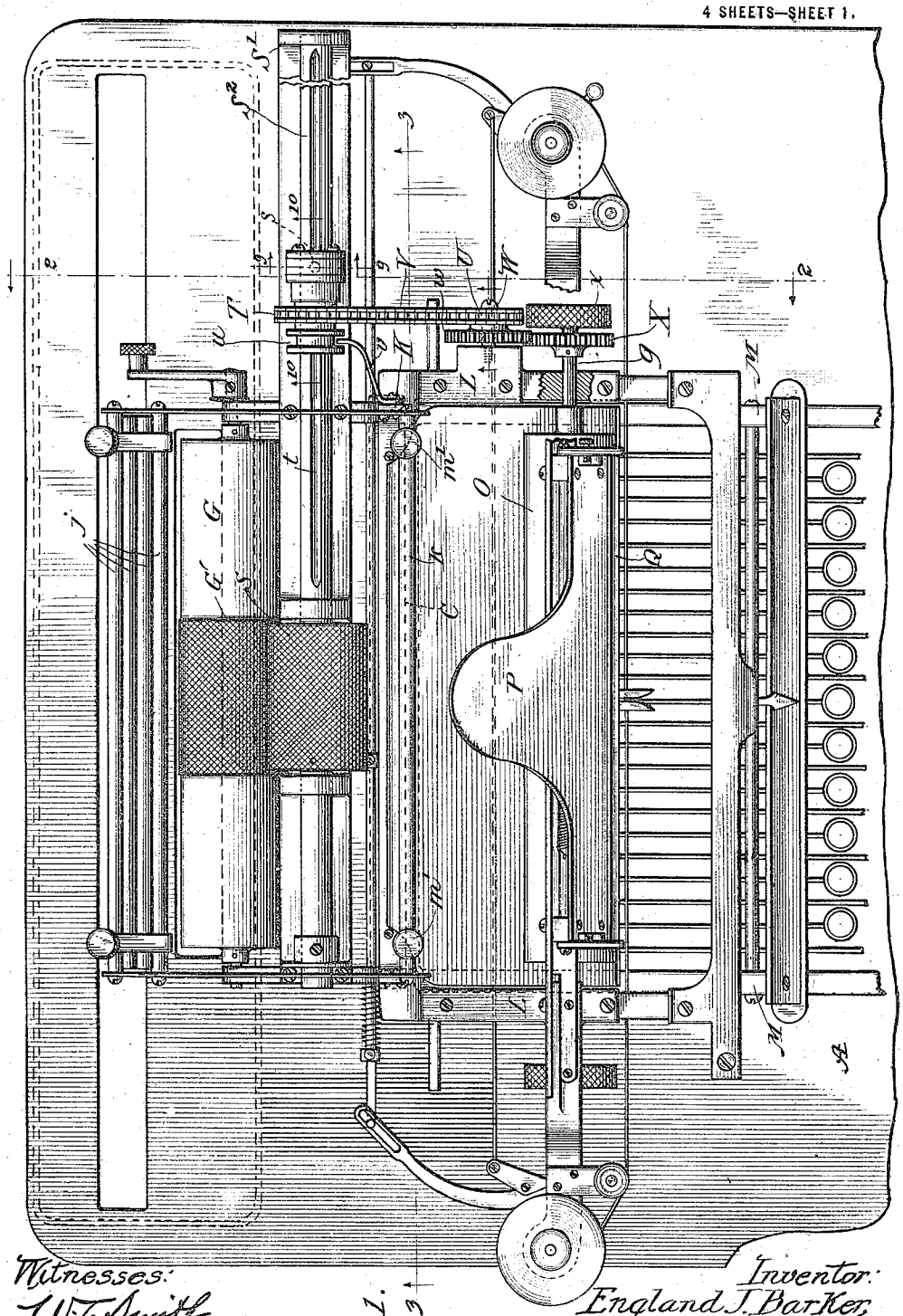
E. J. BARKER.

PAPER SUPPLY ATTACHMENT FOR TYPE WRITING MACHINES.

APPLICATION FILED MAY 1, 1915.

1,260,953. Patented Mar. 26, 1918.

4 SHEETS—SHEET 1.



Witnesses:
W. F. Smith
Florence Mitchell

Fig. 1.

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by Fauke & Thomason
Attys

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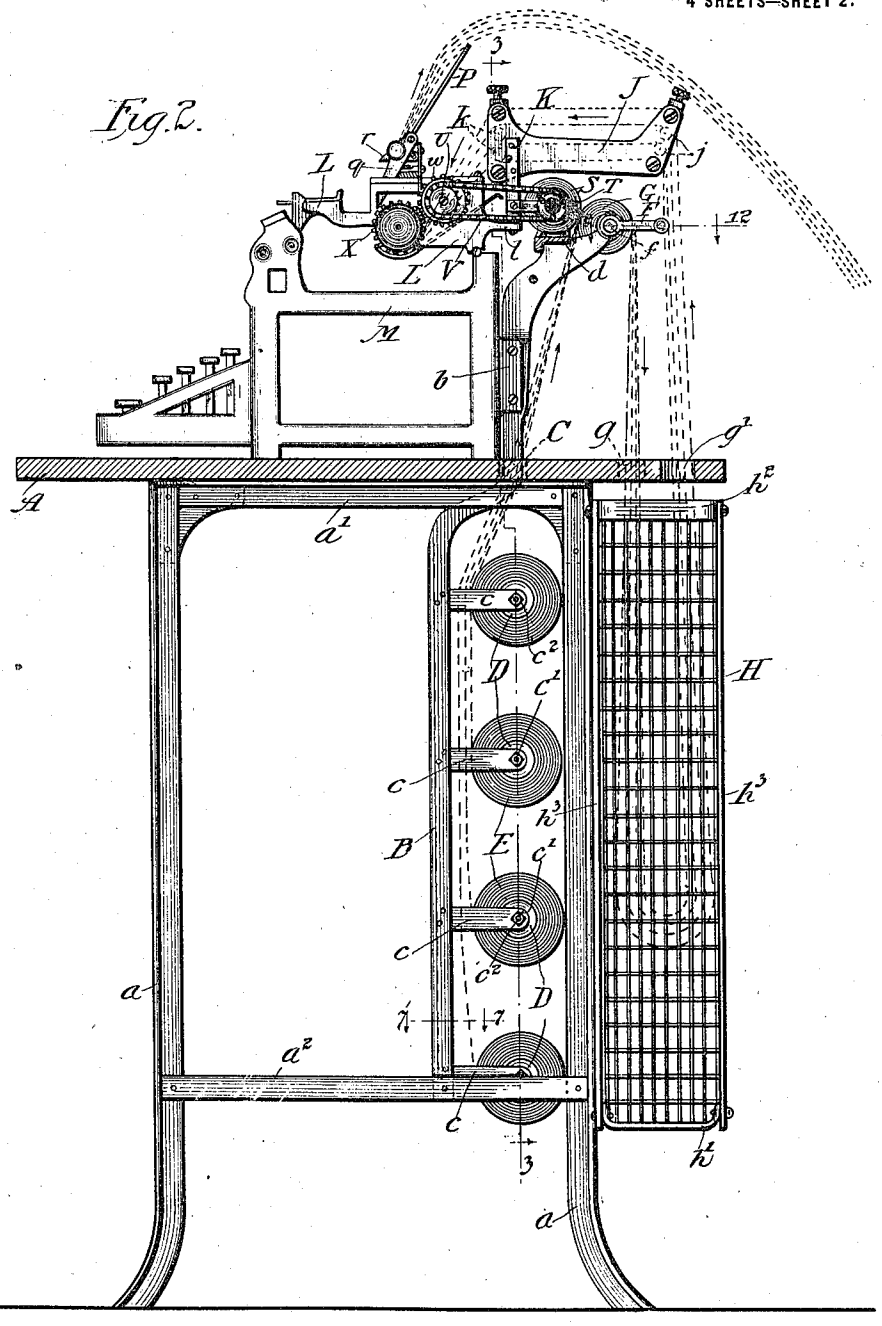
PAPER SUPPLY ATTACHMENT FOR TYPE WRITING MACHINES.

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4 SHEETS—SHEET 2.

Fig. 2.



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4 SHEETS—SHEET 3.

Fig. 3.

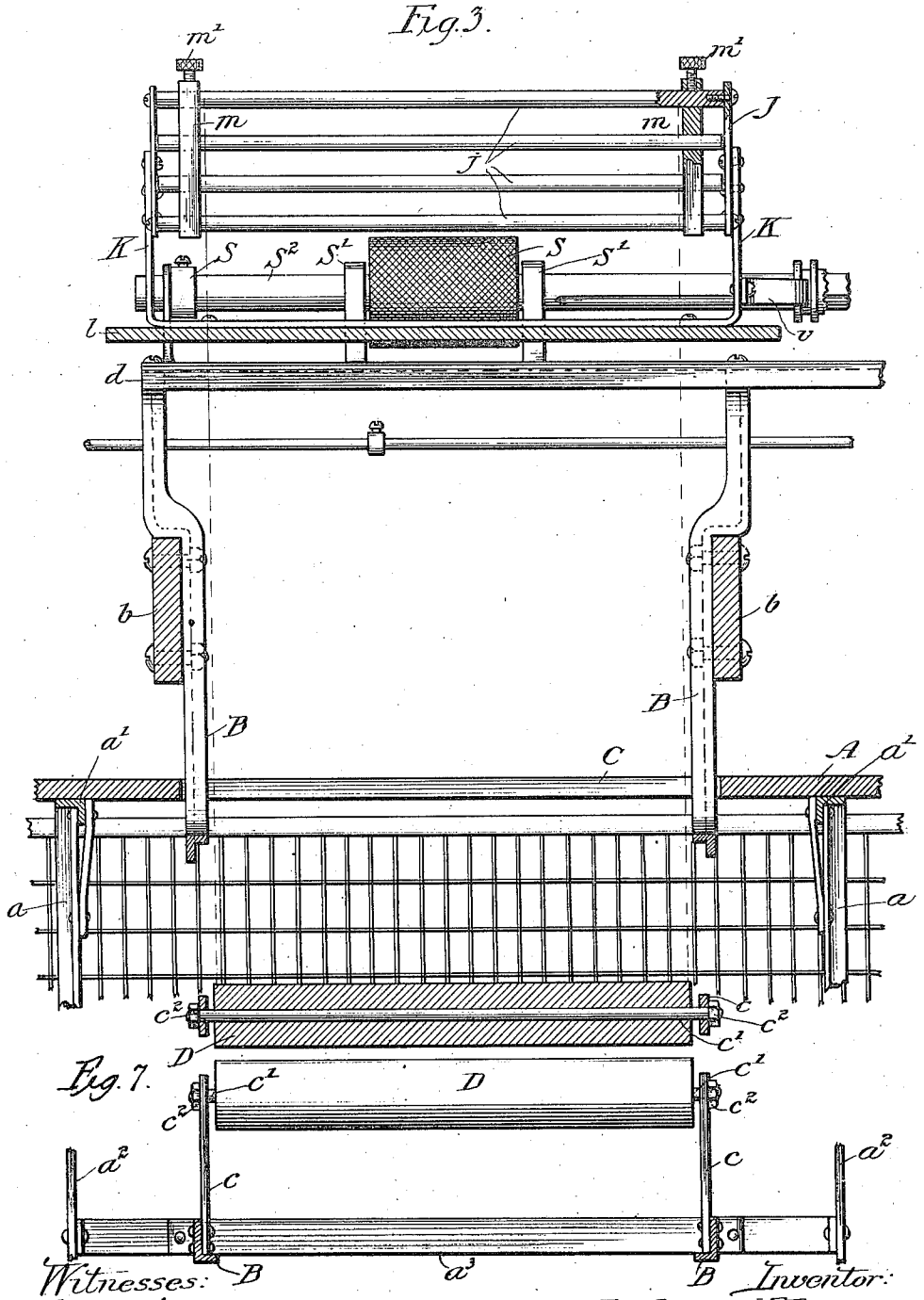


Fig. 7.

Witnesses:
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4 SHEETS—SHEET 4.

Fig. 5.

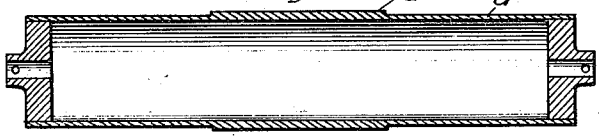


Fig. 6.

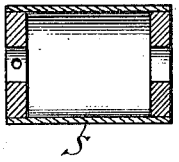


Fig. 4.

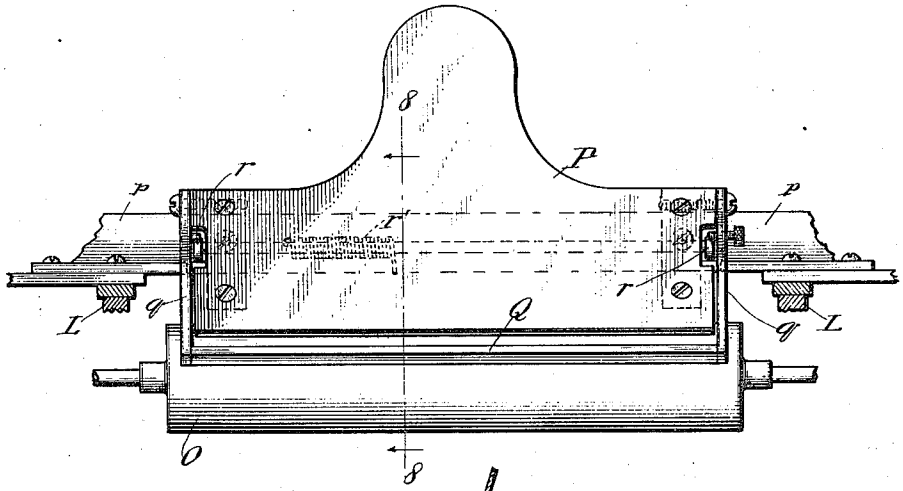


Fig. 8.

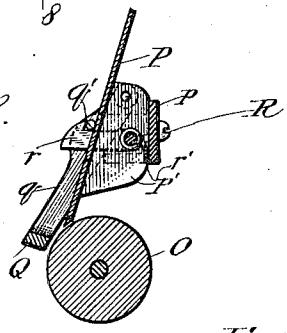


Fig. 12.

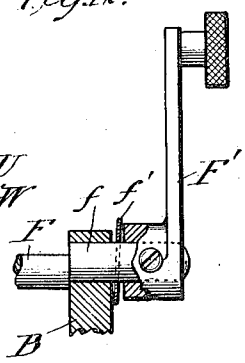


Fig. 9.

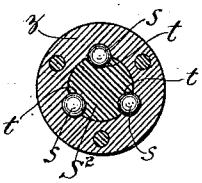


Fig. 10.

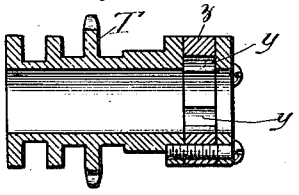


Fig. 11.

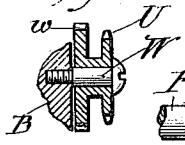
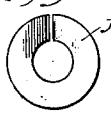


Fig. 13.



Witnesses:

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Florence Mitchell

Inventor:

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Atty

UNITED STATES PATENT OFFICE.

ENGLAND J. BARKER, OF CHICAGO, ILLINOIS.

PAPER-SUPPLY ATTACHMENT FOR TYPE-WRITING MACHINES.

1,260,953. Specification of Letters Patent. Patented Mar. 26, 1918.

Application filed May 1, 1915. Serial No. 25,101.

To all whom it may concern:

Be it known that I, ENGLAND J. BARKER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Paper-Supply Attachments for Type-Writing Machines, of which the following is a full, clear, and exact description.

My invention relates to improvements in paper supply attachments for typewriters, and particularly to the attachment for which Letters Patent of the United States No. 1,140,493, were granted to me May 25, 1913.

The objects of these improvements are to reduce to a minimum the weight of the paper and of the mechanism of the paper supply attachment carrying the same which are actuated by the reciprocable carriage of the typewriting machine; to simplify the mechanism for transmitting the rotatable movement of the platen of the typewriting machine to the paper feed rolls of the stationary paper supply attachment, and to protect and keep the paper, and particularly the pendent slack portion thereof free from interference. These and other objects I accomplish by the means hereinafter fully described, and as particularly pointed out in the claims.

In the drawings:

Figure 1 is a plan view of the major portion of a typewriting machine showing my improvements applied thereto.

Fig. 2 is a vertical section thereof taken on dotted line 2—2, Fig. 1, drawn to a reduced scale.

Fig. 3 is a vertical transverse section of a broken away portion of the same taken on dotted line 3—3, Fig. 1, looking in the direction indicated by the arrows.

Fig. 4 is a fragmentary view showing the platen and guard-plate thereof in front elevation.

Fig. 5 is a longitudinal central section of the segregated rear feed-roller.

Fig. 6 is a similar view of the forward feed-roller.

Fig. 7 is a horizontal section of the lower portion of the supporting frame of the supply rollers, taken on dotted line 7—7, Fig. 2.

Fig. 8 is a vertical section taken on dotted line 8—8, Fig. 4.

Fig. 9 is a detail view showing a cross-section of the loose transmission sprocket, taken on dotted line 9—9, Fig. 1.

Fig. 10 is a detail view showing a longitudinal section of the same.

Fig. 11 is a detail view showing a longitudinal section of the combined idle-gear and transmission sprocket.

Fig. 12 is a detail view showing in section the eccentric journal of the shaft on which the rear feed-roller is mounted, and crank therefor.

Fig. 13 is a side-view of the split washer used in connection therewith.

My improvements affect the typewriting machine (hereinafter referred to as the typewriter), the table upon which the same is mounted and the paper supply attachment therefor including the framework upon which the rolls of paper are journaled. The table may be constructed in any suitable manner, but I prefer to make it with a wooden top A, and with a support therefor consisting of angle-iron legs a connected at the top by metal rails a' and near their feet with metal side-rails a^2. Side-rails a^2 are connected by a cross-bar a^3, and the feet of metal uprights B, B, which are located adjacent the rear legs a rest upon and are secured to and supported on this cross-bar a^3 and have their upper portions, just before they reach the upper rail, curve to the rear and then upward through the end portions of a transverse slot C made in the table top just to the rear of the supporting frame of the typewriter. A short distance above the table top these uprights are suitably secured to lugs or screw-plates b, b, projecting rearwardly from the rear vertical members of the frame-work of the typewriter, and said uprights are bent laterally over the upper edges of said screw-plates and then vertically and rearwardly for the remainder of the upper portions. Below the table-top uprights B, B, are each provided with a corresponding series of equi-distant pairs of arms c, c, that terminate a suitable distance in front of the rear legs a and are each connected to its mate by a stationary shaft c'. The ends of shaft c' extend through arms c and are screw-threaded and have nuts c^3 screwed thereon that retain the shafts in assembled position and yet permit their withdrawal longitudinally from

said arms, when desired. Rollers D are loosely journaled on shaft c' and rolls of paper E are mounted on said rollers.

About midway between the upper ends of uprights B and the lugs or screw-plates b of the typewriter frame-work said uprights are connected by a cross-bar d and are also provided near said upper ends with bearings for the eccentric ends f of a normally stationary shaft F. A suitable crank F′ is secured on the extended end of one of said eccentric ends, and between the boss of this crank and the upright a skewed split washer f' is interposed that provides sufficient resistance to the rotation of shaft F′ to hold it in any position to which it may be turned. A suitable roller G is lossely mounted on shaft F between its eccentric journals, and the webs of paper from rolls E are fed up through slot C to and over roller G and then downward through a transversely elongated opening g in the top of the table which is located, preferably, in the same transverse vertical plane as the rearmost segment of said roller.

Below the table-top the paper hanging from roller G enters a basket or cage H, which latter, as shown in the drawings, consists of a skeleton frame-work comprising vertical corner strips h^3 the upper ends of which are connected to a rectangular metallic edge-frame h^2 and the lower ends of the corner strips on the same side being connected by a bottom strip h'. The spaces between the parts of this skeleton frame are closed by coarse wire screening, and the basket is supported by attaching the forward corner strips h^3 to the rear legs of the table.

The webs of paper that hang down from roller F into the basket H reach to very near the bottom of the basket and then extend vertically upward through a transversely elongated slot g' in the table-top to a series of horizontal guide-bars j. These guide-bars j have their ends suitably secured in the rear vertically extended ends of the side-frames J of a bracket, that is supported by the carriage of the typewriter and overhangs the roller in such manner that a line drawn through the axes thereof will incline to the rear. This disposition of bars j separates the webs of paper passing over each roller from each other, and from these guide-bars j said webs of paper pass horizontally forward to and over a vertically disposed series of guide-bars j whose ends are suitably secured in the vertically extended forward ends of side-frames J of the bracket. These side-frames J are supported by and attached to the upper ends K of a U-frame the connecting horizontal portion of which rests upon and is secured to a horizontal platform l projecting rearwardly from the transversely reciprocable carriage L which is supported on the lower stationary supporting-frame M of the typewriter. As the bracket and its guide-bars j and k move with the carriage the portions of the webs of paper engaging said bars are moved from side to side, but in view of the extent of the slack portion of the paper hanging down into basket H the portion of the webs of paper thus moved from side to side will not effect the forward travel of said paper between bars j and k. In order to avoid any possible lateral movement of the strips as they pass over the bracket, however, I have provided guards m which consist of a straight bar having openings through which bars j and k pass. These guards are secured in any proper position to which they may be adjusted by means of set-screws m' tapped longitudinally through their upper ends and bite into the upper guide-bars.

After leaving guide-bars k the webs of paper pass downwardly and forwardly to and under the platen O of the typewriter, and after leaving the latter extend up over a shield P. This shield consists of a flat plate whose lower horizontal edge is, preferably, straight and extends from very near one end of the platen to the other, and this plate inclines upward and backward from its lower edge. The ends of shield P are provided with rearwardly bent portions P′ that are secured to a bridge p that has its ends secured to the end-frames of the carriage of the typewriter, and the upper edge of this shield is, preferably, midway its ends extended upward higher than the remainder thereof to prevent the typewritten webs of paper from falling back upon the incoming unwritten portions of the same.

The tearing-bar Q on which the webs of paper are torn off, after they leave the platen, comprises a horizontal bar extending parallel to and in front of the platen in a plane slightly below the edge of the shield, and is, preferably, rectangular in cross-section, and the ends of this tearing-bar are attached to and are supported by the lower ends of corresponding arms q whose upper ends are pivotally connected in any suitable manner to the rearwardly bent ends P′ of the shield adjacent their upper edges. These arms q are provided at points near their upper ends with lateral pins q' that project toward the center of length of the shield, and are engaged by pawls r, the upwardly hooked forward ends of which latter are kept in engagement with said pins by means of a spring r' wound around a horizontal shaft R, which latter is supported in the end portions P′ of the shield; one end of said spring r' being fastened to shaft R and the other end bearing, as shown in Fig. 8 of the drawings, against bridge p. The tearing-bar is normally in position for the webs of paper to be torn off on its upper edge

near the platen, but when the said webs are being threaded through the machine, said tearing-bar can be raised upward and forward, after it has been released by depressing the pawl *r*, so as to disengage the latter from pins *q'*.

It is necessary to maintain the hanging slack portion of the webs of paper suspended between roller G and guide bars *j*. This I accomplish by means of a milled roller S that engages roller G and is loosely mounted upon a transverse horizontal shaft S^2 between a couple of standards S' secured to and arising from bridge *d*. The right-hand end of this bridge is extended beyond the side of the stationary supporting-frame M of the typewriter, and shaft S^2 is correspondingly extended and journaled in bearings arising from the ends of the same, and between the milled roller S and its right-hand bearing said shaft S^2 is provided with longitudinal grooves *t*. A sprocket-wheel T is mounted on the grooved portion of shaft S^2 the boss of which is elongated on either side of the same a suitable distance, and this boss has an annulus *z* at one end the bore of which is the same as that of said boss and has a series of equi-distant pockets therein for the reception of steel balls *s* which engage longitudinal grooves *t* in shaft S^2 and causes the sprocket to impart its revoluble movement to shaft S^2, but leaves the sprocket free to move longitudinally thereon. Annulus *z* is secured to the boss of sprocket T by a circular plate Y and screws tapped through the same. At one end the boss of said sprocket T is provided with two circumferential flanges, and channel *u* between these flanges is engaged by the end of a rearwardly extending arm *v* the opposite end of which is suitably secured to one of the upright ends *b* of the U-shaped frame mounted on platform *l* that moves back and forth with the carriage, thus causing the sprocket to always maintain its relative position to said carriage. Sprocket T is driven through the medium of a chain V by a sprocket-wheel U that is made integral with the boss of an idle-gear *w*, and is journaled on the barrel of a screw W tapped into the end-frame of the carriage, and this gear *w* is driven by a suitable gear X securely mounted on the adjacent extended end of the journal of platen C. This journal may extend through gear X and have a milled wheel *x* mounted thereon, if desired, and when the platen is turned through the medium of wheel *x*, gear X imparts its motion to gear *w* (these gears being of the same diameter as the platen) and sprocket U imparts its motion to sprocket T, and through it rotates shaft S^2 and milled roller S. The portion of the circumference of roller G engaged by milled roller S is, preferably, slightly greater in diameter and is also milled, as shown in Fig. 5 of the drawings, and the webs of paper are drawn upward between the milled portions of these rollers at a speed corresponding to the speed of the rotation of the platen; it being understood that the respective diameters of roller S, the sprocket T, the sprocket U and gears *w* and X are such as to accomplish this result.

When it is desired to disengage rollers S and G and stop the movement of the webs of paper that cause the hanging slack, handle F' is turned so as to move shaft F and roller G away from and out of contact with roller S, and when this is done the split washer *f'* will retain roller G in any position away from roller S to which it may be moved.

What I claim as new is:

1. In combination, a writing machine having a frame, a reciprocable carriage in said frame and a platen mounted in said carriage, a supporting table having a top upon which said writing machine is arranged, means suspended from the writing machine beneath the table-top for carrying paper strips, means for guiding the paper strips to the platen, said paper-strips traveling in a loose loop form to the platen, and an inclosing and protecting basket for said paper loops arranged beneath the table top and parallel and exterior to the means for carrying the paper-strips.

2. In combination, a writing machine having a frame, a reciprocable carriage in said frame and a platen mounted in said carriage, a supporting table having a top upon which said writing machine is arranged, means suspended from the writing machine beneath the table-top for carrying paper-strips, means for guiding the paper-strips to the platen, said means being carried by the means which are secured to the writing machine frame, said paper-strips traveling in a loose loop form to the platen, and an inclosing and protecting basket for said paper loops arranged beneath the table top and parallel and exterior to the means for carrying the paper-strips; said basket comprising a skeleton frame and a wire mesh covering.

3. In combination, a writing machine having a frame, a reciprocable carriage in said frame, a platen mounted in said carriage, a frame supporting said writing machine, feed-rollers, means for supporting a continuous strip of paper that is fed thereto, and guide-rollers between which and said feed-rollers a continuous slack strip of paper extends both of which are supported by the frame of said writing machine, and means whereby the paper is fed from said guide-rolls to the platen.

4. In combination, a typewriting machine having a suitable frame, a reciprocable carriage mounted thereon, a rotatable platen journaled in said carriage, a suitable sup-

port for the frame of said typewriting machine, means attached to and depending from said support for journaling a roll of paper, feed-rollers having stationary bearings supported by the frame of said typewriting machine, guide-rollers journaled in bearings reciprocable with said carriage, and mechanism for imparting the motion of said platen to one of said feed-rollers.

5. The combination with a writing machine having a transversely reciprocable carriage, and a platen journaled therein, a supporting-frame therefor, of a paper supply rack supported below said machine and including parallel upright members, horizontal arms projecting from said upright members in which rollers are journaled that have paper-rolls mounted thereon, said upright members extending upward back of said machine to which they are connected, and having bearings in their upper ends, a feed-roller in said bearings, a cross-bar connecting said uprights between said bearings and said machine, a transverse shaft actuated by said platen and journaled in bearings supported by said cross-bar, a feed-roller mounted thereon and adapted to engage said first-mentioned feed-roller, means attached to and movable with said carriage for guiding the strips of paper to the platen, said paper between said guiding means and said feed-rollers extending in a loop depending below said machine.

6. The combination with a typewriting machine having a transversely reciprocable carriage, and a platen journaled therein, a supporting-frame therefor having a top with one or more openings therein at the rear of said machine, of a paper supply rack supported below said top and including parallel upright members, horizontal arms projecting from said upright members in which rollers are journaled that have paper-rolls mounted thereon, said upright members extending upward through said openings back of said machine to which they are connected, and having bearings in their upper ends, a feed-roller having eccentric journals in said bearings, a cross-bar connecting said uprights between said bearings and said machine, a transverse shaft actuated by said platen and journaled in bearings supported by said cross-bar, a feed-roller mounted thereon and adapted to engage said first-mentioned feed-roller, means attached to and movable with said carriage for guiding the strips of paper to the platen, said paper between said guiding means and said feed-rollers extending in a loop below said top.

7. The combination with a writing machine having a transversely reciprocable carriage, and a platen journaled therein, a supporting-frame therefor having a top with one or more openings therein at the rear of said machine, of a paper supply rack supported below said top and including parallel upright members, horizontal arms projecting from said upright members in which rollers are journaled that have paper-rolls mounted thereon, said upright members extending upward through said openings back of said machine to which they are connected, and having bearings in their upper ends, a feed-roller in said bearings, a cross-bar connecting said uprights between said bearings and said machine, a transverse shaft journaled in bearings supported by said cross-bar, sliding means on said shaft actuated by and slidable with said platen, a feed-roller mounted thereon and adapted to engage said first-mentioned feed-roller, means attached to and movable with said carriage for guiding the strips of paper to the platen, said paper between said guiding means and said feed-rollers extending in a loop depending below said top.

8. The combination with a writing machine having a transversely reciprocable carriage, and a platen journaled therein, a supporting-frame therefor having a top with one or more openings therein at the rear of said machine, of a paper supply rack supported below said top and including parallel upright members, horizontal arms projecting from said upright members in which rollers are journaled that have paper-rolls mounted thereon, said upright members extending upward through said openings back of said machine to which they are connected, and having bearings in their upper ends, a feed-roller between said bearings and said machine, a transverse shaft journaled in bearings supported by said cross-bar, sliding means on said shaft for revolving the same, an arm projecting rearwardly from said carriage that engages said sliding means and moves the same back and forth on said shaft simultaneously with said carriage, a feed-roller mounted thereon and adapted to engage said first-mentioned feed-roller, means attached to and movable with said carriage for guiding the strips of paper to the platen, said paper between said guiding means and said feed-rollers extending in a loop depending below said top.

9. The combination with a typewriting machine having a transversely reciprocable carriage, and a platen journaled therein one of the journals of which extends through its bearings and has a gear mounted thereon, a supporting-frame therefor having a top with one or more openings therein at the rear of said machine, of a paper supply rack supported below said top and including parallel upright members, horizontal arms projecting from said upright members in which rollers are journaled that have paper-rolls mounted thereon, said upright members extending upward through said

openings back of said machine to which they are connected, and having bearings in their upper ends, a feed-roller between said bearings and said machine, a transverse shaft journaled in said bearings supported by said cross-bar, a sprocket-wheel slidable longitudinally on said shaft, an arm projecting from said carriage and engaging the boss of said sprocket-wheel, a chain, and a combination gear and sprocket-wheel mounted on said carriage and engaged by said chain, and deriving motion from the gear on the journal of said platen, a feed-roller mounted thereon and adapted to engage said first-mentioned feed-roller, means attached to and movable with said carriage for guiding the strips of paper to the platen, said paper between said guiding means and said feed-rollers extending in a loop depending below said top.

10. The combination with a typewriting machine comprising a stationary frame, a transversely reciprocable carriage, and a platen mounted therein, and a support for said machine having openings in its top, of means mounted on and movable with said carriage for guiding continuous paper strips to said platen, feed-rollers having stationary bearings above said top which are connected to said stationary frame, one of said rollers being actuated by said platen and the journals of the other of which are eccentric to the axis thereof, and a paper supply rack below said top.

In witness whereof, I have hereunto set my hand this 17th day of April, 1915.

ENGLAND J. BARKER.

Witnesses:

GILBERT J. MILLER,

FRANK D. THOMASON.