

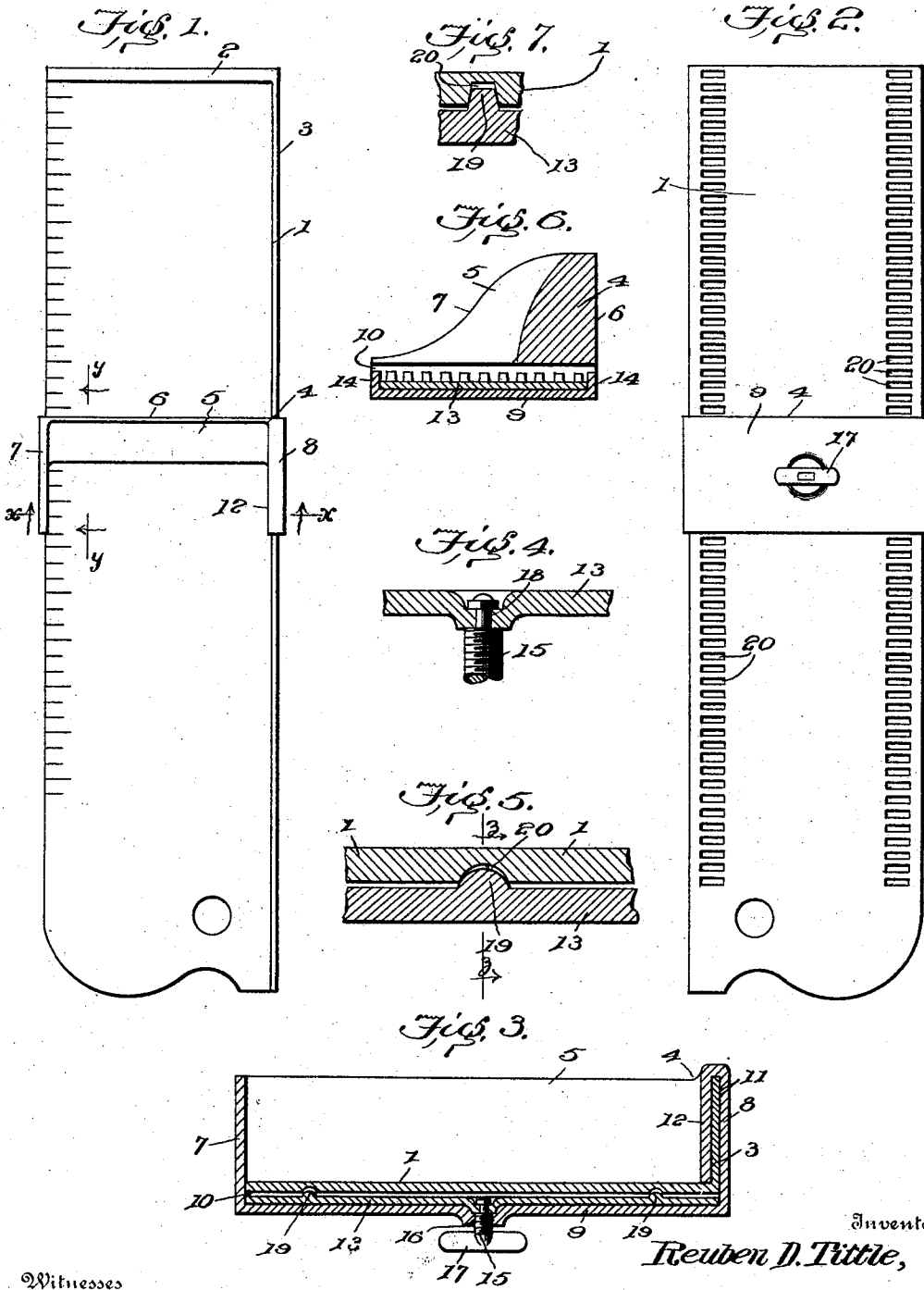
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PATENTED OCT. 11, 1904.

R. D. TITTLE.
COMPOSING STICK.

APPLICATION FILED MAR. 31, 1904.

NO MODEL.



Witnesses

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COMPOSING-STICK.

SPECIFICATION forming part of Letters Patent No. 772,116, dated October 11, 1904.

Application filed March 31, 1904. Serial No. 200,988. (No model.)

To all whom it may concern:

Be it known that I, REUBEN D. TITTLE, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Composing-Sticks, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to composing-sticks, and has for its object to provide a construction whereby the slide or knee may be locked in any desired position throughout its range of movement longitudinally of the body of the stick, said locking mechanism serving to positively and accurately maintain the guiding or defining face of the slide parallel with the opposite face of the fixed end wall of the stick and at right angles to the longitudinal wall thereof.

To these ends my invention consists in certain novel features, which I will now proceed to describe and will then particularly point out in the claims.

In the accompanying drawings, Figure 1 is a top plan view of a composing-stick embodying my invention in one form. Fig. 2 is a bottom plan view of the same. Fig. 3 is a transverse sectional view taken on the line *xx* of Fig. 1 and looking in the direction of the arrows, the same being on a somewhat large scale. Fig. 4 is an enlarged view of a portion of Fig. 3. Fig. 5 is an enlarged view of another portion of Fig. 3. Fig. 6 is a sectional view through the slide detached, taken on the line *yy* of Fig. 1 and looking in the direction of the arrows; and Fig. 7 is a detail sectional view taken on the line *zz* of Fig. 5 and looking in the direction of the arrows.

Composing-sticks have been heretofore constructed or proposed provided with various devices for clamping or locking the slide in position upon the body; but so far as I am aware these devices have been of such a nature that in course of time the wear of the parts would permit the "working" face of the slide, by which I mean the guiding or defining face against which the ends of the rows of type abut, to deviate from its proper position parallel with the fixed end wall of the

stick, opposite which it lies, and at right angles to the back wall of the stick. My present invention remedies this difficulty by the provision of means whereby the slide may be positively locked to the stick at points upon opposite sides of the central longitudinal plane of the stick, the locking instrumentalities carried by the body of the stick being arranged in two parallel longitudinal rows located near the edges thereof and the slide being provided with coöperating devices near its ends, so that when the parts are interlocked the slide is positively locked to the stick at two widely-separated points near the ends of the slide and the lateral edges of the stick, thus insuring its being maintained in proper position upon the body of the stick.

Referring to the accompanying drawings, 1 indicates the body of the stick, in the usual form of a flat plate provided at one end with the fixed end wall 2 and having the fixed back wall 3 extending along one of its longitudinal edges.

4 indicates the knee or slide, mounted to slide longitudinally upon the stick and comprising the body portion 5, having the working or defining face 6, which is to be maintained parallel with the opposite face of the end wall 2 and at right angles to the inner face of the back wall 3. This body 5 rests upon the upper side of the plate 1, which forms the body of the stick, and is connected at its ends by end plates 7 and 8, with a bottom plate 9, which lies beneath the under side of the plate 1, there being thus formed a slot or opening 10 between the body-plate 9 and the body 5 of the slide, through which slot or opening the plate 1 passes. A vertical slot or opening 11 is formed between the end plate 8 and body 5 to receive the back wall or flange 3 of the stick, and a guide-plate 12 extends downward on the inner side of the wall 3, the said guide-plate being attached to or forming part of the slide 4. The two parallel plates 8 and 12 form guiding-plates having an extended bearing on opposite sides of the back wall 3 of the stick.

13 indicates a locking-plate mounted on the upper side of the bottom plate 9 of the slide,

which is provided with lateral guide-flanges 14 to maintain said locking-plate in proper relation to the said bottom. This locking-plate is movable toward and from the plate 1, its movement being preferably effected by means of a screw 15, mounted in a threaded aperture 16 in the bottom plate 9, provided with an operating-head 17 below said bottom plate and having its inner end swiveled in the locking-plate 13, as shown in detail at 18 in Fig. 4, or in any other suitable manner. The locking-plate 13 is provided near each of its ends with locking projections 19, extending upward therefrom, and the under side of the plate 1 is provided near each of its longitudinal edges with a row of locking-recesses 20, as shown more particularly in Fig. 2. The arrangement of the recesses on the part 1 and projections on the part 13 is merely a preferential one. The form which I prefer to give these projections and recesses is that shown, the projections having outwardly-converging flat sides and a curved edge, while the recesses are in the form of grooves having similarly-converging flat sides and a curved bottom, the curvature being longitudinal of the grooves, while the curvature of the edge of the projections is also longitudinal relatively to the projections. The two curvatures have different radii, that of the groove or recess 20 being less than that of the projection 19, as will be seen from an inspection of Fig. 5. By reason of this construction provision is made to compensate for wear between the edge of the projections and the bottom of the recesses, the projections entering more deeply into the recesses as such wear takes place. It will be understood that the purpose of the converging sides of the projections and the correspondingly-inclined sides of the recesses or grooves is to cause said projections and recesses to bear firmly against each other when engaged, so as to prevent any movement of the slide relatively to the stick. It will also be understood that when the screw 15 is so rotated as to cause the locking-plate 13 to withdraw its projections from engagement with the recesses 20 the slide may be freely moved along the body of the stick to any desired position. When the slide has been thus positioned, it may be positively locked in that position by so turning the screw 15 as to move the locking-plate 13 toward the plate 1 and engage the projections of the one with the recesses of the other. The recesses 20 are arranged in two parallel rows, and each pair of opposite recesses of the two rows is in a plane exactly parallel with the inner face of the end wall 2, while the locking projections on the plate 13 are similarly parallel with the working face of the slide 4. Thus when the slide is locked in position its working face is parallel with the working face of the end wall 2, and owing to the fact that the slide and stick are positively interlocked at

two widely-separated points near the ends of the slide and the lateral edges of the stick the slide will maintain itself in its adjusted position. This result is obtained much more effectually by my improved construction than where reliance is placed upon the lateral bearing-surfaces between the slide and stick, which becomes inaccurate through wear, or upon a single locking connection, which does not give the requisite firmness. It will further be noted that the slide is slotted in such a way that it not only has an extended bearing upon the opposite surfaces of the back wall 3 of the stick, but also bears upon the opposite edges of the body 1 of the stick and upon the upper and lower surfaces thereof. This materially aids in holding the slide in proper position relatively to the fixed end wall 2, since the ability of the body 1 to resist strains which would tend to effect the parallelism of the slide by moving one of its ends away from the end wall 2 in the direction of the plane of the body is equally great throughout the entire length of said body, since these strains are exerted edgewise on the body, while the capacity of the back wall 3 to resist such strains decreases progressively as the slide moves away from the fixed end wall, for the reason that these strains are exerted in a direction at right angles to the plane of the back wall, which is braced to resist such strains at one end by the fixed end wall, but is not so braced elsewhere, the bracing effect of the fixed end wall diminishing in proportion to the distance from its point of union with the back wall.

It will be observed that the upper surface of the flat body of the stick and the inner faces of the end and back walls of the stick, which are the surfaces with which the type comes into contact when the stick is in use, are smooth continuous surfaces free from apertures, teeth, or indentations of any kind, the front edge of the flat body of the stick being smooth and continuous and presenting an even and uniform surface to the hand of the compositor. It will also be noted that the slide is fixed against lateral motion with respect to the body of the stick and maintains its engagement therewith during adjustment.

I do not wish to be understood as limiting myself to the precise details of construction hereinbefore described, and shown in the accompanying drawings, as the same may obviously be modified without departing from the principle of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a composing-stick, the combination, with the body of a stick having a smooth continuous front edge, of a slide movable longitudinally on said body and bearing against the lateral edges thereof as guides, and means for positively locking said slide in adjusted posi-

tion on said body, said locking means comprising two sets of interlocking devices located on opposite sides of the central longitudinal plane of the stick, substantially as described.

5 2. In a composing-stick, the combination, with a stick-body having a smooth continuous upper surface and lateral edges, of a slide movable longitudinally on said body and bearing against the lateral edges thereof as guides,
10 said stick-body being provided on its under side with two rows of interlocking devices located on opposite sides of the central longitudinal plane of the stick, the slide being provided with means for simultaneously engaging
15 both of said rows of locking devices, substantially as described.

3. In a composing-stick, the combination, with the body of the stick, of a slide apertured for the passage therethrough of the body of
20 the stick, a locking-plate mounted in the slide underneath the body of the stick, and means carried by the slide for moving the locking-plate toward and from the body of the stick, said locking-plate and the under side of the
25 stick-body being provided with cooperating interlocking recesses and projections arranged in two sets near the lateral edges of the body and near the ends of the slide, substantially as described.

30 4. In a composing-stick, the combination, with a body having formed in its under side near each lateral edge thereof a row of recesses, of a slide apertured to fit said body, said slide having mounted and guided in it a
35 locking-plate provided near its ends with projections to engage and fit the recesses of the body, and a screw threaded through the bottom plate of the slide, provided with an external operating-head, and having its end
40 swiveled in the locking-plate, substantially as described.

5. In a composing-stick of the character described, the combination, with a body having two parallel rows of locking-recesses arranged

in opposite pairs, each recess having side walls 45 and a longitudinally-curved bottom, of a slide provided with a locking-plate having cooperating locking projections having flat sides and a curved edge, substantially as described.

6. In a composing-stick of the character described, the combination, with a body having
50 two parallel rows of locking-recesses arranged in opposite pairs, each recess having side walls and a longitudinally-curved bottom, of a slide provided with a locking-plate having cooperating
55 locking projections having flat sides and a curved edge, the curvature of the bottom of the recesses having a radius shorter than the curvature of the edge of the projections, substantially as described. 60

7. In a composing-stick of the character described, the combination, with a body having two parallel rows of locking-recesses in opposite pairs, each recess having inwardly-converging side walls, and a longitudinally-curved
65 bottom, of a slide provided with a locking-plate having cooperating locking projections with corresponding converging flat sides and a curved edge, the curvature of the bottom of the recesses having a radius shorter than
70 the curvature of the edge of the projections, substantially as described.

8. In a composing-stick, the combination, with a stick-body having a smooth continuous upper surface and lateral edges, said body being provided on its under side with a row of
75 interlocking devices, of a slide movable longitudinally on said body and bearing against the lateral edges thereof as guides, said slide being provided with means for engaging the
80 interlocking devices on the under side of the stick-body, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

REUBEN D. TITTLE.

Witnesses:

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