# The Report on the <br> Census of Production <br> $$
\text { for } 1954
$$ 

## Volume 8: Industry A

## GRAIN MILLING

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

LONDON: HER MAJESTY'S STATIONERY OFFICE

## The Report on the Census of Production for 1954

## VOLUME 8, INDUSTRY A

GRAIN MILLING

THIS REPORT on the Grain Milling Industry relates to establishments engaged wholly or mainl in milling wheat (including the production of self-raising and patent flour at milling establish ments), in milling, flaking or rolling barley, oats, rye, rice, etc., in splitting or grinding peas beans, lentils, soya beans, sago, tapioca, in manufacturing ready-to-eat breakfast cereals such cornflakes or puffed or shredded wheat, or in making peat or peat moss litter

This industry corresponds to minimum list heading 150 and part of heading $199(3)$ in the Standard Industrial Classification

LIST OF TABLES


The following notes describe term in general use
in the tables of the report. More detail ed explana
ions of the terms used and a description of the scope
 ate booklet entitled 'The Report on the Census of Pro
duction for 1954- Introductory Notes' (price 1s. ©d.
det)
Industrial Classification: Establismments are classified to industries according to the nature of their out-
put and. as far as posible. in conformity ith the
Sutand Standard Industrial Classification. Certain product
are identified as the principal products of individual
indust

 industry if its output of the principal products of that
industry accounted for a qreater proportion of the value
of its ont of its outcut than did its output of the principal pro
ducts of any other industry. Specialist producers normally comprise those establish-
ments 50 per cent. or more of whose total out put by
value is accounted for by the characteristic products of ments is acorounted fo.
value
the specialist group.
Intermediate products: For some industries figures are
given showing the total
quantities made during the year given showing the total quantities made during the year
of intermediate products. ie. produts which may be
further processed in the estabiishments in which they furt ther prode
are produced.
 postablishments of firms employing on the average mor than 10 persons. In most cases an establishment com
prises the whole of the premises under the same ownershi or management at a pramicular adress (e. 9 .. a mine
or factory).
offices.
orarehouses. laboratories and
 the producing works are not regarded as separate estab-
1 ishments and are included in the return for the works. Small $\mathrm{fi}^{\text {firs }}$ arer
ferer persons.
 Table 1 are normally obtained by increasing the othe
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 obtainod by adjusting the value of sales and work dong during
the Year for changes in the value st tocks of products
on hand for sale and work in progress. Net output is the amount left after deducting from the
varuue of grose out put the aggegate of the cost of mat
erials and fuel used. the amount paid for work tiven out value of gross output the aggregate of the cost of mat
erialis and fuel used. the amount paid for work qiven out
and. for 1951 and 1954 , any transport payments made
 nages. salaries. rents, rates and taxes. advertising and
other selling expenses and all other similar chatrese
have to be met, as mell as depreciation and profits. Sales means sales during the year of goods made in the
establishment covered by the return or made on commission for it, whether produced in the year or not. The
valuue of anes is the net eht ing value. i... The
amount charged to customers. Whe ther on an ex-oriks or
 tax. etc. For goods charged on a delivered basis to
custemer overseas. firms were required to give the
f.o.b. value.
Materials and fuel. The total cost of materials and
fuer purchased inciudes all purchases during the yar
of materials for use in production, and of fuel (includ-
ing oil. gas and electricity) for all purposes: packing aterials. including the full cost of returnable cases
when firs trurchasedi workhop and of fice materials:
 plant and vehicles when carried out by firms. own work-
people include in their reurns. consumatie tols:
and parts for machinery purchased as ruplacenents. and parts for machineryy purchased as replacements.
Purchases of goods for merchanting are excluded. The
cost of materiols ond fuel ased, given in Table 2. is Purchases materiols and fuel used. given in Table 2 . is
cobto f
obtained by od usiting purchases for changes during the
year in the value of stocks. Stocks: Firms were 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 gods are similarly valued as they erere sold. duty-paid
The net amout of any duty paid is de.
or duty-free
ducted in arriving at net output. Employment: Total employment includes morking proprietEmployment: Total employment includes. working propriet.
orss. administrative technical and clierical employes.
and operatives, but excludes outworkers. canteen empes. and operatives, but excludes outworkers, canteen employ.
ees and persoas engaged in merchanting or any other ac-

 surance cards wre hel
full-time or part-time.
horking proprietors are proprietors of businesses other than limited companies, together with members of their
families who worked in the business without receiving
find fimed wages or salaries. Any persons working leces than
falf the lormal hours are excluded. half the normal hours are excluded. For Northern
Ireland directors of 1 imited companies. (other than those
paid by fee only) are also included. paid by fee only) are also included.
Administrative, technical and clerical employees include
directors othe than those paid by fee only (except in
Northern Ireland).

 men and tracers: traveilers: and office (including
works office) employees. Operatives include all other classes of
broadly speaking. all manual workers. Outworkers aterials supplied by the firm in their own homes. Wages and snlaries include all overtime payments, bonus-
es and commissions wi thout any deductions for income tax. insurances. contributory pensions etc. They exclude Capital expendi ture includes expenditure on new building
work. and on plant, machinery and vericles, charged to capital account during the year. including any transport and instaliation cost involved. It includes expendi-
ture in respect of estanhishment in Great Britain mith
had not bequn production be fore the end of the year had no be bun production be fore the end of the year
hanich has not previousiy been included in the Cenus of
(moduction reports for Production re
Symbols used:
for nil or negligible (less than half the final
est Where fiqures are rounded, e.g. . given to the nearcies between the sums of constituent items and the tot.-
als shown. In some cases. figures have been combined IIth owners of a siminar nature where publication of
separate details might disclose information relating to separate details might dis
an individual undertaking.

| Estimates for the industry as a whole |
| :--- |
| TABLE 1 |

(a) Capital expenditure on new building work, plant, machinery and vehicles (including (except in 1948) that

Summary of returns received
TABLE 2

| ( |
| :--- |

(a) For the year 1948 gross output excludes payments for transport services outwards on finished goods sold.

Year 1948 payments cover only transport outwards of finished goods sold. For subsequent
cover payments for transport of toth finished goods sold and materials and fuel purchased.
(d) Eumber ing week ended September 25, 1948. ${ }^{\text {1 }}$.
(e) Excluding expendi ture for establishments not yet in production.
(f) Excluding Northern Ireland. No information about small firms
(59478)

| Average number employed (a) | Estab lishments | Grossoutput | $\begin{gathered} \text { Net } \\ \text { output } \end{gathered}$ | Employees |  | Wages and salaries |  | Capitalexpenditure(b) | $\|$Net output <br> per person <br> employed <br> (a) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Operatives | Others | Operatives | Others |  |  |
|  | Number | £ 000 | £ 000 | Number | Number | £. 000 | $\varepsilon^{\prime} 000$ | £ 000 | $\varepsilon$ |
| 11-24(c) | 96 | 9,347 | 1.328 | 1.121 | 336 | 445 | 177 | 99 | 899 |
| 25-49 | 86 | 21,746 | 3.178 | 2,225 | 687 | 901 | 402 | 292 | 1.079 |
| 50-99 | 71 | 43,755 | 6.106 | 3.575 | 1.243 | 1.519 | 732 | 478 | 1.260 |
| 100-199 | 51 | 55,277 | 8,776 | 4,979 | 1,709 | 2.156 | 1.006 | 759 | 1,310 |
| 200-299 | 19 | 46.049 | 6.859 | 3.455 | 1.286 | 1,479 | 736 | 709 | 1,446 |
| 300-399 | 12 | 37,839 | 5.674 | 3,014 | 1.057 | 1.349 | . 616 | 505 | 1.394 |
| 400 - 499 |  | 27.627 | 3,865 | 2.379 | 711 | 1.077 | 422 | 301 | 1.249 |
| 500 and over | 6 | 31.598 | 8,467 | 3.291 | 1.244 | 1,549 | 720 | 1.011 | 1,867 |
| Total | 348 | 273.239 | 44,252 | 24,039 | 8.273 | 10.474 | 4.811 | 4.155 | 1,365 |

(a) Excluding outworkers and including working proprietors. (b) Capital expenditure on nem building work and on acquisition of plant, machinery and vehicles, excluding
 (c) Including a smallin umber of ost tablishments with fewer than 11 persons emp

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

|  | Unit | Specialist producers of |  |  |  | Remainder of the industry | Totol |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{gathered} \text { pheat } \\ \text { products } \\ \text { imported } \end{gathered}$ | $\begin{array}{\|c\|} \hline \text { Wheat } \\ \text { products } \\ \text { home grown } \end{array}$ | $\underset{\text { Oat }}{\substack{\text { aroducts }}}$ | $\left\|\begin{array}{c} \text { Peat and } \\ \text { peat moss } \\ \text { litter } \end{array}\right\|$ |  |  |
| Number of establishments | ¢.000 | 182.999 ${ }^{157}$ | 72 23.817 |  | ${ }_{421}^{19}$ | 89 62.144 | 348 273.829 |
| Totel value of sales and work done | ${ }^{\text {¢ }} 0000$ | 182.999 155.604 | 23.817 20.448 | ${ }_{4.248}^{4.213}$ |  |  |  |
| Sales of characteristic products Products on hand for sale ${ }^{\text {a }}$ (at beginning of year | ". | 155.646 | 23.848 $+\quad 379$ +2.81 | $\begin{array}{r}4.213 \\ \hline 406 \\ \hline \quad 204 \\ \hline\end{array}$ | $\begin{array}{r}421 \\ +\quad 47 \\ \hline\end{array}$ | 1.341 | 6.820 |
|  | ". | - $\begin{array}{r}\text { ¢ } \\ \hline 182.428 \\ \hline\end{array}$ | $\begin{array}{r}\text { [ } \\ +\quad 21 \\ \hline 23.838\end{array}$ | $\begin{array}{r}204 \\ -4.244 \\ \hline\end{array}$ | + ${ }_{423}^{2}$ | + $\begin{array}{r}161 \\ 62.305\end{array}$ | -273.239 |
| Gross output (product |  |  |  |  |  |  |  |
| Purchases of materials and fuel | " | $\begin{array}{r}151,179 \\ \hline 14.735\end{array}$ | 20.015 | $\begin{array}{r}2.867 \\ \hline 268\end{array}$ | 67 30 | 49.988 4.299 | 224.116 20.182 |
| Stocks of materials and fuel $\quad\left\{\begin{array}{l}\text { at beginning of year } \\ \text { change during year }\end{array}\right.$ | " | + $\begin{array}{r}14.735 \\ +\quad 1528\end{array}$ | $\begin{array}{r}850 \\ +\quad 214 \\ \hline\end{array}$ | ( $\begin{array}{r}268 \\ -\quad 69\end{array}$ | $\begin{array}{r}67 \\ -\quad 7 \\ \hline\end{array}$ | + 4.292 | + ${ }^{2} 2.068$ |
|  | $\cdots$ | 149.650 | 19,801 | 2.937 | 74 | 49,586 | 222.047 |
| Payment for work done on materials given out | $\cdots$ | 4.399 | 566 | 307 | 46 | 1.609 | 6.927 |
|  |  |  |  |  |  |  |  |
|  |  | ${ }^{28.373}$ | 3.471 2.252 |  | 303 406 | 11.104 5.132 | 44, 24.039 |
| Average number of employeer $\quad\left\{\begin{array}{l}\text { operatives } \\ \text { others }\end{array}\right.$ | No. | 15.702 5.741 | 2.252 | $\begin{array}{r}547 \\ 240 \\ \hline 20\end{array}$ | ${ }_{5}^{466}$ | 1.589 1.782 | 28, 27.273 |
|  |  | 21.458 | ${ }_{1}^{2} 1.984$ | 787 1.271 | 460 660 | 6.721 1.652 | 32.410 1,365 |
| Net output per person employed (a) | $\varepsilon$ | 1.322 | 1.163 | 1.271 |  | 1.652 |  |
| Wages and salaries $\quad$ of operatives | £. 000 | ${ }_{3.311}^{6.821}$ | ${ }_{422}^{900}$ | 211 130 | 179 32 | 2. ${ }^{\mathbf{3 1 7}}$ | 10.474 4.811 |
| Capital expenditure |  |  |  |  |  |  |  |
| New building work (b) (acquisitions (b) | ." | 1.233 | 72 192 | ${ }_{69}$ | (c) | ${ }_{676}$ | ${ }_{2}^{1.172}$ |
| Plant and machinery $\left\{\begin{array}{l}\text { acquisitions } \\ \text { disposals }\end{array}\right.$ | .. | 1.88 | 16 | (c) | 1 | 9 | ${ }_{775}^{113}$ |
|  | ". | 461 | 121 | (c) | (c) | 180 | 775 <br> 146 |
| Vehicles ${ }^{\text {a }}$ (a) disposals $^{\text {des }}$ | . | 81 | 21 | 11 |  | 32 |  |

products by establishments classified to other industries

Larger establishments in the United Kingdom

|  | 1951 |  | 1954 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quantity | Value | Quantity | value | Entries |
| Wheat products | Th. tons | £ 000 | Th.tons | £ 000 | Number |
| Meal and flour (other than self-raising flour and semolina) <br> National flour <br> Wholemeal, national brown and other flours of higher extraction than national flour <br> Flours of lower extraction than national flour Semolina <br> Self-raising flour (a) <br> Breakfast foods, packeted for retail sale Bran, pollard, sharps and middlings (including weatings and superfine weatings) Other wheat products and by-products <br> Total wheat products |  |  |  |  |  |
|  |  |  | 2.761 .6 | 104,342 | 192 |
|  | 4.501.7 | 102.590 | 158.3 | 6.052 | 155 |
|  |  |  | 750.0 | 29,353 | 173 |
|  | 34.0 | 1.376 | 48.4 | 2.236 | 44 |
|  | 169.1 | 5,359 | 183.7 | 8.762 | 126 |
|  | 40.3 | 4,811 | 42.5 | 6,264 | 12 |
|  | 870.1 | 18,721 | 1.053.0 | 24,088 | 222 |
|  | 44.6 | 1.149 | 77.1 | 2.144 | 139 |
|  | 5,659.8 | 134,007 | 5,074.5 | ${ }^{183.241}{ }_{928}$ | . |
| Oat products |  |  |  |  |  |
| Meal and groats |  |  | 28.3 | 1.255 |  |
| Rolled oats and similar products | 134.6 | 7.217 | 55.1 | 4.120 | 35 |
| Crushed and ground oats | 29.1 | 831 | 58.7 | 1.482 | 224 |
| Other oat products and by-products | 62.7 | 1.081 | 35.1 | 376 174 | 37 |
| Unclassified | 7.7 | 387 | 4.3 | 259 | 10 |
| Total oat products | 234.0 | 9,516 | 181.5 | ${ }^{7} .491$ | .. |
| Barley products |  |  |  |  |  |
| Meal | 116.1 | 3.423 | 115.9 | 3.153 |  |
| Barley flour, and pearled, blocked, flaked, puffed and pot barley | 41.8 | 1,764(b) | 20.8 | 706 130 | 48 |
| Other barley products and by-products | 58.1 | 1.928(c) | 111.3 | 3.210 | 55 |
| Total barley products | 216.0 | 7.115 | 248.0 | 7.068 130 | \} .. |
| Maize products (excluding maize starch) (d) |  |  |  |  |  |
| Breakfast foods. packeted for retail sale and | 62.8 | 1.983 | 45.8 | 1.452 | 174 |
| other flaked maize | 117.4 | 8,539 | 197.3 | 12,419 | 76 |
| Other milled products of maize | 38.3 | 1.210 | 208.2 | 6,494 | 158 |
| Unclassified | 70.6 | 2.329 | - | 6. |  |
| Total maize products | 289.2 | 14,061 | 451.3 | 20,364 | . |
| Rice whole (husked or cleaned) and rice products | 15.1 | 1.502 | 30.0 | 3.421 | 20 |
| Rye meal, flour and by-products | 7.6 | 295 | 4.3 | 119 | 20 |
| Soya meal. flour and by-products Pea and bean meal and flour | 3.0 | 237 |  |  |  |
| Pea and bean meal and flour Other meal, flour and by-products | 4.5 | 240 | 28.8 | 1.492 | 39 |
| Other meal, flour and by-products Split lentils | 6.2 | 203 | 7.4 | 321 | 21 |
| Split peas | 9.1 | 878 477 | 8.9 | 536 | 7 |


| TABLE 5 (contd.) |
| :--- |

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

| 1954 |  |  | Principal <br> industras in <br> Quantity |  | Value | Entries | which produced (a) |
| :---: | ---: | :---: | :--- | :---: | :---: | :---: | :---: |

TABLE 6 (contd.)
GRAIN MILLING
8/A/7

(a) The volume number and industry references given are to the industries shown in the list at the back of
this reportt.

Sales in the industry of other than principal products Larger establishments in the United Kingdom
TABLE 7

|  | 1954 |  |
| :---: | :---: | :---: |
|  | Quantity | value |
|  | Th.cwt. | \&. 000 |
| $\begin{aligned} & \text { preaparations for use as fore for } \\ & \text { per } \end{aligned}$ | 108.9 | 643 |
| Biscuits and cereal filler (sausage rusk) | 13.6 | 38 |
| Other sales and work done | ${ }^{214.0}$ | $\begin{aligned} & 440 \\ & 125 \end{aligned}$ |
| Total |  | 1.246 |

TABLE 8 - Total make of intermediate products
Larger establishments in the United Kingdom
This table is not applicable to the industry

Wheat products
Meal and flour including semolina
Breakfast foods, packeted for retail sale wheat products and by-products
Total wheat products
Oat products
Oat products and by-products, excluding meal and
groats and rolled oats
Barley products
Barley
Meal
Other barley products and by-products
Total barley products
(59478)

|  | Quantity | Cost |
| :---: | :---: | :---: |
|  | Th.tons | £. 000 |
| Materials Wheat |  |  |
| Home-grown | 1.635 .0 | 40.179 |
| Imported | 3.575 .0 | 101.790 |
| Oats |  |  |
| Home-grown | 277.5 | 4.020 |
| Imported | 28.6 | 613 |
| Barley |  |  |
| Home-grown | 212.7 | $4,806$ |
| Imported | 414.8 | $9.657$ |
| Maize | $593.0$ | $15,949$ |
| Rye | $10.2$ | $240$ |
| Rice | $30.6$ | $2.078$ |
| Soya beans | $42.3$ | $1,922$ |
| Peas, beans (other than soya beans) and lentils | $34.0$ | $1,415$ |
| Wheat flour purchased for blending with millers' own products | $142.5$ | $4,513$ |
| Wheat offals purchased for further manufacturing or for mixing with millers' own products | 65.0 | $1.440$ |
| Mill improvers | $2.2$ | 87 |
| Oil seed cake and meal | 126.1 | $4,348$ |
| Packing materials | Th.sq.yds. |  |
| Bolting cloth of silk or nylon or other synthetic fibres. and covers made therefrom | $18.9$ | ${ }_{9}^{26}$ |
| Sacks and bags of textile material | Mn. <br> 34 | ${ }^{2.575}$ |
| Paper sacks | Th. $.10 w t$. 29.9 . | ${ }_{108}^{186}$ |
| Other packing materials | .. | 5,236 |
| Replacement parts for firms' own machinery, plant and vehicles and cansumable tools bought as replacement | 8 | $1.326$ |
| All other purchased materials |  | $17,291$ |
| Fuel and electricity | Th. tons | 79 |
| Coal | $196.2$ | 798 |
| Coke | $5.9$ | 32 |
| Liquid fuels (including creosote/pitch mixtures) <br> For use in internal combustion engines | Th.gal. |  |
| Motor spirit (petrol) for use in road vehicles and derv. fuel | 3.452 |  |
| Other | 332 | $\stackrel{22}{5}$ |
| For burning in furnaces, boilers, kilns, etc. | $2,077$ | 93 |
| Gas purchased | Th. therms |  |
| From Gas Boards and other sources | $2,074$ | 103 |
| Electricity purchased | Th. kWh . | 1.761 |
| From Electricity Boards | $366,586$ | 1.761 |
| From other sources. including other departments of the same firms | 796 | 6 |
| All other purchased fuel |  | 10 |
| Total cost |  | 224,116 |

Average number of employees and wages, salaries and superannuation payments (a)
Larger establishments in the United Kingdom
TABLE 1

|  | 1951 | 1954 |
| :---: | :---: | :---: |
| Average number of employees | Number | Number |
| ( ${ }^{\text {Operatives }}$ Adininistrative, technical and clerical employees | $\begin{array}{r} 24.375 \\ 7.526 \end{array}$ | 24.039 8.273 |
| Total | 31.901 | 32,312 |
| Wages and salaries paid to | $¢^{\prime} 000$ | £ 000 |
| Operatives Administrative, technical and clerical employees | $\begin{aligned} & 8.874 \\ & 3.815 \end{aligned}$ | $\begin{gathered} 10.474 \\ 4,811 \end{gathered}$ |
| Total | 12.689 | 15.285 |
| Wages and salaries per head | $\varepsilon$ | £ |
| Operatives <br> Administrative, technical and clerical employees | 364 507 | 436 582 |
| Superannuation and other pension funds for employees and dependents (b) |  | £. 000 |
| Employers' contributions | .. | 330 |
| Employees covered |  | Number <br> 27.033 |
| Pension, etc. payments to former employees and dependents (b) | .. | $\varepsilon^{\prime}{ }_{141}^{000}$ |

(a) The following persons, not included above, were also empleyed by larger establishments in this industry
(other workers' includes, for example, employees engaged in merchanting):-

|  | 1951 | 1954 |
| :---: | :---: | :---: |
| Canteen workers | Number | Number |
| ( Male | $\begin{array}{r} 16 \\ 205 \end{array}$ | $\begin{array}{r} 13 \\ 223 \end{array}$ |
| Total | 221 | 236 |
| Other workers Male Female | $\begin{aligned} & 746 \\ & 229 \end{aligned}$ | ${ }_{151}^{619}$ |
| Total | 975 | 770 |
| Total excluded employees | 1.196 | 1.006 |

to larger establishments in Great Britain on 19

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

|  |  |  |  | Number |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1951 |  |  | 1954 |  |  |
|  | Males | Females | Total | Males | Females | Total |
| Working proprietors | 92 | 5 | 97 | 93 | 5 | 98 |
| Operatives | 21.117 | 3.286 | 24,403 | 20.621 | 3.244 | 23.865 |
| clerical employees | 5.314 | 2.215 | 7.529 | 5.829 | 2.535 | 8.364 |
| Total employees | 26,431 | 5,501 | 31,932 | 26,450 | 5,779 | 32,229 |

(a) Week ended September 22, 1951, or October 30, 1954

DS $59478 / 1 / \mathrm{Wt} .3351 \mathrm{~K} .47 / 57 \mathrm{CL}$

| Non-Metalliferous Mines and <br> Quarries (other than Coal, Salt <br> Salt Mines, Brine Pits and <br> Salt Works <br> Slate Quarries and Mines <br> Brick and Fir Mines and Quarries <br> China and Earthenmare <br> Glass Containers <br> Cement <br> Abrasives <br> Manufactured Fuals <br> Manufactured Fuel <br> VOLUME 2 <br> Coke Ovens and By-products <br> Fertiliser. Disinfectant. Insecti <br> cide and Allied Industries <br> Chemicals (General) <br> Drugs and Pharmaceutical <br> Preparations <br> Toilet Preparations and Perfumery <br> Explosives and Fir Paint and Varnish <br> Soap, Candles and Glycerine <br> Polishes Ink <br> Ink <br> Mineral Oil Refining <br> Oils and Greases <br> Seed Crushing and Oil Refining <br> Industries aste and Allied <br> Plastics Materials <br> volume 3 <br> Blast Furnaces ron and Rolling) <br> Iron Foundries <br> Steel Sheets <br> Tinplate <br> Non-Fer Iron and Steel Tubes <br> Rolling. etc.) (Smelting <br> Scrap Metal Processing <br> Motor Vehicles and CYcles <br> (Manu facturing) <br> 保 <br> (Repairing) <br> Aircraft Manufacture and Repair <br> Locomotive Manufacturing <br> Railway Carriages and Wagons <br> and Trame <br> Carts. Perambulators, etc. <br> vOLUME 4 <br> Shipbuilding and Ship Repairing <br> Marine Engineering <br> Nachine Tools <br> Smalle Machinery and Accessories <br> Constructional Engineering <br> Mechanical Handling Equipment |  |
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