

FRANK H. AIKEN.

Improvement in Stereotypes.

No. 121,036.

Patented Nov. 21, 1871.

Fig. 1.

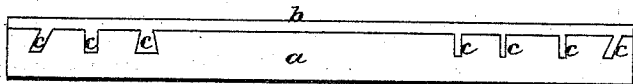


Fig. 2.

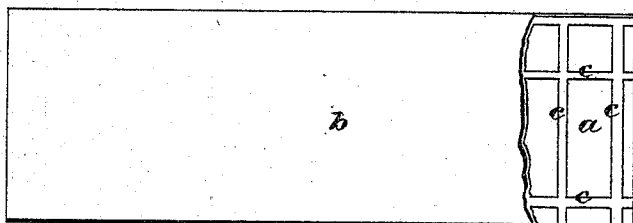


Fig. 3.



Fig. 4.

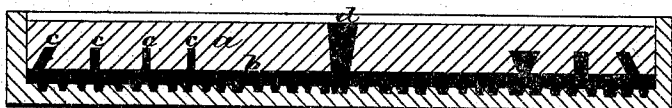
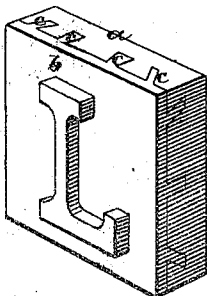


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

FRANK H. AIKEN, OF FRANKLIN, NEW HAMPSHIRE.

IMPROVEMENT IN STEREOTYPES.

Specification forming part of Letters Patent No. 121,036, dated November 21, 1871.

To all whom it may concern:

Be it known that I, FRANK H. AIKEN, of Franklin, Merrimack county, New Hampshire, have invented an Improvement in Stereotype and Electrotype Plates and Printers' Types, of which the following is a specification:

This invention relates to forming stereotype or electrotype plates or types with wooden backs, in which are holes or grooves of dovetail or other shape, or both holes and grooves, into which the metal of the plate or type is caused to enter, while in a molten state, in the molds during the process of casting, so as to fill said holes and grooves, and, when hardened, to form an unyielding means of connection between the plate or type and its wooden back.

Referring to the drawing, Figure 1 is a side elevation; Fig. 2, a top view, with part of the metal face removed; Fig. 3, a longitudinal vertical section; Fig. 4, a sectional elevation of plate-back and mold; and Fig. 5, a perspective view of a type having a metal face and wooden backing.

a is the wooden back; *b*, the metal plate; *c*, the ribs formed on the back of the plate in the grooves previously constructed in the back *a*. Fig. 4 shows the means of connecting the plate and back. The latter is placed horizontally in the mold before pouring in the metal, and at a distance from the bottom of the mold, according to the desired thickness of the plate. The metal may be poured either through one or more of the holes subsequently filled by the pins *d*, or through a channel in the mold. Having formed the plates below the back, the molten metal fills the grooves and the holes, forming the ribs *c* and pins *d*.

I am aware that it is not new to nail, screw, or otherwise attach electrotype or stereotype plates to wooden backs; but, so far as I know, before my invention it was the universal custom to cast the plate by itself in such a manner as to leave it with an upper surface which required to be smoothed off by a process requiring consider-

able skill and labor before the plate was fitted for attachment to the wooden back. By my process the upper surface of the plate is unerringly fitted to the bottom of the wooden back during the casting, and the time required for attaching the plate to the back by previously smoothing and afterward nailing or screwing is saved. Furthermore, it is obvious that the ribs and pins *c d* in the grooves and the holes form the firmest kind of connection, and one that will never allow the corners of the plate to curl upward therefrom, as is common in the case of nailed or screwed connections when a die or cut happens to be located near one side or end of the plate, and the pressure in printing has, consequently, a tendency to sink that part of the plate where the cut or die is into the backing and cause the other parts to start away therefrom, thus springing the plates.

Types above the size of great primer are generally made of wood, rarely of metal, because the former material is much less expensive, though less durable, than the latter. By casting their metal faces upon wooden backs larger type can be made possessing the durability of metal and costing even less than wooden ones, for the reason that the cutting of the wooden backs is much less expensive than the cutting of wooden types. Moreover, these wood-metal types, being cast in molds, have the same uniformity of shape that the smaller metallic types have, and which wooden types have not when made by hand or otherwise.

I claim as my invention—

Forming a stereotype-plate with a wooden back by placing said back, suitably perforated or grooved, within a mold and pouring thereinto molten metal, which fills the holes or grooves in the wooden back and forms the metal face, substantially as herein specified.

FRANK H. AIKEN.

Witnesses:

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(164)