

UNITED STATES PATENT OFFICE.

ALFRED T. PERKINS, OF TOLEDO, OHIO, ASSIGNOR OF ONE-HALF OF HIS
RIGHT TO NEHEMIAH WATERMAN, OF SAME PLACE.

IMPROVEMENT IN FORMING STAMPED ARTICLES FROM SHEET-ZINC.

Specification forming part of Letters Patent No. 127,101, dated May 21, 1872.

Specification of an Improved Process for Tempering and Stamping Sheet Metal, invented by ALFRED T. PERKINS, of Toledo, in the county of Lucas and State of Ohio.

My invention relates chiefly to the stamping or striking up of sheet-zinc, and to the striking up of other sheet metal into such forms as involve or necessitate the stretching of the metal. It is based upon the fact that in striking up or stamping sheet metal it is important to have the metal at a uniform temperature throughout, and at the particular temperature which renders it most tough and ductile.

This consideration is of especial importance in treating sheet-zinc. The properties of this metal are such as to cause peculiar difficulty in working it. It is deficient in ductility at ordinary atmospheric temperature, and it fuses at a heat but little above that at which its greatest ductility is reached. For this reason serious wastage results in the usual method of heating by furnaces or ovens. The great difficulty in striking up zinc results from this ne-

cessity of bringing the metal to precisely the right temperature.

I have discovered that by immersing the zinc plates in a bath of oil and bringing it to the right temperature they are adapted to be worked in a most satisfactory manner, and a sufficiently-uniform heat is readily maintained. The oil also serves the purpose of lubricating the dies and the metal, which is essential to the operation.

In carrying out my invention I have used linseed-oil with good effect; but I purpose using any liquid which may be found suitable.

I claim—

As an improvement in tempering and stamping sheet metal, heating the metal, through the medium of oil or other suitable liquid, as a preliminary to stamping, substantially as set forth.

ALFRED T. PERKINS.

Witnesses:

I. P. PUGSLEY,
WALTER ALLEN.