

# The light bulb

140  Daily Life

## THE LIGHT BULB

### the 30-second history

Ironically the invention of the

incandescent light bulb was more of a slow dawn than a 'light-bulb moment'. While Thomas Edison

receives most of the credit for key light bulb

patents filed by researchers in his company, these stand in the afterglow of a number of earlier

inventions. At the turn of the nineteenth century,

Italian physicist and chemist Alessandro Volta

developed a zinc and silver battery – or 'voltaic

pile' – with a glowing copper connecting wire.

His invention prefigured the bright filaments of

Edison's bulbs by 80 years. Extremely bright 'arc

lamps' – connecting Volta's batteries with

charcoal electrodes – were developed by English

inventor Humphry Davy in 1802. But it took many

more decades and advances in engineering

before a viable household bulb was produced.

By 1840 a costly bulb with platinum filament

was available. But it required the right filament

material and the creation of a vacuum to make

an efficient bulb that lasted. After decades of

experimentation, Edison bought patents from

others trying to commercialize light bulbs and

tried filaments made from wood, cotton and

thousands of plant materials. His team filed

a key patent in 1879 and discovered that

carbonized bamboo filaments lasted for more

than 1,000 hours. Tungsten filaments, introduced

around 1910, were used until incandescent bulbs

fell out of fashion.

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#### 3-SECOND BIOGRAPHIES

ALESSANDRO VOLTA

1745–1827

Italian physicist, chemist, electrical pioneer and inventor, who developed the battery

THOMAS ALVA EDISON

1847–1931

American inventor and businessman, who patented the first commercially successful light bulb

THE ELECTRICAL

ASSOCIATION FOR WOMEN

1925–86

UK organization formed by the Women's Engineering Society for 'popularizing the domestic use of electricity' and to promote 'electrical housecraft'

#### 30-SECOND TEXT

Andrew Simms

**Economic self-interest held back the full benefits of early household lighting.**

