No. 716,687. Patented Dec. 23, 1902.

G. W. DISHER.

TYPE WRITER.

(Application filed Mar. 10, 1902.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

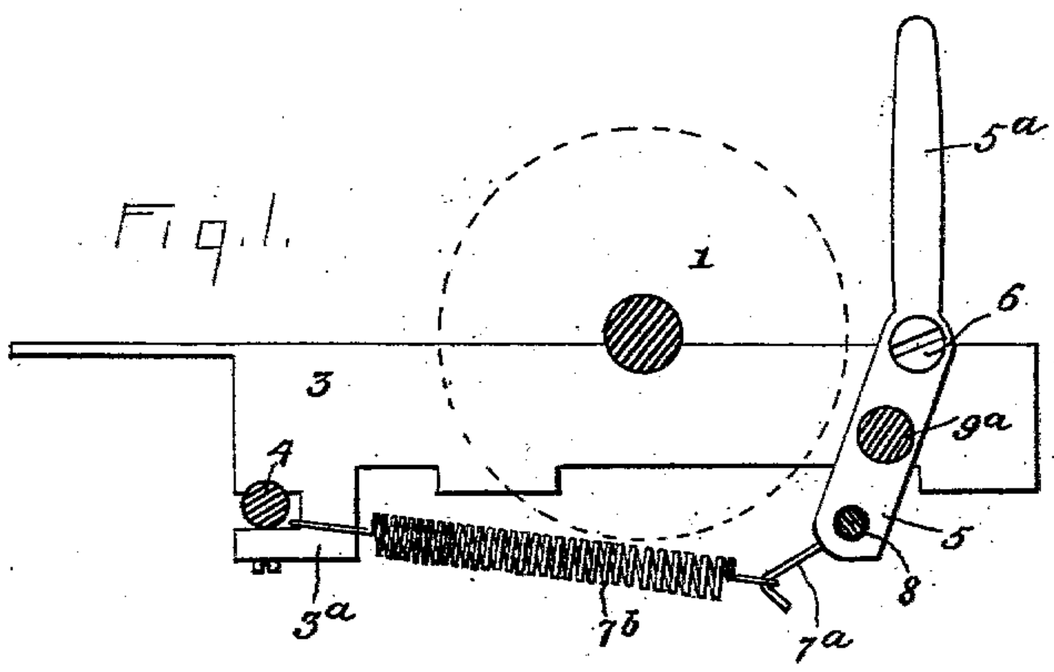


Fig. 2.

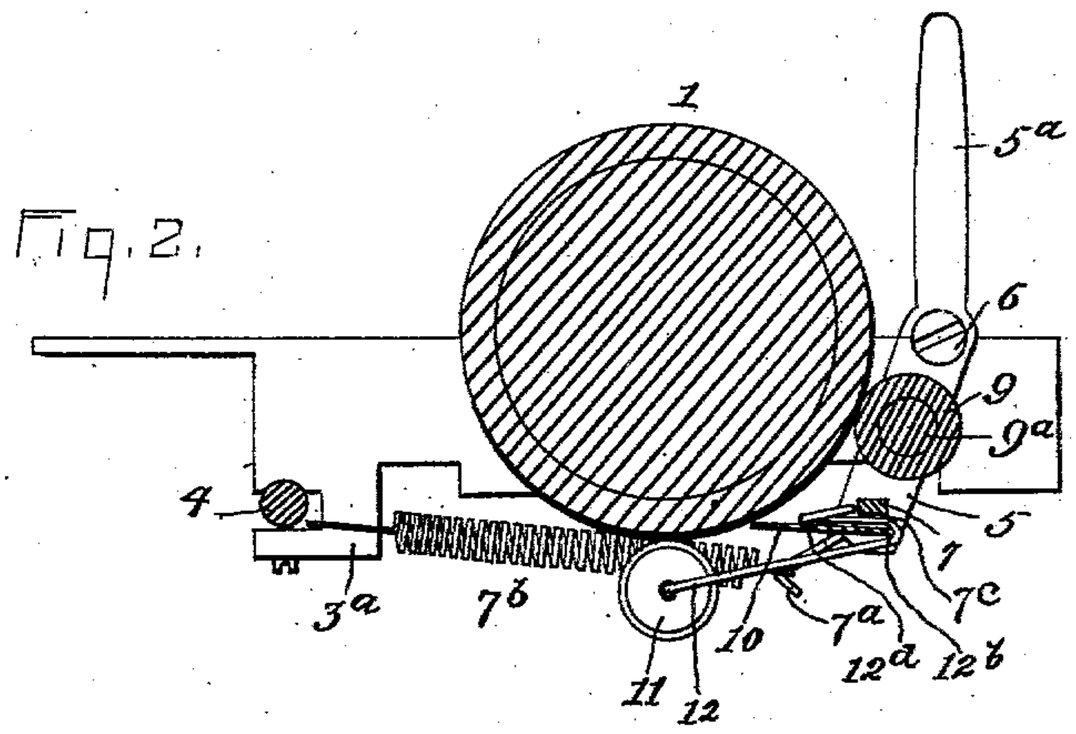
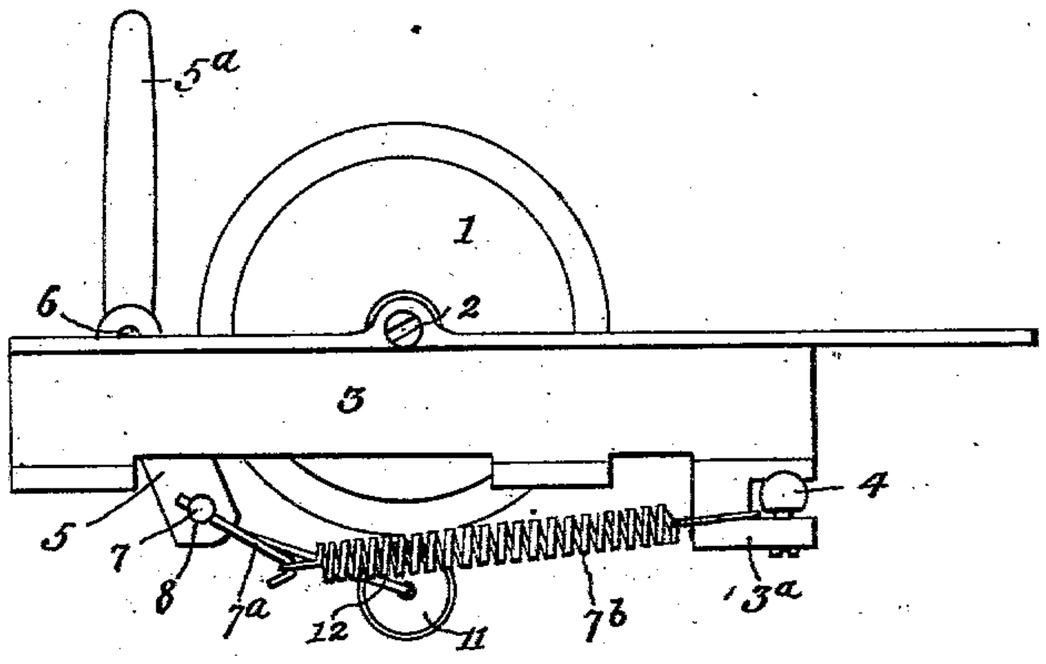


Fig. 3



Witnesses—
Carrie R. Ivy.
J. H. Franke

Inventor—
George W. Disher
By Cyrus Keller
Atty.

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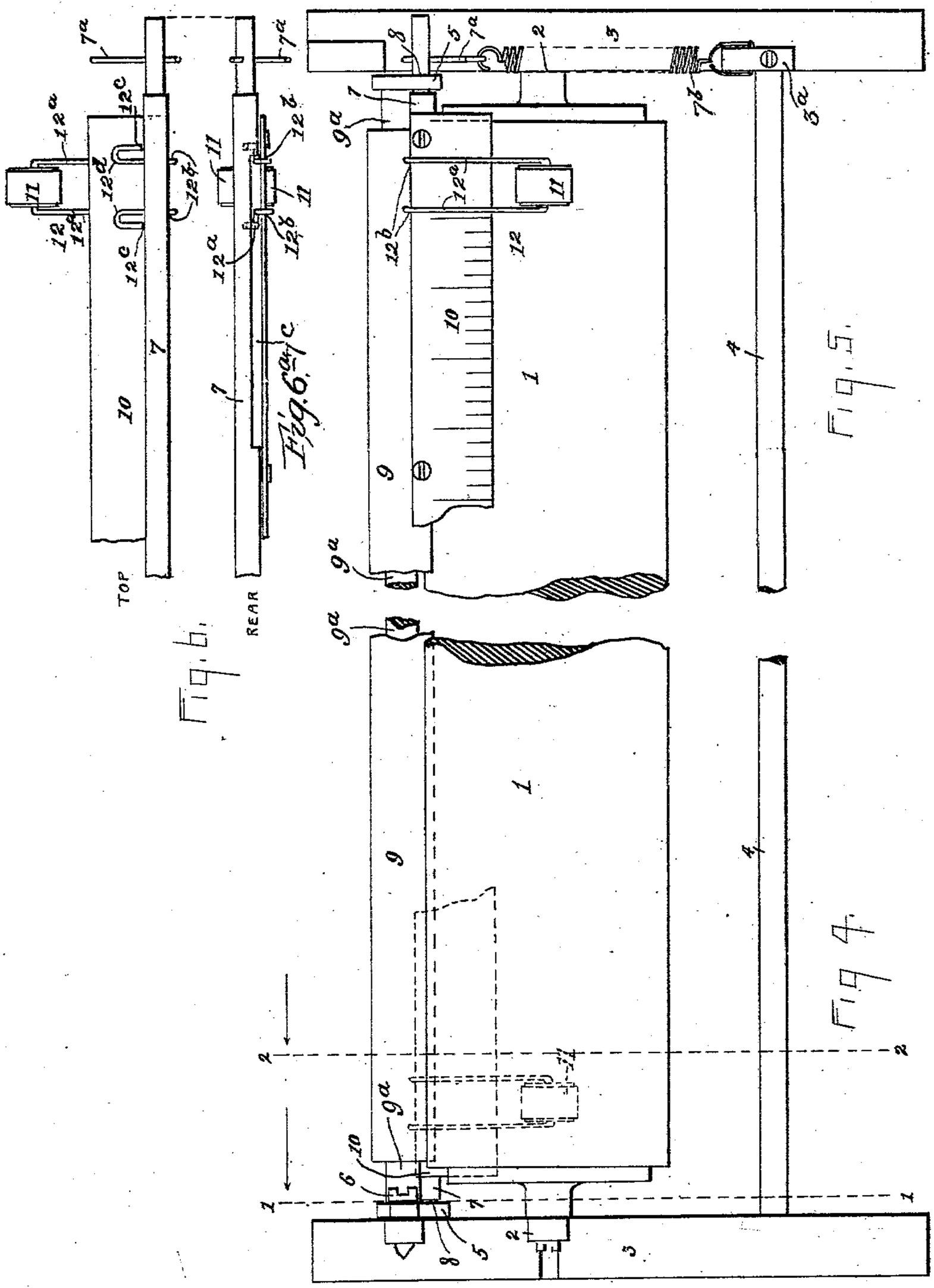

Witnesses—

Carrie A. Ivy.

J. H. Franz.

Inventor—

George W. Disher

By Cyrus Kehr

Atty.

UNITED STATES PATENT OFFICE.

GEORGE WALTER DISHER, OF KNOXVILLE, TENNESSEE.

TYPE-WRITER.

SPECIFICATION forming part of Letters Patent No. 716,687, dated December 23, 1902.

Application filed March 10, 1902. Serial No. 97,465. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WALTER DISHER, a citizen of the United States, residing at Knoxville, in the county of Knox and State of Tennessee, have invented a new and useful Improvement in Type-Writers, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates particularly to typewriters having a cylindric rotary platen.

The object of the invention is to produce convenient and effective mechanism for holding the paper to the platen.

In the accompanying drawings, Figure 1 is a transverse vertical section on the line 1 1 of Fig. 4. Fig. 2 is a similar section on the line 2 2 of Fig. 4. Fig. 3 is an end elevation. Fig. 4 is a plan of one end of a carriage embodying my improvement. Fig. 5 is a bottom view of a portion of the same carriage. Fig. 6 illustrates the scale-blade, the bar supporting the same, and the rollers supported by said bar and blade. Fig. 6^a is a rear elevation of the mechanism shown by Fig. 6.

Referring to said drawings, 1 is the platen. This is of the usual form and is mounted in bearings 2, which bearings are formed in the end pieces 3 of the carriage. A rod 4, located at the front of the platen, also joins the end pieces 3. At the rear of the platen a link 5 is suitably journaled to the inner vertical face of each end piece 3, as by a set-screw 6. Said links extend downward and support by their lower ends a bar or shaft 7, said bar being preferably journaled in suitable horizontal bearings 8, formed in said links. Between said bar 7 and the set-screw 6 a roller 9 extends from one of said links to the other and is suitably journaled for rotation and is of proper diameter to normally rest against the platen 1. (See particularly Fig. 2.) The bar 7 is provided at or near each end with an arm 7^a, extending below the level of said bar. A contracting-spring 7^b extends from said arm toward the front of the carriage and is joined to some fixed portion of the latter—as, for example, to the bracket 3^a, as shown in the drawings. It is obvious from an inspection of the drawings that the action of said contracting-spring tends to rotate said bar 7, the forward portion going up, and to rotate the links 5 on the set-screw 6, so as to draw the roller 9 toward or against the platen. To the bar 7 is attached the rear edge of a scale-blade 10, the forward edge of said blade reaching to or almost to the lower face of the platen. It is obvious from an inspection of the drawings that when paper is inserted from above between the platen and the roller 9 said roller may, by reason of the elasticity of said spring, be pressed away from said platen sufficiently to admit the paper, said movement of the roller 9 involving the slight turning of the links 5 upon said set-screws, and it is also obvious that if the forward edge of the scale-blade is so near the face of the platen as to require yielding to permit the paper to pass between said edge and said platen said blade and the bar 7 may together rotate upon the axis of said bar sufficiently to permit the paper to pass, the links 5 and roller 9 remaining stationary, for at such time the paper is already between the platen and the roller 9, and said roller and links 5 need not swing upon the set-screws 6 to increase the distance between the platen and said roller. It may be stated, however, that usually the forward edge of the scale-blade is to be sufficiently far from the surface of the platen to allow the paper to pass without engaging said scale-blade. Two short rollers 11 are located so as to bear yieldingly against the lower face of the platen at or near each end of the latter. Said rollers are suitably supported from the bar 7 or scale-blade 10, so that said rollers and the forward edge of the scale-blade are held in the elevated position by the action of the spring 7^b through the arm 7^a and the bar 7. The rollers 11 ordinarily stand sufficiently near each end of the platen to leave between them the width of the ordinary page of machine-writing; but it is preferable to make said rollers shiftable in a line parallel to the axis of the platen in order that said rollers may be moved sufficiently near each other to bear upon envelops, cards, and other material narrower than the ordinary sheet of paper. Said rollers may be made shiftable by various constructions. The form shown by the drawings, Figs. 2, 5, and 6, is given by way of illustration. Adjacent to each roller 11 the lower portion of the bar 7 is cut away, so as to make the horizontal slots 7^c between

said bar and the scale-blade. A relatively rigid wire frame 12 extends through the roller 11 and is folded so as to form the substantially parallel arms 12^a, extending beneath said scale-blade. The ends of said arms are bent upward and pass forward through the slots 7^c and toward the forward edge of the scale-blade, and thence backward and upward sufficiently to bear against the forward face of said bar 7. Said wire frame is held against forward movement by the bearings at 12^b upon the rear edge of said blade and said frame is prevented from moving backward by the ends of the wire bearing against said bar 7 at 12^c, and the bearing of said frame upon said blade at 12^d prevents the forward end of said frame from moving downward without the corresponding partial rotation of said scale-blade and said bar 7. Within the limits of said slots 7^c said frame 12 may be moved to the right or to the left upon said bar 7 and said scale-blade. Said scale-blade may bear the usual scale applied at the bottom of the platen.

The links 5 may have combined with them an arm 5^a, which arm may be drawn forward for the purpose of moving the lower portions of said links and the rollers 9 and 11 away from the platen sufficiently to remove or insert paper without the rotation of the platen.

The roller 9 may be mounted rotatably upon a shaft 9^a and said shaft may have its ends rigidly secured to said links, so that the oscillation of one of said links will involve the oscillation of said shaft and through said shaft the oscillation of the other link, to the end that when either arm 5^a is drawn forward said roller 9 will move bodily away from the platen.

I claim as my invention—

1. In a type-writer, the combination with a platen and a carriage supporting said platen, of a structure suspended between the end pieces of said carriage at the rear of said platen and comprising a roller arranged parallel to the platen, a second structure hinged to and extending forward from said first-mentioned structure and comprising two rollers extending beneath the platen, and spring mechanism applied to said second structure for turning said structures toward the platen, substantially as described.

2. In a type-writer, the combination with a platen and a carriage supporting said platen, of a structure suspended between the end pieces of said carriage at the rear of said platen and comprising a roller arranged parallel to the platen, a second structure hinged to and extending forward from said first-mentioned structure and comprising two rollers extending beneath the platen and shiftable in a direction parallel to the platen, and spring mechanism applied to said second structure for turning said structures upon their hinges toward the platen, substantially as described.

3. In a type-writer, the combination with a cylindric platen and a carriage supporting said platen, of links suspended from the ends of said frame at the rear of the platen and supporting beneath their line of suspension a roller, 9, and rollers mounted upon supports which are hinged to said links, and springs applied to said supports below the level of said hinge for turning said supports and said links upon their hinges toward the platen, substantially as described.

4. In a type-writer, the combination with a platen and a carriage supporting said platen, of links suspended from the ends of said carriage at the rear of said platen, a roller rotatably secured to said links, a bar extending from one of said links to the other beneath said roller and rotatably secured to said links, rollers, 11, frames, 12, supporting said rollers, 11, and joined to said bar, and spring mechanism, substantially as described.

5. In a type-writer, the combination with a platen and a carriage supporting said platen, of links suspended from the ends of said carriage at the rear of said platen, a roller rotatably secured to said links, a bar extending from one of said links to the other beneath said roller and rotatably secured to said links, rollers, 11, frames, 12, supporting said rollers, 11, and joined to and shiftable upon said bar, and spring mechanism, substantially as described.

6. In a type-writer, the combination with a platen and a carriage supporting said platen, of a structure suspended between the end pieces of said carriage at the rear of said platen and comprising a roller arranged parallel to the platen, a second structure hinged to and extending forward from said first-mentioned structure and comprising a scale-blade and two rollers extending beneath the platen, and spring mechanism applied to said second structure for turning said structures toward the platen, substantially as described.

7. In a type-writer, the combination with a platen and a carriage supporting said platen, of a structure suspended between the end pieces of said carriage at the rear of said platen and comprising a roller arranged parallel to the platen, a second structure hinged to and extending forward from said first-mentioned structure and comprising a scale-blade and two rollers extending beneath the platen, said rollers being shiftable in a direction parallel to the platen, and spring mechanism for turning said structures toward the platen, substantially as described.

8. In a type-writer, the combination with a platen and a carrage supporting said platen, of a structure suspended between the end pieces of said carriage at the rear of said platen and comprising an arm extending upward and a roller arranged parallel to the platen, a second structure hinged to and extending forward from said first-mentioned structure and comprising two rollers extend-

ing beneath the platen, and spring mechanism applied to said second structure for turning said structures toward the platen, substantially as described.

9. In a type-writer, the combination with a platen and a carriage supporting said platen, of links, 5, a roller, 9, bar, 7, scale-blade, 10, slidable frames, 12, rollers, 11, supported by said frames, and springs, 7^b, substantially as described.

10. In a type-writer, the combination with a platen and a carriage supporting said platen, of links, 5, one of said links having an arm, 5^a, a roller, 9, bar, 7, scale-blade, 10, slidable frames, 12, rollers, 11, supported by said frames, and springs, 7^b, substantially as described.

In testimony whereof I have signed my name, in presence of two witnesses, this 7th day of March, in the year 1902.

GEORGE WALTER DISHER.

Witnesses:

I. B. CARTER,

CYRUS KEHR.