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G. W. DONNING.

PLATEN FOR TYPE WRITERS.

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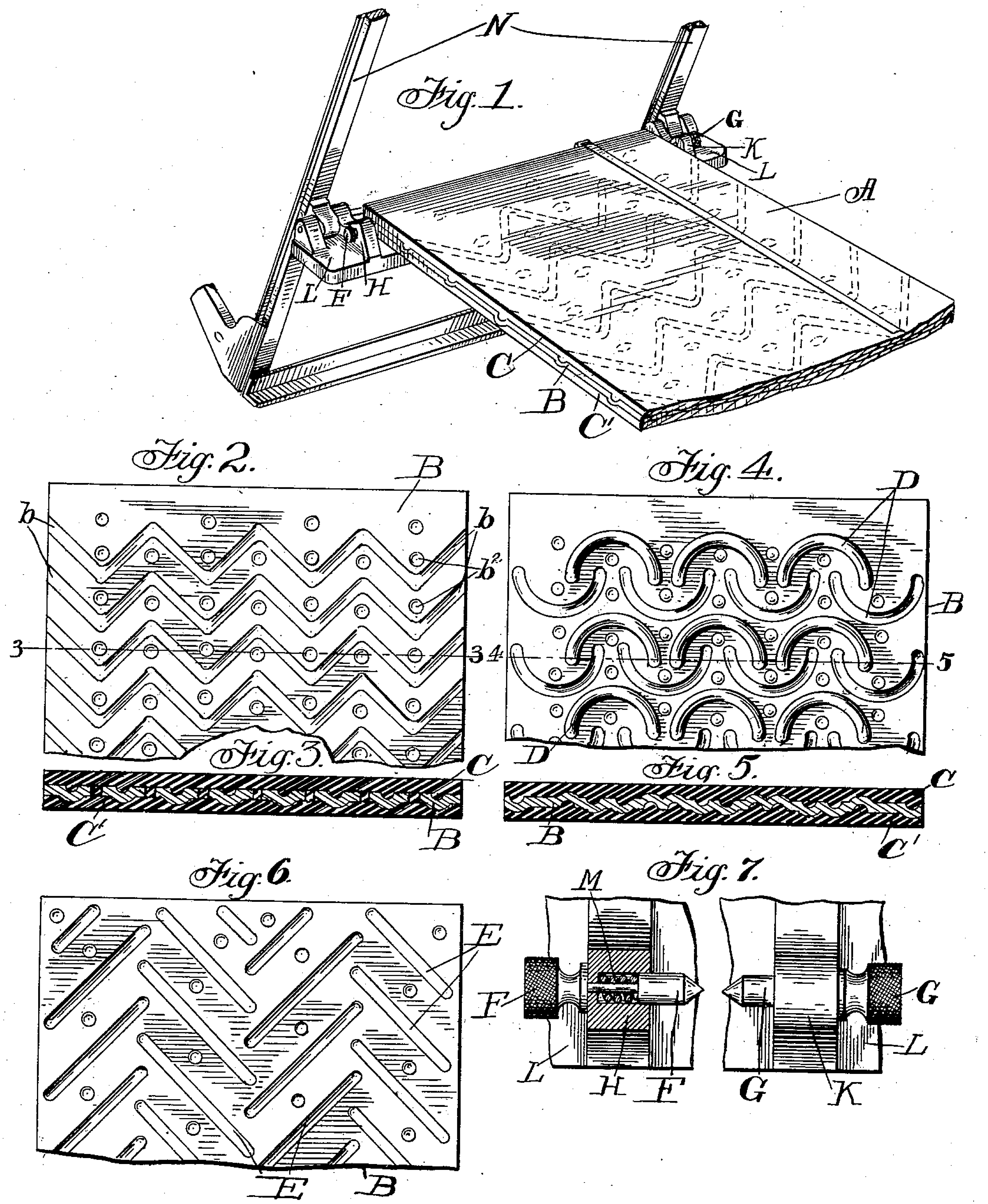
NO MODEL.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 742,609. Patented October 27, 1903.

UNITED STATES PATENT OFFICE.

GEORGE W. DONNING, OF EAST ORANGE, NEW JERSEY, ASSIGNOR OF ONE-HALF TO HARRY T. AMBROSE, OF ORANGE, NEW JERSEY.

PLATEN FOR TYPE-WRITERS.

SPECIFICATION forming part of Letters Patent No. 742,609, dated October 27, 1903.

Application filed February 10, 1903. Serial No. 142,791. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. DONNING, a citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Platens for Type-Writers; and I do hereby 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.

This invention has for its object to provide a form of platen especially adapted for use in the class of type-writing machines that print upon the sheet in a flat condition, generally known as the "book" type-writers, which will be exceedingly light in weight, yet possess great rigidity, and which will effectually resist flexure in every direction from the plane of its surface.

Another object is to provide means whereby the platen is reversible and adapted to be used on both sides.

A further object is to provide a reversible platen having the writing-surface on one side exceedingly hard, as is required for manifolding or card work, while the other side is made less hard or resilient for ordinary work, such as where but a single sheet is used.

In the drawings representing an embodiment of my invention in my preferred form of construction and arrangement, Figure 1 is a perspective view of the platen and its supporting parts. Fig. 2 is a plan view of the body-plate in one form of the invention. Fig. 3 is a cross-section on the line 3 3 of Fig. 2, showing a separate writing-surface attached to each side of the body-plate. Fig. 4 is a plan view of another form of body-plate. Fig. 5 is a cross-section on the line 4 5 of Fig. 4, showing attached writing-surfaces. Fig. 6 is a plan view of another form of body-plate, and Fig. 7 shows means for reversibly hinging the platen.

The characters of reference indicate corresponding parts in the several views.

The platen A is shown in Figs. 1, 2, and 3 as composed of a body-plate B of the usual rectangular shape and made of thin sheet material, preferably of aluminium or steel, to the sides of which are attached the writing-surfaces C C′, usually of hard rubber. The body-plate B, as shown in Fig. 2, has a plurality of raised portions or ridges extending across the sheet in zigzag lines *b* and disposed in such a manner that any line drawn across the plate would intersect one or more of these ridges. The ridges in this form are substantially parallel, and they are preferably made curved in cross-section. In the plane surface intermediate of the ridges I make apertures b^2, so that when the hard-rubber surfaces C are molded on the body-plate the rubber will fill these perforations, and thereby bind the whole securely together.

In Fig. 4 I have provided a plurality of separate ridges D, each running in a curved line and all arranged so as to intersect any line drawn across the plate. These curved ridges are preferably semicircles disposed in a series of rows whose centers are in alinement and are arranged with the concave part of the curves on opposite sides of the line of centers in alternate rows. Some of the ridges may project from one side of the body-plate and the others project from the other side of the plate. As shown in Fig. 4, the curves of adjacent rows project in opposite directions from the plate.

Instead of a series of curved ridges there may be a series of rows of separate ridges E in parallel straight lines, with the ridges in one row disposed at an angle to those in the adjacent rows, as shown in Fig. 6.

In each of these forms of body-plate it will be evident that if a force be exerted on the plate tending to bend it flexure will be opposed by the bending resistance of the plate and also by resultant tensile stresses acting in the plane of the plate.

The platen A is preferably mounted by pintles F and G, supported by lugs H and K, on a plate L, engaging it at apertures near one end. The plate L is shown hinged to a supporting-frame N. The pintle F has a helical spring M tending to retain it in position, against the force of which it may be partly withdrawn, and thereby release the platen at that side. The platen can then be raised slightly at that side and withdrawn

from the pintle F, so that it can be reversed and the other side used to support the sheet or book.

The writing-surfaces C and C′ may be made alike, and when one has become objectionable by wear the platen can be reversed and the other side brought into use, or the writing-surface C may be made quite hard for use in manifolding, and the other side of the usual resiliency for ordinary use, and either side placed uppermost as needed.

The strengthening-ridges may be located on one side or both sides of the plate, and the ridged portions of the plate may have corresponding depressions on the opposite side, thus constituting corrugations, as shown.

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

1. A platen comprising a body-plate, strengthening-ridges so constructed and arranged on said plate that any force tending to deflect the plate along right or other lines will set up resultant tensile stresses in the plane of said plate, and a writing-surface attached to said plate, substantially as described.

2. A platen comprising a body-plate, non-intersecting ridges so constructed and arranged on said plate that deflection of the plate along any right or other line is directly opposed by tensile stresses acting in the plane of said plate and by the bending resistance of the plate, and a writing-surface attached to said plate, substantially as described.

3. In a writing-machine, the combination with a supporting-frame, of a flat platen provided with writing-surfaces on each side, and detachable securing means carried by the frame and constructed to support said platen with either of its writing-surfaces in operative position, substantially as described.

4. In a writing-machine, the combination of a supporting-frame, a plate hinged to opposite members of said frame and constructed to engage said opposite members to limit the swing of the plate in both directions relatively to the frame, and a platen carried by said plate, substantially as described.

5. In a writing-machine, the combination of a flat platen provided near one end with recesses arranged in the median plane of two opposite edges, a supporting-plate for said platen, lugs projecting from said plate, and pintles carried by said lugs at a distance from the adjacent face of said plate equal to half the thickness of the platen, said pintles constructed and arranged to engage the recesses in the platen and support the platen with one face in contact with said plate, whereby turning of the platen on its pintles is prevented, substantially as described.

6. A reversible platen comprising a body-plate having a writing-surface on each side thereof, which surfaces are of different degrees of hardness, substantially as described.

7. A reversible platen comprising a body-plate having a writing-surface attached to each side thereof, one of the surfaces being made resilient for ordinary use, and the other side made hard for manifolding-work, substantially as described.

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

GEORGE W. DONNING.

Witnesses:
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