## BOARD OF TRADE

## The Report on the <br> Census of Production for 1954

Volume 4: Industry N
BATTERIES AND ACCUMULATORS


Presented by the Board of Trademocpipllament in pursuance of the Statistics of Trade Act, 1947 (10 \& 11 Geo. 6 Ch. 39, Sec. 7)

LONDON: HER MAJESTY'S STATIONERY OFFICE

## BATTERIES AND ACCUMULATORS

THIS REPORT on the Batteries and Accumulators Industry relates to establishments engaged wholly or mainly in the manufacture of dry batteries, including radio and flash lamp batteries, and accumulators for all purposes.

Establishments in this industry in Northern Ireland were excluded in 1948; no production was recorded there by larger establishments in this industry for 1951 or 1954.

This industry corresponds to minimum list heading 75 in the Standard Industrial Classification.

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| 4/N/4 | 8 | Total make of intermediate products | Does ${ }_{\text {apply }}$ |
| 4/N/4 | 9 | Purchases of materials and fuel, 1954 | 4/N/6 |
| 4/N/5 | 10 | Average number of employees, and wages, salaries and superannuation payments | 4/N/8 |
|  | 11 | Employment in a specified week | 4/N/9 |

The following notes describe terms in general use tions of the terms used and a description of the sope
and method of taking the census are given in the separand method of taking the Census are given in the separ-
ato booklet entitled The heport on the Census of Pro-
duction for 1954 . Introductory Notes' (price 1s. 6d. duction Industrial Classification: Establishments are classif-
ied to industries according to the nature of their outIod to industriies according to the nature of their out-
put and. as far as posible. in conformity ith the Standard Industrial Classification. Certain products
are identified as the principal product of individual


 industry arcounted for a greater proportion of the value
of its output than did its output of the principal proof its output than did its o.
ducts of any other industry.
Specialist producers normally comprise those establish-
ments so per cent. or more of whose total output by value is accounted for by the characteristic products of
the specialist group. Intermediate products: For some industries figures are
given showing the total quantities made during the year given thowediate products. i. $e$. it products which may be furt produced.
Larger establishments: The information qiven in the report restates mainly to larger establishents. i, i.e.
postablishments of firms employing on the average more establishments. In in empt cases an es tablishment com
 other ancillary places of business situated apart from
the producing the producing works are not regarded as separate estab
1 is biments and are included in the return for the works. Small firms $^{\text {firer }}$ persons.
The estimates for the industry as a whole given in
Table are normally obtained by increasing the other
items shown in the same proportion as total employment. Gross output (production) is the total value of goods made and other work done during the year: it is obtain
od by adjusting the value of sales and work done during the year for changes in the value of stocks of products
on hand for sale and work in progress. Net output is the amount left after deducting from the
value of gros output the aggregate of the cosit of mat
 and
This represents the value added to materials by the pro-
coss of
 Sales means soles during the year of gods made in the
estabishment covered by the return or made on commis.
is ion tor it: whe conout tarated
 tax. etc. For goods charged on a deiivered basis to
customers overseas. firms were required to give the Materials and fuel The total cost of materials and
fuel purchased inciudes all purchases during the year
of materials for use in production, and of fuel (includ-
ng oil. gas and electricity) for at purposes: packing
naterials. including the full cost of returnabie case then first purchased: workshop and office materials; water charges: materials for repairs to buildings.
plant and vehicles when carried out by firms own work-:
 Purchases of goods for ferchanting are exepluded. The
oost of materials and fuel used given in Table 2. is
or obtained by dajuls and fuel ing purchase
oear in the value of stocks.
Stodks: Firms nere required to give stocks of materials
and fuel. products on hand for sale, and work in pro-
gress, at income tax values. Customs and Excise Duty paid on materials purchased is
normally included in the cost of materials. Finished


Employment: Total employment includes working propriet-
rs. administrative, technical and clerical employees
 es and persons engaged in merchanting or any other ac-
ivity not covered hy a frmy return, who are hown separately as excluded employes. Employees are per-
sons on the pay-roll i.... persons whose National In.
in surance cards wrere held by employert), whether employed
full-time or part-time.
horking proprietors are proprietors of businesses other than limited companies. together with members of theiry
families who worked in the business without receiving
fither families who worked in the business without receiving
fixed wages or salaries. Any persons working Les than
haf the normal hours are excluded. For Northern, Ireland directors of ours a imed excmuded. For Northern
paid by fee only) are also included. (other than those
ind
Administrative, tecmical and clerical employees include
directors, other than those paid by fee only (except in



Operatives include all other classes of employees, i.e..
broadly speaking. all manual workers. Outworkers are persons employed by the firm who nork on
materials supplied by the firm in their own homes. Wages and salaries include all overtime payments, bonus-
es and comissions
ithout any deductions for income tax Hages and salaries include all overtime paywents, oonus.
es and commissions ithout any deductions for income tax
insurances. contributory pensions etc. They exclude insurances. .ontributory pens
payments to morking propriet ors.
Cepital expenditure includes expenditure on nem building
work, and on plant. machinery and vehicles. charged to work, and on plant, machine ry and venicies, charged ot
cappitan account during the year. including any transport
and installiation rosts involved. It includes expenditure in respect of establishments in Great Britain whic
had not begun production be fore

Symbols used:
for not available
for nil or negligible (less than half the fin
digit shown).
Where figures are rounded. e.g.. given to the near-
$\varepsilon$ thousand. there may be aparent slight discrepanest \& thousand. there may be apparent slight discrepan-
cies betwen the sums of constituent tems and the tot.
als als shown. In some cases. figures have been combined
with others of alimiar nature whe publication of separate details mighting
an individual undertaking.

|  | United Kingdom |  |  | $\begin{gathered} \text { Scotland } \\ 1954 \\ \text { (a) } \end{gathered}$ | $\begin{gathered} \text { Wales } \\ 1954 \\ \left(\begin{array}{c} 194 \end{array}\right. \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1948 | 1951 | 1954 |  |  |
|  | £ million | £ million | £ million | £ million | £ million |
| Gross output (production) | 21.8 | 33.3 | 32.9 | .. | .. |
| Net output | 9.4 | 11.4 | 14.0 | .. | .. |
| Total stocks and work in progress At beginning of year Change during year | 4.3 +0.9 | + $\begin{array}{r}6.1 \\ \hline 2.5\end{array}$ | 5.9 $+\quad 0.6$ | .. | :. |
| Capital expenditure less disposals (b) | 0.5 | 0.6 | 0.5 | .. | .. |
| Wages and salaries | 4.8 | 6.1 | 7.4 |  |  |
|  | Thousands | Thousands | Thousands | Thousands | Thousands |
| working proprietors) | 16.6 | 17.0 | 17.3 |  | .. |

(a) Owing to the risk of disclosure of information relating to individual firms separate particulars for
Soctand and wales cannot be given.
(b) Capital expenditure on nem building work, plant, machinery and vehicles (including (except in 1948) that
(b) Capital expendidure on new builing work, plant, machinery and vehicles (including (except in 1948) that machinery and vehicles disposed of.

Summary of returns received
TABLE 2

| TABLE 2 |
| :--- |

(a) For the Year 1948 gross output excludes payments for transport services outwards on finished goods sold.
For subsequent years qross output includes payments to other firms and undertakings and to firms own
separate trans port organisations for transport services.
 year 1948 payments cover only transport outwards of finished goods sold. For subsequent,
cover payments for transport of both fini shed goods sold and materials and fuel purchased.
(c) Number in week ended September 25, 1948 .
(d) Including working proprietors.

(85258)

| Average number employed (a) | $\begin{aligned} & \text { Estab- } \\ & \text { lish- } \\ & \text { ments } \end{aligned}$ | Grossoutput | $\begin{gathered} \text { Net } \\ \text { output } \end{gathered}$ | Employees |  | Wages and salaries |  | Capitalexpenditure(b) | Net out put <br> per person <br> employed <br> (a) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Operatives | Others | Operatives | Others |  |  |
|  | Number | \&'000 | $£^{\prime} 000$ | Number | Number | £.000 | £. 000 | ¢. 000 | $\varepsilon$ |
| $\begin{aligned} & 11-24(c) \\ & 25-49 \\ & 50-99 \end{aligned}$ | $\begin{array}{r} 11 \\ 9 \\ 6 \\ \hline \end{array}$ | $\begin{array}{r} 426 \\ 817 \\ 1.447 \end{array}$ | $\begin{aligned} & 1488 \\ & 288 \\ & 4850 \end{aligned}$ | $\begin{aligned} & 122 \\ & 212 \\ & 390 \end{aligned}$ | $\begin{array}{r} 41 \\ 73 \\ 716 \end{array}$ | $\begin{array}{r} 54 \\ 92 \\ 966 \end{array}$ | $\begin{aligned} & 20 \\ & 51 \\ & 58 \end{aligned}$ | $\begin{gathered} 7 \\ 61 \\ 63 \end{gathered}$ | $\begin{array}{r}910 \\ 1.006 \\ \hline 89\end{array}$ |
| 100-199 | 6 | 1.536 | 597 | ${ }^{636}$ | 168 | 229 | 101 | 77 | 743 |
| 200 200 299 | 4 | +1.195 | 538 1.321 1 | 803 1.100 | ${ }_{403}^{207}$ | 294 464 | ${ }_{217}^{101}$ | 59 36 | 533 879 |
| 500-749 | 3 |  | 1,393 | 1.489 | 438 | 530 | 263 | 25 | 723 |
| 1.000 and over | 7 | 20.575 | 8,951 | ${ }_{8,135}$ | 2.561 | 3.163 | 1.416 | 348 | 837 |
| Total | 50 | 32,135 | 13.686 | 12.887 | 4.007 | 4.994 | 2,227 | 637 | 810 |

(a) Including working proprietors.
(b) Capi tal expenditure on new building work and on acquisition of plant, machinery and vehicles.
Excluding expenditure for establishment tin not yet in production.


Analysis according to specialisation within the industry, 1954 Larger establishments in the United Kingdo
TABLE


|  |
| :--- | :--- | :--- | :--- | :--- | :--- |

[^0](b) Including orking proprietors.
table 5
 (a) Excluding sales of battery and cell aases by es tablishments classifi ed to ot
(b) Amount charged exclusive of the value of goods made and recorded as out tout.
(c) Amount charged.

Sales of principal products of the industry by establishment
classified to other industries
Larger establishments in the United Kingdom
TABLE 6

|  | 1954 |  |  | $\begin{gathered} \text { Principal } \\ \text { industries in } \\ \text { which produced ( }(\alpha) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
|  | Quantity | value | Entries |  |
| Primary batteries and cells, and parts other than carbons <br> Accumulators, and parts and accessories | $\ldots$ | $\begin{array}{r} 8.000 \\ 707 \\ 4.662 \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \text { Number } \\ 6 \\ 11 \\ \hline \end{array}$ | $\begin{aligned} & \text { 1L, } 4 \mathrm{~K}, 4 \mathrm{M}, 11 \mathrm{~A} \\ & 4 \mathrm{~K}, 4 \mathrm{M} \end{aligned}$ |
|  |  | 5.369 | .. |  |

[^1](85258)

| TABLE 7 |
| :--- | :--- | :--- |

TABLE 8 - Total make of intermediate products This table is not applicable to the industry.

Purchases of materials and fuel, 1954
Larger establishments in the United Kingdom

|  | Quantity | Cost |
| :---: | :---: | :---: |
| Materials | Th.owt. | £. 000 |
| Iron and steel |  |  |
| Drop forgings |  |  |
| Wrought tubes and fittings for wrought tubes |  |  |
| Wire and wire manufactures. including wire cables and ropes | 1.3 | 4 |
| Transmission and conveyor chains |  |  |
| Other iron |  |  |
| Castings in the rough or machined, except machined castings elsewhere speci fied | $\stackrel{2.1}{ }$ | ${ }_{6}^{3}$ |
| Other steel (alloy and non-alloy) |  |  |
| Ingots, blooms, billets and slabs, and sheet and tinplate bars | 11.3 | 32 |
| Angles, shapes, sections, bars, rods (including wire rods) and girders, beams and joists (not fabricated) | 11.3 |  |
| Plates and sheets, and hoop and strip (including tape) | 36.0 | 115 |
| Castings in the rough or machined, except machined castings el sewhere specified | .. | 2 |
| Springs, laminated and other types |  |  |
| Aluminium and aluminium alloys in all forms, except finished parts, wire and scrap | 2.1 | 22 |
| Brass and other alloys of copper, including nickel silver and cupro-nickel, but excluding other nickel alloys |  |  |
| Plates, sheets and strip | 0.3 | 5 |
| Other descriptions, except finished parts, wire and scrap | 2.9 | 39 28 |
| Copper in all forms, except finished parts and scrap | 15.9 | 213 |
| Lead and alloys of lead (including soft solder) in all forms. except finished parts and scrap | 753.8 | 4.040 |
| Zinc and alloys of zinc, except brass. in all forms. except finished parts and scrap | 261.9 | 1.355 |

TABIE 9 (contd.)

|  | Quantity |
| :--- | :--- |

Materials (contd.)
Uninsulated wire. cables and flexibles of non-ferrous
metals except copper
Glass in all forms
Mica
Bitumen and bitumastic compound
Paint, enamel and varnish, including emulsion paints,
cellulose-based paints and lacquers
Plastics materials in all forms, except finished part
Porcelain and other ceramics in all forms
Rubber. including hard rubber, balata, gutta percha and
synthe tic rubber in all forms including finished parts
imber (excluding timber for packing. i.e. for making in cases. drums. etc., or for repai ring returnable cases.
and veneers) and veneers)
and softwood
Plywood, including block-board, batten-board and
laminboard
Yarn. thread, tape and cloth, not oiled or
or impregnated $w i$ th insulating materials
or otherwise coated Electrical insulating materials not elsewhere specified Insulated wires, cables, flexibles. strips and strands Pu rchased componen ts
Batteries and accumula tors
Electrical machinery and parts thereof
Measuring and control instruments
Other purchased electrical components
Other finished parts not elsembere specified
Wholly or mainly of plastics materials
Other, except those of rubber and
andicating oils and greases. including cutting oils
eplacement parts for plant, machinery and vehicles and
Replacement parts for plant, machin
accessories bought as replacement
Consumble tools. including engineers ${ }^{\text {s. }}$ mall tools, jigs.
fixtures and measuring instruments. bought as replacement Packing materials

Timber and wooden crates, packing cases, etc.
Paper, including transparent cell lulose wrapping, and paperboard and containers made from
including fibreboard packing cases
Other packing materials
All other purchased material

| ( ${ }^{\text {cha }}$ ) | Quantity | Cost |
| :---: | :---: | :---: |
|  | Th.tons | £.000 |
| Fuel and electricity |  |  |
| Coal | 42.0 | 176 45 |
| Coke | 8.1 | 45 |
| Liquid fuels (including creosote/pitch mixtures) For use in internal combustion engines | Th.gal. |  |
| Motor spirit (petrol) for use in road vehicles and derv. fuel | 379 | 77 |
| Other | 7 | 1 |
| For buming in furnaces, boilers, kilns, etc. | 595 | 27 |
| Gas purchased (a) | Th.therms |  |
| From Gas Boards | 1.247 .. | 73 43 |
| From other sources, including other departments of the same firms | $\cdots$ | 1 |
| Electricity purchased (a) | Th. kTh . |  |
| From Electricity Boards | 67.701 | 319 |
| From other sources, including other departments of the same firms | 161 | 1 |
| All other purchased fuel |  | - |
| Total cost |  | 17.945 |

(a) Owing to the risk of disclosure of information relating to individual firms, the total quantity of
electricity generated, and gas produced at firms own establishments cannot be given.

Average number of employees, and wages, salaries
and superannuation payments (a)
Larger establishments in the United Kingdom
TAble 10

| 1951 | 1954 |
| :---: | :---: |
| Number | Number |
| 12.949 | 12.887 |
| 3.570 | 4.007 |
| 16.519 | 16.894 |
| $\varepsilon \cdot 000$ | $\varepsilon \cdot 000$ |
|  | 4.252 |
| 1.695 | 4.994 |
| 5.947 | 7.227 |
| $\varepsilon$ | $\varepsilon$ |
| 328 | 388 |
| 475 | 556 |

$\qquad$


Wages and salaries per head
Operatives
Administrativ
Administrative, technical and clerical employees
Average number of employee
Operatives
Administrative, technical and clerical employees Total
ages and salaries paid to
Operatives
Administrative, technical and clerical employees Total

Employment in a specified week (a) Larger establishments in the United Kingdom

|  | 1951 |  |  | 1954 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Males | Females | Total | Males | Females | Total |
| Working proprietors | 1 | - | 1 | 1 | - | 1 |
| Operatives | 6.715 | 6.758 | 13.473 | 6.656 | 6.755 | 13.411 |
| Administrative, technical and clerical employees | 2.088 | 1.518 | 3.606 | 2,397 | 1.659 | 4.056 |
| Total employees | 8.803 | 8.276 | 17.079 | 9.053 | 8.414 | 17.467 |

[^2]
## LIST OF INDUSTRY REPORTS


E. Proserved Moat
. Milk Products
G. Ire Cream
H. Sugar and 1 ucose
I. Cocoo, Chocolate and Sugar
Con fectocolory and Sugar
J. Preserved Fruit and Vegetables
volume 9
A. Margarine B. Fish Curing
C. Cottleo Dog Poultry Foods
D. Vineqar and Other Condiments
E. Starch and
F. Ice
G. Miscel laneous Preserved Foode
 Tholesale Bottling
Spirit Distilling
K. Spirit hiectilfying and
Compounding
Cing
L. Compounding $\begin{gathered}\text { Soft } \\ \text { oninks, } \\ \text { Cider }\end{gathered}$
M. Tobacco
voume 10
${ }^{\text {A. }}$ B. Timber
B. Furniture and Upholstery Shop and Office D. Shop and Office Fitting
E. Mooden Containers and Basketa
友 . Faper and Board
. Wallpaper
H. Cardboard Box. Carton and
Fibre-baard
Fibre-board Packing Case

1. Manufacturd Stat ionory. Paper
Bag and Kindred Indus tries
Bag and Kindred Induustries
J. News paper and Periodical
J. Newspaper and Periodical

Printing and Publishing,
K. Printing and Publishng,
Bookbind ing, Engraving,
volume 11
A. Rubber Linoleum, Leathercloth and Aliled Ind Intutries
Brushes and Brooms
C. Brushes and Broo
E. Soys and Games
E. Miscte Heqis ites
Fisellaneous Stationers' Goods
F. Miscellaneous Stationers GGods
G. Cinematograph Film Production
H. Cinema togroph Film Printing
I. Plastic Goods and Fancy Article
vowne 12
A. Building and Contracting
B. Local Authorities Building and
C. Railuays (Civil Engineering)

CAIvil Endineak ing
E. Cana1, Dook and
Under taking
Engineer ing)
F. Engineering
F. Gas Supply Indus try
G. Electricity supply Industry
H. Water Under takings

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[^0]:    (a) Owing to the

[^1]:    (a) The volume nu

[^2]:    (a) Week ended Septeaber 22, 1951, or October 30, 1954.

