(No Model.)

J. WERNER.

WRITING APPARATUS.

No. 424,633. Patented Apr. 1, 1890.

Fig. 1.

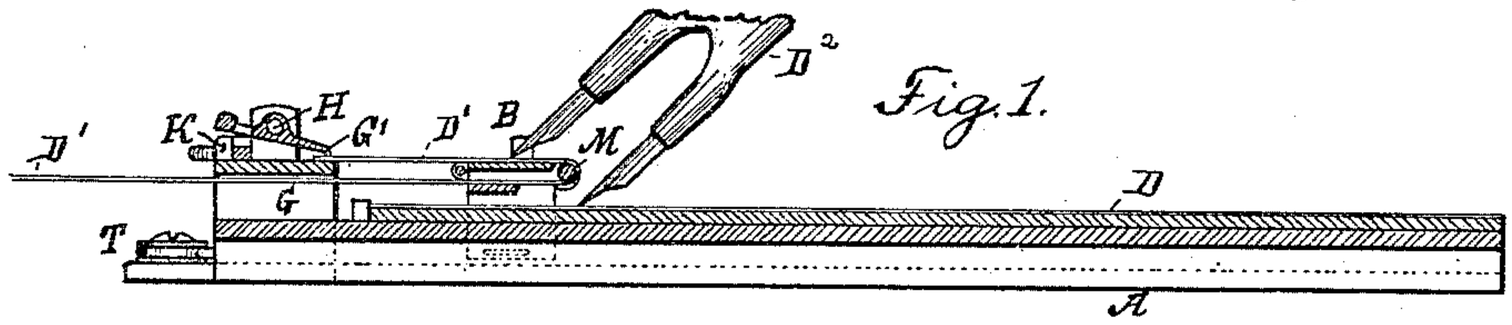


Fig. 2.

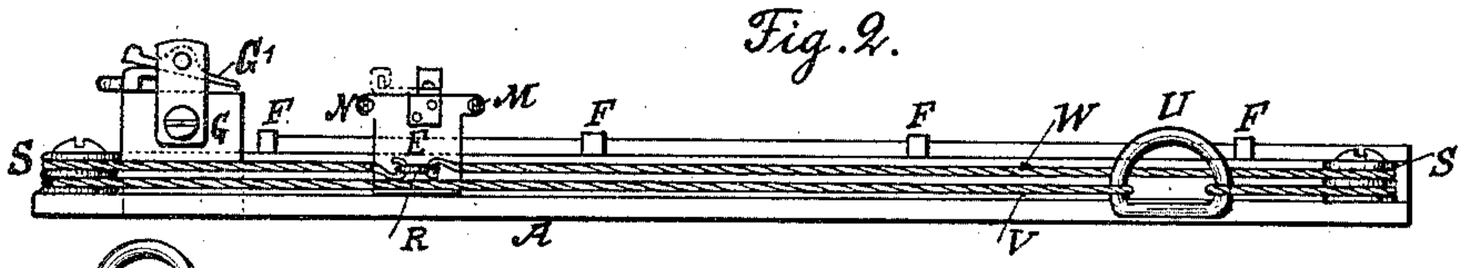


Fig. 3.

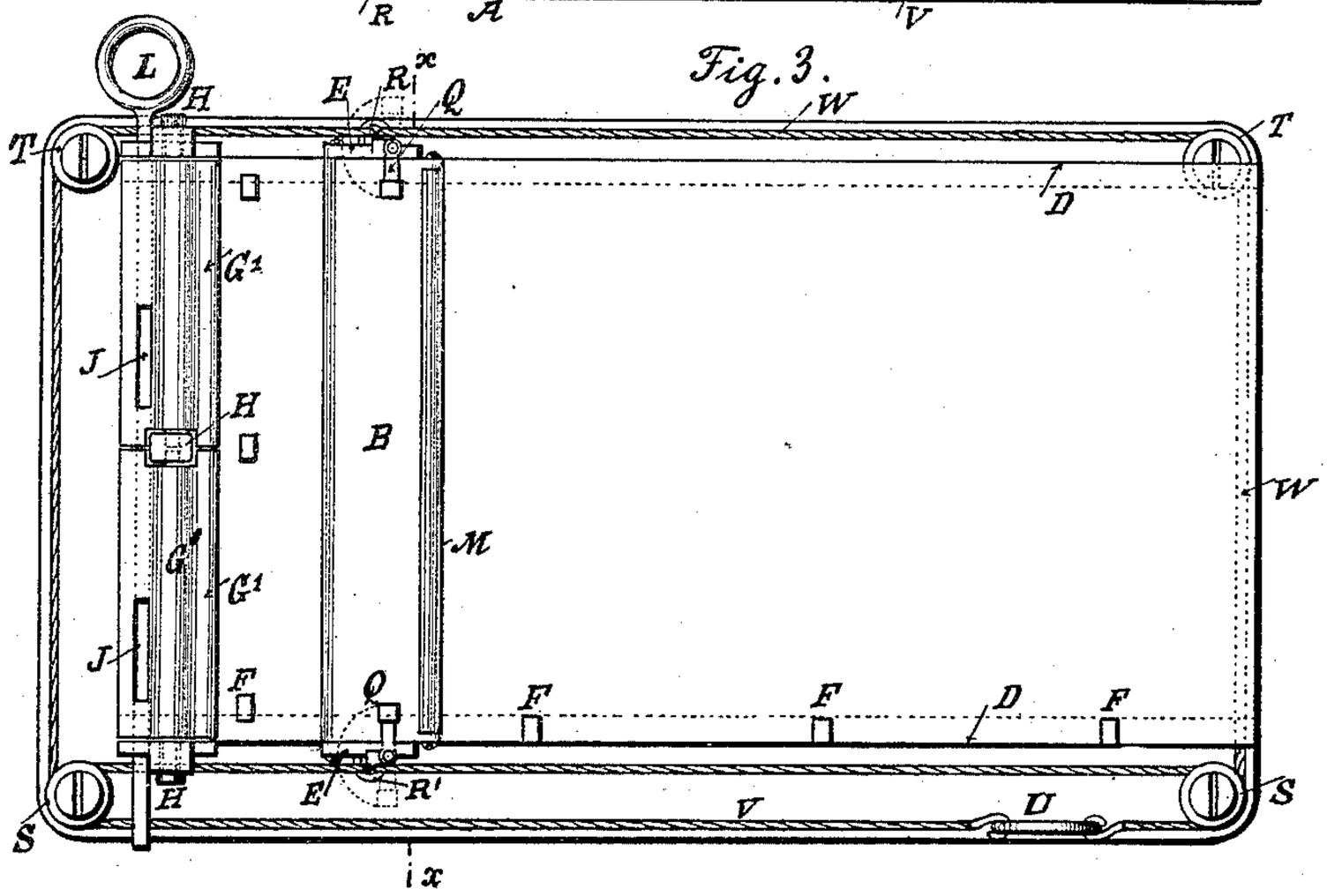


Fig. 5.

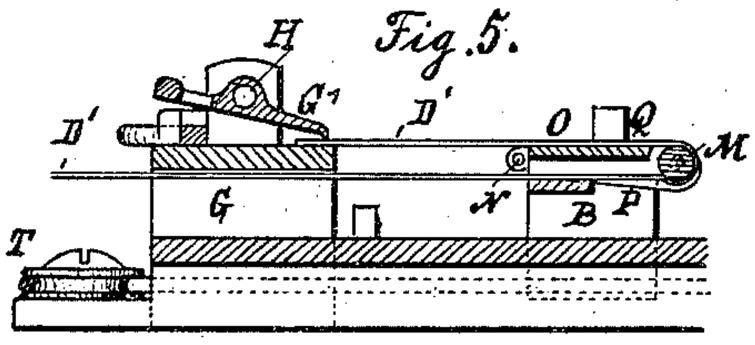


Fig. 4.

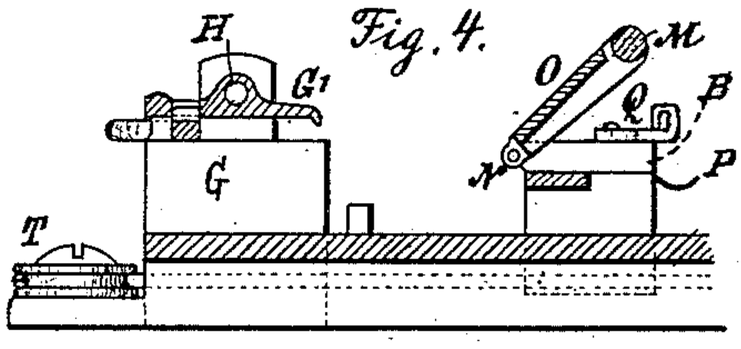


Fig. 6.

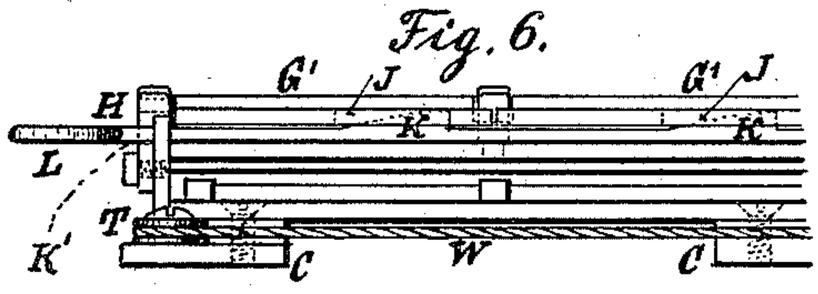


Fig. 7.

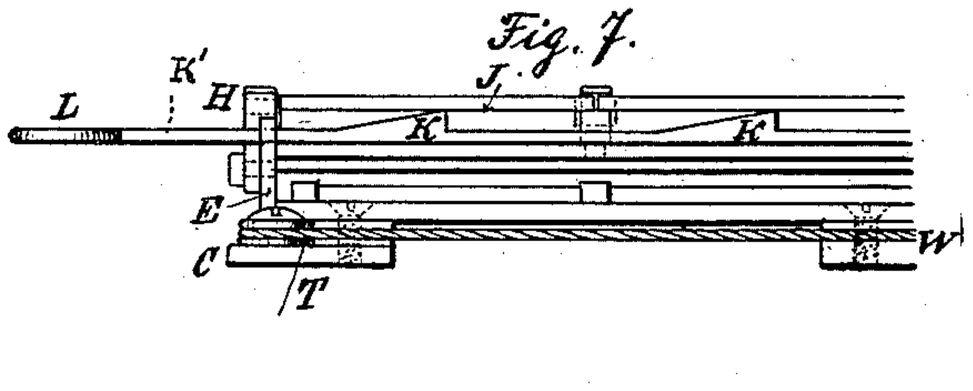
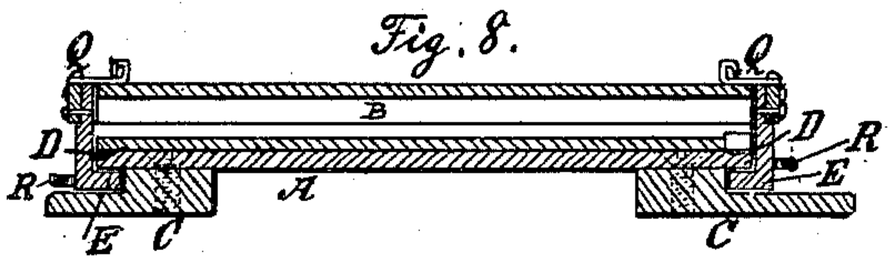


Fig. 8.



Witnesses:
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Wm. Wagner

Inventor:
J. Werner
by his attorneys
Roeder & Briesen

UNITED STATES PATENT OFFICE.

JOHANNES WERNER, OF MANNHEIM, BADEN, GERMANY.

WRITING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 424,633, dated April 1, 1890.

Application filed November 19, 1889. Serial No. 330,932. (No model.)

To all whom it may concern:

Be it known that I, JOHANNES WERNER, a subject of the German Emperor, residing at Mannheim, in the Grand Duchy of Baden, German Empire, have invented certain new and useful Improvements in Writing Apparatus, of which the following is a specification.

This invention relates to an improved writing apparatus by means of which all writing is performed in duplicate.

The apparatus, briefly stated, consists of a lower fixed pad and of an upper sheet one end of which is fixed, while the other end passes around a slide, which is gradually pushed downward. By means of a double pen writing simultaneously on the upper sheet and on the lower pad two copies are made which are absolute duplicates.

The invention consists in the various features of improvement, more fully pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical longitudinal section through my improved writing apparatus. Fig. 2 is a side view, and Fig. 3 a plan, thereof with the endless band W removed between the two pulleys S to fully expose band V and ring U. Fig. 4 is a vertical longitudinal section through the clamping mechanism and slide with the sheet D′ removed; Fig. 5, a similar section with the sheet in place; Fig. 6, an end elevation of the clamp, showing it open; Fig. 7, a similar elevation showing it closed; and Fig. 8 is a vertical section on line *x x*, Fig. 3.

The letter A represents a bed-plate or a writing-pad, to the upper face of which a sheet of paper D is secured by clamps F, or otherwise. The plate A rests upon two longitudinal L-rails C, Fig. 8, which form the guides for the bent arms E of a slide B, which may thus be moved over the pad A from the top toward the bottom. Across the upper end of pad A there extends a slotted upright G, to which are pivoted by pivots H a pair of clamps G′. The clamps G′ are slotted, as at J, and these slots are adapted to be engaged by a pair of noses K on a slide-bar K′, provided with the handle L. By drawing the slide-bar K outwardly the noses bear against the clamps and the latter are forced down upon the upper sheet of paper D′, Fig. 5, and hold the same in place. If the slide-bar is pushed inward, the noses come in line with the slots J, and the sheet is released.

From the clamping devices G′ the sheet D′ passes around the sliding frame B, and thence back through the slotted upright G, so as to clear the apparatus Fig. 1. The slide B must be so constructed that the sheet D′ will readily roll around its forward edge as the slide is moved downward. To this effect it is provided with a cover O, hinged at N and carrying the roller M. From the roller M the sheet G′ passes over a semicircular guide P and then back through upright G, as described. To put the paper D′ into the slide, the cover O is first raised, the paper is folded around the roller M, and then the cover is lowered and locked in position by means of a catch Q.

In order to propel the slide B over the pad the following construction is employed: From two corners of pad A there project upwardly two pulleys S, having two circumferential grooves, while from the two other corners there project upwardly two pulleys T, having but one circumferential groove. An endless band V, carrying a hand-ring U, is passed around the lower grooves of the two pulleys S and is secured to a pin R, projecting laterally from one of the arms E of slide B. A second endless band W passes around the upper grooves of pulleys S and around the pulleys T, and this band is also attached to a pin R, projecting laterally from an arm E. Upon moving the ring U in either direction the slide will be carried in an opposite direction across the pad, as will be readily understood.

In use a double pen D^2 is employed, writing simultaneously on both sheets D D′, as in Fig. 1. As the writing proceeds the slide B is by ring U gradually moved downward to expose more and more of the sheet D′.

What I claim is—

1. The combination of a lower pad with a fixed clamp and an upper slide adapted to be moved across the pad, substantially as specified.

2. The combination of a lower pad with a fixed clamp, an upper slide adapted to be

moved across the pad, and with a series of pulleys and bands for operating the slide, substantially as specified.

3. The combination of a lower pad with an upright G, secured thereto, clamps G′, pivoted to the upright, and with a slide B, having a roller M and adapted to be moved across the the pad, substantially as specified.

4. The combination of a lower pad with a slotted upright G, secured thereto, slotted clamps G′, pivoted to the upright, a sliding bar K′, having noses K, adapted to engage the clamps, and with a slide B, adapted to be moved across the pad, substantially as specified.

5. The combination of a lower pad with upright G, clamps G′, and with a slide B, having hinged cover O, roller M, and guide P, substantially as specified.

In testimony whereof I hereunto sign my name, in the presence of two subscribing witnesses, this 31st day of October, 1889.

JOHANNES WERNER.

Witnesses:

J. C. MONAGHAN,

WINFORD KOHN.