

UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF MENLO PARK, NEW JERSEY.

ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 274,293, dated March 20, 1883.

Application filed October 20, 1882. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. EDISON, of Menlo Park, in the county of Middlesex and State of New Jersey, have invented a new and useful Improvement in Electric Lamps and the Manufacture Thereof, (Case No. 494,) of which the following is a specification.

The object I have in view is to increase the durability in use of the flexible carbon filaments of incandescing electric lamps by reducing as much as possible the "electrical carrying" or attraction of carbon particles from one side of the filament to the other, and from the filament to the glass of the inclosing-globe, which usually occurs in these lamps.

In incandescing electric lamps there is always a small amount of residual gas remaining in the globe after the latter is exhausted, it being of course impossible to produce a complete vacuum. I have found that when such residuum consists entirely or almost entirely of hydrochloric-acid gas the electrical carrying is greatly reduced, and consequently the life of the carbon filament is lengthened.

My invention therefore consists in providing an incandescing electric lamp with a residual atmosphere of hydrochloric-acid gas.

I prefer to accomplish my invention by first exhausting the air from the globe to as great an extent as this can be done with an ordinary air-pump, and then allowing the hydrochloric-acid gas (generated in any suitable manner) to flow into the globe to replace such air. I then re-exhaust the globe and repeat the operation of refilling and re-exhausting several times until the small residue which remains consists almost entirely of hydrochloric-acid gas. The final exhaustion should be done by means of a Sprengel pump, so that as little gas as possible will remain in the globe; or all the operations of exhausting and re-exhausting might be done by means of the Sprengel pump, means being connected with the pump for filling the globe with the hydrochloric-acid gas.

What I claim is—

An incandescing electric lamp whose residual atmosphere consists almost entirely of hydrochloric-acid gas, substantially as set forth.

This specification signed and witnessed this 14th day of October, 1882.

THOS. A. EDISON.

Witnesses:

H. W. SEELY,
RICHD. N. DYER.