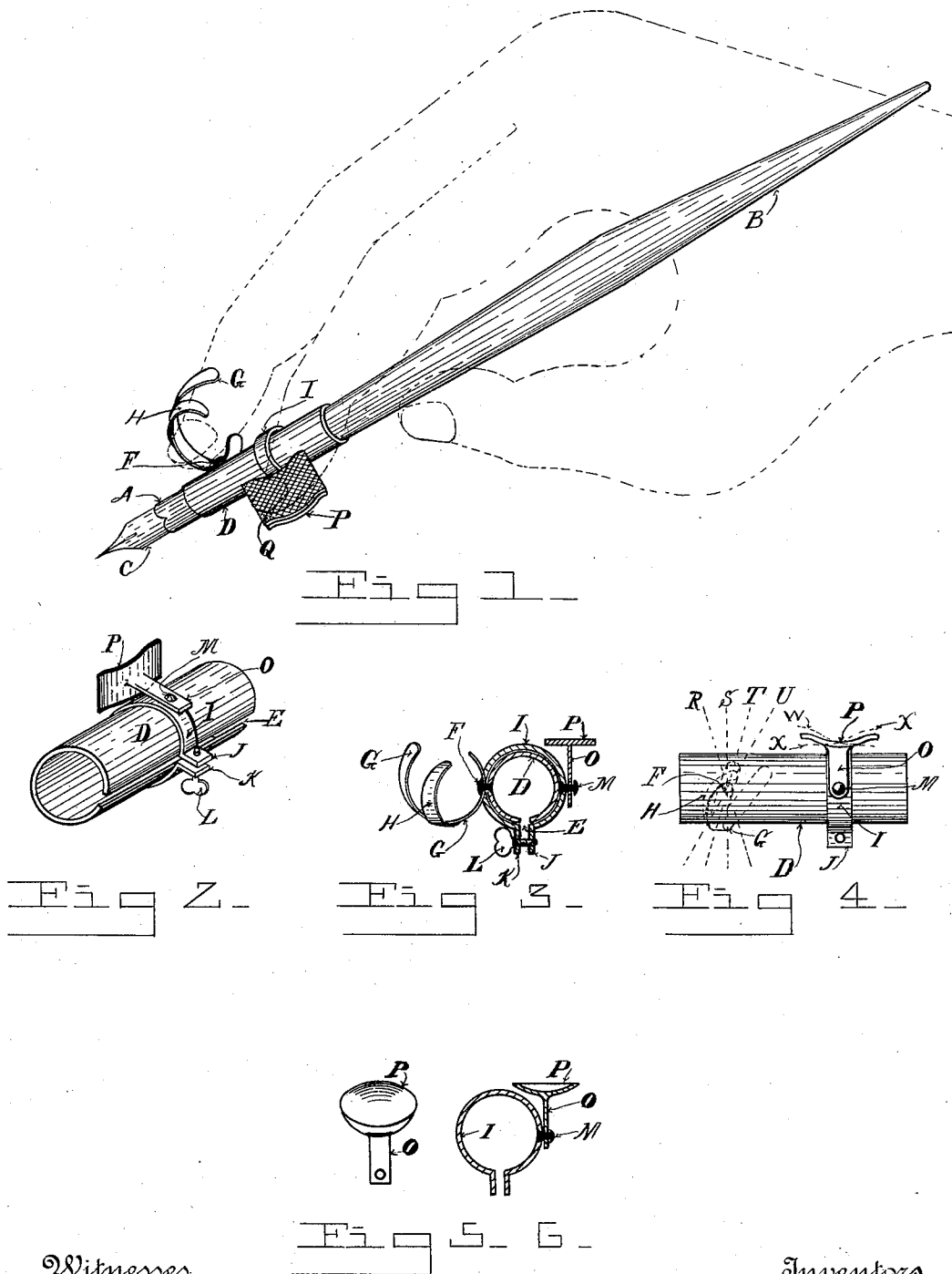


(No Model.)

C. M. EINFELDT & C. C. BRACE.
DEVICE FOR PREVENTING WRITERS' CRAMP.

No. 588,902.

Patented Aug. 24, 1897.



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UNITED STATES PATENT OFFICE.

CHARLES M. EINFELDT AND CHARLES C. BRACE, OF DENVER, COLORADO.

DEVICE FOR PREVENTING WRITERS' CRAMP.

SPECIFICATION forming part of Letters Patent No. 588,902, dated August 24, 1897.

Application filed April 20, 1897. Serial No. 633,049. (No model.)

To all whom it may concern:

Be it known that we, CHARLES M. EINFELDT and CHARLES C. BRACE, citizens of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented a certain new and useful Device for Preventing Writers' Cramp; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in penholders; and the objects of our invention are, first, to provide a device that will give to the index and middle fingers of the pen-holding hand an oscillatory or rocking support, and thus to obviate the tendency of the fingers to cramp; second, to provide an independent rocking support for the middle finger of the hand; third, to provide an adjustable rocking support for the index-finger of the hand, which can be adjusted in any desired position relative to the rocking support of the middle finger, and, fourth, to provide a clamping-sleeve which can be adjustably secured to the penholders in common use. We attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a perspective view of a penholder embodying our invention; Fig. 2, a perspective view of the holding-sleeve and the adjustable support of the index-finger; Fig. 3, a cross-section of the holding-sleeve through the center of the pivotal rivet which connects the middle finger's supporting-yoke to it and through the adjustable clamp and supporting-plate of the index-finger; Fig. 4, a side elevation of the device; Fig. 5, a perspective view of a cup-shaped rest for the index-finger; and Fig. 6, a cross-section through said cup and its adjustable clamp, showing said cup pivotally secured to the clamp.

Similar letters of reference refer to similar parts throughout the several views.

Referring to Fig. 1, A designates a penholder, B the shank of the holder, and C the pen. Upon the penholder we place a split sleeve D, which is split its entire length by a

slot E and is adapted to slidably fit with a slight resilient or elastic pressure the penholder. Near that end of the sleeve that is adjacent to the pen we pivot by a rivet F a yoke-shaped ribbon of metal G, the outer end of which is twisted slightly toward the shank B of the penholder in order to fold spirally over the finger. A projecting prong H is attached to the bottom of the yoke and is curved upward and diverges away from the outer free end of the yoke with its end projecting toward the inner end of said yoke and over its central portion and forms with the inner end of the yoke a spirally-shaped loop smaller than the loop of the main yoke and adapted to fit the extreme end or tip of the operator's finger. These two outer ends are twisted and curved to form a conical and spirally-shaped yoke-loop which receives and fits the end of the middle finger at the natural angle at which it is held to the shank of the penholder.

I designates a clamping-ring which fits on the sleeve. It is provided with two outward oppositely-disposed separated ends J and K, in which is operatively fitted a thumb-nut L. To this ring is pivoted by a rivet M the lower end of a depending stem O, which forms an integral part of the plate P. This plate P is adapted to receive and support the end of the index-finger. The top of this plate is preferably made concave. The plate may be of either a square or oval shape, or, if preferred, a cup-shaped plate may be used, as shown in Figs. 5 and 6. To the top of the plate I preferably secure in any convenient manner a piece of rubber or cork Q, (see Fig. 1,) or other suitable material, and serrate or check its surface by fine cross-cut lines. The plate can be used, however, if preferred, without any covering and its surface left smooth or roughened, as desired.

The operation of the device is as follows: The split sleeve is placed on the penholder and the middle finger is inserted in the yoke and the free ends of the yoke should be bent either in or out to fit the size of the operator's finger and to allow the end of the finger to extend a little beyond it. The index-finger plate is then moved on the sleeve toward or from the yoke by loosening the clamping-ring, and it is also moved circumferentially on the sleeve to bring the plate into the most natu-

ral position to support the end of the index-finger relative to the position of the middle finger and into that position best suited to the operator, the fingers in dotted lines representing approximately their proper position in the yoke and on the plate. The thumb-nut is then turned to clamp the ring of the plate to the sleeve, which at the same time tightens and clamps the sleeve to the penholder, the sleeve being moved before the ring is tightened to the desired distance from the pen. Some writers straddle the penholder with their index and middle fingers, while others hold these fingers close together. Others rest the end of the middle finger on the paper, which necessitates the placing of this finger slightly under the penholder. The bottom of the yoke is made smooth, so that it will slide easily on the paper if the penholder is held in that manner. As writing consists principally of successive reciprocal strokes of the index and middle fingers the pivoted yoke and plate form oscillatory or yielding and rocking supports for them in addition to supporting them in their natural positions. The yoke and plate rock reciprocally under the movements of the fingers, as shown by the dotted lines R, S, T, and U of the yoke and the lines W and X of the plate in Fig. 4. They also give to every movement of the fingers a sensitive and yielding cushion that is helpful to the writer and entirely obviates cramping of the fingers in those subject to it. This device is simple and durable and can be adjusted to suit any desired position of an operator's fingers.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A device for preventing cramping in a writer's fingers comprising a split sleeve adapted to slidably fit the penholder adjacent to the pen, a yoke-shaped loop pivotally supported to the side of said sleeve and adapted to receive and support the end of the writer's middle finger, a split clamping-ring on said sleeve, means for operating the same, and a plate pivotally secured to said ring and adapted to receive and support the index-finger of the writer, substantially as described.

2. The combination with the penholder, of the split sleeve, the oscillating yoke pivoted to said sleeve, the clamping-ring surrounding said split sleeve and the oscillating plate attached to said clamping-ring, substantially as described.

3. The combination with the penholder of the split sleeve, the split clamping-ring, the

thumb-nut and a plate pivotally attached to said ring and adapted with it to be adjusted circumferentially and longitudinally on said sleeve, and adapted to receive and support the index-finger of an operator's hand, substantially as described.

4. The combination with the penholder, of a split sleeve slidably fitted thereto with an inherent elastic pressure, a narrow, yoke-shaped loop having its outer end twisted spirally to encircle the end of a writer's middle finger and a second projecting end on said yoke adapted to curve over said writer's finger at or near its end, substantially as described.

5. The combination of the split sleeve with the yoke-shaped loop, the split clamping-ring mounted on said split sleeve, the thumb-nut operatively attached to said clamping-ring to tighten or loosen said ring on said sleeve and the index-finger plate attached to said clamping-ring having a covering of rubber or cork, substantially as described.

6. The combination with the penholder, of a split sleeve adapted to slidably fit said penholder, with the yoke-shaped loop adapted to receive the middle finger of an operator and pivotally attached to said sleeve to oscillate under the impulse of an operator's finger independent of said penholder, a split clamping-ring on said sleeve, a thumb-screw operatively arranged therein to loosen or tighten said ring on said sleeve and to clamp said sleeve in an adjusted position on said penholder, and with a plate adapted to receive and support the index-finger of an operator, having a concaved or cupped surface, a depending stem to said plate, and means for pivotally securing the free end of said stem to said clamping-ring, whereby said plate may be oscillated by the impulse of the operator's finger, substantially as described.

7. The combination with the penholder, of the split sleeve mounted thereon adjacent to the pen-holding end of said penholder, the oscillating yoke pivotally secured to the side thereof, the split clamping-ring surrounding said split sleeve and a plate secured to said clamping-ring adapted to receive and support the index-finger of an operator, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES M. EINFELDT.
CHARLES C. BRACE.

Witnesses:

WILLIAM FERRIS, Jr.,
EDWARD R. CONAWAY.