

No. 729,457.

PATENTED MAY 26, 1903.

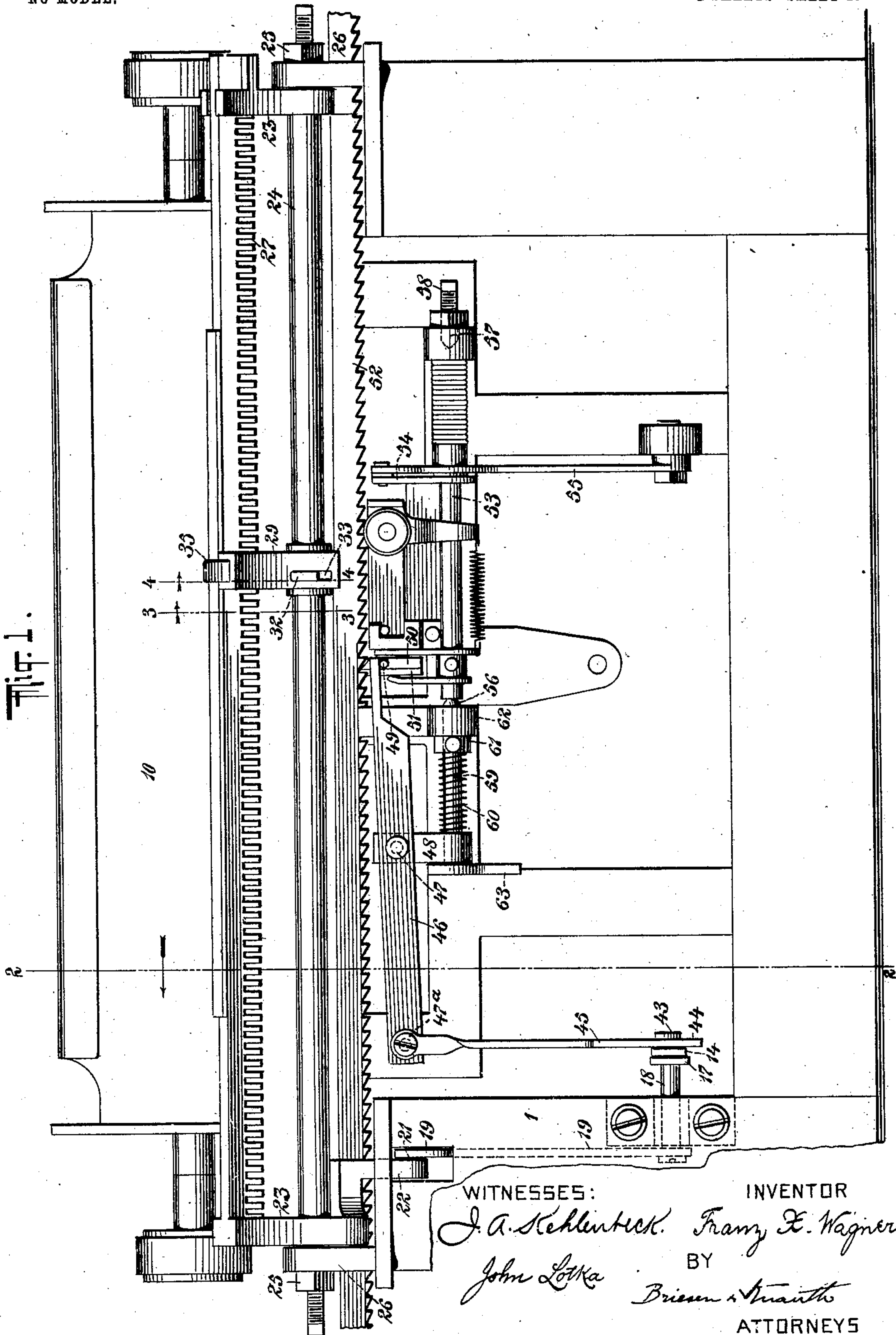
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APPLICATION FILED JUNE 19, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



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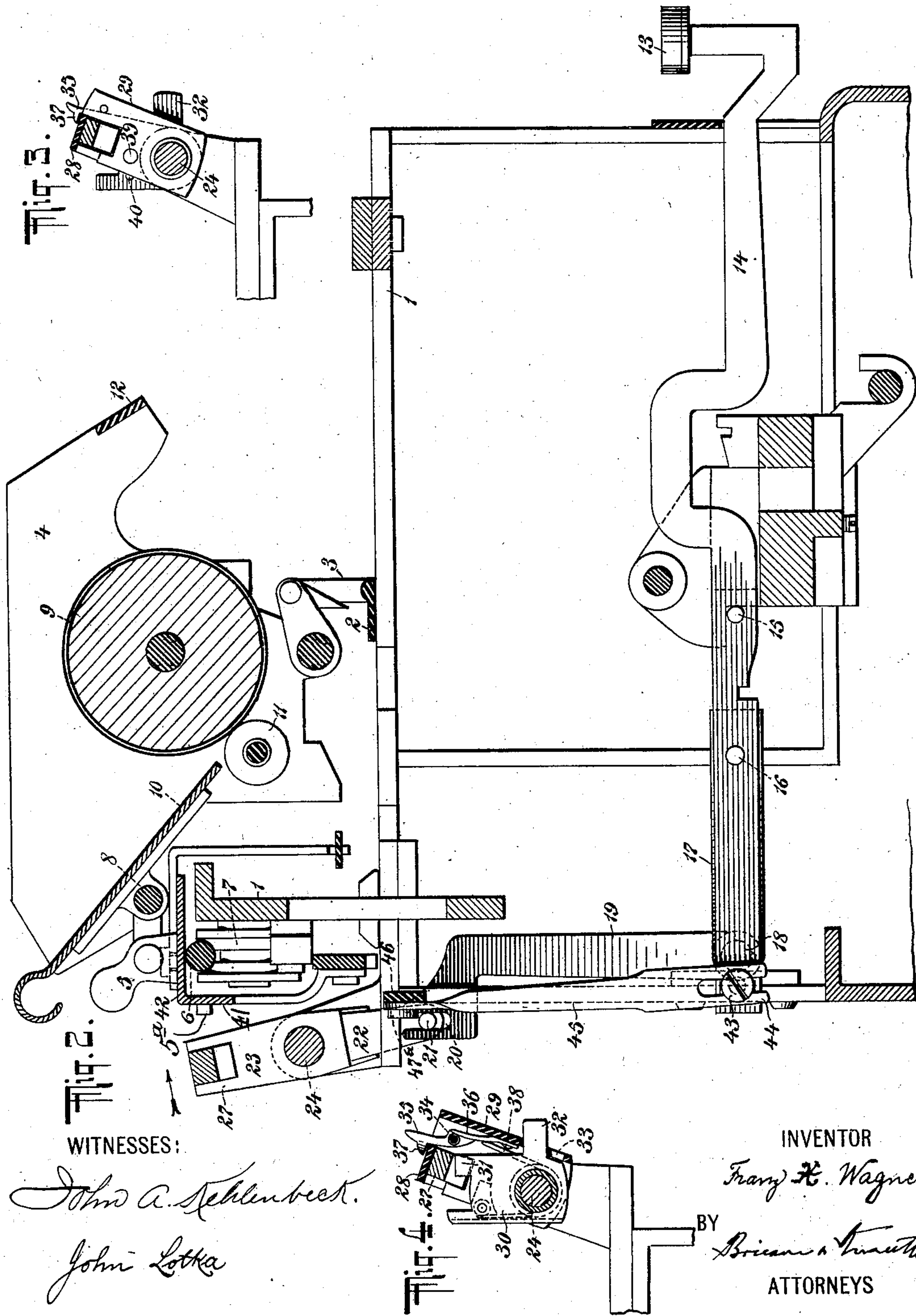
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# UNITED STATES PATENT OFFICE.

FRANZ X. WAGNER, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

## TABULATING DEVICE FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 729,457, dated May 26, 1903.

Application filed June 19, 1902. Serial No. 112,266. (No model.)

*To all whom it may concern:*

Be it known that I, FRANZ X. WAGNER, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Tabulating Devices for Type-Writing Machines, of which the following is a specification.

My invention relates to tabulating devices for typewriting-machines, and has for its object to provide an improved mechanism of this class which will comprise means for braking the carriage and which will also be so constructed as to be capable of use with an exchangeable feed mechanism.

To this end my invention consists of certain features of construction and combination of parts, as will be fully described hereinafter and then pointed out in the appended claims.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a rear view of a portion of a typewriting-machine having my improvement applied thereto. Fig. 2 is a cross-sectional elevation on the line 2 2 of Fig. 1. Fig. 3 is a detail sectional elevation of the tabulating-stop on line 3 3 of Fig. 1; and Fig. 4 is a similar view on line 4 4 of Fig. 1.

The framing of the machine is designated as 1, and 2 is the front track, on which are adapted to travel rollers 3, secured to the front portion 4 of the carriage. The rear portion 5 of the carriage is provided with a rod 6, adapted to travel on rollers 7, carried by the frame 1. The two sections of the carriage are connected by a pivotal joint 8 in a well-known manner, so that the platen 9 and the parts connected therewith may be swung into an upper position. The shelf over which the paper passes to the platen is indicated at 10, and 11 is a guide-roller. 12 is the ordinary scale located at the front portion of the carriage.

The tabulating mechanism comprises a key 13, secured to lever 14, which is pivoted upon the frame at 15. With the rear end of the lever 14 is pivotally connected at 16 a crank-arm 17. This crank-arm is connected with a rock-shaft 18, which extends at right an-

gles to said crank-arm, and is provided at its other end with a second crank-arm 19, projecting outwardly from the shaft and slotted at its upper end, as indicated at 20. Within the slot of the crank-arm 19 is contained a pin 21, mounted upon an arm 22, which depends from a rack-support 23. There is one rack-support at each end of the machine; but only one of them has the extension or arm 22. These supports are mounted to turn about an axis which is indicated by the center of a rod 24 extending lengthwise of the machine. The supports may either turn upon the rod or they may be rigid therewith. Bearings 25 are provided at the ends of the machine upon brackets 26, and these bearings engage the ends of the rod 24. The arms 23 are connected by or support at their upper portions a rack 27, having teeth upon its lower surface. The upper edge of the rack is provided with a suitable scale 28, with which the tabulating stop or stops 29 coöperate. I have illustrated but one of these tabulating-stops, although it should be understood that any suitable number of such stops may be provided. The stop 29 comprises a casing upon which the various parts thereof are mounted, and this casing is perforated, so that it may slide lengthwise on the rod 24. A latch or locking implement 30 is adapted to move around the rod 24 as a pivot, and a nose or projection 31 on the said latch is adapted to be received between the teeth of the rack 27 when the latch is in the position indicated in Fig. 4. To facilitate this movement of the latch, a finger-piece 32 is provided, which extends through an opening 33 in the casing. To the casing of the stop is pivoted at 34 an index or pointer 35. A spring 36 enables the pointer to be moved to either of two positions and to be retained in either one of them. When the pointer is in the position indicated in Fig. 4, its nose or projection 37 will extend over the scale 28, so as to determine the proper positioning of the stop. When the latch 30 is locked in the manner indicated in Fig. 4, the stop will be locked on the rack 27, so as to prevent a movement of the stop lengthwise of the rod



24. A spring 38 coöperates with the latch 30 and tends to normally force the latch into the locking position shown in Fig. 4. In order, however, to keep the latch in the unlocked position when desired, a projection 39 is located at one side of the casing. (See Fig. 3.) This projection is adapted when the latch 30 is in the unlocked position to project into a depression 40 on the latch, and thus to maintain the latch against movement by the spring 38. When, however, the finger-piece 32 is moved by hand, the pressure is sufficient to force the projection 39 out of the depression 40, thus permitting the latch 30 to be moved to the position indicated in Fig. 4. The latch 30 performs a twofold function. When the tabulating-key is depressed, the tabulating-stop 29 in its entirety will be moved in the direction of the arrow in Fig. 2, thus bringing the front face of the spring-pressed latch 30 into contact with a longitudinally-extending portion 41 on the carriage-frame member 42. This will exert the braking action on the carriage, so as to retard its movement when it has been released by the tabulating-key. The pressure of the latch 30 against the part 41 is, however, not sufficient to release the projection 31 from engagement with the rack 27. This disengagement can be effected only by hand, preferably by a movement of the hand operated finger-piece 32. The tabulating-stop, it will be understood, coöperates with a suitable projection or stop 5<sup>a</sup> on the carriage to arrest the latter at the position for which the adjustable stop 29 has been set.

On the key-lever 14 at its rear end is secured a screw 43, which fits into a bifurcated portion 44 at the lower end of a link 45, the upper end of which is pivotally connected with a lever 46, fulcrumed at 47 upon a bracket 48, fixed to the frame of the machine. This lever is adapted to engage a pin 49 upon the feed-dog 50, which is movable vertically—that is, in a direction at right angles to the direction of feed. This feed-dog in its downward movement is arranged to carry along with it the other feed-dog 51, so as to release both dogs from the rack 52 on the carriage. The mechanism by which one dog is thrown longitudinally of the rack when disengaged therefrom and the mechanism for operating the dogs to produce a feed whenever a type-lever is operated form no part of my invention and may be of any approved construction. In the construction shown the feed-dogs are carried by a shaft 53, mounted to rock by the means of any suitable mechanism, such as the crank-arm 54 and operating-lever 55, worked from the universal bar or in any other suitable manner. This shaft is mounted to oscillate upon cone-bearings 56 57. The cone-bearing 57 is in the form of a pin, which is adjustably secured in a fixed portion of the framing of the machine by the screw 58, while the bearing 56 is formed by the end of the longitudinally-movable rod 59, which

is normally maintained in the inner position by a spring 60, one end of which bears against the bracket 48 and the other against a sleeve 61, secured to said rod 59. This rod is guided in brackets 48 and 62 and is provided at its outer end with a finger-piece 63, by means of which it may be withdrawn, so as to permit the shaft 53 and the parts carried thereby to be removed from the machine.

The operation described in detail is as follows: A depression of the tabulating-key 13 will cause the inner or rear end of said key to move upward, thus causing the shaft 18 to rock by reason of the connection 16 between the tabulating-key lever and the arm 17 on the rock-shaft. The rocking of the shaft will effect a rearward movement of the upper end of the crank-arm 19, thus swinging the rack 27 and tabulating stop or stops 29, carried thereby, toward the carriage—that is, in the direction indicated by the arrow in Fig. 2. This movement will, as hereinbefore described, bring the latch 30 against the longitudinal portion 41 of the carriage-frame, so as to produce a braking action when the carriage is released, and at the same time the tabulating-stop 29 is brought into the path of the corresponding stop upon the carriage. The initial movement or depression of the tabulating-key 13 will cause the inner end of the lever 14 to rise without lifting the link 45, the screw 43 moving loosely between the members of the fork 44. Thus the tabulating-stop and the brake will be brought into the operative position before the link is operated. The further movement of the tabulating-key 13 will cause the link 45 to be raised, since the screw 43 abuts against the upper wall of the slot, and thus the free end of the lever 46 will be depressed, disengaging both feed-dogs from the feed-rack, so as to release the carriage. When the said key is allowed to return to its normal position, the tabulating-key lever 14 and the link 45 will resume the same positions with relation to one another which they did before the depression of the key by reason of the loose connection 43 44 between the said parts.

While I have shown with considerable detail one specific embodiment of my invention, it should be understood that the arrangement and detail construction of the several parts may be varied considerably without departing from the nature of my invention.

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

1. In a type-writing machine, the combination of a carriage, feed mechanism therefor, a stop carried by said carriage, a coöperating stop on the framing of the machine and which is normally out of the path of the stop on the carriage, key-operated means for moving one of said stops into the path of the other, means for disconnecting the carriage-feed mechanism to free the carriage when the key-operated means for the stop are actuated, said dis-



connecting means comprising loose connections whereby a movement of certain of the parts may be effected independently of others.

2. In a type-writing machine, the combination of a carriage, feed mechanism therefor, a tabulating-stop which coöperates with and is normally out of the path of a second stop, key-operated mechanism for operating the tabulating-stop and releasing the feed mechanism to free the carriage, spring-pressed means and a bearing-surface with which said spring-pressed means coöperates, one of said last-mentioned parts being adapted to be forced into contact with the other when the key-operated mechanism is actuated so as to retard the free movement of the carriage when it is released.

3. In a type-writing machine, the combination of a carriage, feed mechanism therefor, a tabulating-stop which coöperates with and is normally out of the path of a second stop, key-operated mechanism for operating the tabulating-stop and releasing the feed mechanism to free the carriage, a spring-pressed abutment carried by said tabulating-stop, and a bearing-surface with which said spring-pressed abutment coöperates, said spring-pressed abutment being adapted to be forced into contact with the bearing-surface when the key-operated mechanism is actuated so as to retard the free movement of the carriage when it is released.

4. In a type-writing machine, the combination of a carriage, feed mechanism therefor, an adjustable tabulating-stop which coöperates with and is normally out of the path of a second stop, a scale with which said tabulating-stop coöperates, key-operated mechanism for forcing the tabulating-stop into the path

of its coöperating stop and for releasing the feed mechanism to free the carriage, a spring-pressed abutment carried by the said tabulating-stop, and a bearing-surface with which said spring-pressed abutment coöperates, said spring-pressed abutment being adapted to be forced into contact with the bearing-surface when the key-operated mechanism is actuated so as to retard the free movement of the carriage when it is released.

5. In a type-writing machine, the combination of a carriage, feed mechanism therefor, an adjustable tabulating-stop which coöperates with and is normally out of the path of a second stop, a scale with which said tabulating-stop coöperates, key-operated mechanism for forcing the tabulating-stop into the path of its coöperating stop and for releasing the feed mechanism to free the carriage, a spring-abutment carried by said tabulating-stop, hand-operated means for moving the spring-pressed abutment to render it inoperative as such, a locking-abutment which is likewise controlled by said hand-operated means to lock the stop in its adjusted position, and a bearing-surface with which said spring-pressed abutment coöperates, said spring-pressed abutment being adapted to be forced into contact with the bearing-surface when the key-operated mechanism is actuated so as to retard the free movement of the carriage when it is released.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANZ X. WAGNER.

Witnesses:

EUGENE EBLE,  
JOHN LOTKA.