Jan. 2, 1923. 1,440,942.

I. M. STOWELL.

FINGER GUIDING ATTACHMENT FOR TYPEWRITER KEYBOARDS.

FILED JUNE 19, 1922. 2 SHEETS—SHEET 1.

Fig. 1.

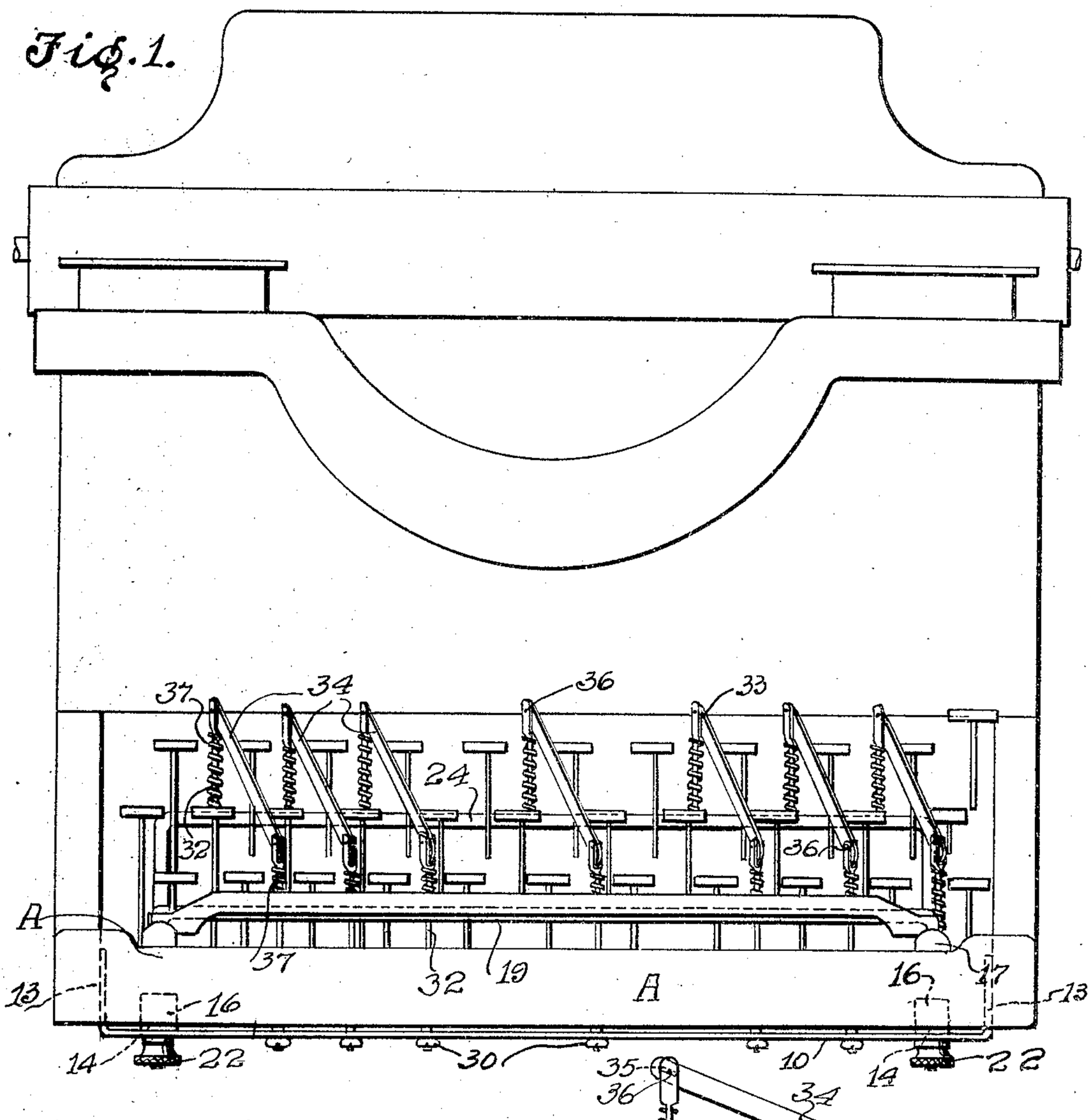


Fig. 4.

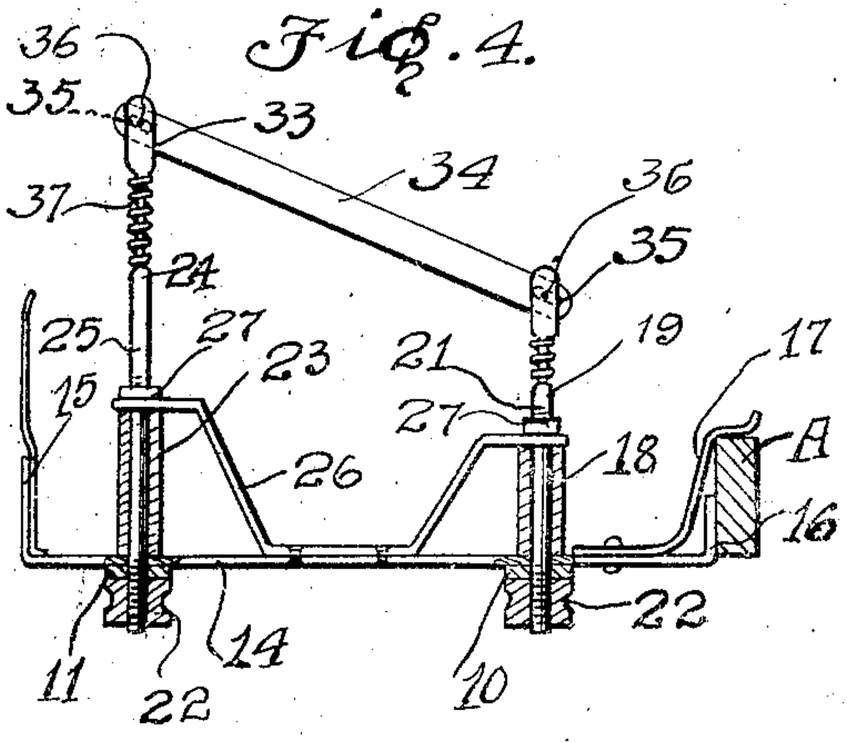
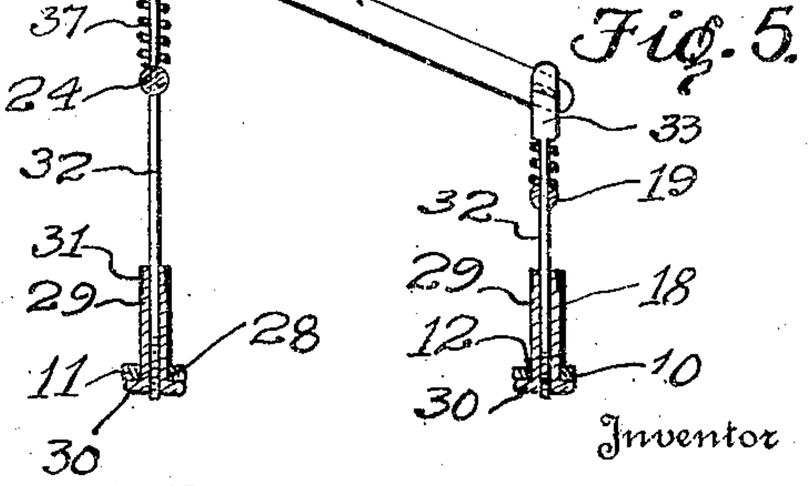


Fig. 5.



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FINGER GUIDING ATTACHMENT FOR TYPEWRITER KEYBOARDS.

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Fig. 2.

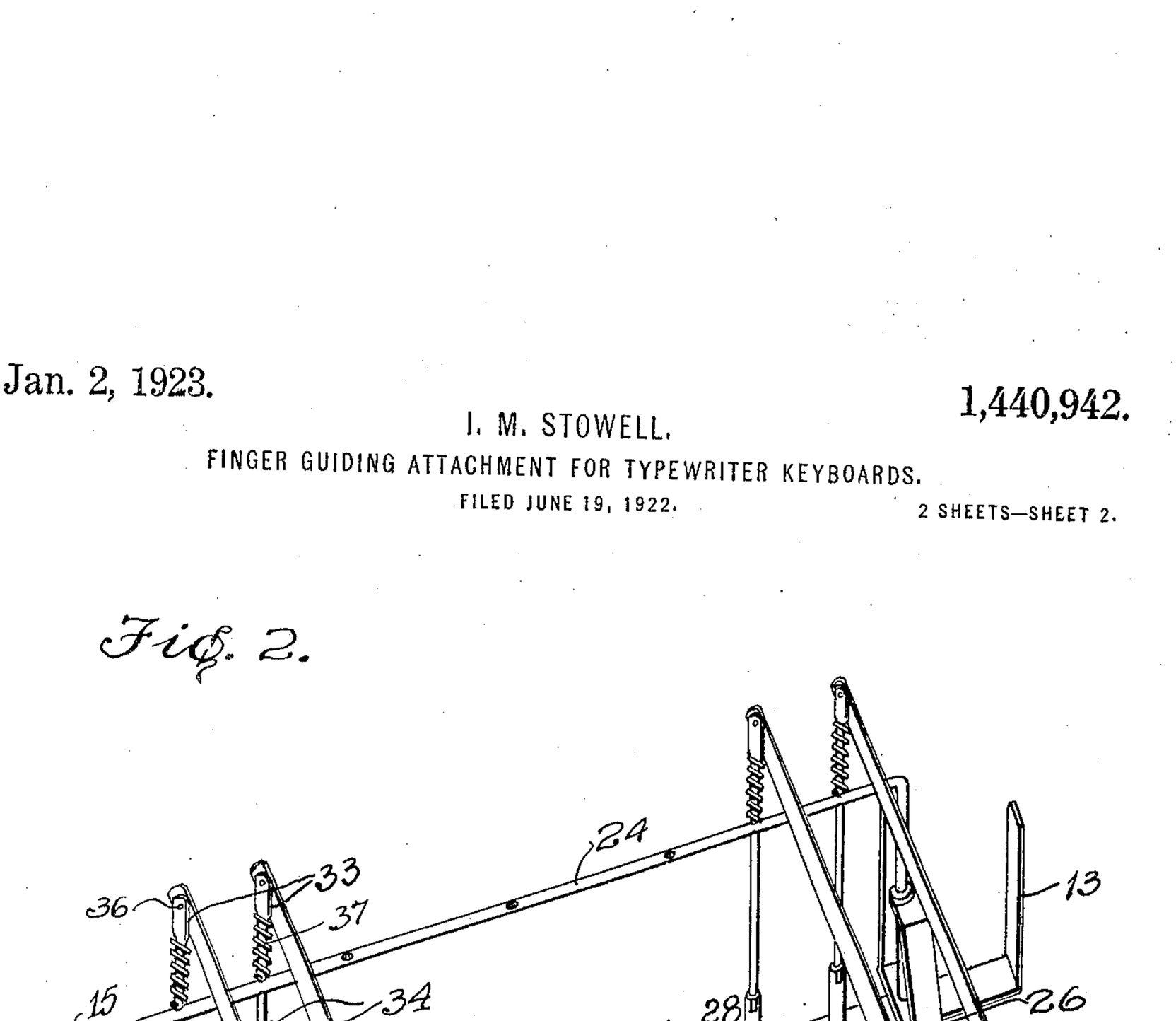
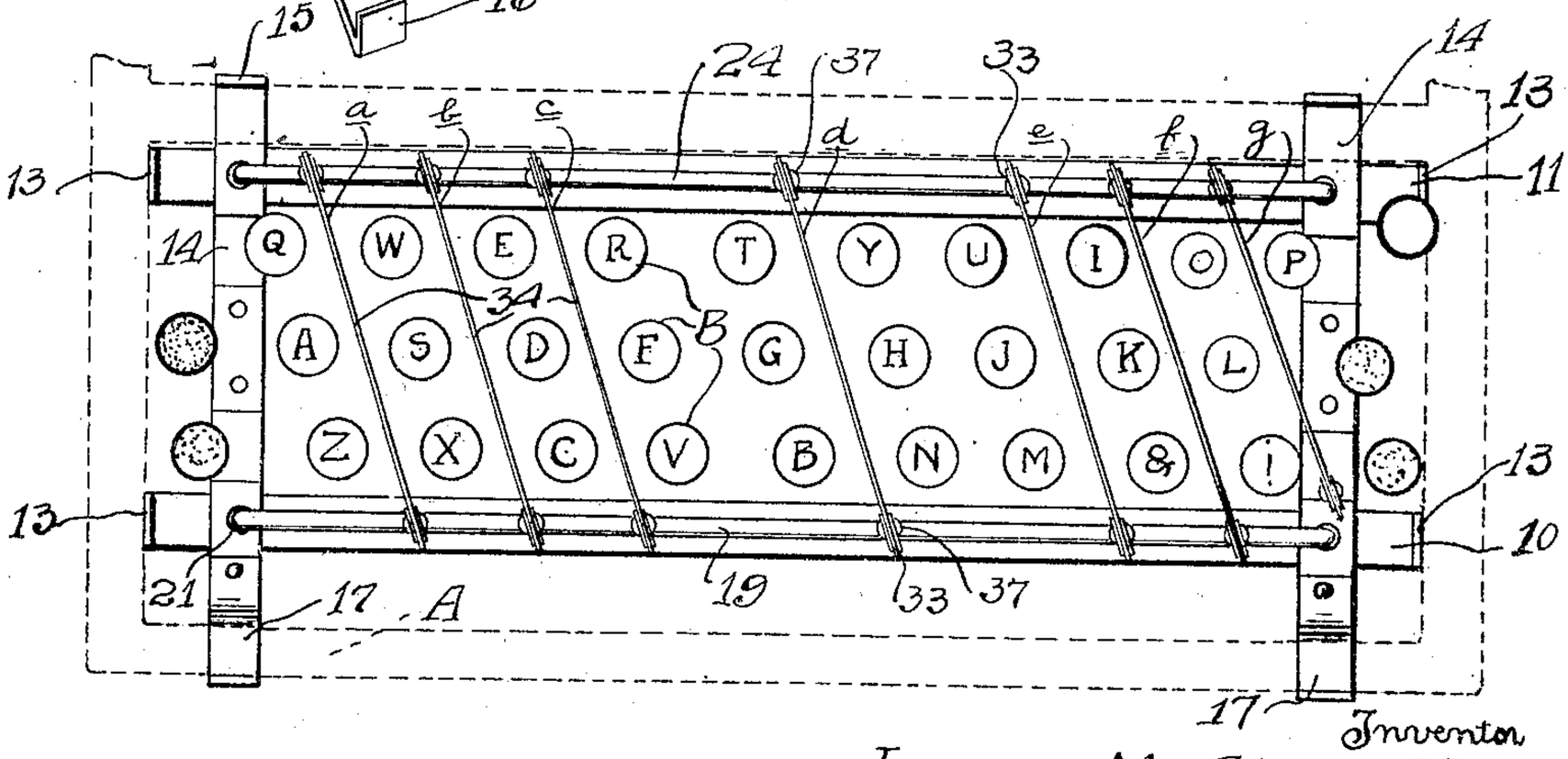


Fig. 3.



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Patented Jan. 2, 1923. 1,440,942

UNITED STATES PATENT OFFICE.

ISAAC M. STOWELL, OF DAVID CITY, NEBRASKA.

FINGER-GUIDING ATTACHMENT FOR TYPEWRITER KEYBOARDS.

Application filed June 19, 1922. Serial No. 569,218.

To all whom it may concern:

Be it known that I, ISAAC M. STOWELL, a citizen of the United States, residing at David City, in the county of Butler and State of Nebraska, have invented certain new and useful Improvements in Finger-Guiding Attachments for Typewriter Keyboards, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to typewriter attachments, and particularly to an attachment designed to guide the fingers of the operator on a typewriter, the attachment being designed to cause correct fingering, be particularly helpful to those who are studying the touch system of typewriting, and to enable all typists to manipulate their machines so as to eliminate errors.

The general object of this invention is to provide an attachment of this character which will guide the fingers of the typist and will enable an unskillful or inefficient typist to manipulate the keys and without charging the mind of the typist with key systems.

A further object is to provide a device of this character which will enable the typist to increase his speed very rapidly.

Another object is to provide a device of this character having guides separating the letter keys manipulated by one finger from the letter keys manipulated by another finger, these guides being themselves thin and springy so as to yield laterally to the touch and not impede the rapidity of the typist and which are so mounted as to yield downwardly to thus effectually safeguard against any harm or injury to the fingers or to the device itself and make the device perfectly safe and easy to operate.

A still further object is to provide a device of this character which, with slight modification, may be applied to any of the typewriting machines having a Universal keyboard.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings wherein:—

Figure 1 is a front elevation of a typewriter with my device applied thereto;

Figure 2 is a perspective view of the attachment;

Figure 3 is a top plan view of the keyboard of a typewriter showing my device applied thereto;

Figure 4 is a transverse sectional view of the attachment in applied position;

Figure 5 is a transverse sectional view through the rails 24 and 19 and through the adjusting members 29.

Referring to these drawings, it will be seen that my attachment comprises essentially two longitudinally extending front and rear bars, designated respectively 10 and 11. These bars are perforated at intervals, as at 12, and have upwardly turned ends 13. These parallel, longitudinally extending bars are connected by a pair of parallel, transversely extending bars 14, the rear ends of these bars being upwardly bent, as at 15, and perforated for the passage of a screw adjacent their extremities, the forward ends of the bars being upwardly bent. Ears 16 engage behind the front frame bar A of the machine forming the lower margin of the key bank, and attached to the front ends of the bars 14 are the spring clips 17 to engage over this frame bar A. Screws may pass through the apertures in the upwardly extending portions 15 in order to attach the rear end of the attachment to the machine.

Mounted at the intersection of the front bar 10 with the transverse bars 14 is an upwardly extending post, which is preferably tubular and designated 18, and engaged with this upper end of the post is a longitudinally extending rail 19 which is perforated at intervals, as at 20, these perforations aligning with the perforations 12. The rails 19 have their ends downwardly turned, as at 21, and inserted through the posts 18. These downwardly turned end portions 21 extend below the bar 10 and are engaged by nuts 22. The rear bar 11 also carries at its intersection with the transverse bars 14 the upwardly extending tubular posts 23 and a rear rail 24 has its ends downwardly turned, as at 25, and extending downward through the posts, these downwardly turned portions being screw-threaded for engagement with the nuts 22. Bracing strips 26 are attached by rivets to the cross bars 14, these bracing strips being upwardly extended and resting upon the top of the tubular posts 18 and 23 and being engaged by nuts 27 on the downwardly extending ends of the rails 19 and 24. Thus the parts are held rigidly together. It will be noted that the rail 24 is disposed on a level above the rail 19.

Extending through the apertures 28 in the bar 11 and the apertures 12 in the bar

10 are interiorly screw-threaded terminal members 29 having heads 30 in their lower ends which are too large to pass through the apertures 28 or 12. These members 29 are flattened, as at 31, for the application of a wrench whereby they may be turned and are interiorly screw-threaded. Having screw-threaded engagement with these members 29 and extending upwardly therefrom are the vertical rods 32 which at their upper ends are bifurcated, as at 33, and disposed in these bifurcations and extending between a rear rod 32 and the front rod 32 is a thin, somewhat resilient strip of metal 34, the ends of which are longitudinally slotted, as at 35. The extremities of this strip 34 rest within the flattened bifurcated upper ends 33 of the rods 32, and a pin or rivet 36 passes through the slot 35. The bars 10 and 11 are supported in spaced relation to the base upon which the machine rests so that the guide strips 34 may be depressed against the action of springs 37 surrounding the rods 32 and bearing at their lower ends against the corresponding rail 19 or 24 and at their upper ends against the bifurcated heads 33 of the rods.

With this construction the rear end of the rod 34 may be depressed, the forward end may be depressed, or the strip may be depressed both at its forward and rear ends. though the rear end may be depressed to a greater extent than the forward end.

There are any number of these strips 34, depending upon the arrangement of the keys, and the distance between the rails 19 and 24 will depend entirely upon the arrangement of the keys on the keyboard. Assuming, however, that the keyboard is one having three longitudinal rows of keys B, as illustrated in Figure 3, and that the keys are arranged in diagonal lines from the front to the rear of the machine, as illustrated in Figure 1, then the strips 34 will be disposed somewhat diagonally. Three of the strips *a*, *b* and *c* are arranged in a spaced relation just sufficient to receive the keys between the strips. Between the strip *c*, however, and the middle strip *d*, there is a space equal to two keys, and between this middle strip *d* and the next succeeding strip *e* there is a distance equal to two keys. Between the strips *e*, *f* and *g* there is a space approximately equal to one key.

In manipulating the typewriter, the typist in the best practice manipulates the first row of keys by the little finger of the left hand, the second row by the third finger of the hand, the third row by the second finger, and manipulates the keys of the fourth and fifth rows by the first finger of the left hand, the thumb being used to control the space bar. The first finger of the right hand manipulates the sixth and seventh rows of keys, the second finger operates the eighth row of keys, the third finger the ninth row, and the little finger of the right hand the last row of keys.

It will be noted in Figure 3 that the space between the strips *c* and the strip *d* and between *d* and *e* is great enough to accommodate these double rows of keys. In the use of this device, these guide strips 34, therefore, act to guide the respective fingers and keep the fingers of the typist in proper relation to the corresponding keys which each finger is supposed to control or operate. This makes for good fingering and tends to prevent to a very large extent the accidental striking of the wrong keys because it holds the fingers of the hands in such position that these fingers cannot strike the wrong key. Thus, for instance, it is practically impossible for the third finger of the left hand to strike either *r* or *w* for *e* or strike *r* or *w* along with *e* because the guide strips direct the third finger against the key *e* and thus the third finger will not be accidentally shifted too far to the left so as to strike the letter *w* or too far to the right so as to strike the letter *r*. This, of course, applies to all of the keys. With regard to the first finger, this first finger cannot strike *e*, *d* or *c* accidentally, nor can it strike *y*, *h* or *n* which are manipulated by the first finger of the right hand. If the finger should accidentally strike one of the strips no harm can come either to the machine or to the finger, inasmuch as each strip will yield both laterally and vertically. The strips are inclined so as to conform to the inclination of the bank of keys. The device may be readily applied and readily removed. The members 29 practically constitute turnbuckles whereby the rods 32 may be adjusted as to length, to raise or lower the guide strips, and to increase or decrease the tension of the springs 37.

While I have illustrated the device as adapted to a certain make of typewriter now on the market, it will be understood that it may be varied in many ways to adapt it to any of the standard typewriting machines.

I claim:—

1. The combination with the keyboard of a typewriter, of strips of thin material extending from front to rear of the keyboard and disposed between the rows of keys to thereby separate those keys manipulated by one finger from keys manipulated by the next adjacent finger, said strips being mounted for vertical movement and being yieldingly urged upward.

2. The combination with the keyboard of a typewriter, of strips of thin material extending from front to rear of the keyboard and disposed between the rows of keys to thereby separate those keys manipulated by one finger from keys manipulated by the

next adjacent finger, said strips being mounted for vertical movement and being yieldingly urged upward, the strips being disposed in vertical planes and formed of thin, resilient material.

3. A finger guiding attachment for typewriters comprising a frame adapted to be attached to the frame of a typewriter over the keys thereof, the frame including two longitudinally extending rails, vertical rods slidingly mounted in said rails, finger guides pivotally secured to the posts at the extremities of the guides, said strips being adapted to extend from front to rear between the rows of keys to thereby separate one row of keys from the next adjacent row, and springs urging said vertical posts upward.

4. A finger guiding attachment for typewriters comprising a frame adapted to be disposed upon the frame of the typewriter over the keyboard thereof and including two longitudinally extending, parallel rails, one of which is disposed on a level lower than the other, vertical rods extending through said rails and through said frame and having vertical sliding movement, stops limiting the upward movement of the rods; resilient strips of thin metal pivotally connected at their ends to the upper ends of said rods and extending upward and rearward, and springs urging said rods upward.

5. A finger guiding attachment for typewriters comprising a frame adapted to be disposed upon the frame of the typewriter over the keyboard thereof and including two longitudinally extending, parallel rails, one of which is disposed on a level lower than the other, vertical rods extending through said rails and through said frame and having vertical sliding movement, stops limiting the upward movement of the rods, resilient strips of thin metal pivotally connected at their ends to the upper ends of said rods and extending upward and rearward, springs urging said rods upward, and means for adjustably drawing said rods downward.

6. A finger guiding attachment of the character described comprising a frame adapted to be attached to the frame of the typewriting machine over the keyboard thereof and including longitudinally extending supporting bars, transverse members, and longitudinally extending rails disposed above the supporting bars, the rearmost rail being higher than the forward rail and both of said rails being perforated, rods passing downward through the upper rails and having sliding movement therein, thin resilient strips pivotally connected to the upper ends of said rods and adapted to extend from front to rear between the rows of keys to thereby separate a row of keys manipulated by one finger from a row manipulated by an adjacent finger, springs disposed between said rails and the upper ends of said rods, and members for limiting the upward movement of said rods, said members being tubular and interiorly screw-threaded and having sliding engagement in apertures formed in the longitudinally extending bars, said members having heads limiting their upward movement through said bars and having screw-threaded engagement with the lower ends of the rods.

7. An attachment of the character described comprising a supporting frame consisting of a pair of longitudinally extending, uniformly spaced bars having upwardly turned ends, a pair of transversely extending bars intersecting the first named bars upwardly bent at their rear extremities and perforated for attachment to the machine, the forward ends of said transverse bars being formed to engage the front bar of the machine frame, hollow posts mounted at the intersection of said bars, forward and rear rails having downwardly turned screw-threaded extremities extending downward through said hollow posts, nuts engaging the lower ends of the rails and holding them to the posts, said rails being perforated and the frame bars below the rails being perforated, vertical rods passing through said perforations in the bars and rails and extending upwardly above said rails and formed with bifurcated heads, springs between said heads and the rails and urging the rods upwardly, inclined guiding strips of thin metal having their ends longitudinally slotted and disposed within said bifurcated heads of corresponding front and rear rods, and bolts passing through said bifurcated heads and the slots of the guiding strips.

In testimony whereof I hereunto affix my signature.

ISAAC M. STOWELL.