Jan. 2, 1923.

1,440,531.

C. E. ESSELSTYNE.

COMPOSING STICK KNEE.

FILED AUG. 18, 1919.

Fig. 1.

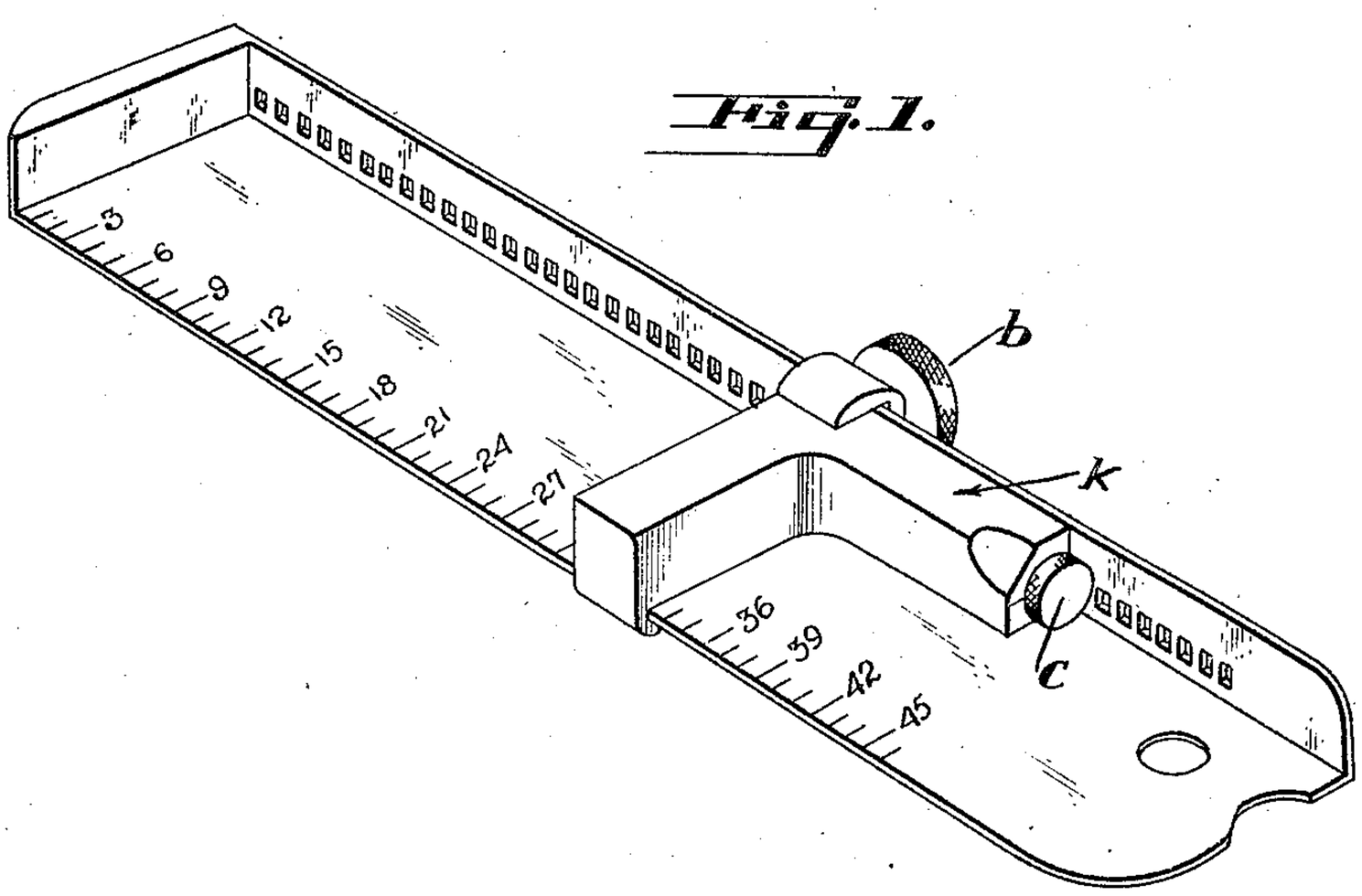


Fig. 2.

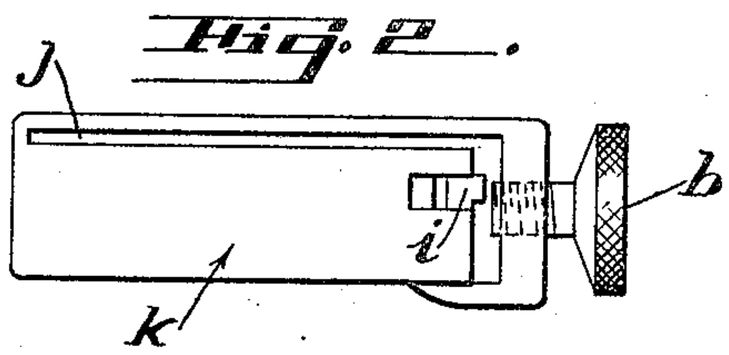
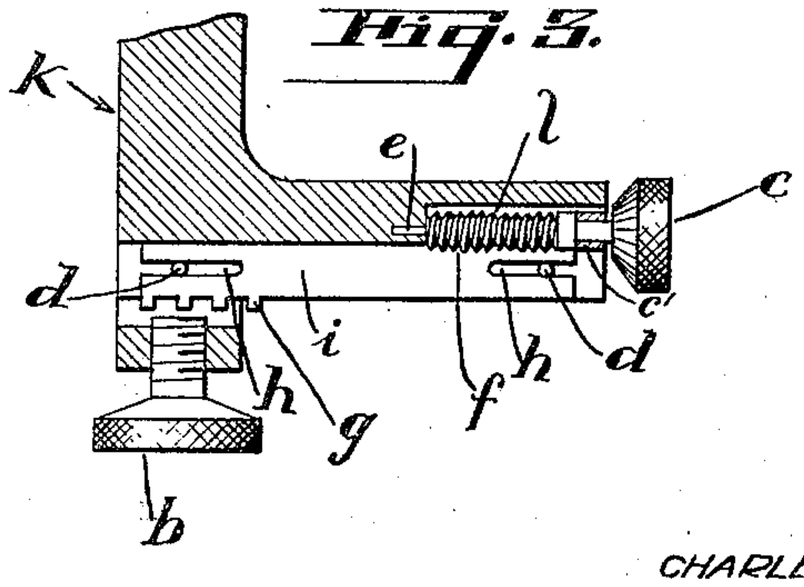


Fig. 3.



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Patented Jan. 2, 1923. 1,440,531

UNITED STATES PATENT OFFICE.

CHARLES E. ESSELSTYNE, OF SAN FRANCISCO, CALIFORNIA; WILLIAM ELROY THOMSON ADMINISTRATOR OF SAID CHARLES E. ESSELSTYNE, DECEASED.

COMPOSING-STICK KNEE.

Application filed August 18, 1919. Serial No. 318,348.

To all whom it may concern:

Be it known that I, CHAS. E. ESSELSTYNE, a citizen of the United States, residing at 1396 McAllister Street, city and county of San Francisco, and State of California, have invented a new and useful tool used by printers and known as a Composing-Stick Knee.

My invention relates to improvements in composing sticks, in that my device secures an absolutely rigid and accurate knee, which may be adjusted to "a hair," by a micrometer attachment which I have originated and embodied in my invention as an integral part thereof.

Figure 1 is a view in perspective showing the present invention.

Fig. 2 is a view in end elevation showing the knee member.

Fig. 3 is a fragmentary view in section showing the adjustable mechanism of the knee.

Similar letters refer to similar parts throughout the several views.

The knee, designated *k* in Figures 2 and 3, is applied to the pan by inserting the heel or rear end of the pan into the slot, *j*, and sliding along until the knee reaches the point desired. This sets or adjusts the knee to even picas (printers' measure). Should the adjustment desired be an uneven, or what is technically known as "bastard" measure, the screw, *c*, (Figs. 2 and 4) is turned by its milled head, either forward or backward as the case requires, until the knee rests at the desired point, when the thumb screw, *b*, is turned to the right until tight, when the knee is securely locked and the stick is then ready for use.

The micromatic adjustment is secured by the bar, *i*, (Figs. 3 and 4) engaging the holes (which may be round or square) in the bottom or turned up edge or flange of the pan by the sprockets or lugs, *g*, of which there may be one or more, in this case four. This bar slides forward and backward in a slot or groove cut in the under edge of the knee proper, *k*, guided by pins, *d*, (Fig. 2), which are entered in slots at each end of bar and marked *h*, (Figs. 3 and 4). These pins, *d*, also act as stops and allow the bar to travel about one-fourth of an inch forward and backward. The movement of the bar is attained by the screw, *c*, (Figs. 2 and 4) which is seated in the rear end of the knee. This screw, the thread (*l*) of which engages a like thread cut in the upper corner of the rear end of the bar, *f*, (Fig. 4) and rotating to the right or left causes the bar to move forward or backward thus securing a micromatic adjustment of the knee.

As previously mentioned, a pica, one-sixth of an inch, is a standard printer's measurement. A pica is divided into twelve parts called points; consequently a point is one-seventy-second part of an inch. The thread on this screw, *c*, and this bar, *f*, is thirty-six to the inch. Therefore one full turn of the screw slides the bar two points; one-half turn, one point; and one-quarter turn, one-half point, etc. This is indicated by markings or scores upon the screw head and an adjoining part of the knee. Friction is allayed by the hanging of the screw by the collar *c'* and small pin, *e*. The small collar *c'* on the screw attaches to the knee proper by a small pin which cannot be shown. The pin or gudgeon on the end of the screw fits into a bearing in the knee above the top edge of the slide or bar.

The knee, *k*, completely encircles the pan, making the lock absolutely positive and rigid when the screw, *b*, is tightened, forcing the edge or flange of the pan to the bottom of bar and to the knee, and the top edge of pan to the top of the slot in the knee, *j*.

The slide *k* is approximately L-shaped to receive the pan and flange thereof and the flange receiving portion of the slot is enlarged to permit a relative laterally tilted movement of the knee and the flange.

I claim:

1. A composing stick comprising a pan member having a longitudinally extending flange along one marginal edge thereof, a knee slidable along said flange and extending across the pan, primary locking means for securing the knee in approximate adjustment relative to the pan, and secondary means including a micrometer screw connected with the primary locking means and the knee for accurately adjusting the knee without unlocking the said primary locking means.

2. A composing stick comprising a pan member having a vertical stop at one end and a longitudinal flange extending along one marginal edge of the pan, a plurality of stop members formed along the longitudinal flange and in equal spaced relation to each

other, a composing stick knee slidably mounted upon said longitudinal flange and adapted to extend across the pan, primary locking means for securing said knee in approximate adjustment with relation to desired stops along the longitudinal flange of the pan, and a secondary adjusting means connected with the primary locking means and with the knee and including a micrometer screw for moving the knee after it has been set relative to the flange.

3. A composing stick comprising a pan having a ledge across one end thereof and a longitudinal flange along one edge thereof, a composing stick knee slidably mounted upon said pan for longitudinal movement, primary locking means cooperating between the longitudinal flange and the knee, for locking said knee in approximate adjustment with relation thereto, and whereby a tilting movement of the knee relative to the flange will permit it to be released and moved, and a secondary locking means including a micrometer screw connecting the primary locking means with the knee for effecting a final adjustment of the knee without unlocking the said primary locking means.

4. A composing stick comprising a pan having a ledge across one end thereof and a longitudinal flange along one edge thereof, a composing stick knee slidably mounted upon said pan for longitudinal movement, primary locking means cooperating between the longitudinal flange and the knee, for locking said knee in approximate adjustment with relation thereto, and whereby a tilting movement of the knee relative to the flange will permit it to be released and moved, and secondary locking means for adjusting said knee relative to the pan after it has been approximately set, said secondary locking means including a micrometer screw connecting the primary locking means with the knee and adapted to move the latter without unlocking the former.

5. A composing stick comprising a pan member having a ledge at one end thereof and a marginal flange along one edge thereof, said flange being formed with a plurality of equally spaced perforations throughout its length, a composing stick knee slidable longitudinally of the pan, a slide thereon having projecting means for engaging perforations of the flange to approximately set the knee, and a micrometer screw connecting the slide with the knee for adjusting the knee without disengaging the slide from the said flange.

6. In combination with a composing stick having a longitudinal flange thereon, said flange being formed with a series of equally spaced perforations throughout its length, a composing stick knee consisting of arms at right angles to each other, one arm extending across the stick and the other arm coinciding with the face of the flange, said knee being provided with an approximately L-shaped slot to receive the stick and the flange, and the flange receiving portion of the slot being enlarged to permit a relative lateral movement of the knee, and the flange means normally locking the knee to the flange by engagement with the perforations thereof, and whereby the tilting action of the knee will release said knocking means, and means for clamping the knee in its locked position.

7. In combination with a composing stick having a longitudinal flange thereon, said flange being formed with a series of equally spaced perforations throughout its length, a composing stick knee consisting of arms at right angles to each other, one arm extending across the stick and the other one coinciding with the face of the flange, means for slidably mounting said knee upon the stick and for permitting it to have a tilting movement relative to the face of the flange, primary locking means normally securing the knee to the flange in approximate adjustment by engagment with the perforations thereof, and whereby the tilting action of the knee will release said lock means, and means for clamping the knee in its locked position, and means embodied within the leg of the knee and including a micrometer screw extending along the flange to accurately adjust the knee after it has been locked without unfastening the primary locking means.

8. A composing stick knee comprising a pair of arms at right angles to each other, one of which extends across the face of the composing stick and the other along the longitudinal flange thereon, guide means for holding the knee in slidable relation to the stick, primary locking means engaging perforations in the stick for approximately setting the knee, a screw adjustment acting upon said engaging means to accurately adjust the knee without unfastening the primary locking means and a lock screw for securing the knee in its accurately set position.

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Witnesses:
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MACK A. KELLY.