CENSUS STATISTICS OF 1860.

The preliminary chapters of the report of the census of 1860 contain a mass of statistics from which we have endeavored to gain a clear idea of the industrial condition of the country in that year. The first object to which men direct their labor is the procuring of food, as without this they perish in a few days. The next in importance is a dwelling in which they may be sheltered from the elements; the next is clothing, and the next fuel. If men are able to procure these first necessaries without working all of the time, they then direct their efforts to obtaining a great variety of articles usually termed luxuries which are less important but still pleasant to possess. In examining the industrial condition of a people, therefore, the natural inquiry seems to be first, "How are they fed, housed, clothed and warmed, and then to what objects do they direct their labor after these necessaries are supplied?" If the people are very stupid and ignorant they will work with poor tools and but few of their wants can be satisfied. In Ceylon, for instance, the only implement used by the brutal natives is a club, and their labor is sufficient to produce only the first necessary, food; they go entirely naked and sleep in the open air. The higher a people is advanced in intelligence, the more abundant and serviceable are the implements and machines with which they work, and the larger is the product of articles with which to supply their wants. This is shown where labor is divided, in a smaller portion of the community being engaged in the production of food and other necessaries, and a larger number in the production of various articles of convenience and luxury.

What is the condition of the United States in this respect? How many of our people are engaged in the production of food? With what implements and conveniences do they work? How many are employed in making clothing? How many in the production of luxuries? We turn to the mass of statistics already received from the Census Office to see if we can get answers to any of these questions.

THE NUMBERS ENGAGED IN AGRICULTURE.

In all countries, even in England, the production of food gives employment to a larger portion of the population than any other pursuit. The statistics for this country will doubtless be furnished in the full report, but they are not embraced in these preliminary chapters. We have, however, the statistics of the manufacture of

AGRICULTURAL IMPLEMENTS.

The total value of agricultural implements made in 1860 was $17,802,514, being an increase of 160.1 per cent upon the total value of the same branch in 1850, when it amounted to the sum of $6,842,611. This manufacture amounted in New England to over two and three-quarter millions of dollars—an increase of 65.8 per cent. In the Middle States the value was nearly five and a half millions, having increased at the rate of 122.2 per cent. In the Western States, where the increase was most extraordinary, the value of implements produced was augmented from $1,923,927 to $7,955,545. The increment alone in those States was, therefore, only a fraction less than the product of the whole Northern section of the Union in 1850, and was greater by 313 per cent than their own manufacture in that year. In each of the States of Ohio and Illinois, which are the largest manufacturers in the West, the value of the product exceeded two and a half millions dollars, being an increase in the former of 382, and in the latter of 235 per cent in ten years. Michigan, Indiana and Wisconsin increased their production of agricultural implements 1,250, 386 and 201 per cent respectively. While in some of the Southern States there has been a decrease. In Virginia, Alabama and Louisiana the increase in this branch has been large, and in Texas, which reported none in 1850, agricultural implements of the value of $140,000 were manufactured in 1860. The whole value produced in the Southern States in the latter year (including cotton gins) was $1,582,483, exhibiting an increase of over 101 per cent in the last decade.

FLOUR AND MEAL.

The product of flour and grist mills in 1850, reached a value of nearly one hundred and thirty-six millions of dollars, while in 1860 the returns exhibit a value of $223,144,369—an increase of $87,246,563, or 64.2 per cent in the last ten years. The production and increase of the several sections were as follows:—

	Value of flour and meal.	*Increase.*	*Per cent Increase.*
New England States	$11,155,445	$4,834,959	76.5
Middle States	79,086,411	10,653,232	15.5
Western States	96,038,794	53,364,802	125.0
Southern States	30,767,457	14,185,640	85.5
Pacific States	6,096,262	4,207,930	222.8

The largest mill is in Oswego, New York, which in 1860 produced 300,000 barrels of flour; the next two, in Richmond, Virginia, made 190,000 and 160,000, respectively; and the fourth, in New York city, returned 146,000 barrels. The value of annual production of each ranged from one million and a half to two million dollars.

CLOTHING.

The amount of labor devoted by the people of this country to the clothing of their bodies and feet is very fully shown under the several divisions below.

COTTON CLOTH.

The total value of cotton goods manufactured in New England was $80,301,535, and in the Middle States $26,272,111—an increase of 83.4 per cent in the former, and 77.7 in the latter. The remaining States produced to the value of $8,564,280, making the whole production during that year $115,137,926, against $65,501,687, the value of this branch in 1850, or an increase in the general business of nearly 76 per centum in ten years. In the States of Maine and New Jersey the manufacture increased in the same time 152 per cent; in Pennsylvania, over 102 per cent; in New Hampshire and Connecticut, over 87 per cent; in Massachusetts, nearly 69 per cent, and in Rhode Island 88.7 per cent. The total production in this branch was at the rate *per capita* of $3 69 for every individual in the Union, equivalent to 46½ yards of cloth for each, at the medium price of 8 cents per yard. The average product per head in 1850 was 32¼ yards. The increase alone has, therefore, been at the rate of 11 yards for each person, or nearly equal to the average annual consumption *per capita* in 1830, when it was estimated to amount to 12 yards. The number of hands employed in the manufacture in 1860 was 45,315 males, and 73,605 females, an increase in the male operatives of 10,020, and in the female of 10,944 since 1850. The average product of the labor of each operative was $969. The number of spindles was returned at 5,035,798, being an increase of 1,402,105, or 38.5 per cent over the aggregate in 1850, which was estimated at 3,633,693. The New England States possess 3,959,297, or 78.6 per cent of the whole, while Massachusetts alone employs 1,739,700, or 29.3 per cent of the number returned in the Union. The increase of spindles in the last decade was, in New England, 1,208,219, or 30 per cent. In the State of Maine, 186,100, or 163.3 per cent; in the State of New Hampshire, 229,484, or 52.1 per cent; in the State of Massachusetts, 451,609, or 35 per cent; in the State of Rhode Island, 141,862, or 22.7 per cent; in the State of Connecticut, 211,188, or 83.1 per cent; while in Vermont it exhibited a decrease.

The product per spindle varies in the different States, partly accounted for by the fact that many manufacturers purchase yarns which have been spun in other States.

The product of cotton goods per spindle is as follows:—In Maine, $22 12; Massachusetts, $21 12; New Hampshire, $24 87; Vermont, $18 13; Rhode Island, $16; Connecticut, $16 46. The average in the New England States is $20 30; in the Middle States, $30 48, and in the whole Union, $22 86.

The quantity of cotton used in the fabrication of the above goods was 364,036,123 pounds, or 910,090 bales of 400 pounds each. Of this amount the New England States consumed 611,738 bales, and Massachusetts alone 316,665. The consumption per spindle in that year in the various States and sections was as follows:—

	No. spindles.	*Lbs. cotton.*	*Lbs. per spindle.*
Maine	300,000	23,438,723	78
New Hampshire	669,885	39,212,644	58.5
Vermont	19,712	1,057,250	53
Massachusetts	1,739,700	126,666,089	72.8
Rhode Island	766,000	38,521,608	50.2
Connecticut	464,000	15,799,140	34
In New England	3,959,297	237,844,854	61.8
In the Middle States	861,661	76,055,666	88.26
In the United States	5,035,798	364,036,123	72.2

WOOLEN MANUFACTURES.

The returns of woolen manufactures show an increase of over fifty-one per cent in ten years. The value of woolen and mixed goods made in 1850 was $45,281,764. In 1860 it amounted to $68,865,963. The establishments numbered 1,909, of which 453 were in New England, 748 in the Middle, 479 in the Western, 2 in the Pacific and 227 in the Southern States. The aggregate capital invested in the business was $35,520,527, and it employed 28,780 male, and 20,120 female hands, 639,700 spindles and 16,075 looms, which worked up more than eighty million pounds of wool, the value of which, with other raw materials, was $40,360,300. The foregoing figures include satinets, Kentucky jeans and other fabrics of which the warp is cotton, though usually classed with woolens. In the manufacture of these mixed goods the amount of cotton consumed is 16,008,625 pounds, which, with 364,036,123 pounds used in making cotton goods, as previously stated, amounts to 380,044,748 pounds or 950,112 bales, exclusive of a considerable quantity used annually in household manufactures and for various other purposes.

The largest amount of woolens was made in New England, where the capital was nearly twenty millions of dollars, and the value of the product $38,509,080, but little less than the total value in 1850. More than half the capital, and nearly one half of the product of New England belonged to Massachusetts, which had 131 factories of large size. Rhode Island ranked next, and had increased its manufacture 163 per cent in ten years, that of Massachusetts being 48 per cent. The value of woolens produced in the Middle States was $24,100,488, in the Western $3,718,092, and in the Pacific and Southern $2,538,303. The sectional increase was in New England 52.1, in the Middle States 54, and in the South 107, the last showing the greatest relative increase. Pennsylvania, next to Massachusetts, was the largest producer, having 447 factories, which made $12,744,373 worth of woolen and mixed fabrics, an increase of 120 per cent. A value of $8,919,019 was the product of 222 establishments in the city of Philadelphia.

The State of New York holds the third rank in relation to this industry, its manufactures amounting to more than nine millions of dollars. The woolen manufactures of Maryland exhibit an increase of 86 per cent. In Ohio, which produced in 1850 a greater value of woolens than all the other Western States, there was a decrease on the product of 1850, owing, probably, to the shipments of wool to Europe, which, in 1857, was found to be the most profitable disposition of the rapidly increasing wool crops of that State. In Kentucky, now the largest manufacturer of wool in the West, the product was $1,128,882, and the increase in ten years 40.4 per cent; while in Indiana, which ranks next, it was 31 per cent, and in Missouri 18.8, on the product of 1850

The quantity of wool returned for the whole Union in 1850 was upward of 52,500,000 pounds. Sheep raising has been greatly extended and improved since that date in Ohio, Texas, California and other States, and the clip in 1860 amounted to 60,511,343 pounds; an increase of 15.2 per cent in ten years. The yield still falls far short of the consumption, and large quantities continue to be imported, notwithstanding the amount of territory adapted to sheep husbandry.

LINEN GOODS.

The manufacture of linen goods has made but little progress in this country. A few mills, chiefly in Massachusetts, make crash and other coarse fabrics; the largest two in that State produced six million yards in 1860. Others are extensively engaged in making twines, shoe and other threads.

FLAX COTTON.

The manufacture of fabrics from flax cotton has been commenced, and success in a new branch of industry is confidently expected. The inventive genius of our countrymen has perfected machinery for the preparation of flax for spinning, which can be furnished, it is alleged, at as low a rate as the product of Southern cotton fields.

SEWING SILKS.

The manufacture of sewing silks is extensively carried on in this country. Including tram, organzine, &c., the production exceeded five million dollars in the States of Connecticut, New Jersey, Massachusetts, Pennsylvania and New York, their relative values being in the order mentioned. Ribbons are made to a small extent, but the chief manufactures of silk consist of ladies' dress trimmings, coach lace, &c., of which the cities of Philadelphia and New York produce to the value of $1,260,725 and $796,682 respectively.

LEATHER.

The tanning and currying establishments of the United States produced in 1850 leather, exclusive of morocco and patent leather, to the value of $37,702,333. The product of the same branch in 1860 reached $63,090,751, an increase of nearly 67 per cent. In the New England States it was $16,333,871, in the Middle States, $36,344,548, and in the Western States, $5,986,457; being an increase of 66.6 per cent 90.7 and 13.3 in those sections, respectively. The Pacific States and Territories (including Utah), which returned no leather in 1850, produced in 1860 to the value of $351,469. The largest producers of leather are New York, $20,758,017; Pennsylvania, $12,491,631; and Massachusetts, $10,354,056; an increase in those States of 111.7, 98.4 and 82.3 per cent, respectively. Including morocco and patent leather the aggregate value produced in the Union in 1860 exceeded sixty-seven millions of dollars.

BOOTS AND SHOES.

The manufacture of boots and shoes employs a larger number of operatives than any other single branch of American industry. The census of 1850 showed that there were 11,305 establishments, with a capital of nearly thirteen millions of dollars, engaged in making boots and shoes to the value of $53,967,408, and employing 72,305 male and 32,948 female hands. The returns of 1860 show that 2,554 establishments in the New England States employed a capital only $2,516 less than that of the whole Union at the former date; and with 56,039 male and 24,978 female employes produced boots and shoes of the value of $54,767,077, or eight hundred thousand dollars more than the entire value of the business in 1850, and 82.8 per cent in excess of their own production in that year. Massachusetts increased 92.6 per cent, having made boots and shoes of the value of $46,440,209, equal to 86.6 per cent of the general business in 1850. The State of New York returned 2,276 factories, with an aggregate production of $10,878,797; and New England, New York, Pennsylvania and New Jersey together produced $75,674,946 worth of these articles, being 40.4 per cent more than the product of all the States in 1850, and 67.9 per cent more than their own manufacture in that year. The three counties of Essex, Worcester and Plymouth, in Massachusetts, produced boots and shoes to the value severally of about 14½, 9½ and 9¼ millions of dollars. The largest production of any one town was that of Philadelphia, in which it amounted to $5,349,887; the next, that of Lynn, Massachusetts, was $4,867,399; the third, Haverhill, $4,130,500; the fourth, New York city, $3,869,068. The largest production of a single establishment was of one in North Brookfield, Massachusetts, and amounted to over $750,000. This establishment was the largest of five the same proprietors had in operation that year, the total production whereof was over one million pairs of boots and shoes, valued at over thirteen hundred thousand dollars. Machinery propelled by steam power is now used in many large manufactories with highly satisfactory results.

INDIA RUBBER GOODS

Were made chiefly in Connecticut, New York, New Jersey and Massachusetts, to the value of $5,729,900—an increase of ninety per cent in the last decade.

DWELLINGS.

The value of the dwellings in the United States is not given in these preliminary chapters, but we have the amount of lumber annually produced, and the value of the household furniture manufactured.

LUMBER.

The sawed and planed lumber reached, in 1850, the value of $58,521,976, and in 1860 $95,912,286, an increase of 64 per cent in the last decade. The Western States alone, in the latter year, produced lumber to the value of $33,274,793, an increase of $18,697,543, or 128 per cent over their manufacture in 1850. The Pacific States and Territories produced to the value of $6,171,431, and the Southern $17,941,162, a respective increase of $3,841,826 and $9,094,686 in those sections, being a ratio of 162.7 and 102.3 per cent.

CABINET FURNITURE.

The value of cabinet furniture made in 1860 in the New England, Middle States and Ohio reached the sum of $19,553,734, an increase of 30.5 per cent over the product of those States in 1850, and exceeding the production of the whole Union in 1850. New York returned in 1860 furniture of the value of $7,175,060 (or 40.6 per cent of the whole amount made in 1850), Massachusetts $3,365,415, and Pennsylvania $2,938,503.

Next week we shall publish statistics of the pro-

duction of various articles of luxury, and of various manufactures which are incidental to the production of articles intended for the direct gratification of our wants.

VALUABLE RECEIPTS.

ETCHING AND ORNAMENTING GLASS.—The hardest glass may be etched and frosted with a peculiar liquid acid, and also with this acid in the condition of vapor. When powdered fluor spar is heated with concentrated sulphuric acid in a platinum or a lead retort, and connected with a refrigerator by a tube of lead, a very volatile colorless liquid is obtained which emits copious white and suffocating fumes. This is hydro-fluoric acid, a dilute solution of which attacks glass with avidity while neither sulphuric nitric, or muriatic acid has the least effect upon it. In a diluted state it is employed for glass etching, for which purpose it is kept in a lead vessel, because it has very little affinity for this metal. The vapor of this acid is also used for the same purpose. The glass to be operated upon is first coated with a ground of wax, and the design to be etched is then traced through the wax with a sharp instrument. Into a shallow lead basin, some powdered fluor spar is then placed, and a sufficient quantity of sulphuric acid poured upon it to convert it into a thin paste. The glass to be etched is now placed in the basin to which a gentle heat is applied, when the vapor of the acid is disengaged and attacks the traced lines from which the wax has been removed. The operation is completed in a few minutes, the glass is removed and the wax cleaned off with warm oil of turpentine. All those parts which have remained covered with the wax are now clear as before, while the other parts drawn by lines to represent figures, have a frosted appearance. Any person can produce figures on glass with this acid, but it is dangerous to use, as it is poisonous in the state of a gas when inhaled, and exceedingly injurious to the skin, if allowed to touch it in the fluid state.

In October, 1859, a patent was granted to James Napier, of Glasgow, Scotland, for a very simple method of ornamenting glass with fluoric acid. Instead of drawing patterns and figures on the glass with the use of varnish and a graver to prepare the glass for etching, the glass is prepared by simply transferring pictures from prints, which can be performed by almost any person. The method is to take a print, lithograph or picture made with printer's ink, and fix the printed surface to the glass by any ordinary paste made from starch. All the air must be carefully excluded from between the print and glass. When perfectly dry, liquid hydrofluoric acid about the specific gravity of 1.14 is applied for about three minutes, when it is washed in water to remove the paper and the acid, and the figure of the print is then found upon the glass. The printed portion of the paper may also be cut in outline and pasted on the glass, then transferred. Glass that is "flashed" on the surface with another color may be treated in this manner, when a portion of the flashing or surface will be removed, and the picture will remain in color.

Our Copper Mines.

The Houghton, Lake Superior, *Mining Gazette* gives a review of mineral raised in the Portage Lake District during the six months ending the 31st of June last. The yield was as follows :—

Mines.	Tuns.	Lbs.
Quincy	670	1,052
Pewahie	502	1,076
Franklin	454	1,646
Isle Royale	303	590
Huron	65	1,900
Hancock	36	1,243
Total	2,033	1,507

To which should be added about 1,600 lbs. taken at the Albany and Boston mines before the suspension of work at that mine, making the entire amount raised 2,034 tuns 1,007 lbs. Compared with the same period last year it stands as follows :—

First six months in 1861	2,043 tuns	1,449 lbs.
First six months in 1862	2,034 tuns	1,007 lbs.
Difference	9 tuns	442 lbs.

This slight falling off is attributed to the impossibility of obtaining under-ground laborers in the month of May, on account of which some of the stamp mills had to remain idle.

MISCELLANEOUS SUMMARY.

THE MINES OF CHILE.—There are 609 copper and silver mines in operation in Chile. One thousand five hundred laborers are employed at the mines. Many establishments are furnished with all modern mining improvements. The total monthly yield of all these copper mines is found to be from 8,524,000 to 10,518,000 pounds of ores, returning from 16 to 34 per cent of pure metal. The general average is estimated at 25 per cent. The silver mines yield monthly about 30,000 pounds of ore, returning at the rate of 40 marks (20 lbs. weight) per box of 64 quintals ore. At all the mines in operation at present the works are regularly carried on. They all connect with the sea coast by means of cart roads, built and kept in order by the owners of the mines.

A PATRIOTIC INVENTOR AND MILLIONAIRE.—Elias Howe, Jr., the original patentee of the sewing machine, was present at the great Union meeting at Bridgeport the other day, and not only subscribed one thousand dollars toward aiding enlistments, but signed his name to the roll of volunteers, and proclaimed his intention to go into the field himself. Mr. Howe has manifested unwonted patriotism ever since the rebellion broke out, and many a soldier's family has been made comfortable and happy by his liberality.

POSTAGE STAMPS.—The United States postage stamps which are now so freely in circulation, besides having the amount of their value in figures upon the upper corners, may be readily recognized by their colors and vignettes, which are as follows :—

Amount.	Vignette.	Color.
1 cent	Franklin	Blue.
3 cent	Washington	Pink.
5 cent	Jefferson	Chocolate.
10 cent	Washington	Green.
20 cent	Washington	Black.
24 cent	Washington	Lilac.
30 cent	Franklin	Yellow.
90 cent	Washington	Blue.

THE *Railroad Journal*, which is good authority, estimates the value of railway inventions in the last forty years, in this country alone, to be twelve hundred million dollars. Yet the career of improvement seems as far as ever from having reached a limit. According to this estimate, what is the aggregate value of all the improvements which have been patented during the same period? Who can estimate it?

THE MANUFACTURE OF GOVERNMENT ARMS.—The armory in Springfield, Mass., makes 14,000 stands of arms a month. In a short time that establishment, with the five private shops in operation there, will be able to manufacture 35,000 guns per month. In a few months we shall be making first rate arms, better than the best Europe can afford, at the rate of 600,000 per annum.

THE WOOL CROP.—The product of wool in the United States is placed at 120,000,000 lbs., and it is estimated that the army demand will take up about 42½ per cent of our entire crop. The U. S. *Economist*, therefore, predicts an unusually heavy demand for the heavy grades, as during last year, and that the prices of such will be out of all proportion with those of fine grades.

THE BIBLE.—Dr. Hall, in his *Journal of Health*, speaking of the importance of inhabiting houses in their structure and situation favorable to health, refers as follows to the Bible :—

There is more sound, practical hygiene, on the subject of healthy houses, in the 14th chapter of Leviticus, from verse 34, than in all the skulls of all the health commissioners and common councils of all the cities of christendom.

THE members of the French Parliament are paid at the rate of about $20 per day during the session ; it is now proposed to give them a fixed annual salary of about $2,000.

BY the latest news from England we learn that there was only eleven weeks' supply of cotton in the country. The number of bales in Liverpool was only 260,000.

DEATH OF MARTIN VAN BUREN.—Martin Van Buren, the eighth President of the United States, died at his residence in Kinderhook, N. Y., on Thursday the 24th day of July, in the 80th year of his age.

A GOOD SIGN.—Over $4,000,000 worth of breadstuffs were shipped from this port to Europe during last week.

Correspondence

THE WORLD'S FAIR---AWARDS TO EXHIBITORS.

[From our Special Correspondent.]

LONDON, July 11, 1862.

This, the greatest day which London has seen for many years, is now drawing to a close, and I send you some interesting facts connected with it. This was the appointed time for announcing the decisions of the juries, and the names of those exhibitors to whom awards had been made. About one hundred thousand persons were drawn together for the purpose of beholding the pageant, and it was certainly a noble sight to witness such a host thus assembled as interested spectators in this great peaceful contest of industry and art.

The awards which have been made justify me in all that I had promised to myself respecting the exhibition, and more than I dared promise to our American exhibitors. I am now prepared to announce that while we have had but 98 actual exhibitors, we have had 55 first class, and 28 second-class awards, making no less than 83 altogether. They are as follows, with the names and articles as nearly correct as possible, under the circumstances :—

CLASS No. 1 : *Mining, Metallurgy and Minerals.*—J. Mosheimer received the Council medal for his collection illustrating the newly-explored mineral wealth of the Territory of Nevada. T. Meads, honorable mention for fine collection of native copper and silver, from Lake Superior ; New Jersey Zinc Company, honorable mention for fine spiegel iron, produced from franklinite.

CLASS No. 2 : *Chemical products.*—Medals to Glen Cove Starch Company, samples of starch ; for the excellent quality of products ; H. G. Hotchkiss, wintergreen oil ; Kingsford, silver-gloss starch ; F. S. Pease, for petroleum, benzole from petroleum, coal-tar oil for illumination and lubrication. In a subdivision of the same class, the Philadelphia College of Pharmacy received a Council medal for a fine collection of North American vegetable drugs, and preparations made from them.

CLASS No. 3 : *Substances Used for Food.*—Glen Cove Starch Company, medal for maizena or corn starch used for food ; exceedingly excellent for food. Hecker Brothers, medal for flour ; excellence of quality. Stebbins & Co. receive honorable mention for good flour, and J. Waddell, honorable mention for good quality of indian corn.

CLASS No. 4 : *Articles of Wood.*—Blanchard & Brothers, medal for the spokes of carriage wheels.

CLASS No. 6 : *Carriages.*—Brewster & Co., medal for Phaeton of good workmanship and materials.

CLASS No. 7 : *Manufacturing Machines and Tools.*—Howe Machine Company, medal for their collection of sewing machines ; A. Smith, medal for his loom for weaving tufted carpet ; Wheeler & Wilson, medal for their circular-hook sewing machines. (Illustrated on pages 297 and 298, Vol. VIII. (old series) SCIENTIFIC AMERICAN.) Bigelow, for Goodwin, honorable mention for his machines for sewing boots and shoes, and for sewing round the toes ; G. H. Sanborn, honorable mention for his cord and rope-making machinery ; I. M. Singer, for his collection of well-constructed sewing machines ; Wilcox & Gibbs, honorable mention for improvements in their sewing machines. (Illustrated on page 165, Vol. XIV. (old series) SCIENTIFIC AMERICAN). In a sub-section of this class, but catalogued as class No. 8, W. D. Richards received a medal for improved boot and shoe machinery, and honorable mention is made of the following : F. O. Degner, for a printing press ; Sandford & Mallory, for a scutching machine for taking the fiber from the leaves of aloes, and P. H. Wemple for a machine with 18 adjustable drills.

CLASS No. 8 : *Machinery in General.*—I will premise, before giving the names of the exhibitors in this class, that they number 32, and they have received no less than 20 first-class (medal) and eight second-class awards, making 64 per cent, against 27 per cent of English exhibitors of the same class. They are as follows :—John F. Allen, New York, slide-valve gear ; Wm. D. Andrews, New York, centrifugal