## 69 Surgical instruments and appliances

This Report on the Surgical Instruments and Appliances Industry relates to establishments engaged wholly or mainly in manufacturing surgical cutlery, dental instruments, splints, trusses, artificial eyes, artificial teeth and artificial limbs and other surgical and dental appliances except items made of plastics materials; spectacles, monocles, goggles, etc including frames and lenses. Electro-medical equipment and X-ray apparatus are excluded. Dispensing opticians other than wholesale are also excluded.

This industry corresponds to minimum list heading 353 in the Standard Industrial Classification (Revised 1968) which has been used for the first time as a basis of classification in the 1968 Census.

The industry formed part of the Scientific, Surgical and Photographic Instruments, etc Industry (Part 53) in the last detailed Census of Production for 1963, comprising part of the sub-division 'Spectacles etc' and the sub-division 'Surgical,' dental and veterinary instruments and appliances', with the following exceptions: oxygen breathing apparatus are now included whereas electro-medical apparatus and hearing aids with valve or transistor amplification are excluded and included in the report on Radio, Radar and Electronic Capital Goods (Part 77); artificial teeth, crowns and facings and all other dental goods of plastics manufacture as well as artificial eyes and limbs of plastics manufacture are included in the report on Plastics Products (Part 149); and ophthalmic instruments and appliances and parts thereof are included in the report on Scientific and Industrial Instruments and Systems (Part 70).

Throughout this Report, the figures given for 1963 have been reclassified, as far as possible, according to the Standard Industrial Classification (Revised 1968) so that data for 1963 and 1968 are on the same industrial basis. However the reclassification of small firms, which provided limited information only, nas been arbitrary.

In interpreting the data in the tables it is essential to bear in mind the notes and definitions which appear on pages (i) to (iv).

## LIST OF TABLES

Table
No.
SECTION I - Estimates for all establi shments in the industry Industry summary, 1963 and 1968
Analysis by size of establishment within the industry, 1968
3 Percentage analysis of employees, by age and sex, 1969
SECTION II - Analysis of returns received
4 Analysis of larger establishments, 1963 and 1968
5 Sales of principal products of the industry by 1 arger establishments, including sal es by establishments classified to other industries,
1963 and 1968
6 Sales of principal products of the industry by larger establishments
classified to other industries, 1963 and 1968
Sales of other than principal products by 1 arger establishments in the
industry, 1963 and 1968 industry, 1963 and 1968 establishments, 1963 and 1968 products of the industry by 1 arger

Purchases by 1 arger establishments of selected principal products of the
industry, 1968 industry, 1968

10 Purchases by larger establishments in the industry, 1963 and 1968
11 Transport costs and employment of 1 arger establishments, 1963 and 1968
12 Payments for certain services, etc by larger establishments, 1963 and 1968
13 Percentage analysis of twel ve-month periods covered by returns from 1 arger

Footnotes continued from page 69/3.
(c) Including services rendered to other organisations (anounts charged for hiring out plant machinery or other goods, for providing transport, or for technical or other services
rendered). (d) Administ
(d) Administrative, technical and clerical employees.
(e) Excluding expenditure for
(e) Excluding expenditure for establishments not yet in production
(f) Acquisitions less disposals.

TABLE 1 Industry summary, 1963 and 1968
United Kingdom (a) (b)

|  | Unit | All establishments |  |
| :---: | :---: | :---: | :---: |
|  |  | 1963 | 1968 |
| Number of enterprises | No. | 765 | 787 |
| Number of establishments | " | 837 | 894 |
| Gross output | $£^{\prime} 000$ | 46,712 | 77,095 |
| Net output | " | 25,959 | 42,535 |
| Net output per head | $\dot{1}$ | 1,012 | 1,502 |
| [goods produced and work done (c) | £. 000 | 40,066 | 66,775 |
| Sales and work done $\quad\left\{\begin{array}{l}\text { merchanted goods and canteen takings }\end{array}\right.$ | " | 6,588 | 8,645 |
| $\left\{\begin{array}{l} \text { materials for use in production and } \\ \text { packaging and fuel } \end{array}\right.$ | " | 15,025 | 27,882 |
| Purchases $\quad\left\{\begin{array}{l}\text { goods for merchanting and canteen } \\ \text { purchases }\end{array}\right.$ | " | 5,509 | 5,991 |
| $\int$ for work done on materials given out | " | 302 | 831 |
| Payments to other organisations $\quad\left\{\begin{array}{l}\text { for transport } \\ \text { by road }\end{array}\right.$ | " |  | 202 |
| by rail and other means excluding postal services | " | 8 | 165 |
| Stocks and work in progress |  |  |  |
| Total stocks and work in $\quad$ change during year |  |  | + 2,186 |
| progress $\quad\{$ at end of year | " | 10,676 | 20,208 |
| $\{$ change during year | " | - 369 | + 996 |
| Goods on hand for sale $\quad\left\{\begin{array}{l}\text { at end of year }\end{array}\right.$ | " | 2,887 | 6,837 |
| \{change during year | " | + 427 | + 679 |
| Hork in progress $\quad\left\{\begin{array}{l}\text { at end of year }\end{array}\right.$ | " | 3,674 | 4,630 |
| $\{$ change during year | " | + 231 | + 511 |
| Materials, stores and fuel $\left\{\begin{array}{l}\text { at end of year }\end{array}\right.$ | " | 4,114 | 8,741 |
| total, including working proprietors | Th. | 25.6 | 28.3 |
| Number employed on average $\quad$ operatives |  | 19.7 | 21.2 |
| during the year other employees (d) |  | 4.9 | 6.3 |
| \{ of operatives | £ 000 | 11,509 | 16,630 |
| Hages and sal aries $\quad\left\{\begin{array}{l}\text { of other employees (d) }\end{array}\right.$ | " | 4,171 | 7,444 |
| Capital expenditure (e) |  |  |  |
| Total |  | 1,082 | 2,055 |
| New building work |  | 289 | 184 |
| Land and existing buildings (f) |  | - 47 | 133 |
| Pl ant and machinery (f) |  | 694 | 1,455 |
| Vehicles (f) |  | 146 | 283 |

(a) For 1968 , estimates for establishments not making satisfactory returns and for small establishments, For 1968, estimates for establishments not making satisfactory returns and for small establishments,
from which only employment data were collected, accounted for 20 per cent. of the total figures in which they were incorporated: of this, unsat isfactory returns were less than 1 per cent. For 1963 the comparable figures were 22 per cent. and 1 per cent. respectively.
(b) The following information relates to small establishments (employing fewer than 25 persons) in this industry. It includes an estimate for small establishments not making satisfactory returns.

| Number of establishments <br> Average nember employed: <br> Working proprietors | 645 | 1968 |
| :--- | ---: | ---: |
| Other persons employed | 9,85 | 701 |
|  | 4,847 | 5,085 |

Footnotes continued on page 69/2.

Working proprietors
Norking proprietors
Other persons employed
4,847


TABLE 2 Analysis by size of establishment within the industry, 1968
(i) Output and employment

All establishments: United Kingdom

| Number employed on average during the est abl i shment (a) | Est abmen'ts | $\begin{aligned} & \text { Enter- } \\ & \text { prises } \\ & \text { (b) } \end{aligned}$ | Total number employed on aver age during the year (a) | Gross output | $\begin{gathered} \text { Net } \\ \text { output } \end{gathered}$ | Net output per head |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Number | Number | £'000 | £'000 | £ |
| 1-5 | 326 | 320 | 967 | . | .. | .. |
| 6-10 | 156 | 153 | 1,176 | .. |  |  |
| 11-24 | 215 | 195 | 3,641 | . | . | . |
| 25-49 | 71 | 64 | 2,592 | 6,801 | 3,586 | 1,384 |
| 50-99 | 60 | 58 | 4,323 | 12,307 | 6,421 | 1,485 |
| 100-199 | 34 | 32 | 4,816 | 12,889 | 7,386 | 1,534 |
| 200-299 | 12 | 8 | 2,799 | 7,572 | 5,017 | 1,792 |
| 300-399 | 6 | 6 | 2,116 | 6,521 | 3,412 | 1,613 |
| 400 and over | 7 | 7 | 5,823 | 15,109 | 7,903 | 1,359 |
| Unsat isfactory returns | 7 | 6 | 70 | .. | .. |  |
| Total | 894 | 787 | 28,323 | 77,095 (c) | 42,535 (c) | 1,502(c) |

(ii) Employees, wages and sal aries

All establishments: United Kingdom

| Number employed on average during the year by theest abl ishment (a) | Employees |  | Wages and sal aries |  | Wages and sal aries per head |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Operatives | 0 thers (d) | Operatives | 0thers (d) | Operatives | 0 thers <br> (d) |
|  | Number | Number | £'000 | £'000 | £ | £ |
| 1-5 | . | . | . | . | . | . |
| 6-10 | . | .. | . | .. | .. |  |
| 11-24 | . | . | . | . | .. | .. |
| 25-49 | 2,064 | 486 | 1,614 | 644 | 782 | 1,325 |
| 50-99 | 3,294 | 990 | 2,335 | 1,172 | 709 | 1,184 |
| 100-199 | 3,689 | 1,116 | 2,835 | 1,296 | 769 | 1,161 |
| 200-299 | 1,971 | 828 | 1,603 | 861 | 813 | 1,040 |
| 300-399 | 1,612 | 504 | 1,383 | 671 | 858 | 1,332 |
| 400 and over | 4,635 | 1,188 | 3,740 | 1,384 | 807 | 1,165 |
| Unsat isfactory returns | . | . | .. | .. | . | . |
| Total | 21,218(c) | 6,275 (c) | 16,630 (c) | 7,444(c) | 784(c) | 1,186(c) |

[^0]TABLE 3 Percentage analysis of employees, by age and sex, 1969 (a)

All establishments: United Kingdom

| Ages | Males | Fenal es | All employees |
| :--- | :---: | :---: | :---: |
| Under 18 | Per cent. | Per cent. | Per cent. |
|  | 4 | 3 | 7 |
|  | 53 | 40 | 93 |
|  | 57 | 43 | 100 |

Source: Department of Employment
(a) The percentages relate to the numbers employed (excluding working proprietors) at June 1969, the earliest date for Which the information is avail able on the basis of
St andard Industrial Cl assification, (Revised 1968)

Footnotes to Table 4.
(a) Some establishments employing fewer than 25 persons were incested in returns for larger establishments. These
incouted to 1968 and 31 in 1963 .
amounted to 17 establishments in 1968 .
(b) The method of classifying returns to sub-divisions of the industry is explained in the notes; the character ist ic products of each sub-division are ident if ied in Table 5
(c) The sum of the figures for the sub-divisions exceeds the made returns for more than one sub-division.
(d) Including services rendered to other organisations (amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered).
(e) Direct sales of goods (excluding canteen takings) made to and work done for, the general public by larger establish-
ments are included. These amounted to $£ 93,000$ in 1968 . Similar information is not available for 1963 .
(f) Characteristic products relate only to sub-divisions of the industry.
(g) For sub-divisions of the industry, this is the ratio of sales of characteristic products to total sales of goods
produced and work done produced and work done. For the industry as a whole,
this is the ratio of total sales of principal products the industry to total sales of goods produced and work
done. done.
(h) Administrative, technical and clerical employees.
(i) Excluding expenditure for establishments not yet in
production
(j) Acquisitions less disposals.

TABLE 4 Analysis of larger establishments, 1963 and 1968
Establishments employing 25 or more persons: Analysis of returns received, United Kingdom (a)


TABLE 5 Sales of principal products of the industry by larger establishments, including sales by establishments classified to other industries, 1963 and 1968

Establishments employing 25 or more persons: Analysis of returns received, United Kingdom

| $\begin{aligned} & \text { Industry } \\ & \text { sub- } \\ & \text { division } \end{aligned}$ (a) |  |
| :---: | :---: |
| 10 | Dental instruments, appliances and equipment |
|  | Artificial teeth, crowns and f (other than of plastics) |
|  | Dental instruments (including bur |
|  | Other dental surgery and labora equipment |
|  | All other dental goods (other th of plastics) (c) |
| 10 | Medical, surgical, veterinary and dissecting instruments, appliances equipment (other than optical, ophthalmic, dressings and electromedical equipment) |
|  | Medical, surgical, veterinary and dissecting instruments (excluding optical instruments) |
|  | Surgical hosiery |
|  | Artificial limbs (other than of plastics) (d) |
|  | Other appliances (including |

Other appliances (including trusses
and artificial eyes but excluding surgical boots) other than of
surgical boo
plastics (e)
Protective masks and re
(excluding gauze masks
Sterilising equipment (including
autoclaves) autoc laves)
Aseptic hospital furniture
Other equipment. (including
0ther equipment. (includ ing
anaesthet ic, resuscitation and
oxygen breathing apparatus)
Total dental, medical,
surgical, veterinary and dissecting instruments,
appliances and equipment

20 Spectacles
Sunglasses and parts of spectacles,
pince-nez, eyeglasses and monocles
Spectacle frames and mounts and
Sunglasses with unworked lenses
Finished lenses, opt ically worked,
mounted or onmounted, sold
separately
Glass lenses
Single-vision
Bifocal
Plastic lenses
Single-vision
Bifocal
Total spectacles


(a) The number given is that of the sub-division of which the item is a characteristic product. The sales shown are total sales by larger establishments, not merely sales by establishments classified to the
sub-division. sub-division.
(b) Artificial teeth, crowns and facings were not distinguished by type of materials from which they were made for 1963: total sales were valued at $£ 680,000$ and are included in the 1968 report on the Plastics
maducts Industry, (Part 149.)
(c) For 1963 dental goods of plastics were not specifically excluded.
(d) For 1963 artificial limbs of plastics were not specifically excluded.
(e) For 1963 other appliances of plastics were not specifically excluded
(f) Not recorded separately for 1963.
(g) For 1963 artificial teeth and protective masks and respirators were excluded.
(h) This figure represents the total number of returns made for larger establishments in this industry which is less than the total number of establishments shown in Table 4 on account of combined returns

TABLE 6 Sales of principal products of the industry by larger establishments classified to other industries, 1963 and 1968

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdon


[^1]TABLE 7 Sales of other than principal products by larger establishments in the industry, 1963 and 1968
Establ ishments employing 25 or more persons:
Analysis of returns received, United Kingdom

|  | 1963 | 1968 |
| :---: | :---: | :---: |
|  | Value | Value |
|  | £'000 | £ 000 |
| Mechanical engineering products | 242 | 432 |
| Scientific and industrial instruments | 784 | 761 |
| Electro-medical and surgical equipment and other electrical goods | 146 | 251 |
| Miscellaneous metal manufactures | 275 | 334 |
| Travel goods and small cases of leather | 30 | 163 |
| Footwear of all kinds | 100 | 121 |
| Artificial limbs, artificial teeth and other dental, medical and surgical components of plastics | 70(a) | 954 |
| Other products | 1,383 | 3,679 |
| Repair work for customers | 804 | 1,197 |
| Services rendered to other organisations (b) | 195 | 873 |
| Total value of goods sold without having been subjected to any manufacturing process (merchanted or factored) | 5,020 | 6,819 |
| Canteen takings | 91 | 108 |
| Total | 9,140 | 15,693 |

(a) For 1963 dental goods and art if icial 1 imbs of plastics, were not separately distinguished as such a
industry (see Table 5).
(b) Amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered to other
organisations.

TABLE 8 Production of certain principal products of the industry by larger establishments, 1963 and 1968

This table is not applicable to this industry.

TABLE 9 Purchases by larger establishments of selected principal products of the industry, 1968

This table is not applicable to this industry.

TABLE 10 Purchases by larger establishments in the industry, 1963 and 1968 Establishments employing 25 or more persons: Analysis of returns received, United Kingdom


TABLE 10 (continued)

Materials for use in production (cont inued)
Cases for holding instruments, appliances, etc (other
than boxes, cartons and other packaging materials)
Components, parts and accessories and semi-manufactured
goods, not elsewhere specified oods, not elsewhere spec if ied
Electrical (other than parts of clocks) (e)
Motors
Valves (electronic) and semi-conductor devices Other
Wholly or partly of plastics materials (other than electrical)
0 ther
Lubricating oils and greases (including cutting oils
and emulsions) and emulsions)
Replacement parts for firms, own machinery, plant and vehicles, and accessories and consumable tools bought as replacement
Tyres and other spare parts for firms, own road goods
vehicles vehicles

All other materials for use in production
Packaging materials
Paper and board
Boxes, cartons, drums and canisters (with or without metal ends) of paper and cardboard
Fibreboard packing cases
Wrapping and packing paper (including paper coated
with plast ics and any laminates incorporat ing paper
but not metal) not metal
Plastics (other than transparent regenerated cellulose
film) Cell
Cellular foam
Film (up to 0.01 inches thick) of polyethylene
of other plastics materials
Sheets and sheeting (thicker than 0.01 inches)
Moulded and fabricated containers including closures and inserts, but excluding re-usable crates, bot tles
and bottle caps and rigid and collapsible tubes
All other packaging materials
Fuel and electricity (f)
Coal

Coke (including screenings) and manufactured fuel

Derv fuel and motor spirit for use in road vehicles
Other liquid fuels (including creosote/pitch mixtures, etc and 1 iquefied petroleum gases)

| 1963 |  | 1968 |  |
| :---: | :---: | :---: | :---: |
| Quantity | Cost | Quantity | Cost |
| Thousands <br> 2.1 | £'000 | Thousands$0.8$ | £ 00094 |
|  | 56 |  |  |
|  | 31 |  | 80 |
|  | 4 |  | 10 |
|  | 116 | . | 251 |
| Th.gal. 15.7 | 283 | . | 240 |
|  | 1,081 | Th. gal. 64.7 | 4,278 |
|  | ${ }_{1}^{6}$ |  | 22 7 |
| \} $\cdot \cdot$ | 340 | .. | 65 |
|  |  |  | 281 |
| .. | 3,045 | . | 3,845 |
| \} | 304 | $\cdots$ | $\begin{array}{r} 602 \\ 23 \end{array}$ |
|  |  |  |  |
| . | 94 | .. | 255 |
| - $\cdot$ | 122 | .. | 1 |
|  |  | . | 23 |
|  |  | . | 30 |
|  |  | . | 24 |
|  |  | . | 180 |
|  |  | Th.tons |  |
| . ${ }^{\text {a }}$ | 4 | 1.4 | 8 |
| Th.tons |  |  |  |
| 2.8 | 24 5 | 0.9 | $\begin{array}{r} 11 \\ 7 \end{array}$ |
| Th.gal. |  | Th.gal. |  |
| 134 | 3210 | 323 | $98$ |
|  |  |  |  |
| 987 | 4527 | 664 | 3519 |
|  |  |  |  |

TABLE 10 (cont inued)

|  | 1963 |  | 1968 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Quantity | Cost | Quantity | Cost |
| Fuel and electricity (f) (cont inued) |  | £'000 | Th.therms | £'000 |
| Gas | .. | 93 | 1,213 | 105 |
|  | Th. kWh |  | Th.kWh |  |
| Electricity | 25,316 | 124 163 | 41,048 | 392 54 |
| All other fuels | .. | (g) | .. | 40 |
| Total cost of materials and fuel |  | 11,655 |  | 22,341 |
| Goods purchased for merchanting |  | 4,183 |  | 4,681 |
| Canteen purchases |  | 91 |  | 119 |
| Total cost of purchases |  | 15,929 |  | 27,141 |

(a) Cadmium copper was not specifically excluded for 1963 .
(b) Included with 'All other materials for use in production' for 1963.
(c) For 1963 described as 'Heavy chemicals (acids, alkalis, alcohols, other inorganic (including
silver nitrate) and organic chemicals, compressed gases, etc)
(d) For 1963 described as 'Phenolics and cresylics: resins, solutions, emulsions, dispersions,
moulding and extrusion compounds'.
(e) 'Parts of clocks' were not specifically excluded for 1963.
(f) There were no entries recorded for electricity generated in firms, own establishments in this 1963 and 1968
(g) Not recorded separately for 1963

TABLE 11 Transport costs and employment of larger establ ishments, 1963 and 1968
Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

|  | Unit | 1963 | 1968 |
| :---: | :---: | :---: | :---: |
| Average number mainly employed on transport | No. | 85 | 151 |
| Transport costs |  |  |  |
| Wages and salaries | £'000 | 57 | 128 |
| Derv fuel and motor spirit |  | 42 | 112 |
| Tyres and other spare parts for road goods vehicles | " | . | 65 |
| Payments to other $\quad \int$ by road | " |  | 162 |
| Payments to other organisat ions for transport $\quad\left\{\begin{array}{l}\text { by rail and other } \\ \text { means excluding } \\ \text { postal services }\end{array}\right.$ | " | 115 | 133 |
| Costs of operating road goods vehicles |  |  |  |
|  | " | 8 | 16 |
| Vehicle licences | " | 4 | 14 |
| Depreciation | " | 33 | 68 |
| Payments to other organisations for repairs and maintenance |  | 19 | 32 |
| Total | " | 279(a) | 730 |

(a) Excluding tyres and other spare parts for road goods vehicles Excluding tyres and other spare pa
not collected separately for 1963 .

TABLE 12 Payments for certain services, etc by larger establ ishments, 1963 and 1968 (a)

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

|  | Amounts payable |  |
| :--- | ---: | ---: |
|  | 1963 | 1968 |
| Repairs and maintenance to | $£, 000$ | $£, 000$ |
| Buildings | 77 | 102 |
| Road goods vehicles | 19 | 32 |
| Plant, machinery and other capital equipment | 149 | 233 |
| Insurance, licensing and depreciation of road goods |  |  |
| vehicles (b) | 46 | 97 |
| Rates, excluding water rates | 263 | 490 |
| Hire of plant and machinery | 29 | 46 |
| Postage, telephone, telegrams, cables and telex (c) | 297 | 517 |

(a) No deduction is made for these payments to arrive at the figures of net output given in this report.
(b) For details see Table 11 .
(c) Excluding telex for 1963.

TABLE 13 Percentage analysis of twelve-month periods covered by returns from larger establishments, 1968

Establishments employing 25 or more persons: Analysis of returns received, United Kingdom

| Year ended | Percentage <br> of total returns <br> received | Percentage <br> of otal number <br> employed |
| :--- | :---: | :---: |
| 1968 | Per cent. | Per cent. |
| April (a) | 2.7 | 1.6 |
| May | 1.1 | 0.9 |
| June | 7.7 | 7.1 |
| July | 0.5 | 0.3 |
| August | 2.7 | 1.2 |
| September | 8.8 | 8.0 |
| October | 1.6 | 0.7 |
| November | 2.2 | 1.4 |
| December | 48.0 | 49.1 |
| January | 1.6 | 0.6 |
| February | 1.1 | 0.3 |
| March | 18.2 | 25.5 |
| April (b) | 3.8 | 3.3 |

(a) From 6 April.
(b) To 5 April.


[^0]:    (a) Including working proprietors
    (b) The sum of the figures for the size groups exceeds the total for the industry to
    the extent that enterprises made returns for establishments in more than one size group.
    (c) Including estimates for establiishments employing fewer than 25 persons and for
    establishments not making satisfactory returns.
    (d) Adninistrative, technical and clerical employees.

[^1]:    (a) The references given are to the list of industries at the front of this report.

