1 **INCLUDING JUSTIFICATION OR QUADDING OF PRINT-LINE**
2 .Including quadding of print-line
3 .By programmed-control-system
4 ..On auxiliary-record-program (e.g., tape, card, etc.)
5 ...Magnetic record
6 ...With error-correcting storage register
7 ...Including artificial or end-of-line hyphen
8 .By using "no-print" device
9 .By interword or intercharacter spacing
10 ..Variable carriage-feed mechanism
11 ..Carriage slidable relative to its carriage-rack
12 ..By interword spacing only
13 ...Including plural space-bars for different spacings
14 .By typing line on stretchable medium
15 .Including justification indicator
16 **FOR TYPING OR FORMING CONTINUOUS OR DISCONTINUOUS LINE (E.G., BY "LINER")**
17 .Including programmed-control-system
18 .By scriber (e.g., pen, pencil, etc.) or with scriber guide
19 ..For writing in script
20 ..Rotatable disc scriber
21 .Responsive to carriage movement
22 .Underscoring concurrently with character imprinting
23 **FOR TYPING ON FLAT RECORD-MEDIUM OR AGAINST FLAT PLATEN**
24 .For typing on a book
25 ..Including a type-head (e.g., cylinder, disc, etc.)
26 ..Against cylindrical backing
27 ..Including adjustment of typewriter relative to book (e.g., to compensate for book thickness)
28 ..Including adjustment of book support relative to typewriter (e.g., for top or bottom of book, etc.)
29 .For typing on flat blueprint or drawing (e.g., "platenless" typewriter)
30 .For typing on carton or package
31 .By multidirectional movement of typewriter structure (e.g., "Elliot-Fisher" structure)
32 .Bottom-strike typewriter including type-bar action or bar platen or anvil platen
33 .Top-strike typewriter including pivoted type-bar
34 .Including carriage-return mechanism
35 .Including case-shift by shifting platen
36 .Including ribbon-feed mechanism
37 .For typing on manifold set (e.g., with type-die, etc.)
38 ..Including feeding of wide carbon paper transverse to feed of record-medium
39 ..Including spool for roll of carbon paper
40 ..Including clamp or guide for carbon paper
41 ..Including adjustment of platen perpendicular to its surface
42 ..Including aligning and feeding manifold set
43 .Including feed of tally strip
44 .Including line-spacing mechanism
45 ..Platen shifted for line-spacing
46 ..Including adjustment of line-space distance or increment
47 ..Including disengagement of line-spacing mechanism
48 .Work support (e.g, sheet or card holddown or guide, sheet-size platen, etc.)
49 .Collating-table attachment
50 **INCLUDING DELAY MEANS FOR PREVENTING MALFUNCTION IN POWERED TYPEWRITER**
51 .Delay of sequential character rate in programmed-control typewriter
52 .Delay by storage of next character to be imprinted
53 **INCLUDING ADJUSTMENT MEANS TO COMPENSATE FOR WEAR**

106 .Including coded ink (e.g., phosphorescent or color-coded ink, etc.)
107 .For coding by conductive mark
108 .For marking laundry
109 **FOREIGN LANGUAGE OR BRAILLE TYPEWRITER**
109.1 .Braille
110 .Including Oriental language
111 .Including Semitic language
112 **ANNULAR TYPEWRITER (E.G., FOR TYPING AROUND CIRCUMFERENCE OF PLATEN)**
113 .Including vertically disposed platen
114 .Platen axis horizontal and extending front-to-rear
115 .Powered Actuated
116 **MUSIC-ROLL OR MUSICAL-NOTATION TYPEWRITER**
117 .Musical-notation typewriter
118.1 **TYPING BY HEATED DIE**
118.2 **TYPING BY OTHER THAN TYPE-FACE OR TYPE-DIE**
118.3 .Electroconductive transfer
120.01 .Thermal
120.02 ..Multicolor
120.03 ...Having multilayered colored transfer material
120.04 ...Having single layer colored transfer material
120.05 ..Block driving
120.06 ...Sequentially
120.07 ..Gradational recording
120.08 ..Preheating
120.09 ..Density control
120.1 ...By number of heated recording elements
120.11 ...In accordance with output characteristic of recording elements
120.12 ...By voltage regulation
120.13 ...By transfer material or record receiver
120.14 ...In accordance with temperature of the recording means
120.15 ...By history of recording elements
120.16 ..Recording means support or actuator
120.17 ...Adjustable
120.18 ..Pre- or post-image recording treatment
124.01 .Character formation by impact (e.g., wire matrix)
124.02 ..With signal conditioning
124.03 ...Overheat protection
124.04 ...Responsive to impact member position
124.05 ...Control of drive force
124.06 ....Manifold form or plural copies
124.07 ...With wear or defect compensation
124.08 ..Plural printheads
124.09 ...Multicolor
124.1 ..With inking
124.11 ..Printhead
124.12 ...Having assembly means
124.13 ...Overheat protection
124.14 ...With actuator
124.15 ....Single actuator for simultaneous actuation of plural impact members
124.16 ....Electrostrictive, magnetostrictive, or piezoelectric
124.17 ....Actuator having electromagnet
124.18 .....Electrical component
124.19 ......Moving coil
124.2 ......Permanent magnet
124.21 .....With biasing means
124.22 ......Backstop
124.23 .....Armature structure or mounting
124.24 ...Impact member guide
124.25 ....With lubricator
124.26 ....Specific material
124.27 ....Including shifting of guide
124.28 ...Impact member tip arrangement
124.29 ...Impact member structure
124.3 ....Tip cross-section
124.31 ....With attachment or engagement means
124.32 ....Specific material
127 **TYPING TO PRODUCE EMBOSSED CHARACTER**
128 .Character embossed or typed on nonplanar article (e.g., golf ball, toothbrush, etc.)
129 .By type-die mounted on carrier movable for selection of character
130 ..Including programmed-control-system
131 ..Electrically powered
132 ..Type-die reciprocable on carrier
133 ..On endless-band carrier
134 ..On rotatable carrier

134.1 ...Actuated by key-board control
134.2 ....Including type-die movable relative to carrier
134.3 .....With magazine for supply of record-medium plates
134.4 ...On manually held embosser
134.5 ....Including web supply of record-medium
134.6 ...Including web supply of record-medium
135 **TYPING TO PRODUCE PIERCED CHARACTER**
136 .Cutout character for stencil
137 .Check-protection character
138 ..By type-die mounted on carrier movable for selection of character
138.1 ...Electrically powered
138.2 ...On rotatable carrier (e.g., for scarifying elements, etc.)
138.3 ....Actuated by key-board control
138.4 ....Including plural-character type-die
138.5 .....And rotating contact with platen
138.6 ....For type-die including piercing or cutting elements
139 **INCLUDING TYPE-SET-ASSEMBLAGE MOUNTED ON CARRIER AND RELATIVELY MOVABLE FOR SELECTION AND FOR IMPACT OF TYPE-FACE**
140 .Including type-faces movable relative to type-face-carrier
141 ..Slidable type-faces mounted on reciprocable carrier
141.1 ...On rotatable or oscillatable carrier reciprocable along its axis
142 ..Slidable type-faces on rotatable carrier
143 ..Rotatable type-face carrier including type-faces on pivotable arms
144 ..Type-face-carrier including type-faces on flexible arms
144.1 ...Rotatable or oscillatable carrier
144.2 ....Carrier having coplanar flexible arms (e.g., "daisy" wheel, etc.)
144.3 .....Continuously rotated carrier
144.4 .....Manually rotated carrier
145 ..Type-faces on deformable type-face-carrier
145.1 ...Rotatable carrier
145.2 ....Cylindrical carrier
146 .Including endless-band carrier for type-faces
147 .Type-faces arranged in rectilinear row and selected by reciprocable movement
148 ..On rotatable carrier having plural rectilinear rows
149 .Plural type-heads mounted for selective individual type-head-imprinting movement
150 ..Type-heads arranged for selective individual imprinting movement away from coaxial rest position
151 ..Turret carrier for type-heads
151.1 ...Axis of turret carrier parallel to platen axis
152 .Type drum having multiple type-set-assemblages
153 .Imprint by movement of record-medium against type-face
154 ..By hammer impacting record-medium against type-face on type-head (e.g., type shuttle, etc.)
154.1 ...Including selection of type-face
154.2 ....Via pulley and cord arrangement (e.g., summing displacements)
154.3 ....By shortest peripheral path
154.4 ....Via coded disc in electric or magnetic circuit (e.g, photoelectric)
154.5 ....Via stepping motor responsive to selection
155 ....Via electrical or electromagnetic means
155.1 .....Including plural-function actuation by electromagnet(s)
156 ....Via helical arrangement of projections
156.1 ....Via mechanically permutated bar(s), disc(s), or plate(s)
156.2 ....Via planetary gear arrangement
156.3 .....Including latch means
157 ...Including type-faces arranged along helical path(s)
157.1 ...Including particular structure of hammer(s)
157.2 ....Electromagnetically actuated

157.3 ....For variable impression (e.g., impact control)
157.4 ....Hammer(s) mounted on endless belt or in helical array
158 ..Including platen for moving record-medium against type-face and mechanism for feeding record-medium
158.1 ...Including moving and feeding by platen
159 ..Including platen for moving record-medium against type-face and mechanism for inking type-face
160 .Imprint by pivoting of type-head-carrier and type-head against record-medium
161 ..Type-head-carrier movable on movable carriage
161.1 ...Including selection of type-face (e.g., on "golf ball" type-head)
161.2 ....Via gear train
161.3 .....Gears mounted on type-head and type-head-carrier
161.4 .....Including gear (e.g., rack) reciprocated by transmission mechanism
161.5 ....Via multiple cam surfaces
162 ..Type-head movable for selection of type-face
162.1 ...Via pulley and cord arrangement
162.2 ...Via shortest peripheral path
162.3 ...Via coded disc in electric or magnetic circuit (e.g., photoelectric)
163 ...Via stepping motor responsive to selection
163.1 ...Via electrical or electromagnetic means
163.2 ....Including electromagnetically actuated type-head movement toward record-medium
163.3 ....Including plural-function actuation by electromagnet(s)
164 ...Via helical arrangement of projections
164.1 ...Via pneumatic actuation
164.2 ...Via setting elements actuating selector-command member(s)
164.3 ...Control arm connected to selection gear and movable to engage key-lever actuated abutment
164.4 ...Via stop pins actuatable by key-board
164.5 ...Toothed member connected to selection gear and slidable by key-lever movement
164.6 ...Selection gear rotated by key-lever movement
165 ...Simultaneous rotation and translation of type-head by manually powered actuation (e.g., helical shift)
165.1 ...Via manually powered actuation other than by key-board (e.g, stylus selection)
165.2 ....Including type-head movable to print-point by actuator common to all type faces
165.3 .....Selection by rotatable dial
166 ..Including impact control
167 ..Including rebound control
168 ..Articulated-support joint
169 ..Detenting to fix type-head for imprinting
170 ..Including movable printing anvil within type-head
171 .Plural type-set-assemblages selectively movable from a storage station to a printing station
172 .Type-faces mounted on type chips and removable from storage for printing
173 .With means for exposing last-typed character
174 .Type-head, per se
175 ..Detachable from carrier (e.g., interchangeable)
176 **HAVING FLUID-PRESSURE POWER DRIVE**
177 .Including pneumatic decoder for perforated tape
178 .For producing typewriter-control tape (e.g., perforated tape, etc.)
179 .For type-face selection or choice
180 ..Including key-board driven by external pneumatic source
181 ..By pneumatic actuation of type-face or type-bar
182 .For movement of carriage or platen
183 ..Including line-spacing

184 **HAVING TYPEWRITER-CONTROLLED RECIPROCABLE ELECTROMAGNETIC DRIVE FOR PLURAL FUNCTIONS IN SAME TYPEWRITER**
185 **HAVING POWER-DRIVEN OPERATOR FOR PLURAL FUNCTIONS**
186 .Via continuously rotated power roll selectively connected to operate
187 .Usable selectively (e.g., for powered or manual operation, alternative usable functions, etc.)
188 **FOR TYPING ON REVERSE SURFACE OF RECORD-MEDIUM**
189 .By simultaneous use of both surfaces of same ribbon
190 .By use of "carbon paper"
191 **INCLUDING INTERPOSED INKING DEVICE (E.G., RIBBON) FOR RECORD-MEDIUM**
192 .Moved by continuously rotating power drive intermittently applied
193 .Inking device handheld during typing
194 .Endless ribbon or cartridge therefor
195 ..Mobius strip
196 ..Including storage (e.g., in cartridge, etc.) of ribbon
196.1 ...Having ribbon stored in pleated form
197 .Renovation of used ribbon
198 ..With ink heater (e.g., for melting solid ink)
199 ..By discrete auxiliary band movable with ribbon
200 ..Selectively actuatable re-inker
201 ..Of multicolor ribbon
202 ..Renovator attachable to typewriter for replenishing ribbon ink
202.1 ...Attached to ribbon spool
202.2 ...And includes refillable chamber (e.g., reservoir) for liquid ink
202.3 ....And conveyor of discrete drops of ink
202.4 ....And re-inking roller
203 .Ribbon disposed within platen
204 .For typing plural copies simultaneously with ribbon(s) (e.g., duplicate typing)
205 ..Including holder for short length of ribbon
205.1 ...Holder movable to inoperative position on typewriter
206 ..Using plural ribbons (e.g., additional ribbon(s)
206.1 ...Including "carbon paper" ribbon
206.2 ...And ribbon holder movable to inoperative position on typewriter
206.3 ...On plural coaxial spools
206.4 ...On single spool
207 .Package for ribbon facilitating mounting of ribbon on typewriter (e.g., ribbon cartridge)
208 ..Package attached to typewriter
208.1 ...And includes separable assemblage of spools
209 .For bottom-strike typewriter
210 .For boldface typing
211 .Including mechanism for shifting ribbon laterally at print-point
212 ..Via electrically powered actuator
213 ..For impact of successive type-faces on one field of ribbon in path not parallel to longitudinal extent of ribbon (e.g., "zigzag", oblique, etc.)
213.1 ...Via ribbon vibrator
214 ..Plural ribbons shiftable laterally (e.g., by duplicate vibrators)
215 ..By ribbon vibrator
215.1 ...Including vibrator shiftable during use of nonfeed character key (e.g., for typing accent mark, etc.)
215.2 ...With retardation of vibrator return after type-face impact (e.g., with dashpot)
215.3 ...With elevation and holding of vibrator above print-point (e.g., to facilitate ribbon insertion)
215.4 ...With inactivation of vibrator (e.g., for cutting a stencil)
216 ...Including variable throw of vibrator
216.1 ....For diverse-field (e.g., plural-color) ribbon

241.2 ....Wherein ink is entrapped in ribbon material (e.g., microcapsules, micropores, etc.)
241.3 ...Particular weave pattern
241.4 ...Including ink-impervious backing for ribbon
242 .Ribbon spool or mount therefor
243 ..Universally adaptable
244 ..Including ribbon-reversing indicator or device on spool or mount
245 ..Including magnetic retainer
246 ..Spool for full-page-wide ribbon
247 .Means auxiliary to ribbon mechanism (e.g., shield, guide, etc.)
248 ..Including guide for ribbon
248.1 ...Ribbon guide opening expandable to facilitate ribbon insertion
248.2 ....And typewriter-actuated closing of guide
248.3 ...Including electrical, magnetic, or pneumatic guide means
249 ..Including indicator for depletion of ribbon (e.g., bell, sign, etc.)
250 ..Including tool for inserting ribbon
251 **CASE-SHIFT MECHANISM**
252 .Including programmed-control-system
253 .Including electronic control or code-bar control
254 .Controlled by typewriter-actuated mechanism
255 .Including plural case-shift mechanisms (e.g., for simultaneous or selective use)
256 .Actuated by toggle-linkage
257 .For case-shift by type-head (e.g., spherical type-head) movement
258 .Power-operated mechanism (e.g., for locking shift key)
259 ..For shifting platen
260 ..For shifting type-bar-segment
261 .Multiple-shift mechanism (i.e., for type-bar having three or more type faces thereon)
262 ..For shifting type-bar-segment
263 ..For shifting type-bar or type-face on type-bar
263.1 ...By pivoting type-face relative to type-bar
263.2 ...By rotating type-face relative to type-bar
264 .For shifting platen
265 ..Fore-and-aft (e.g., for top-strike or bottom-strike typewriter)
266 ..Mounted on pivotally movable platen carrier
266.1 ...With movement of platen out of typing position
266.2 ...Including adjustable counterbalance spring
266.3 ...Including a yieldable link (e.g., spring, etc.)
267 ..By depression of space-bar
268 .For shifting type-face or type-bar
269 ..By shifting type-bar or type-face on type-bar
269.1 ...By pivoting type-face relative to type-bar
270 ..Mounted on type-bar support (e.g., guide pin, type-bar-segment, etc.)
270.1 ...Ring hanger support
270.2 ...Including ball-bearing support
270.3 ...Including pivoted-lever support (e.g., cantilever spring, etc.)
271 .By choosing from one of a plurality of type-bars operated by a single key
272 .Including key attachment for case-shift
273 ..Operated by user's leg, (e.g., foot, knee, etc.)
274 .For locking case-shift mechanism in position (e.g., rebound lock, cam, etc.)
275 ..For locking platen in fore-and-aft position (e.g., by overcenter spring, etc.)
276 ..For locking shift-key lever in depressed position
276.1 ...By toggle-linkage
276.2 ...By means pivoted on shift-key lever
277 .Including limit stop (e.g., block, chain, etc.)
278 ..Including limit screw
279 **CONTROL OF PRINT POSITION ALONG PRINT-LINE BY SIGNAL GENERATED BY PROGRAMMED-CONTROL-SYSTEM**

314.1 ...Using electromagnetic drive
314.2 ...For selected number of line-spaces
314.3 ...With disconnection of return by margin-stop
314.4 ...Initiated by user's leg or foot
314.5 ...Initiated by actuator adjacent key-board
314.6 ...By return-clutch means
315 ..Responsive to carriage position
316 ..Partial return (e.g., for start of paragraph, etc.)
317 ..Including power drive (e.g., electric, spring, etc.)
317.1 ...For bidirectional drive
317.2 ...By spring-driven motor
317.3 ...Powered via engagement of a clutch
318 ..Initiated by actuator adjacent key-board
319 .Carriage-feed mechanism (e.g., escapement, etc.)
320 ..For carriage on which a type-head-carrier is mounted
320.1 ...With concurrent movement of carriage for record-medium and carriage for type-head-carrier
321 ..With repeat spacing
322 ..By electric or magnetic power
323 ..Carriage-feed in two directions (e.g., continuous typing in both directions)
323.1 ...In selected direction (e.g., for Semitic language, etc.)
324 ..Word-space concurrent with typing of last character of word
325 ..By space-bar mechanism (e.g., separate connection to escapement) or paragraph-indentation key
326 ..With compensator for tilt of typewriter
327 ..For diagonal print-line
328 ..By force-feed or screw mechanism (e.g., direct drive, screw-biasing carriage, etc.)
328.1 ...Including pawl and toothed rack
329 ..Carriage escapement controlled by pawl
329.1 ...Means to ensure engagement of pawl at start of print-line (i.e., overbanking control)
329.2 ...Carriage-feed initiated and completed during depression of character key (e.g., "speed" or "reverse" escapement)
329.3 ...Pawl rocker spring regulating device
330 ...Via ratchet wheel connected to pinion and carriage-rack
330.1 ....And plural pawls
330.2 .....For half-drop escapement
330.3 .....Mounted on pivotable pawl carrier or rocker
330.4 ......Including pawl(s) fixed to rocker
330.5 ....And slidable pawl
330.6 ....Including pawl pivoted about axis parallel to rocker axis
330.7 .....Mounted on movable (e.g., rotatable, slidable) pawl carrier
330.8 .....Including particular structure of pawl (e.g., pivoted, unitary, with roller, etc.)
331 ....Including plural ratchet wheels
331.1 ....Including particular structure of ratchet wheel
331.2 ....Including cushioned escapement support (e.g., rocker, pawl buffer, etc.)
331.3 ....Including particular structure of mount for ratchet wheel (e.g., bearing, clutch, etc.)
332 ...Via toothed rack
332.1 ....And plural pawls
332.2 .....Mounted on pivotable pawl carrier or rocker
332.3 .....Mounted on movable (e.g., rotatable, slidable) pawl carrier
332.4 .....Including particular structure of pawl (e.g., slidable, pivoted, unitary, etc.)
332.5 ....Including plural toothed racks (e.g., pivoted, etc.)
332.6 ....Including particular structure of rack (e.g., toothed, slidable, etc.)
333 ..Universal-bar or actuator therefor

429 ..Type-bar pushed or pulled by hooklike cam
430 ..Type-bar pulled to print-point
430.1 ...By cam means (e.g., slotted cam, helix, etc.)
430.2 ...By toggle-linkage
430.3 ...With movable type-bar-segment
431 ..Type-bar moved to print-point by gear drive
432 ..Type-bar moved to print-point by cam means
433 ..Type-bar moved to print-point by toggle-linkage
434 ..Including connecting link or joint
434.1 ...Adjustable (e.g., in length, etc.)
434.2 ...Flexible (e.g., spring, strap, etc.)
434.3 ...Including connecting element (e.g., joint, etc.)
435 .Type-bar rebound preventer (e.g., via latch, brake, linkage, etc.)
436 .Type-bar return spring connected to type-bar-action linkage
437 ..For impact control
438 ..With adjustment means (e.g., for "touch" control, ect.)
438.1 ...Including an indicator
439 ..Attached to type-bar or universal-bar
440 ..Attached to key lever (e.g., tension spring)
440.1 ...Compression spring
440.2 ...Cantilever spring (e.g., torsion, hairpin, etc.)
441 .Type-bar pivot support
442 ..For plural groups of type-bars
442.1 ...Having type-bars disposed on plural ring supports
442.2 ...Including type-bars pivoted on vertical pivot(s) (e.g., moved in horizontal plane)
443 ..Ring support
444 ..Type-basket laterally movable relative to platen and key-board
445 ..Type-bar-segment (e.g., wire journal)
445.1 ...With guide for movement of segment
445.2 ...Including hanger for individual type-bar
445.3 ....And bearing for type-bar
445.4 ...Interchangeable (i.e., easily removable) segment
445.5 ...With type-bar anvil
446 ..Interconnected (e.g., nested) support bearings
447 ..Ball-and-socket bearing for type-bar (e.g., universal joint)
448 ..Roller bearing or ball bearing for type-bar
448.1 ...Including plural bearings for each type-bar
449 ..Adjustable bearing for type-bar
450 ..Pin support for type-bar
451 ..Wire support for type-bars
452 .Type-bar structure
453 ..With type-face movable in plane of type-bar movement
454 .Type-bar rest or rest support
455 ..Including metallic material
456 .Type-bar or type-member guide structure
457 ..Including resilient means for energy absorption or kickback
458 ..Mounted on platen-carriage
459 ..For thrusted type-bar
460 ..Guide adjacent print-point
460.1 ...Including rollers or balls
460.2 ...Including pin or collar
461 ..Adjustable guide
462 .Type-member structure
463 ..Removable type-member
464 ..Rotatable on type-bar
465 ..Pivotable on type-bar
466 ..Type-face or type-die configuration (e.g.,reverse image, boldface, piercing, etc.)
467 .Dust guard for type-bar action mechanism
468 ..For type-bar bearing (e.g., shield on type-bar-segment)
469 .Attachment to type-bar for imprinting extra character
470 .Ink-impregnated type-face or inker for type-face
471 ..Including stationary ink pad for inking type-face directly
471.1 ...And a wick for feeding pad from reservoir
472 **KEY-BOARD OR KEY LEVER-ACTUATING MECHANISM**
473 .Including mechanism (e.g., auxiliary key-board) for activating keys

474 ..Electromagnetic key-board-drive mechanism
475 ..Operated by user's leg (e.g., foot, knee, etc.)
476 ..For actuating function key only
477 .Including means generating a signal for type selecting or other typing function
478 ..Via slidable code bars
479 ..Via electrical component (e.g., switch, stylus, etc.) in or with key-board
479.1 ...Capacitance-responsive switch
479.2 ...Electromagnetic-responsive switch
480 .Including control of key action (e.g., buffer, etc.)
481 ..By regulating key force or movement (e.g., key dip or stroke)
482 .For stenographic typewriter
483 .For Braille typewriter
484 .For foreign-language typewriter
485 .Key-board having multiple-character, multiple-movement keys
486 .Key-board arranged according to character location
487 ..Color-coded key-board
488 .Key-board including row of keys having different heights
489 .Key-board including keys grouped to facilitate positioning of typist's fingers
490 .Key-cap or key-stem structure
491 ..Including cushioning means (e.g., yieldable surface)
491.1 ...Including underlying air cushion
491.2 ...Including spring supporting key cap or key stem
491.3 ....With sensory indicator (e.g., sound, tactile response, etc.)
492 ..Adjustable in plane of key(s) (e.g., to facilitate reach, rotatable, etc.)
493 ..Including character-bearing disc on key cap
493.1 ...Secured by encircling ring member
493.2 ....With slot for exchanging disc
494 ..Having raised or recessed character
495 ..Including means for mounting key cap or key stem
495.1 ...By spring means
496 .Key lever or space-bar mounting structure (e.g., dust guard, buffer, pivot, etc.)
497 **WITH CONTROL OF "CARBON PAPER" FOR TYPING PLURAL SIMULTANEOUS COPIES BY SINGLE IMPRESSION (E.G., ON "MANIFOLD SET")**
498 .Including prevention of full imprint on "carbon copy" record-medium
499 .On record-medium wound around platen together with carbon paper
500 .With means for causing slack in web of manifold set
501 ..By arcuate movement of carbon paper carrier
502 ..By clamp on carbon paper carrier
503 .By use of other than rectangular sheet carbon paper (e.g., disc, etc.)
504 ..Endless-band carbon paper
505 .By multicolor carbon paper
506 .With means to prevent creep (e.g., relative movement) between record-media
507 .Including means for creep feed of carbon paper
508 .Including spool or support for roll of carbon paper
509 ..Including a flat roll or core therefor
510 ..And guide for changing feed direction
510.1 ...Spool support shiftable to and from platen
511 ..Feed mechanism for feed from roll of carbon paper
511.1 ...Responsive to return of carriage
511.2 ...With retraction of carbon paper for reuse thereof (e.g., by slidable carrier)
511.3 ....Carbon paper rewound for retraction
511.4 .....By driving carbon paper roll directly from platen (e.g., by endless band)
512 ..And support for roll of record-medium
513 .Including relative movement between carbon paper and record-medium

514 ..Including positioning of auxiliary record-medium
515 ..Including front insertion of carbon paper or record-medium
516 ..By simultaneously advancing record-medium and retracting carbon paper
517 ..By means to arrest advance of carbon paper
518 ..Carbon paper carrier(s) respositionable relative to platen
518.1 ...Plural carriers disposed side-by-side for selective use singly or simultaneously
518.2 ...Plural carries for serial retraction of plural carbon papers
518.3 ...With means to imprint selectively on one or more media (e.g., by holding selected media away from print-line)
518.4 ...Including retraction of carbon paper and record-medium and subsequent advance of record-medium
519 ...Carbon paper carrier movable rectilinearly
519.1 ....With means to hold record-medium against retraction
519.2 ....Including means to reduce binding of carbon paper during retraction
519.3 .....Including lifting of platen for retraction of carrier
519.4 .....With guard over settable parts (e.g., denominational jacks, etc.)
519.5 .....With relative movement betweem record media (e.g., for condensed-billing, etc.)
519.6 ....With support or guiding or positive-driving structure for carrier (e.g., table, adjustable stop, etc.)
519.7 ...Carbon paper carrier on endless member
520 .Carbon paper holder (e.g., loading board, etc.)
521 **FOR TYPING ON CARD IN CARD HOLDER**
522 .Flexible holder fed around platen with single card
523 .On card pierced or indented to aid holding
524 .Holder movable responsive to case-shift
525 .Card holder carrier by platen
526 ..And actuated in response to platen rotation
527 ..With platen surface modified for card
527.1 ...Including card gripper on platen
527.2 ...Including axially extending slot or hollow in platen
528 ..Holder attached via detachable arms at ends of platen
529 ..Holder attached via pins on holder or via adhesive attachment
530 ..Holder attached via element (e.g., band) gripping platen periphery
531 .Including line-spacing of holder or card
532 ..Variable line-spacing (e.g., platen creep)
533 ..In a curvilinear path
534 ..By pinion and rack
535 .Including support engaging bottom edge of card
536 .Card holder mounted on typewriter frame
537 ..Including means enabling movement of card relative to holder
538 ..Transparent card holder
539 ..Including finger movable away from holding position
540 ...Spring urged to holding position
541 .Including a feed-roller
542 .Card holder mounted on platen-carriage frame
543 .Including gripper or means urging card against platen
544 .Backing for stencil cutting (e.g, celluloid strip, etc.)
545 **FOR LINE-SPACING BY INCREMENTAL ROTATION OF PLATEN**
546 .To facilitate condensed billing (i.e., by determining a desired limit or amount of retrograde or advance platen movement)
547 ..Including stop structure (e.g, traveling stop, etc.)

547.1 ...For arresting platen at limit of both retrograde and advance movement
547.2 ....By stop travelling in a rectilinear path
547.3 ....By lever or push-rod drive for platen
547.4 .....Via gear drive
547.5 ......Including lever on axis transverse to platen axis
547.6 ......Including relatively adjustable coaxial gear segments
547.7 .....Via pawl and ratchet wheel drive
547.8 ......With spring motor
548 ..With graduated scale (e.g., on drum periphery)
549 .Actuated by key on key-board
550 .For multi-incremental rotation (e.g., "platen sweep")
551 .For line-spacing in forward or reverse direction
552 .With "floating" platen
553 .Via line-space / carriage-feed-release actuator
554 .For facilitating even wear of platen surface (e.g., by irregular increments, etc.)
555 .By irregular increments of platen rotation (e.g., for adjustment of platen relative to its actuator, etc.)
556 ..Including disconnecting ratchet wheel from platen (e.g., declutching ratchet, etc.)
556.1 ...Via relatively displaceable pin and slot members
556.2 ...Via toothed ring and locking member(s)
556.3 ....Including pivotable locking member(s)
556.4 ....Including radially displaceable locking member(s)
557 ...Via ball or roller clutching member(s)
558 ...Via binding jaws gripping annular flange between jaws
559 ...Via friction plate members engageable by axial displacement (e.g., pressure plate, etc.)
559.1 ....Friction members have cooperating conical surfaces
560 ...Via frictional engagement of periphery of cylindrical member
560.1 ....Friction member(s) acting on inner periphery of drum
560.2 .....Pivotable member(s)
561 .....Expandable band or split ring
562 ..Including settable stops
563 ..Including plural detents selectively engageable with ratchet wheel
564 ..Including a drive member engageable with line-space ratchet wheel
564.1 ...Via displaceable detent
565 ..Detent-release structure
566 ...With friction brake for platen
566.1 ...With simultaneous disengagement of drive pawl
567 ..Including gear (e.g., differential gear, etc.) structure
568 .By electric-power drive
569 .By gear train (e.g., including a clutch)
570 .By double-cam drive
571 .By friction drive (e.g., including regulation of increments)
572 .By pawl and ratchet wheel drive
573 ..Including rectilinearly movable pawl
573.1 ...And resilient drive
574 ..Including pawl carrier coaxial with ratchet wheel
574.1 ...And means to regulate pawl engagement or drive
575 ..Including means to regulate pawl engagement or drive
575.1 ...By movable ratchet-wheel shield
575.2 ...By stop adjustable to limit movement of actuator
576 .Via foldable line-space actuator
577 .With means to prevent reverse rotation or ensure full increment (e.g., for "backlash" prevention)
578 **SHEET OR WEB (E.G., RECORD-MEDIUM FEEDING MECHANISM)**
579 .Including skew correction responsive to position of sheet or web

580 .Including forming indicia on record-medium during typing to find next line to be typed
581 ..To find last-produced slit or hole or notch in sheet
582 .Including programmed-control-system for record-medium feed (e.g., on auxiliary record)
583 ..For web record-medium
583.1 ...Program on auxiliary-record tape
583.2 ...Program is indicia on rotatable disc or drum
583.3 ...Program is indicia on record-medium
583.4 ...Including plural speed record-medium feed
584 .Including feed of plural record-media arranged side-by-side (e.g., fed independently of platen)
585 ..By divided platen
585.1 ...With positive clutch for simultaneous rotation of platen sections
586 .Including feed of tally strip record-medium (e.g., plural tally strips)
587 ..And feed of endless transfer-medium
588 ..On plural-platen (e.g., divided platen) typewriter
589 ..With locking or interlocking mechanism (e.g., line lock, etc.)
590 ..Including feed varied for amount of tally strip on spool
591 ..Including tally-strip feed transverse to feed of main record-medium
592 ..Including feed independent of platen
593 ..With cutting or spring tensioning of tally strip
594 ..Including structure or mounting or adjustment of tally-strip roll
594.1 ...And roll for transfer-medium
595 .Including insertion of sheet from front of platen (e.g., for "condensed billing", via sheet guide, etc.)
596 ..Including feed responsive to presence of sheet
597 ..With subsequent line-spacing independent of platen
598 ..With digitally selected, typewriter-actuated feed to selected line to be typed (e.g., via "dialing" disc, etc.)
599 ..Insertion of sheet relative to other record-medium
599.1 ...With sheet-associating attachment (e.g., collating-table, etc.)
600 ..Via feed throat having gate (e.g., actuated by power, etc.)
600.1 ...With platen repositioned for sheet insertion
600.2 ...With feed-roller repositioned for sheet insertion
600.3 ....And sheet feed by additional feed-roller couple
600.4 ....Coincident to pivoting of sheet guide
601 ..With laterally movable sheet holder (e.g., having concurrent feed movement)
602 ..With sheet ejector
603 ..Via chute(s) or feed-roller couple (e.g., plural chutes)
603.1 ...Pivotable chute
604 ..Attachment to typewriter for converting to condensed-billing operation
605 .For feeding plural record media concurrently or selectively
606 ..Plural webs superimposed and aligned to each other during typing
607 ..Including movement of one record-medium relative to another
607.1 ...In lateral direction (e.g., lateral shift of web or sheet carrier)
607.2 ...By insertion of additional record-medium
607.3 ...With concurrent feed-roller and line-spacing control
608 ...With clamp for holding one record-medium stationary
608.1 ....Selectively engageable feed-rollers or feed-roller brakes
608.2 ...By auxiliary feed-roller or platen section (e.g., separate feed of sheets)

608.3 ...By retrograde movement of one record-medium
608.4 ...Including differential movement by separate drive means
609 ..Mount for plural web rolls
610 ..Including sheet-associating attachment (e.g., pin-band-encircling platen)
610.1 ...With table or frame (e.g., collating-table)
610.2 ....Front collating-table with sheet-holding means (e.g., clamps)
610.3 .....Including pin-holding means
610.4 .....Including indicator
611 .For feeding web record-medium
612 ..Feeding web or sheet in perpendicular directions
613 ..With web supply or takeup or mount therefor (e.g., web cartridge, etc.)
613.1 ...Including insertion of leading edge of web
613.2 ...For folded or creased web (e.g., fan-folded web)
613.3 ....With web smoother
613.4 ....Holder for fan-folded web mounted to move with carriage
614 ...Including web rewind
614.1 ....Connected to platen drive
615 ...Mounted on typewriter having transversely moving carriage
615.1 ....Mounted to move with carriage
615.2 ...For feeding tape in direction of print-line (i.e., transverse feed)
616 ..By pin-feed means (e.g., reciprocating pin, etc.)
616.1 ...Including laterally adjustable bands (e.g., tractor feed, etc.)
616.2 ...Pin feed on endless band
616.3 ...Pin wheel (e.g., on platen cylinder)
617 ..By friction-feed means (e.g., reciprocating finger or gripper or pinch roller, etc.)
618 ..With web tensioning or braking
619 ..Including web guiding or aligning (e.g., laterally, relative to print-line, etc.)
620 ..Including web shifting to view print-line
621 ..With web cutter (e.g., tear bar, wire tool, etc.)
621.1 ...For longitudinal cut
621.2 ...And gauge for tear-off length
622 .With holder for single sheet (e.g., clip, backing sheet, etc.)
623 ..Mounted on carriage (e.g., for extra-wide sheet, cylindroidal holder, etc.)
624 .For feeding sheet from stack or pack holder
625 ..And delivering to sheet receiver (e.g., by roller couple)
626 ..By engaging between flap and body of envelope
627 ..By pneumatic means
628 ..By reciprocating of oscillating member
629 ..By endless-band or rotating (e.g., feed-roller) member
630 .Including aligning of sheet edge prior to typing
631 ..Aligner moved to operate concurrently with disengagement of feed means
632 ..Including leading-edge aligner located past print-point
632.1 ...Adjustable leading-edge aligner
633 ..Side-edge aligner (e.g., adjustable, etc.)
633.1 ...On rear sheet table or apron
633.2 ....Adjustable aligner (e.g., with lock)
634 .Including friction-feed means (e.g., band)
635 ..By endless-feed band
636 ..By roller couple (e.g., rotatable pinch rollers, etc.)
636.1 ...With typewriter-actuated control of feed-roller position
636.2 ...Including intermediate drive means (e.g., gears) connecting feed-roller to platen
636.3 ...Including feed-roller having equalizing or pressure-adjusting means
637 ...Including lower feed-roller(s) (e.g., pressure roller, etc.)
637.1 ....Including concurrent control for disengagement of upper and lower feed rollers

637.2 ....Mounted on apron
637.3 ....Mounted on plural roller carriers
637.4 .....Including plural parallel carrier pivots
637.5 .....Including single carrier pivot intermediate front and rear lower feed rollers
637.6 ....Mounted on single carrier having pivot intermediate front and rear lower feed-rollers
638 ...Including feed or pressure roller mounted on "paper-finger"
639 ...Including upper feed-roller(s) (e.g, pressure roller, etc.)
639.1 ....Mounted on "paper bail"
639.2 .....Disengaged from platen by compound movement of bail (e.g., on double pivoted mount)
640 ...With cooperating scale
641 ...Feed-roller structure or brake or spacer therefor
642 .Including sheet guide (e.g., for sheet insertion, etc.)
643 ..Platen-encircling band
644 ..Sheet stripper (e.g., for preventing reentry, etc.)
645 ..Sheet holddown member (e.g., "paper-finger", end-of-page holddown, etc.)
645.1 ...With aperture or notch (e.g., for typing therethrough, etc.)
645.2 ...On or with erasing plate or signal or indicator
645.3 ...Movably mounted on movable finger carrier
645.4 ...Pivotally mounted holddown
645.5 ...Mounted in front of platen axis
646 ..Sheet table at delivery side of platen
647 ..Movable sheet table or apron (e.g., detachable, extensible, etc.)
647.1 ...Pivotable (e.g., fingerlike support)
648 **PLATEN OR PLATEN-MOVING MECHANISM**
649 .For movement of platen other than for line-spacing
650 ..Cylindrical platen adjustable to facilitate compactness
651 ..Cylindrical platen axially adjustable
652 ..Platen movment conjointly with type-face movement
653 ..By eccentric mounting for platen
654 .Character-size platen (e.g., anvil, disc, etc.)
655 ..Mounted on movable carrier
656 .Bar (i.e., line size) platen
657 ..Mounted on cylindrical member
658 .Semicylindrical platen
659 .Cylindrical platen
660 ..Detachably secured to platen carriage
660.1 ...By axially displaceable supporting shaft
660.2 ...By pivoted member overlying platen shaft
660.3 ...By disengageable platen sectors
661 ..With sound-muffling means
661.1 ...Including plural layers of varying hardness
661.2 ...Including cylinder containing fluent (e.g., fluid, etc.) material
661.3 ...Including cylindrical sections or rings (e.g., of character-space width)
661.4 ...Including a wound member
662 ..Including particular surface characteristic (e.g., translucent, pigment yielding, corrugated, of varying hardness, etc.)
663 **LOCKING OR INTERLOCKING MECHANISM**
664 .For interlocking plural functions or mechanisms
665 ..Plural carriage-moving mechanisms (e.g., escapement, tabulation, etc.)
666 ..Plural keys or key linkages (e.g., for type-face selection, etc.)
667 .Key-board lock using interlock mechanism
668 .Locking means actuated in response to a condition
669 ..Failure of power supply
670 ..End-of-page lock (e.g., responsive to preset condition)
670.1 ...Responsive to end-of-page sensor

670.2 ...Including lock for platen or line-space
670.3 ....By cam groove and follower
671 ..End of maximum typed line
671.1 ...Actuated by space-bar
671.2 ...Universal-bar lock (e.g, pivoted latch, slidable latch, etc.)
671.3 ....Actuated by paper-finger
671.4 ....Interposed component
672 ...Escapement lock
672.1 ...Type-bar lock
672.2 ...Key-lever lock (e.g., by hook on key-lever)
673 ..Coin-controlled lock (e.g., responsive to print-lines, time, etc.)
674 .For locking carriage in centered position (e.g., with shipping support)
675 ..And disengaging case-shift lock
676 .Key-board security lock (e.g., cover plate, etc.)
677 .For locking selected group(s) of keys
678 .For locking key in actuated position (e.g., to remove type-face from ink pad)
679 **MEANS AUXILIARY TO TYPEWRITING FUNCTION**
680 .Means for collapsing typewriter or support for record-medium or copy
681 ..By tilting typewriter (e.g., via collapsible legs, etc.)
682 ..By moving key-board relative to frame (e.g., into plural operating positions, etc.)
683 ..By moving carriage relative to frame
684 ..By moving type-bars relative to frame
685 ..Including typewriter built into carrying case
686 .Buffer (e.g., dashpot, of particular material, etc.) for movable typewriter element
687 ..Having nonimpact movement
688 .Means for increasing typewriter noise
689 .Means for muffling typewriter noise
690 ..By sound-barrier enclosure for typewriter (e.g., by sound-absorbing material)
690.1 ...With viewing window (e.g., having reflection eliminator)
690.2 ....And externally protruding (e.g., key-board, etc.) operating means
690.3 ...With externally protruding operating means
690.4 ...Including means facilitating opening of enclosure
691 .Frame, casing, or support for typewriter
692 ..Having means facilitating interchange of parts
693 ..Housing structure
693.1 ...For ink-ribbon spool (e.g., spool cover, etc.)
694 ..Made of particular material (e.g., plastic, etc.)
695 .Means for correcting typing errors (e.g., by abrasive eraser, etc.)
696 ..By laser beam or adhesive-surface ribbon or chemical eradicator
697 ..By overprinting (e.g, with coated material) to cancel error
697.1 ...With drive for ribbon having coating thereon
698 ..With erasing table
699 ..With receptacle for refuse
700 ..With means for rubbing eraser over surface of record-medium
701 .Means for cleaning, or facilitating cleaning of, type-face
702 ..By contacting type-face (e.g., via type-face cleaner, brush, etc.)
702.1 ...Including means for moving brush
703 .Indicator means
704 ..For indicating typist's skill or needed adjustment
705 ..For indicating position of carriage along print-line
705.1 ...Of carriage for type-head-carrier
705.2 ...With word counter
705.3 ...By means driven from carriage (e.g., for indicating end of print-line, etc.)
705.4 ...Scale for facilitating tabulation

705.5 ...Scale for facilitating centering of print-line
706 ..For indicating position of line or end-of-page
706.1 ...By scale mounted on paper table
707 ...By means driven from platen cylinder
707.1 ....Drive initiated by detector of record-medium
707.2 ....Including relatively movable pointer and scale (e.g., rotatable or rectilinearly movable pointer)
707.3 .....Scale rotated by gear drive
707.4 .....Rotatable scale coaxial with platen cylinder
707.5 ....With line numbering
708 ...Including detector of record-medium
708.1 ....Having electrical contacts separated by record-medium
709 ..For aligning record-medium with print-point or print-line (e.g., for facilitating correction of error, etc.)
709.1 ...By transparent indicator
709.2 ...For indicating print-line alignment
710 ..Including a page counter
711 ..Including a light
712 ..Including means producing an audible sound (e.g., plural tones, etc.)
713 .Attachment for shielding or screening record-medium or typewriter (e.g., against wind, etc.)
714 ..For screening key-board
715 .Attachment for guiding fingers or hands of typist (e.g., hand rest)
716 .Attachment for illuminating or viewing (e.g., prism, etc.)
717 .Attachment for holding an article (e.g., pencil, eraser, etc.)
718 ..Copyholder
718.1 ...Actuated by typewriter (e.g., to simulate line-spacing, for web copy, etc.)
718.2 ....With adjustment of line-spacing
719 **MISCELLANEOUS**

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