Feb. 4, 1936. W. STAHL 2,029,899

RULER ATTACHMENT

Filed Nov. 28, 1934

FIG.1.

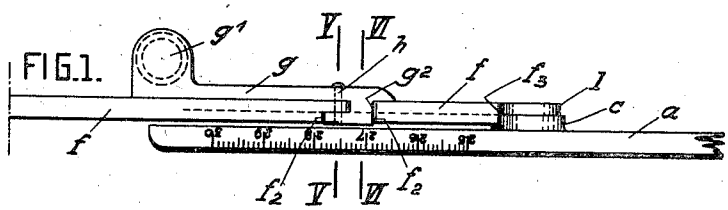


FIG.2.

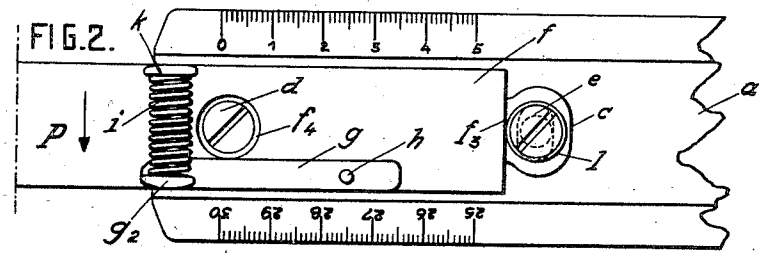


FIG.7.

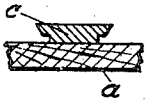


FIG.3.

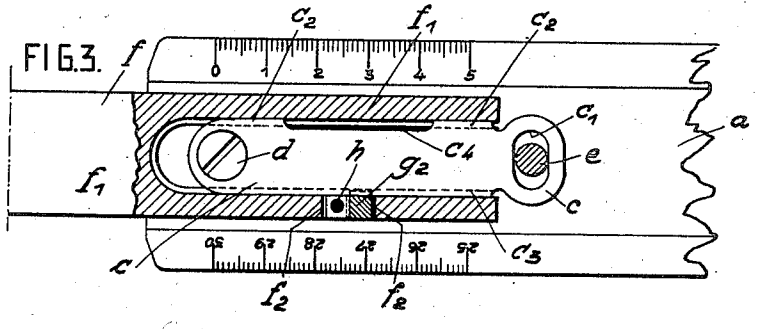


FIG.8.

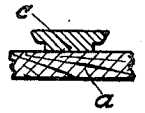


FIG.4.

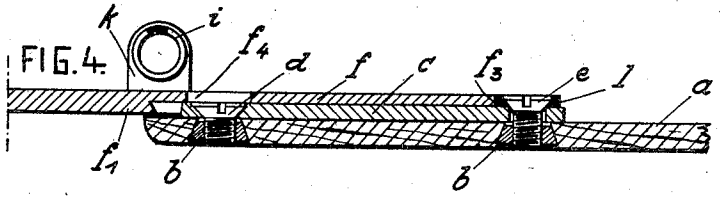


FIG.10.

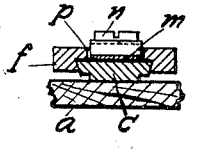


FIG.5.

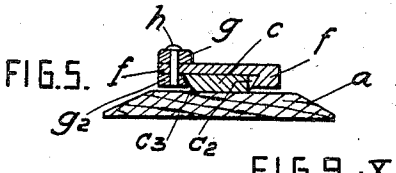


FIG.6.

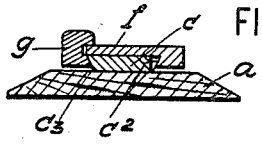
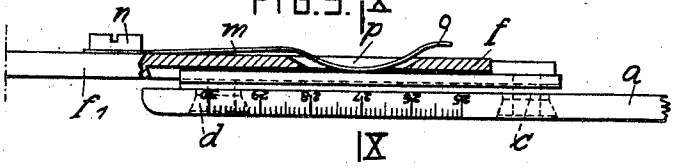


FIG.9.



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UNITED STATES PATENT OFFICE

2,029,899

RULER ATTACHMENT

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Application November 28, 1934, Serial No. 755,241
In Germany July 17, 1933

1 Claim. (Cl. 33—107)

This invention relates to a ruler attachment for drawing machines, in which a rail provided on the ruler is introduced into a longitudinal groove in the ruler holder.

Owing to the small available thickness of the ruler holder the attachment means hitherto in use have not been found satisfactory owing to the fact that their manipulation is dependent on the instinctive operation on the part of the draughtsman employing the machine, the exact location of the attachment rail thus being impaired upon exchange of the ruler.

To overcome this drawback the essence of the invention consists in the fact that on the ruler holder there is mounted in rotatable fashion a two-armed lever, which engages with its shorter arm in the one narrow longitudinal face of the rail, and with its longer arm is connected with a spring acting on the same in such fashion that the rail is pressed with the other narrow longitudinal face against the adjacently disposed longitudinal face of the groove in the ruler holder.

A form of embodiment of the invention is illustrated by way of example in the accompanying drawing, in which

Fig. 1 is an elevation,

Fig. 2, a plan view,

Fig. 3, a part horizontal section viewed from above,

Fig. 4, a longitudinal middle section,

Fig. 5, a cross-section according to the line V—V in Fig. 1, and

Fig. 6, a cross-section according to the line VI—VI in Fig. 1.

Figs. 7 and 8 show different cross-sectional forms of the plate mounted on the ruler.

Fig. 9 is a longitudinal section through another connection between the ruler holder and the ruler.

Fig. 10 is a section along the line X—X in Fig. 9.

According to Figs. 1–6, the ruler *a* possesses apertures diverging towards its lower side for the reception of angular nuts *b* and b^1. On the upper face of the ruler there is fitted a plate *c*, at the one end of which a countersunk screw *d* is screwed into the nut *b*, the head of this screw at the same time constituting the axis of rotation of the ruler. At its other end the plate *c* is furnished with a short transverse slot c^1, through which there passes a screw *e* screwed into the nut b^1. Above the ruler there is situated the ruler holder *f*, between which and the ruler there is a small intermediate space, as shown in Figs. 1 and 4–6. This ruler holder possesses on the underneath side a longitudinal groove f^1 (Figs. 3 and 4), which is of dovetail form in cross-section and widens out towards the top, and into which there fits the plate *c* with very slight clearance, i. e., in such a fashion that the same is readily movable therein. The ruler holder also possesses an aperture f^4, through which the head of the screw *d* is accessible. During the fine adjustment of the ruler *a* the two screws *d* and *e* are somewhat loose. Immediately, however, the fine adjustment has been effected the screws *d* and *e* are tightened. In order that the front longitudinal edge c^2 of the plate *c* may bear in the groove f^1 of the ruler holder *f* without tilting, a part of this edge c^2 is recessed at c^4 (Fig. 3).

For firmly tensioning the plate *c* in the ruler holder *f* in such fashion that the longitudinal edge c^2 of the plate bears firmly against the oppositely disposed longitudinal face of the groove f^1, and at the same time the horizontal upper face of the plate against the horizontal bottom of the groove f^1, there is employed a two-armed lever *g*, g^2, the longer arm *g* of which bears against the ruler holder, whilst the shorter arm g^2 is of hook-like form and engages in an opening f^2 in the holder *f* (Figs. 1 and 3). On the holder the lever *g*, g^2 is mounted to be rotatable by means of the stud *h*. The longer arm *g* is bent upwards to form a spring support g^1, and at the same time serves as a means for moving the lever. A pressure spring *i* thrusts with the one end against the support g^1 and with the other end against a lug *k*, which is secured to the ruler holder and acts as counter-support during the movement of the lever *g* taking place simultaneously with compression of the spring. The spring *i* tends to move the arm *g* in the direction of the arrow *P*. In this manner the shorter arm g^2 of the lever is pressed firmly against the rear edge c^3 of the plate *c*, and accordingly the front edge c^2 against the oppositely disposed face of the groove f^1. Owing to the inclined position of the longitudinal bounding face of the groove f^1 the upper horizontal face of the plate *c* is also caused to bear firmly against the horizontal bottom of the groove f^1.

In order that the plate will always be fitted to the same depth into the ruler holder the washer *l* for the head of the screw *e* is at the same time constructed to form a stop, which thrusts against the end face f^3 of the ruler holder (Fig. 2).

The cross-section of the plate *c* and the groove f^1 may also be of other form, for example a flat T-shape (Fig. 7), or a flat form with rounded

side faces (Fig. 8). The two longitudinal edges of the plate *c* and the groove f^1 are preferably parallel to each other; they may, however, also be made slightly conical.

The lever *g*, g^2 is not absolutely essential; it is merely necessary that the plate *c* is pressed against the opposite faces of the groove f^1 by spring pressure which preferably may be readily removed.

The lever arm g^2, therefore, may also consist for example of a simple presser, which is merely shiftable transversely to the plate, and is pressed against the plate by means of a flat spring acting thereon externally and secured on the outside to the holder arm. A small screw passing through the spring and thrusting against the ruler holder may be employed for relieving the pressure block.

According to Figs. 9 and 10, the plate *c* secured to the ruler *a* by the screws *d* and *e* is pressed from above into the dovetail groove f^1 by means of a flat spring *m* secured at its one end at *n* to the upper horizontal face of the holder f^1 and engaging with its other end *o* through a recess *p* in the holder *f*. If the angle formed by the two side faces of the dovetail groove is sufficiently acute, and the spring *m* sufficiently strong, the clamping effect within the dovetail connection is almost equal to that in the arrangement according to Figs. 1–6.

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

In a ruler attachment for drawing machines, a ruler holder having a longitudinal groove, a plate on the ruler fitting into the said groove, a two-armed lever mounted to be rotatable on the said holder and engaging with its shorter arm in the one narrow edge face of the said plate, and a spring connected with the longer arm of the said lever and acting thereon in such fashion that the said plate is pressed with the second narrow edge face against the adjacent longitudinal face of the said groove in the ruler holder.

WILHELM STAHL.