E. Ripley,

Casting Files, &c.

No. 6,510. Patented June 5, 1849.

Fig: 1.

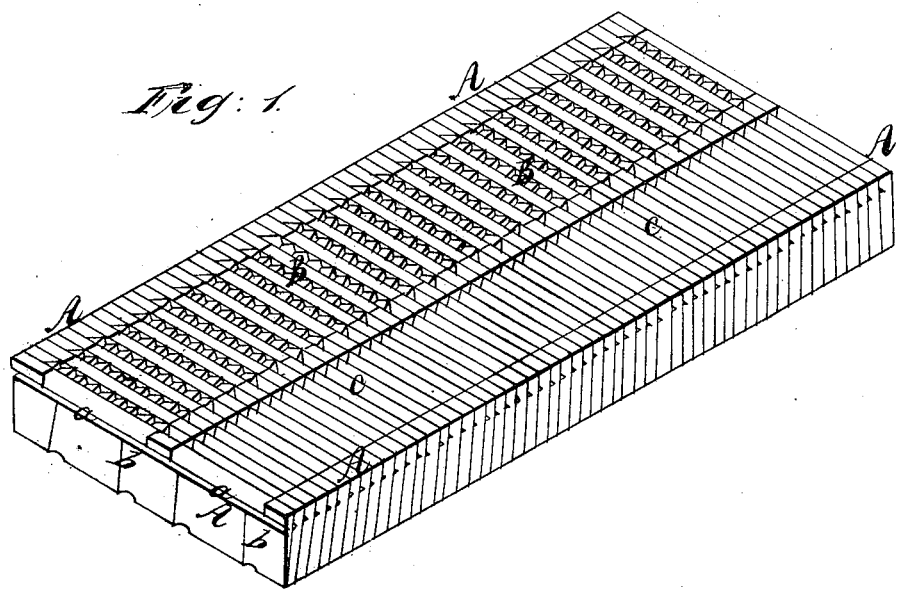
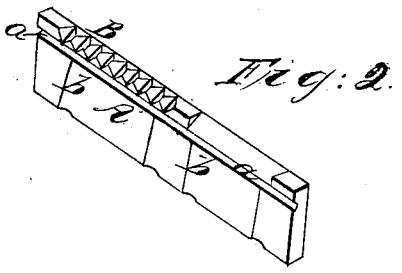


Fig: 2.



UNITED STATES PATENT OFFICE.

EZRA RIPLEY, OF TROY, NEW YORK.

CHILLS FOR CASTING RASPS, FILES, &c.

Specification forming part of Letters Patent No. **6,510**, dated June 5, 1849.

To all whom it may concern:

Be it known that I, EZRA RIPLEY, of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful improvements in the construction of chill-dies for the casting of rasps, floats, and other articles in which a sharp tooth or edge is required, the same being cast of iron, which die I call the "Union Die;" and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of a series of strips or plates of metal for a chill-die, one-half of which represents a form for a toothed rasp, and the other half a float; and Fig. 2 represents a strip of metal, it being one of a series which, when placed together, compose the die of whatever dimensions it may be made, said strip composing the die for one row of teeth across the file.

In the drawings I have represented that part of the die which contains recesses for the forming of teeth. Every second strip is represented as plain straight-edged; but it is obvious that every strip may contain notches for the formation of teeth, as desired.

The nature of my invention consists in constructing the die of strips of metal in such a manner as to ventilate the die and mold so as to allow the metal to run freely and fill the teeth to a degree of point and sharpness not heretofore attained in casting iron, the construction being as follows:

A A are strips of metal put together in a series of sufficient numbers to form the die for the file or other article, as required, each strip making a row of teeth across the file. B B are notches or recesses cut into the corner or upper surface of the strips of any form that is desired for forming the teeth. *a* is a groove that is made lengthwise of the strips, in which the notches B B extend into and make sufficient opening into the groove *a* for the escape of the air that would otherwise prevent the metal flowing to the required sharpness. The air is then led off by vertical grooves *b b*. In the part *c* it is represented as a float, the edges of the strips of metal being plain and beveled, and making one continuous cutting-edge, and having a space for the discharge of air as in the teeth-dies, as described and represented.

The great advantages resulting from this construction of die is, first, the certain perfection in casting and giving sharpness to the teeth; second, ventilation of the casting and preventing blowing; and, thirdly, ease of removal from the mold.

I would have it understood that I do not claim as my invention the making chill-dies in one or more pieces for casting; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

The method herein described of casting floats, rasps, graters, &c., by means of a series of chill-dies constructed and used as herein described, the essential in the construction of such chills being that there is one piece for every series of teeth, and that the latter are cast in indentations formed between the chills, the same being formed substantially in the manner and for the purpose herein set forth and made known.

EZRA RIPLEY.

Witnesses:

E. L. BRUNDAGE,

E. D. PARKE.