

M. H. LOCKWOOD.
 TYPE WRITER TABULATING MECHANISM.
 APPLICATION FILED MAR. 6, 1911.

1,017,301.

Patented Feb. 13, 1912.
 3 SHEETS—SHEET 1.

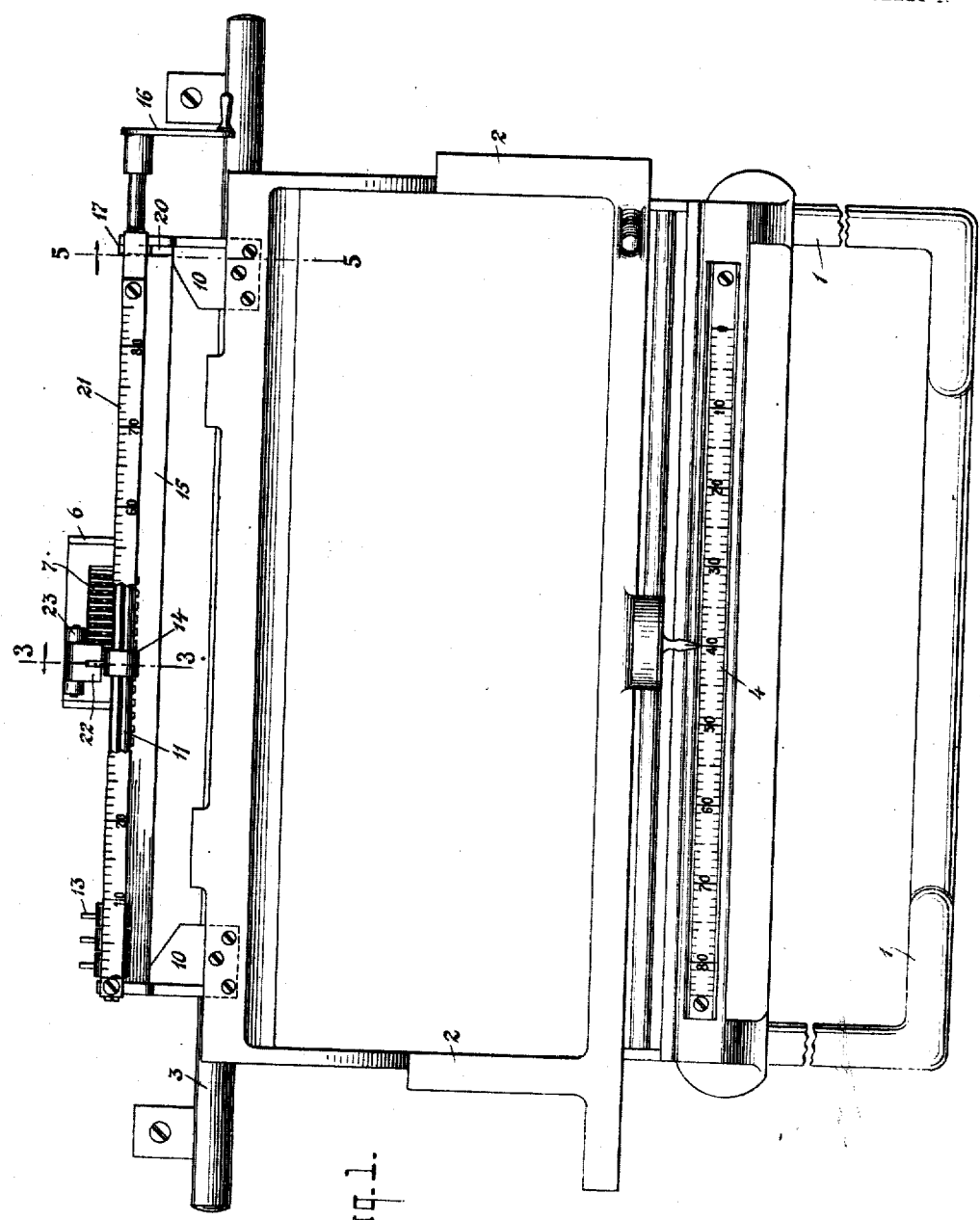


FIG. 1.

WITNESSES:
G. V. Rasmussen
John A. Kellert

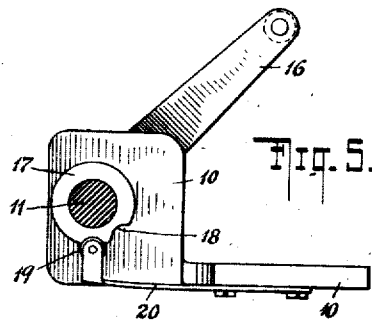
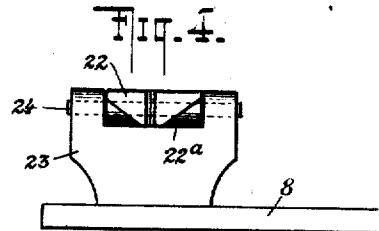
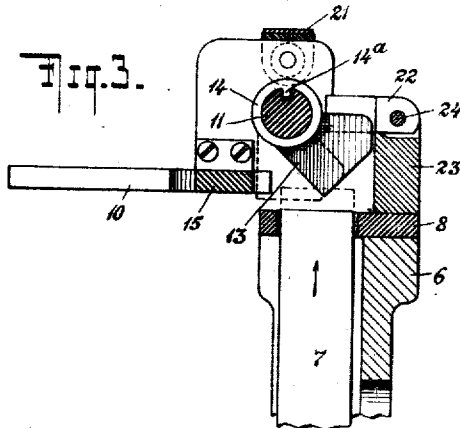
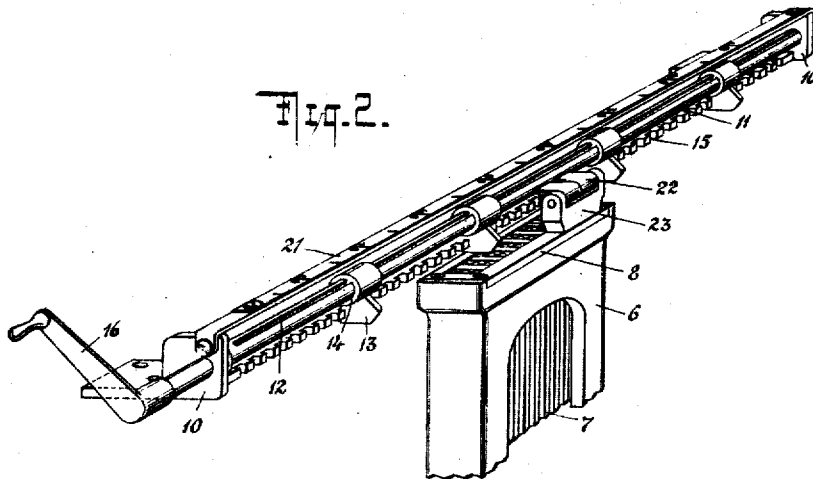
INVENTOR
 MARQUIS H. LOCKWOOD
 BY
W. H. Smith
 ATTORNEYS

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3 SHEETS—SHEET 2.



WITNESSES:

E. V. Rasmussen
John P. Steinhilber

INVENTOR
MARQUIS H. LOCKWOOD

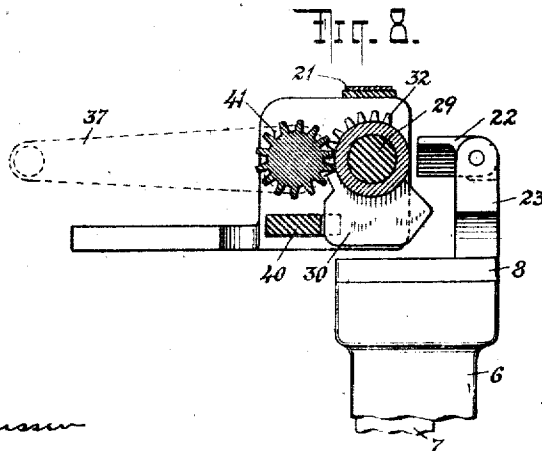
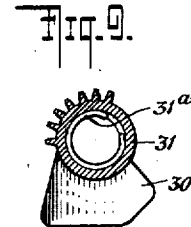
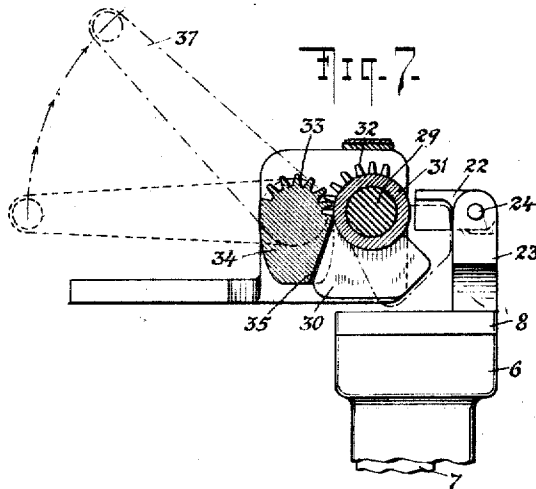
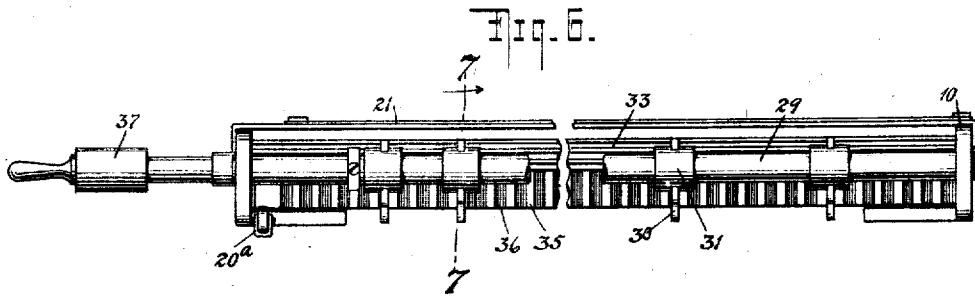
BY
William H. Smith
ATTORNEYS

M. H. LOCKWOOD.
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APPLICATION FILED MAR. 6, 1911.

1,017,301.

Patented Feb. 13, 1912.

3 SHEETS—SHEET 3.



WITNESSES:

E. V. Rasmussen
John A. Schenck

INVENTOR
MARQUIS H. LOCKWOOD

BY
Brisson & Knauth
ATTORNEYS

UNITED STATES PATENT OFFICE.

MARQUIS H. LOCKWOOD, OF NEW YORK, N. Y., ASSIGNOR TO UNDERWOOD TYPE-WRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

TYPE-WRITER TABULATING MECHANISM.

1,017,301.

Specification of Letters Patent.

Patented Feb. 13, 1912.

Application filed March 6, 1911. Serial No. 612,516.

To all whom it may concern:

Be it known that I, MARQUIS H. LOCKWOOD, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Type-Writer Tabulating Mechanism, of which the following is a specification.

My invention relates to the adjustment of the stops carried upon the typewriter carriage and more particularly to mechanism whereby the operator is enabled to set the stops to the desired columnar position from the front of the typewriter and without the necessity of handling or sliding the stops with the fingers; the stops being readily located or adjusted with reference to and by the aid of the regular scale and pointer at the front of the typewriter.

The invention may be applied to various styles of typewriters and used in connection with various styles of tabulating mechanism, but for convenience I have shown it in connection with a denominational tabulator on the well-known Underwood typewriter. The general plan of this typewriter will be found in Patent No. 633,672 to H. L. and F. X. Wagner, September 26, 1899; while a tabulator of the denominational type will be found in Patent 956,144, to J. C. McLaughlin, April 26th, 1910.

The details of the invention may be varied in many ways within the knowledge of the skilled mechanic.

I have illustrated in the accompanying drawings several ways for mounting and manipulating the stops in carrying out my invention.

Figure 1 is a plan view illustrating one form of the invention, together with parts of the typewriter and tabulator. Fig. 2 is a perspective view of one form of the invention; Fig. 3 is an enlarged sectional view taken at 3-3 of Fig. 1. Fig. 4 is a front elevation of one form of the stop positioning means. Fig. 5 is a sectional view at 5-5 of Fig. 1, and shows a detent for holding the stops in either position. Fig. 6 illustrates another method of mounting, rotating and securing the stops. Fig. 7 is a sectional view taken at 7-7 of Fig. 6. Fig. 8 is a sectional view of another method of rotating and securing the stops, and Fig. 9 shows one of the stops 80 with the hub in section.

Reference being had to Figs. 1 to 5 inclusive, 1 represents the frame of a typewriter and 2 the carriage reciprocating thereon; 3 being the carriage track rod secured to the rear of the frame 1. The scale 4 is secured to the front of the typewriter frame and a pointer 5, secured to the carriage, coöperates therewith in the usual and well-known manner. The typewriter parts shown represent conventionally parts of the well known Underwood typewriter and only sufficient parts are shown to illustrate the methods of applying my invention.

The denominational tabulator, being well known, is only represented by the box 6 in which the plungers 7 are adapted to slide vertically. The top of the box is capped by the open rectangular plate 8 through which the plungers 7 are thrust and above which they are caused to project when brought into action by the operation of a tabular key. Instead of the usual tabulating stops or taps adjustably carried upon the carriage I have mounted upon the rear of the carriage 2 by brackets 10 a stop supporting rod 11 which, in this particular form, is provided with a slot or key-way 12. The stops 13, in the present instance, are fitted with hubs 14 which may be of any desired length, but as here shown, cover three letter spaces. Some such device as a washer or spring may be inserted in the hubs to exert a slight frictional pressure between the hub 14 and the rod 11 to prevent displacement of the stops by any jarring of the machine while the stops are disengaged from the securing rack for resetting; or there should be sufficient friction to hold the stops that have been set while others are adjusted to the desired positions. Such a friction spring is shown at 31 in Fig. 9.

From the operation of the mechanism, which is fully described later, it will be apparent that the length of the hubs 14 should be some multiple of the letter space distance, which is usually 1/10 inch—so that when bunched, as illustrated in Fig. 1 at the left end of the rod, the stops will enter the notches of the stop securing rack 15. A rack 15 is secured to the brackets 10 or otherwise adapted to coöperate with the stops and prevent them from sliding on the rod 11. In my invention the stops are adapted to be rotated or moved into or out of the

secured position in any desired manner, and in the form shown in Figs. 1 to 5 inclusive, the hubs 14 of the stops 13 are provided with splines or keys 14^a adapted to fit and slide in the key-way 12 along the rod or shaft 11, so that when the rod is turned all the stops thereon will be rotated either into or out of the rack 15 as desired.

Any suitable or convenient means may be used to simultaneously move the stops in either direction. In the present instance a handle 16 is secured to the end of the rod 11 or otherwise arranged for convenience in rotating the stops. Any desired or suitable means may be employed to retain the stops in either the secured position or in position to slide along the rod. In Fig. 5 one method is shown wherein the collar 17 is secured to the rod 11 near the bracket 10 and is provided with cam or detent notches 18. A friction roller 19 is mounted in the end of a detent spring 20 and is adapted to rest under pressure in the notches 18, and thereby hold the stops 13 in either of the positions designated. A scale 21 may be secured to the brackets 10 and extend along and over the rod 11 to indicate the letter space position of the stops. The graduations of the scale 21 should correspond to the graduations of the scale 4 at the front of the machine so that when the pointer 5 is at "40" for instance, on the front scale the stop 13 will be at "40" as shown by the scale 21 and will be in position to cooperate with the key actuated tabulating plunger 7 at the extreme left of the series, and thereby stop the carriage, so that in tabulating the decimal point will come at the scale position "40" as shown by the front scale 4.

In order to position or set the stops from the front of the machine and according to the indications of the front scale 4 and pointer 5 there is secured to the plate 8, or other relatively fixed part of the machine, a stop positioning means which may be of any suitable or preferred construction but is here shown as a pair of forwardly extending pawls 22 pivotally mounted in the supporting block 23, the pivot pin being indicated at 24. The forward ends of the pawls are spaced apart, slightly more than the thickness of one of the stops 13, and each is beveled on the under face at 22^a as shown in Fig. 4, so that when the stops are in the field or path of the pawls one of the stops will lift one of the pawls by striking the beveled under face and be stopped in the space between the pawls by striking the flat face of the other pawl, when the carriage is reciprocated or moved in either direction.

Gravity pawls are here shown but it will readily be understood that spring pressed pawls may be substituted therefor as well as pawls or catches of other shape. The

block 23 may be located at any suitable or preferred position with reference to the carriage, but should be in position to locate the individual stops 13 according to the scale 4 and in the proper relation to the key actuated plunger or plungers 7 of the tabulator. In connection with the denominational tabulator, as shown, the block 23 is located so that the stop space between the two pawls 22 is substantially in line with the left hand, or decimal point plunger 7; or is so located that when the typewriter carriage is at rest any stop 13 held between the pawls 22 will readily pass into one of the notches of the securing rack 15 and thus secure the stop at the scale position indicated on the front scale 4 of the typewriter, or at the point it is desired to have the decimal point come when tabulating.

As previously stated, various methods of carrying out my invention may be employed and Figs. 6 to 8 inclusive show some other forms. In the form shown in Figs. 6 and 7, a rod 29 upon which the stops are adapted to slide is mounted between the brackets 10 and secured thereto. The stops 30, fitted with hubs 31, are provided with gear teeth 32 extending over a part of the periphery and adapted as shown, to mesh with the pinion teeth 33 cut on the bar 34, which bar extends lengthwise of the carriage between the brackets 10 and is pivotally mounted in said brackets. The lower extension of the bar 34 is formed into a rack 35 by the transverse notches 36 cut therein. The rack notches 36 are adapted to receive and secure the stops 30 so that they will not slide along the rod 29 when tabulating is being done, in which there would be a cooperation or engagement of the stops with the key actuated plungers 7. The stops 30 as with the stops 13 are adapted to be rotated into or out of the secured position as indicated in Fig. 7. In this form the stops are rotated by the movement of the pinion teeth 33 which act on the teeth 32 of the stops, and thus the stops will be disengaged from the rack and brought into the position indicated by dotted lines, to engage the stop positioning pawls 22, which are here shown as similar to those previously described with reference to Figs. 1 to 5. In this case (Figs. 6 and 7) the handle 37 is attached to the pivotal extension of the bar 34 and is adapted to turn the pinion teeth 33 and swing the rack 35, and thereby disengage the stops and rack and bring the stops into the field of the stop positioning pawls 22. It is not however necessary to swing the rack when the stops are turned, and in the form shown in Fig. 8, the rack 40, which corresponds to the rack 15 of the form shown in Fig. 3 is fixed, as in the first form described, while the pinion rod 41 is adapted to be turned by a handle 37 as in the form shown in Fig. 130

7. The stops 30, the rod 29 upon which the stops are mounted to slide, the pawls 22 and other details in Fig. 8 correspond to similar parts shown in Fig. 7. In each of the forms shown in Figs. 6 and 7 and in Fig. 8 a detent spring or other means may be employed to retain the stops in either the secured position in the rack or in position to be engaged by the stop positioning catch pawls 22. A friction roller detent similar to that shown in Fig. 5 and adapted for the same purpose is indicated in Fig. 6 at 20^a and works in notches in the bar 34 similar to 18 in Fig. 5.

15 To set or reset the stops, the operation as viewed from the front of the machine is as follows: Before beginning the actual setting operation, the stops 13 (or 30) may be bunched together at one end or the other of the rod 11 (or 29). For example, if the stops are scattered along the rod at different positions and in engagement with the rack 15 (35, or 40) and it is desired to reset them to other and different columnar positions, the typewriter carriage is first moved to the extreme left and then the stops are released from the rack by manipulating the handle 16 (or 37) which rotates the stops. The detent spring 20 will then hold the stops in the disengaged position and in position to be engaged by the stop positioning catch pawls 22. The carriage is then drawn toward the right as far as it will go, when it will be seen that the stop farthest toward right hand end of the rod will be the first to be engaged by the catch pawls and will be held thereby and caused to slide along the rod, and the hub of this stop will in turn strike and carry along the other stops until they are closely bunched at the left hand end of the rod. It will be seen that the first stop engaged by the stop positioning catch will still remain in engagement therewith. Now the carriage is released and moved toward the left in the usual manner, to the point desired for the column, as indicated by the regular scale and pointer of the typewriter, after which the handle 16 is thrown back to normal position, thus disengaging the stop from the stop positioning catch and reengaging it with the securing rack, ready for coöperation with the tabular plungers. To set additional stops, draw the carriage toward the right and again throw the stops out of the rack and into the field of the stop positioning catch so that the next stop comes into engagement with the catch, then move the carriage toward the left, as before to the scale position desired, and move the handle 16 as before, to release the stop from the catch and secure it in position by the rack, repeating the operation until the desired number of stops are set. The friction between the stop collars and the shaft is made sufficient

to prevent displacement of the stops while the various stops are being set in succession as described. The manipulation of the carriage would be reversed if the stops are first bunched at the right hand end of the rod. When all the stops are positioned as desired, they are again secured from sliding by turning the handle to normal position and reengaging the stops and rack, any unused stops remaining bunched at the end of the rod out of the tabulating field.

Various changes may be made and various forms employed without departing from the spirit and scope of my invention.

I claim:

1. In a typewriter and tabulating mechanism, the combination of a tabulating stop, movable transversely of its plane and stop positioning means adapted to be thrust aside by said stop in its transverse movement and thereafter to engage the stop and hold it from transverse movement in either direction.

2. In a typewriter and tabulating mechanism the combination of a tabulating stop movable transversely of its plane and stop positioning means adapted to automatically engage said stop and hold it from transverse movement in either direction, said engagement being effected by a transverse movement of the stop toward said positioning means.

3. In a typewriter and tabulating mechanism the combination of a tabulating stop movable transversely of its plane, a support adapted to reciprocate with the typewriter carriage and on which said stop is adapted to slide and stop positioning means adapted to engage said stop as it is moved transversely from either direction toward said positioning means by a movement of said support and after such engagement to hold the stop against movement while said support may be moved in either direction to position said stop thereon.

4. In a typewriter and tabulating mechanism the combination of a tabulating stop movable transversely of its plane, a support adapted to reciprocate with the typewriter carriage and on which said stop is adapted to slide, means adapted to secure the stop from sliding on said support and stop positioning means adapted, when the stop is released from said securing means, to engage said stop as it is moved transversely from either direction toward said positioning means by a movement of the typewriter carriage and after such engagement to hold it against movement while the carriage may be moved in either direction to position said stop on said support.

5. In a typewriter and tabulating mechanism the combination of a tabulating stop movable transversely of its plane, a support adapted to reciprocate with the typewriter

carriage and on which said stop is adapted to slide, means adapted to secure the stop from sliding on said support, stop positioning means adapted when the stop is released

5 from said securing means to engage said stop as it is moved transversely from either direction toward said positioning means by a movement of the typewriter carriage, and after such engagement to hold the stop 10 against movement while the carriage may be moved in either direction to position said stop on said support and means for releasing said stop from its securing means and bringing it into the path of said positioning 15 means to be engaged and positioned thereby.

6. In a typewriter and tabulating mechanism the combination of a tabulating stop movable transversely of its plane, a support adapted to reciprocate with the typewriter 20 carriage and on which said stop is adapted to slide, means adapted to secure the stop from sliding on said support, stop positioning means adapted, when the stop is released from said securing means, to engage said 25 stop as it is moved transversely from either direction toward said positioning means by a movement of the typewriter carriage and after such engagement to hold it against movement while the carriage may be moved 30 in either direction to position said stop on said support, means for releasing said stop from its securing means and bringing it into the path of said positioning means to be engaged and positioned thereby, and means 35 adapted to hold said releasing means with said stop in either the secured position or in position to be engaged by said positioning means.

7. In a typewriter and tabulating mechanism the combination of a tabulating stop movable transversely of its plane, a support adapted to reciprocate with the typewriter carriage and on which said stop is adapted 40 to slide, means adapted to secure the stop from sliding on said support, stop positioning means adapted when the stop is released from said securing means to engage said stop as it is moved transversely from either 45 direction toward said positioning means by a movement of the typewriter carriage and after such engagement to hold the stop against movement while the carriage may be moved in either direction to position said 50 stop on said support, means for releasing said stop from its securing means and bringing it into the path of said positioning means to be engaged and positioned thereby, means adapted to hold said releasing means 55 with said stop in either the secured position or in position to be engaged by said positioning means, and a cooperating scale parallel to said support and adapted to indicate the position of said stop.

8. In a typewriter and tabulating mechanism the combination of a tabulating stop 65

movable transversely of its plane and stop positioning means comprising a double acting latch adapted to snap into engagement with said stop as the stop is moved transversely from either direction toward said 70 positioning means and after such engagement to hold said stop against movement in either direction.

9. In a typewriter and tabulating mechanism the combination of a tabulating stop 75 movable transversely of its plane, a rod mounted upon and adapted to reciprocate with the typewriter carriage and on which said stop is adapted to slide and stop positioning means comprising a double acting 80 latch adapted to snap into engagement with said stop as the stop is moved transversely from either direction toward said positioning means and after such engagement to hold said stop against movement while the 85 carriage may be moved in either direction to position the stop on said rod.

10. In a typewriter and tabulating mechanism, a slidably adjustable stop, a support on which the stop is adapted to be positioned, means for securing the stop in adjusted position for tabulating, independent stop positioning means comprising a double acting latch for holding the stop while positioning the same, a scale to indicate the 95 position of the stop, means for releasing the stop securing means and bringing the stop and stop positioning means into cooperative relation to permit engagement of the stop by said stop positioning means and 100 frictional means for temporarily holding said stop in adjusted position on its support when the stop is disconnected from said stop securing means.

11. In a typewriter and tabulating mechanism a plurality of stops, a longitudinally movable rod on which the stops are adapted 105 to slide, a rack for securing said stops from sliding, a double acting stop positioning latch for positioning the stops on said rod and means for disengaging the stops and rack and bringing the stops and said stop-positioning latch into cooperative position for engagement during a longitudinal movement of said rod when it is desired to position 110 said stops.

12. In a typewriter and tabulating mechanism a plurality of stops, a longitudinally movable rod on which the stops are adapted 115 to slide, a rack for securing said stops from sliding, a double acting stop positioning latch for positioning the stops on said rod, means for disengaging the stops and rack and bringing the stops and said stop positioning latch into cooperative position for 120 engagement during a longitudinal movement of said rod when it is desired to position the stops and a scale cooperating with said stop positioning latch to indicate the position of the stops on said rod. 125 130

13. In a typewriter and tabulating mechanism, a plurality of stops slidably mounted on the carriage of the typewriter, a rod mounted on the carriage on which the stops are adapted to be positioned, a rack for securing said stops from sliding, tabulating plungers adapted to cooperate with said stops when said stops are secured in the rack, a double acting stop positioning latch fixed in the plane of one of said plungers, and adapted to engage and position the stops as desired, a scale to indicate the position of the stops and means for disengaging the stops and securing rack and bringing the stops and said stop positioning latch into cooperative relation whereby by a movement of the carriage a stop may be engaged by the latch and caused to slide on said rod when the carriage is reciprocated.

14. In a typewriting and tabulating mechanism, a plurality of stops, a rod on which the stops are adapted to slide, a rack for securing the stop from sliding, means for simultaneously moving the stops into or out of the secured position and detent means adapted to hold said stops in either the secured or the unsecured position.

15. In a typewriter and tabulating mechanism, a plurality of stops, a rod on which the stops are mounted to slide, friction means between the stops and rod to prevent too free sliding of said stops, a rack for securing the stops from sliding, means for simultaneously moving the stops into or out of the secured position, and detent means adapted to hold said stops in either the secured or the unsecured position.

16. In a typewriter and tabulating mechanism, a stop, a rod on which the stop is mounted to slide, a rack for securing the stop from sliding, an independently mounted double pawl latch for engaging and sliding said stop and means for moving the stop out of the secured position into position to be engaged by said latch.

17. In a typewriter and tabulating mechanism, a stop, a longitudinally movable rod on which the stop is mounted and adapted to slide, a rack for securing the stop from sliding, an independently mounted double acting stop positioning latch for engaging and holding said stop while said rod is moved, means for moving the stop out of the secured position into position to be engaged by said latch and means cooperating with said last named means for holding the stop either in the secured position or in position to be engaged by said latch during movement of said rod.

18. In a typewriter and tabulating mechanism a stop, a support therefor, a stop positioning means comprising a pair of independently mounted latch pawls adapted to engage the stop, said support and said positioning means being movable relatively to

each other transversely of the plane of said stop to bring said stop and the positioning latch pawls into engagement to permit positioning the stop on its support, means for securing said stop on its support and means for releasing said stop and bringing it into the path of the positioning latch pawls to permit it to be engaged and positioned thereby.

19. In a typewriter and tabulating mechanism, a stop, a support therefor, a stop positioning means comprising a double pawl latch adapted to engage the stop, said support and said positioning means being movable relatively to each other transversely of the plane of said stop to bring said stop and the positioning means into engagement to permit positioning the stop on its support, means for securing said stop on its support, means for releasing said stop and bringing it into the path of the positioning means to permit it to be engaged and positioned thereby and a scale adapted to indicate the relative position of the stop on the support when engaged by said positioning means.

20. In a typewriter and tabulating mechanism a stop, a rod on which the stop is adapted to slide, stop positioning means comprising a double acting latch adapted to engage the stop, said rod and said positioning means being movable relatively to each other transversely of the plane of said stop to cause engagement of the stop by the stop positioning means and after such engagement to position the stop on the rod, means for securing said stop from movement on the rod, and means for releasing said stop and bringing it into the path of the positioning means to permit it to be engaged and positioned thereby.

21. In a typewriter and tabulating mechanism a stop, a rod on which the stop is adapted to slide, stop positioning means adapted to engage the stop, said rod and said positioning means being movable relatively to each other transversely to the plane of said stop to cause engagement of the stop by the positioning means and after such engagement to position the stop on the rod, means for securing said stop from movement on the rod, means for releasing said stop and bringing it into the path of the positioning means to permit it to be engaged and positioned thereby and a scale adapted to indicate the relative position of the stop on the rod when engaged by said positioning means.

22. In a typewriter and tabulating mechanism, a stop, a rod on which the stop is adapted to slide, stop positioning means adapted to engage the stop by relative movement transversely to the plane of said stop, said rod and said positioning means being movable relatively to each other to position the stop on the rod, a rack for securing said stop from movement on the rod, means for releasing the stop from said rack and bring-

ing it into the path of the positioning means to permit it to be engaged and positioned thereby and detent means cooperating with said last named means for holding the stop in either the secured or unsecured position.

23. In a typewriter and tabulating mechanism a stop, a rod on which the stop is adapted to slide, stop positioning means comprising a double latch adapted to engage the stop, said rod and said positioning means being movable relatively to each other transversely of the plane of said stop to cause engagement of the stop by the positioning means and after such engagement to position the stop on the rod, a rack for securing said stop from movement on the rod, means for releasing the stop from said rack and bringing it into the path of the positioning means to permit it to be engaged and positioned thereby, a detent for holding the stop in the path of the positioning means, and a scale adapted to indicate the relative position of the stop on the rod when engaged by said positioning means.

24. In a typewriter and tabulating mechanism the combination of a tabulating stop, movable transversely of its plane, a rod mounted upon and adapted to reciprocate with the typewriter carriage and on which said stop is adapted to slide, stop positioning means comprising a double acting latch adapted to snap into engagement with said stop as the stop is moved transversely from either direction past said latch and after such engagement to hold said stop against movement while the carriage may be moved in either direction to position the stop on said rod, and means for releasing said stop from its securing rack and bringing it into the path of said positioning latch to be engaged and positioned thereby.

25. In a typewriter and tabulating mechanism the combination of a tabulating stop, movable transversely of its plane, a rod mounted upon and adapted to reciprocate with the typewriter carriage and on which said stop is adapted to slide, stop positioning means comprising a double acting latch adapted to snap into engagement with said stop as the stop is moved transversely from either direction past said latch and after such engagement to hold said stop against movement while the carriage may be moved in either direction to position the stop on said rod, means for releasing said stop from its securing rack and bringing it into the path of said positioning latch to be engaged and positioned thereby, and detent means adapted to hold said releasing means with said stop either in the securing rack or in position to be engaged by said positioning latch.

26. In a typewriter and tabulating mechanism the combination of a tabulating stop, movable transversely of its plane, a rod

mounted upon and adapted to reciprocate with the typewriter carriage and on which said stop is adapted to slide, stop positioning means comprising a double acting latch adapted to snap into engagement with said stop as the stop is moved transversely from either direction past said latch and after such engagement to hold said stop against movement while the carriage may be moved in either direction to position the stop on said rod, means for releasing said stop from its securing rack and bringing it into the path of said positioning latch to be engaged and positioned thereby, detent means adapted to hold said releasing means with said stop, either in the securing rack or in position to be engaged by said positioning latch, and a cooperating scale parallel to said rod and adapted to indicate the position of said stop on the rod.

27. In a typewriting and tabulating mechanism the combination of a tabulating stop and stop positioning means, movable relatively to each other transversely of the plane of said stop and adapted to be brought into engagement by such movement, said stop and stop positioning means being also movable laterally relatively to each other in the plane of the stop to effect said engagement and thereafter hold said stop against relative movement in either direction.

28. In a typewriter and tabulating mechanism the combination of a tabulating stop, a support for said stop, the support and stop being adapted to slide relatively to each other, and stop positioning means, said support and said stop positioning means being movable relatively to each other transversely of the plane of said stop, said stop positioning means being adapted to engage said stop by relative movement of one toward the other from either direction and after such engagement to hold the stop while said stop and said support may be caused to slide relatively to each other in either direction to position the stop on said support.

29. In a typewriter and tabulating mechanism the combination of a tabulating stop a support for said stop, the support and stop being adapted to slide relatively to each other, means for securing said stop from sliding relatively to said support, and stop positioning means, said support and said stop positioning means being movable relatively to each other transversely of the plane of said stop, said stop positioning means being adapted to engage said stop by relative movement of one toward the other from either direction and after such engagement to hold the stop while said stop and said support may slide relatively to each other in either direction to position the stop on said support.

30. In a typewriter and tabulating mechanism the combination of a tabulating stop a

support for said stop, the support and stop
being adapted to slide relatively to each other,
means for securing said stop from sliding
relatively to said support, stop positioning
5 means, said support and said stop position-
ing means being movable relatively to each
other transversely of the plane of said stop,
said stop positioning means being adapted to
engage said stop by relative movement of one
10 toward the other from either direction and
after such engagement to hold the stop while
said stop and said support may slide rela-
tively to each other in either direction to
position the stop on said support, and means
15 for disengaging said stop and its securing
means and bringing the stop and said stop
positioning means into position for coopera-

tive engagement during said relative trans-
verse movement.

31. In a typewriting and tabulating mech- 20
anism the combination of a tabulating stop,
movable transversely of its plane, and inde-
pendently movable stop positioning pawls
adapted to engage said stop by a transverse
movement of the latter and after such en- 25
gagement to hold the stop from transverse
movement in either direction.

In testimony whereof I have hereunto set
my hand in the presence of two subscribing
witnesses.

MARQUIS H. LOCKWOOD.

Witnesses:

EUGENE EBLE,

JOHN A. KEHLENBECK.