A. A. SIMONDS.

Bed-Plate for Paper or Rag Engines.

No. 199,940. Patented Feb. 5, 1878.

Fig. 1.

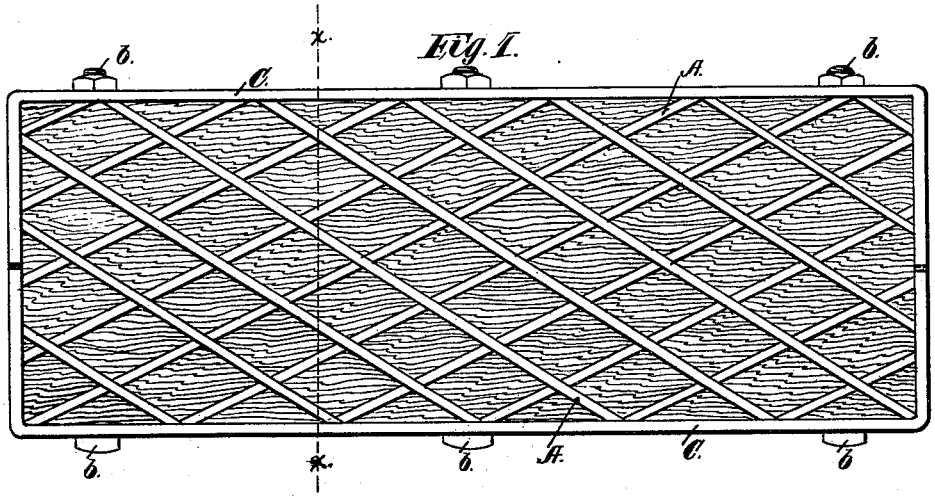
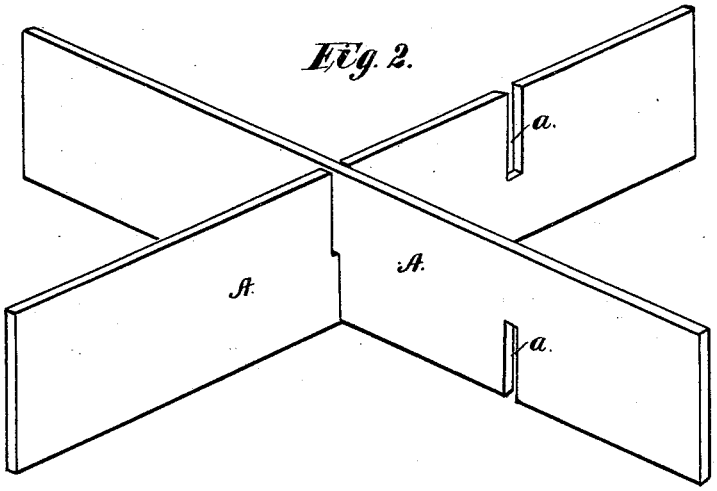


Fig. 2.



Witnesses;
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by his Attys.
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UNITED STATES PATENT OFFICE.

ALVAN A. SIMONDS, OF DAYTON, OHIO.

IMPROVEMENT IN BED-PLATES FOR PAPER OR RAG ENGINES.

Specification forming part of Letters Patent No. **199,940**, dated February 5, 1878; application filed October 29, 1877.

To all whom it may concern:

Be it known that I, ALVAN A. SIMONDS, of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Bed-Plates for Paper or Rag Engines; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention has for its object the production of an improved bed-plate for paper or rag engines. The novelty consists in the arrangement of the knives whereby a larger relative cutting-surface than is ordinary is obtained, combined with strength and efficiency.

To enable others skilled in the art to which my invention appertains to make and use the same, I would thus proceed to describe it, referring throughout to the accompanying drawings, in which—

Figure 1 is a plan view of my improved bed-plate. Fig. 2 is a perspective view of the same, showing the manner of interlocking the knives.

Most bed-plates now in use have their knives in parallel rows, either straight or zigzag, and depend for their support on their bottom fastenings or interposed wooden fillings.

In constructing my plate, I cut transverse slots *a*, Fig. 2, about half-way through the flat steel knife-blades A, so that they can be dovetailed or interlocked, as shown more particularly in Fig. 2. These blades I arrange, as seen in Fig. 1, in two parallel intersecting rows, and in such way that no two joints of the blades lie in a transverse line, *x x*, across the top of the plate.

The rhomboidal interstices between the blades are filled with wood, and the interlocked set of knives are clamped by bolts *b* between the angular retaining-plates C in the usual way.

Instead of being straight, the plates may be of elbow or angular shape, without changing the nature of my invention.

The advantages of this construction and arrangement are twofold, viz: By interlocking the blades the knives are self-sustained and rendered very rigid without depending on the wood filling; and, second, by arranging the joints, as shown, the wear of the cylinder-knives is rendered perfectly uniform, so as not to be greater in one place than in another, as would be the case if the joints were all in the line *x x*, for at the joints the blades are single, and present but half of the cutting-surface presented at other points.

Having thus described my invention, I claim as follows:

1. In a bed-plate for paper or rag engines, the slotted knives A, dovetailed and interlocked, as specified, whereby they are self-sustained and rendered rigid, as set forth.

2. In a bed-plate for paper or rag engines, the knives A, arranged in parallel intersecting rows forming rhomboidal interstices between them, whereby no two of the joints are in a straight transverse line across the top of the knives, as and for the purpose specified.

3. The herein-described bed-plate for paper or rag-engines, consisting of the slotted knives arranged in parallel intersecting rows, and the angular clamping-plates C and bolts *b*, substantially as specified.

Witness my hand this 17th day of October, A. D. 1877.

ALVAN A. SIMONDS.

Witnesses:
P. H. GUNCKEL,
WM. RITCHIE.