

# UNITED STATES PATENT OFFICE.

CYRUS ALGER, OF BOSTON, MASSACHUSETTS.

IMPROVED MANUFACTURE OF PLOWS OF MALLEABLE CAST-IRON.

Specification forming part of Letters Patent No. 869, dated August 3, 1888.

*To all whom it may concern:*

Be it known that I, CYRUS ALGER, of the city of Boston, in the State of Massachusetts, have invented a new and Improved Mode of Manufacturing Plows, which improvement is applicable to all the various kinds and forms of plows which are made of cast-iron; and I do hereby declare that the following is a full and exact description thereof.

The nature of my invention consists in the giving to the iron-work of the whole body of the plow, consisting of the mold-board, land-side, share, movable or permanent points, and other parts requiring it, that malleability which will allow of its being altered in shape in the same way in which wrought-iron may be altered, and at the same time giving to all the cutting-edges, and to such other parts as from their exposure to wear may require it, the necessary degree of hardness and temper and the capability of being softened, drawn out, and again hardened and tempered whenever it may be desired.

I cast the respective parts of the plow to be made of iron from any of the known patterns, and I then subject those parts to the well-known process of annealing by which cast-iron is rendered malleable. Having carried this process to the necessary extent by which the iron is brought into that state in which it is

susceptible of being hardened and tempered like steel, I then harden such of the cutting-edges and other operating parts as may require it, and temper the same in the manner in which steel is ordinarily hardened and tempered. I thus obtain a plow which, while it can be manufactured at but little cost, will possess all the useful properties of a plow the body of which is made of wrought-iron, and its cutting edges and points and such other parts as are most subject to wear laid with steel.

While I lay no claim whatever to the process of rendering cast-iron malleable, or to any improvement in the general form or construction of the plow,

I do claim—

The manufacture of plows from malleable cast-iron, with such parts as may require it hardened and tempered as steel is hardened and tempered, such being, to the best of my knowledge and belief, an entirely new manufacture, producing results which are highly beneficial and not heretofore produced by analogous means.

CYRUS ALGER.

Attest:

THOS. P. JONES,  
M. E. JONES.