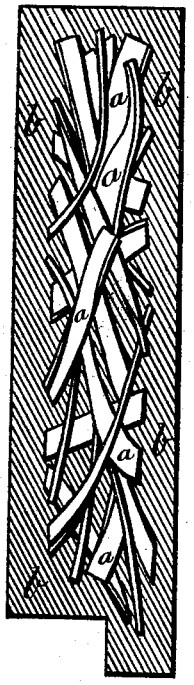
A. S. HODGES.

Stove and Furnace Lining.

No. 198,940. Patented Jan. 8, 1878.



WITNESSES:

Henry Shadbourne

F. Allen.

INVENTOR:

Addison S. Hodges.

by

Wm. Andrew,

his atty.

UNITED STATES PATENT OFFICE.

ADDISON S. HODGES, OF HYDE PARK, ASSIGNOR OF ONE-HALF HIS RIGHT TO EDWARD B. WILDES, OF IPSWICH, MASSACHUSETTS.

IMPROVEMENT IN STOVE AND FURNACE LININGS.

Specification forming part of Letters Patent No. **198,940**, dated January 8, 1878; application filed November 12, 1877.

To all whom it may concern:

Be it known that I, ADDISON S. HODGES, of Hyde Park, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Stove and Furnace Linings; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in linings for stoves, furnaces, &c.; and consists of a new, useful, and durable combined cast and wrought metallic lining, made as follows: The interior or central portion of my improved lining is made of wrought-iron waste or sheet-iron clippings, or other suitable wrought, or rolled, or hammered wrought-iron scrap—such as, for instance, galvanized-iron or tinned-iron strips, &c.—which waste wrought-iron is flattened together to a shape analogous to that of the stove-lining piece that is to be cast, but somewhat smaller, so as to serve as a porous and elastic core. This core is inserted in a mold of the size of the desired lining, and melted wrought-iron scraps or waste is cast around the aforesaid flexible wrought-iron core, as well as between its different parts, by which the whole is, as it were, knitted and held very firmly together, preventing the lining from warping and cracking.

Melted wrought-iron produces, when cast, a very hard and fire-proof surface, very well adapted to linings for stoves, furnaces, &c., but, owing to its extreme hardness, is sometimes liable to crack when exposed to extreme and varying temperatures. This difficulty I have successfully overcome, by uniting with the exterior melted wrought-iron shell an interior elastic and porous wrought-iron scrap or waste core, by which all liability to cracking is entirely obviated. This lining is very durable, and, owing to its hard and smooth surface, prevents the accumulation of clinkers thereon, which is a great difficulty with the ordinary fire-brick linings.

Ordinary cast-iron may be used, and melted and poured around the aforesaid central elastic and porous metallic wrought-iron-scrap core; but I prefer to make the shell or exterior portion of melted wrought-iron, sheet or scrap iron, as a harder and more durable surface is thus obtained as compared with ordinary cast pig-iron.

The central elastic and porous wrought-iron-scrap core may, in some places, project to the exterior of the cast shell without departing from the spirit of my invention; but I prefer to cast the shell all round and completely cover the central core, as I am thereby enabled to produce a lining having a smoother and more finished exterior appearance.

The accompanying drawing represents a sectional view of my improved stove or furnace metallic lining.

On the drawing, *a a a* represents the central elastic and porous wrought-iron-scrap core, hammered or flattened into a shape corresponding to that of the finished lining, but somewhat smaller in every direction. Around this core, and between its parts, is cast the metallic exterior cover *b b b*, as shown. The lining may, of course, be provided with flanges or ribs, in the usual manner, so as to fit any desired stove, furnace, or fire-place, as may be required.

I am aware of the patent granted to E. M. Hendrickson, March 19, 1867, No. 63,046, in which spiral wires are laid in a mold and iron cast around them; and I am also aware of the patent granted to C. H. Onions, October 5, 1875, No. 168,408, in which lapped rings are used in a similar manner; and I here wish to state that I do not claim anything as set forth in either of said patents as my invention.

Having thus fully described the nature and construction of my invention, I wish to secure by Letters Patent, and claim—

The herein-described improved stove or furnace lining, consisting of the interior elastic and porous wrought-iron-scrap core *a a a*, and the metallic shell *b b b* cast around it, in a manner and for the purpose as herein set forth.

In testimony that I claim the foregoing as my own invention I have affixed my signature in presence of two witnesses.

ADDISON S. HODGES.

Witnesses:

ALBAN ANDRÉN,

HENRY CHADBOURN.