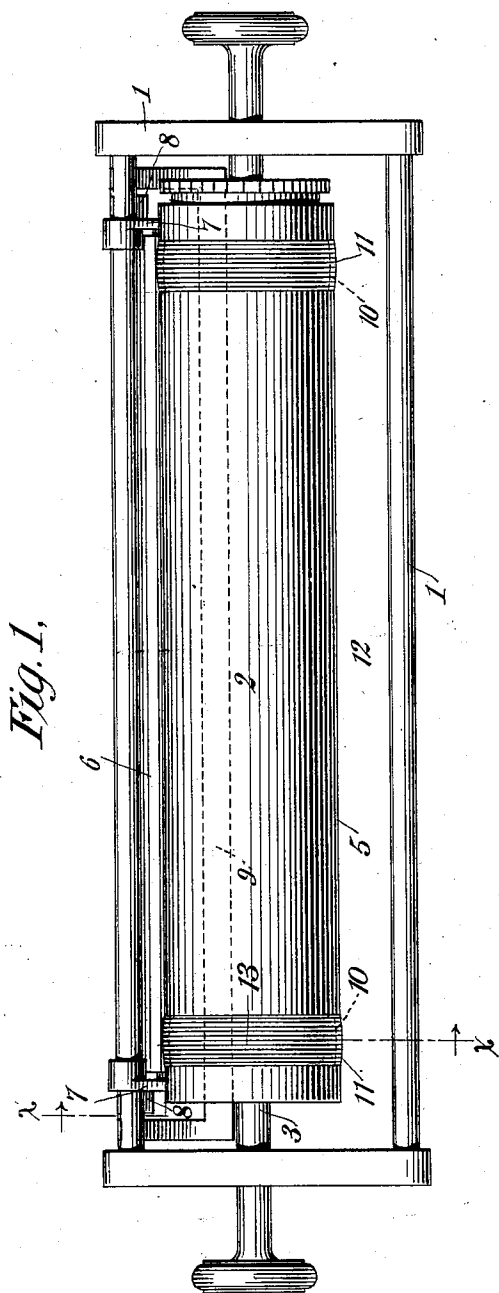


Fig. 4,

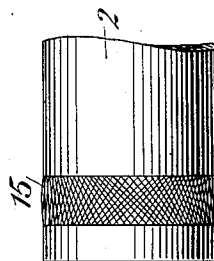


Fig. 3,

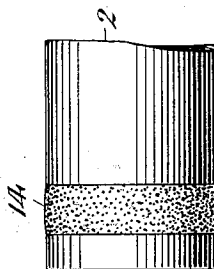
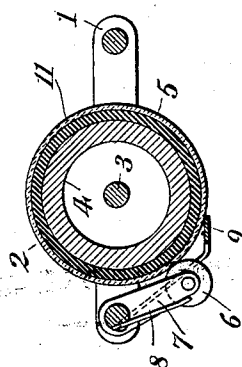


Fig. 2,



WITNESSES:

C. E. Ashley

W. Lloyd

INVENTOR:

Walter J. Barron
By his Attorney

James F. Bell

UNITED STATES PATENT OFFICE.

WALTER J. BARRON, OF NEW YORK, N. Y., ASSIGNOR TO THE UNION
TYPEWRITER COMPANY, OF JERSEY CITY, NEW JERSEY.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 636,941, dated November 14, 1899.

Application filed June 17, 1896. Serial No. 595,841. (No model.)

To all whom it may concern:

Be it known that I, WALTER J. BARRON, a citizen of the United States, and a resident of New York, (Brooklyn,) in the county of Kings and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates more particularly to the cylinders or platens of type-writing machines; and the main object of my invention is to provide means for insuring the movement of the paper in unison with the platen when the latter is rotated for line-spacing, &c.

Platens are usually covered with a very smooth and even sheath of rubber. For manifolding purposes a hard sheath or surface yields the best results, while for single-sheet writing a somewhat softer sheath or surface is better. These rubber sheaths while not as hard as the "hard rubber" of commerce are yet both considerably harder than "soft rubber"—such, for instance, as employed in the manufacture of ordinary rubber bands. Greater difficulties are experienced in the feeding of the paper with a "hard platen" than with a soft one, because the harder the rubber the smoother the surface, and hence the lesser the friction thereof. As a consequence the sheet of paper next the platen frequently fails to move with the platen or moves only slightly in the line-spacing operation, with the result that the spaces between lines are irregular or ununiform, and the page is therefore either spoiled or rendered unsightly. It is frequently observed that if a half-dozen sheets (more or less) be placed upon the platen with their edges exactly even they will variably creep or shift longitudinally during the line-spacing movements and finish very unevenly. It has been attempted to cure the defective or imperfect feed of the innermost sheet or sheets by increasing the pressure of the paper upon the platen, thus augmenting the friction between the surface of the platen and the sheet in contact therewith; but this mode of overcoming the difficulty is productive of other and equally serious objections, to wit: in the first place heavy or excessive pressure by the pressure-roll or equivalent device operates to effect a

retardation of the outer sheet or sheets, and hence a variable feed of the sheets composing the pile, and in the next place such undue pressure and retardation cause the carbon-sheets to blur, smut, and streak the paper with which they are in contact.

In carrying out my improvements I provide means at or near the ends of the platen—beyond the printing-field on each side—to cause a stronger and better adherence of the paper to the platen and to thereby obviate the slipping referred to; and my invention consists in such means and in certain other features of construction and combination, all as will be presently explained, and set forth in the appended claims.

In the accompanying drawings, Figure 1 is a top plan view of a paper-carriage embodying my invention. Fig. 2 is a vertical cross-section taken at the line *xx* of Fig. 1. Fig. 3 is a detail view of one end of the platen, showing a modification. Fig. 4 is a similar view showing a further modification.

Referring to Figs. 1 and 2, 1 is a paper-carriage or platen-frame, which may be of any desired design or construction, and 2 is a cylindrical platen adapted to rotate therein. As usual, the platen has an axle 3, an inner support or core 4, and a rubber sheath or cover 5, having a comparatively hard and smooth surface.

6 is a pressure-roller mounted in hangers 7, which are provided with springs 8 to force the roller against the paper on the platen. The carriage may also be provided with a pressure-blade or scale-bar 9, as heretofore.

At or near each end of the platen, Figs. 1 and 2, I form a circular depression 10, into which I seat or place a band 11. These bands are preferably made of soft vulcanized rubber (softer than the surface of the platen between the bands) of an elasticity and quality approximating the heavier rubber bands employed for holding together a package of folded papers. These bands I prefer to have raised slightly above the portion 12 of the platen between the bands, and which portion represents the printing or working field of the platen. I also prefer to roughen the outer sides of said bands, which may be accomplished by molding the rubber with a series

of ribs 13; but of course the roughened surface may be otherwise obtained. The ends of the pressure-roller, paper-blade, scale-bar, or other equivalent or known pressure device bearing indirectly on said bands cause them to sink and spread slightly. The pressure, of course, produces additional friction; but owing to the presence of the friction-bands this pressure may be less than heretofore.

10 The rubber bands being less dense or softer and also being rougher than the working surface 12 of the platen the paper is thereby caused to cling or adhere to the platen and to travel in unison therewith. Thus a construction is provided which produces a greater friction at the side edges or margins of the paper and insures a movement of the paper with the platen at all times, while retaining the desired hard surface of the platen and without the application of heavy or undue pressure. I do not, however, desire to limit myself to the employment of rubber bands nor to substances which are softer than the working surface of the platen, although this is a desirable construction, for the essential feature of my invention relates to the provision of means at or near the ends of the platen for causing or creating a greater friction or adherence between the platen and the paper than is obtainable by the mere contact of the working surface of the platen (which surface must be smooth and generally hard) with the surface of the paper. This increased friction or adhesion may be obtained not only by employing a softer medium, such as the soft-rubber bands 11, but also by the use of hard but roughened bands. For example, at Fig. 3 the bands 14 may be made of sandpaper or other hard material having a roughened surface, and said bands may or may not be let into the depression in the platen, as before. The sandpaper or other like roughened band or surface operates in like manner to cause the paper to adhere to the platen and to travel in unison therewith. The roughened surface may be otherwise provided, as indicated at Fig. 4, in which view the working surface of the platen may be of metal, rubber, or other material, and the roughened portion 15 may be formed or provided by milling, hatching, cross-cutting, or the like the material of which the platen is composed or of the outer covering thereof.

The provision of the friction-producing devices or means at the ends of the platen serve also to effectually prevent the paper from feeding or shifting laterally during the line-spacing movements, which is a feature of equal importance with that of preventing the slipping between the platen and the sheets.

Various other modifications of my invention may be readily made by those skilled in the art without departing from the gist of my improvements.

65 What I claim as new, and desire to secure by Letters Patent, is—

1. A type-writer platen constructed at or near its ends with means for producing an increased friction at the side edges or margins of the paper; substantially as set forth. 70

2. A type-writer platen constructed at or near its ends with roughened portions; substantially as set forth.

3. A type-writer platen constructed at or near its ends with portions which are softer than the working field or portion of the platen; substantially as set forth. 75

4. A type-writer platen constructed at or near its ends with roughened portions and which are also softer than the working field of the platen; substantially as set forth. 80

5. A type-writer platen composed of a hard and smooth working field and roughened bands at the ends thereof; substantially as set forth. 85

6. A type-writer platen composed of a hard and smooth working field and a softer band at each end thereof; substantially as set forth.

7. A type-writer platen composed of a hard and smooth working field and a softer and rougher band at each end thereof; substantially as set forth. 90

8. A type-writer platen composed of a comparatively-hard-rubber working field and a soft-rubber band at each end thereof; substantially as set forth. 95

9. A type-writer platen composed of a comparatively-hard-rubber working field and a roughened softer rubber band at each end thereof; substantially as set forth. 100

10. A type-writer platen composed of a comparatively-hard-rubber sheath provided with depressions and softer rubber bands seated in said depressions; substantially as set forth.

11. A type-writer platen composed of a comparatively-hard-rubber sheath provided with depressions and roughened bands seated in said depressions; substantially as set forth. 105

12. In a type-writing machine, the combination with any suitable pressure device, of a platen constructed at or near its ends with friction-producing devices; substantially as set forth. 110

13. In a type-writing machine, the combination with a pressure-roller or its equivalent, of a platen constructed at or near its ends with roughened portions; substantially as set forth. 115

14. In a type-writing machine, the combination with a pressure-roller or its equivalent, of a platen composed of a comparatively-hard working field and bands of softer material at each end thereof; substantially as set forth. 120

Signed at New York city, in the county of New York and State of New York, this 13th day of June, A. D. 1896. 125

WALTER J. BARRON.

Witnesses:

K. E. DONOVAN,
JACOB FELBEL.