

F. MEYER.

Apparatus for Tempering Sickle Sections.

No. 145,960.

Patented Dec. 30, 1873.

Fig. 1.

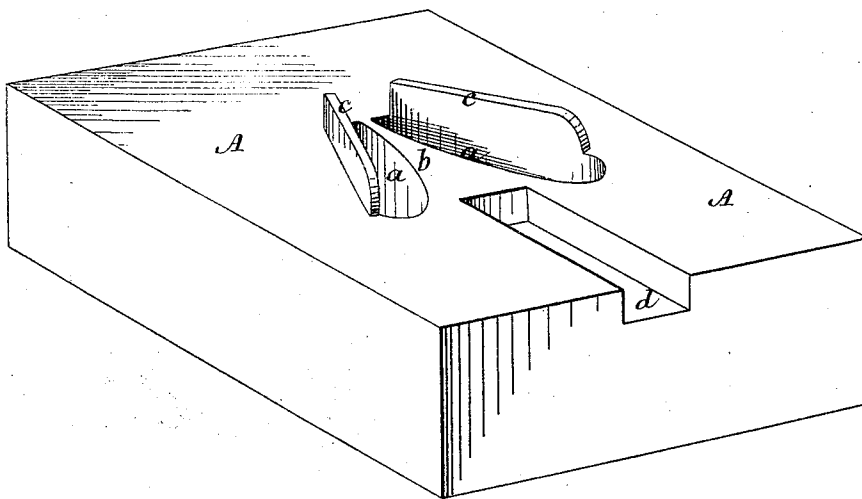


Fig. 2.

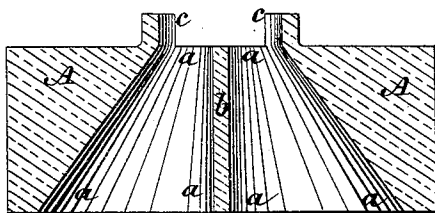
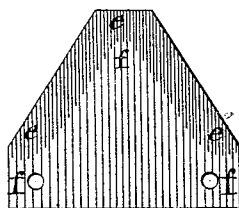


Fig. 3.



Witnesses.

D. P. Cowl

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UNITED STATES PATENT OFFICE

FRANCIS MEYER, OF AUBURN, NEW YORK, ASSIGNOR TO D. M. OSBORNE
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IMPROVEMENT IN APPARATUS FOR TEMPERING SICKLE-SECTIONS.

Specification forming part of Letters Patent No. **145,960**, dated December 30, 1873; application filed
November 24, 1873.

To all whom it may concern:

Be it known that I, FRANCIS MEYER, of Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in a Tempering Brick or Hearth for Heating the Edges of Sickle-Sections for Mowing and Reaping Machines, preparatory to their being tempered; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 represents, in perspective, one of the tempering bricks or hearths for receiving and retaining a sickle-section while being heated preparatory to its being tempered. Fig. 2 represents a transverse section through the same. Fig. 3 represents a sickle-section tempered at its edges.

Sickle-sections for mowing and reaping machines are tempered only at and near their cutting-edges, the central portion being left untempered, so as to cause less liability to break. This tempering is usually done by holding the section in a pair of tongs with angular jaws, allowing so much of the edges of the section that is to be tempered to project beyond the jaws of the tongs. In this position the section is dipped into and held in a bath of molten lead until it is sufficiently heated for the purpose, and then taken out and plunged into the tempering-bath. In this operation or manipulation the sickle-section is not always under the eye of the operator, and consequently he must guess at the degree of heat, or draw out his tongs and section to ascertain the degree of heat by observation.

My invention consists in the use of a fire-clay brick, or of other fire-resisting material, with openings in or through it for the direct contact of fire-heat with such portions of the sickle-section to be tempered, while the other portions of the sections that are to be left soft and untempered are protected by the solid portion of the brick from the heat, and when the exposed portions of the section are suitably heated they are removed and plunged into the tempering liquid or bath.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

The brick, as shown at A, is made of fire-clay, or other equivalent fire-resisting material. It has through it two openings or passages, *a a*, separated by a wall or partition, *b*. These openings I find it advantageous to make larger on the under or fire side, and tapered or contracted at the opposite side, so as to contract and concentrate the fire where the article to be heated and tempered is placed, and to give to such openings a contour that will correspond with the shape and portion of the section that is to be heated and tempered. On the upper side of the bricks are stops or guides *c c*, against which the section or other article comes, so as to bring defined portions of it over the openings *a a* to be heated, and prevent other portions that are to be left soft and untempered from being subjected to the fire-heat. There is also formed in the brick a recess, *d*, to receive the jaws of the tongs, by which the section or other article is placed on and removed from said tempering-brick.

The openings in or through the fire-brick may be made to conform to the shape of the section or blank to be tempered, and any number of these bricks may be arranged over a furnace or fire, so as to heat a series of blanks at one time.

In Fig. 3, I have shown a sickle-section the portions *e* whereof are tempered, and the portions *f* are left soft or untempered for the sake of strength with elasticity.

These reaping and mowing machine sections, as they are termed, differ from hand-sickles in that the former have smooth cutting-edges, while the latter are nicked, or "sickled," as it is termed.

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

The brick of fire-clay, or other equivalent fire-resisting material, with conical openings *a* in or through it for the direct contact of fire-heat to such portions of the blank only as are needed to be tempered, and guides *c* for properly placing the blank over the fire.

FRANCIS MEYER.

Witnesses:

W. D. BALDWIN,
S. E. GRANT.