COMPANIONSHIP IN HEAVEN.

We May All Become Residents and Be Princes and Kings.

A despatch from Washington says: —Rev. Dr Talmage preached from the following text: "The spider taketh hold with her hands and is in kings' palaces."—Proverbs xxx. 28.

It is not very certain what was the particular species of insect spoken of in the text; but I shall proceed to learn from it in the first place the exquisiteness of the divine mechanism. The kings' chamberlain comes into the palace and looks around and sees the spider on the wall, and says: "Away with that intruder," and the servant of Solomon's palace comes with his broom and dashes down the insect, saying, "What a loathsome thing it is." But under microscopic inspection I find it more wondrous of construction than the embroideries on the palace walls and the upholstery about the windows. All the machinery on the earth could not make anything so delicate and beautiful as the prehensile with which that spider clutches its prey, or as any of its eight eyes. We do not have to go so far up to see the power of God, in the tapestry hanging around the windows of heaven, or in the horses and chariots of fire with which the dying day departs, or to look at the mountain swinging out its sword arm from under the mantle of darkness until it can strike with its scimiter of the lightning. I love better to study God in the shape of a fly's wing, in the formation of a fish's scale, in the snowy whiteness of a pond lily. I love to track his footsteps in the mountain moss, and to hear his voice in the hum of the rye fields, and discover the rustle of his robe of light in the south wind. Oh, this wonder of divine power that can build a habitation for God in an apple blossom, and tune a bee's voice until it is fit for the eternal orchestra, and can say to a firefly: "Let there be light," and from holding an ocean in the hollow of his hand goes forth to find heights and depths, and lengths and breadths of omnipotency in a dew drop, and dismounts from the chariot of midnight hurricane to cross over on the suspension bridge of a spider's web. You may take your telescope and sweep it across the heavens in order to behold the glory of God, but I shall take the leaf holding the spider and the spider's web, and I shall bring the microscope to my eye, and while I gaze and look and study and am confounded, I will kneel down in the grass and cry: "Great and marvelous are thy works, Lord God Almighty!"

Again: my text teaches me that insignificance is no excuse for inaction. This spider that Solomon saw on the wall might have said: "I can't weave a web worthy of this great palace. What can I do amid all this gold and embroidery? I am not able to make anything fit for so grand a place, and so I will not work my spinning jenny." Not so said the spider. "The spider taketh hold with her hands," what a lesson that is for you and me. You say if you had some great sermon to preach, if you only had a great audience to talk to, if you only had a great army to marshal, if you only had a constitution to write, if there was some tremendous thing in the world for you to do—then you would show us. Yes, you would show us! What if the Levite in the ancient temple had refused to snuff the candle because he could not be a highpriest? What if the humming bird should refuse to sing its song into the ear of the honey suckle because it cannot, like the eagle, dash its wing into the sun? What if the rain-drop should refuse to descend because it is not a Niagara? What if the spider of the text should refuse to move its shuttle because it cannot weave a Solomon's robe? Away with such folly! If you are lazy with the one talent you would be lazy with the ten talents. If Milo cannot lift the calf he never will have strength to lift the ox. In the Lord's army there is order for promotion, but you cannot be a general until you have been a lieutenant, a captain, or a colonel. It is step by step, it is inch by inch, it is stroke by stroke, that our Christian character is builded. Therefore be content to do what God commands you to do. God is not ashamed to do small things. He is not ashamed to be found chiseling a grain of sand, or helping a honey bee to construct its cell with mathematical accuracy, or tingeing a shell in the surf, shaping the bill of a chaffinch. What God does he does well. What you do do well, be it a great work or a small work. If ten talents, employ all the ten. If five talents, employ all the five. If one talent, employ the one. If only the thousandth part of a talent employ that. "Be thou faithful unto death and I will give thee a crown of life." I tell you, if you are not faithful to God in a small sphere, you would be indolent and insignificant in a large sphere.

Again: my text teaches me that repulsiveness and loathsomeness will sometimes climb up into very elevated places. You, perhaps, would have tried to kill the spider that Solomon saw. You would have said: "This is no place for it. If that spider is determined to weave a web let it do so down in the cellar, of this palace, or in some dark dungeon." Ah! The spider of the text could not be discouraged. It clambered on, and climbed up higher and higher and higher, until after a while it reached thee king's vision, and he said, "The spider taketh hold with her hands and is in kings' palaces." And so it often is now that things that are loathsome and repulsive get up into very elevated places. The Church of Christ, for instance, is a palace. The King of heaven and earth lives in it. According to the Bible her beams are of cedar and her rafters of fire, and her windows of agate, and the fountains of salvation dash a rain of light. It is a glorious palace, the church of God is. And yet sometimes unseemly and loathsome things creep up into it—evil speaking and rancor and slander and back-biting and abuse, crawling up on the walls of the church, spinning a web from arch to arch, and from the top of one communion tankard to another. Glorious palace in which there ought only to be light and love and pardon and grace. Yet a spider is in the palace.

Again: my text teaches me that perseverance will mount into the king's palace. It must have seemed a long distance for that spider to climb in Solomon's splendid residence but it started at the very foot of the wall and went up over the panels of Lebanon cedar, higher and higher, until it stood higher than the highest throne in all the nations—the throne of Solomon. And so God has decreed it that many of those who are down in the dust of sin and dishonor shall gradually arrive in the king's palace. And God hath decided that though you may be weak of arm and slow of tongue, and be struck through with a great many mental and moral deficits, that by his almighty grace you shall yet arrive in the King's palace. Not such an one as is spoken of in the text—not one of marble, not one adorned with pillars of alabaster and thrones of ivory and flagons of burnished gold, but a palace in which God is the King and the angels of heaven are the cup-bearers. The spider crawling up the wall of Solomon's palace, was not worth looking after or considering as compared with the fact that we who are worms of the dust may at last ascend into the palace of the King immortal. By the grace of God may we all reach it. Oh! heaven is not a dull place. It is not a worn-out mansion with faded curtains and outlandish chairs and cracked ware. No, it is a fresh and fair and beautiful as though it were completed but yesterday. The kings of the earth shall bring their honor and glory into it. A palace means splendor of apartments. Now, I do not know where heaven is, and I do not know how it looks, but if our bodies are to be resurrected in the last day, I think heaven must have a material splendor as well as a spiritual grandeur. What will be the use of a resurrected foot if there be nothing to tread on? or of a resurrected hand if there be no harp to strike, and no place to take hold in the king's palace? Oh! what grandeur of apartments when that divine hand which plunges the sea into blue and the foliage into green, and sets the sunset on fire, shall gather all the beautiful colors of earth around his throne, and when that arm which lifted the pillars of Alpine rock and bent the arch of the sky, shall raise before our soul the eternal architecture, and that hand which hung with loops of fire the curtains of morning shall prepare the upholstery of our kingly residence. A palace also means splendor of association. The poor man, the outcast, cannot get into the Tuilleries or Windsor Castle. The Sentinel of the king or the queen stands there and cries, "Halt!" as he tries to enter. But in that palace we may all become residents, and we shall all be princes and kings. We may have been beggars, we may have been outcasts, we may have been wandering and lost as we all have been, but there we shall take on regal power.

Hark! the chariot is rumbling in the distance. I really believe the guests are coming now. The gates swing open, the guests dismount, the palace is filling, and all the chalices flashing with pearl and with jet and carbuncle, are lifted to the lips of the myriad banqueters, while standing in robes of snowy white they drink to the honour of our glorious King! "Oh," you say, "that is too grand a place for you and for me." No, it is not. If a spider, according to the text, could crawl up on the wall of Solomon's palace, shall not our poor souls through the blood of Christ mount up from the depths of its sin and shame, and finally reach the palace of the eternal King? "Where sin abounded grace doth much more abound, that whereas sin reigned unto death, even so may grace reign through righteousness unto eternal life by Jesus Christ our Lord."

In the far east there is a bird called the Huma, about which is the beautiful superstition that upon whatever head the shadow of that bird rests, upon that head there shall be a crown. O thou Dove of the Spirit floating above us, let the shadow of thy wing fall upon this congregation, that each at last in heaven may wear upon his head a crown! a crown! and hold in his right hand a star! a star!

SOLD!

What do you do when people come in and bore you? a warm personal friend asked of a merchant.

When they stay too long the office-boy, who is very bright and knows when to interfere, tells me that a gentleman in the counting-house is waiting to see me on important business.

Ha, ha! that's a capital way to get rid of bores who don't know.

Just then the boy opened the door and sang out: Gent in the counting-house, sir, waiting to see you on important business.

Australia is twenty-four times as large as the United Kingdom, but Britain's population is ten times as large as hers; to every square mile of the United Kingdom there are 135 persons, but to every square mile of Australia there are only one and a half inhabitants.

WHAT A MAN SHOULD EAT

A COBINATION OF ANIMAL AND VEGETABLE FOOD.

A Physician Tells the Exact Amount for a Healthy Person—Scientific Diet for One Day.

A famous physician has made up a new system of what people should eat to be healthy. He figures this out in as exact, scientific way as an engineer calculates how much coal his engine needs daily. He calculates that a person needs three and one-third pounds of solid food daily.

But the knowledge of what weight of food a person should consume a day does not settle the diet question, which is one of the most important things in life to every person.

A set of this great physician's diet tables, while not as lucious looking as a French chef's table d'hote menu, will result in better digestion. In these tables this physiologist shows the different degrees of nourishment in the various kinds of meats, cereals, and vegetables.

Among meats beef stands at the head of the list, for its proteids, or albuminous qualities, with the exception of fowl. But as the percentage of fat is less in beef than in fowl it is more easily digested. The presence of fat in meat tends to retard digestion by preventing the digestive fluids from making their way in between fibres.

Eggs are to be regarded as complete natural food, as they contain all the necessary food principles.

Milk is the natural food for the young of all animals, as well as of man. Under a microscope milk is seen to consist of a clear fluid filled with small oily globes one-millionth of an inch in diameter. These globes contain the nourishing quality of milk, called casein. When taken into the stomach it is coagulated, but passes on easily through the digestive organs of children.

That the cereals are most important and useful food is shown by the fact that they contain such large percentage of sugar starch, and gums, called carbohydrates, as well as a considerable amount of proteids or albuminoids. But, owing to the cellulose or woody fibre which covers the kernels they are somewhat difficult of digestion.

MEAT AND VEGETABLES.

Vegetables vary greatly in nutritive value and digestibility. The cellulose in them, however, tends to retard digestion. For this reason nearly all vegetables require cooking. When subjected to heat and moisture not only is the texture of the vegetable softened, but the starch grains are partially converted into sugar and other substances easily assimilated. Potatoes, when well cooked, are easily digested because they contain but little cellulose.

Ripe fruits, oranges, lemons, grapes, pears, peaches, cherries, apples, and berries generally, have but little nourishing quality, as they consist of 75 to 85 per cent of water. But the sugars and acids which they contain make them invaluable in making up a healthful diet.

There is a constant discussion about the relative value of meat diet, as contrasted with that of cereals and vegetables. Dr. Brubaker has calculated the actual value of animal and vegetable diet in plain figures. He shows that one quarter the vegetable food taken into the system remains undigested, while in meats the undigested portion is only one-tenth.

As neither animal nor vegetable foods contain the nutritive elements in proper proportions to satisfy the human system man's instinct has led him to make a combination of the two kinds of diet.

To construct a scientific diet it is only necessary to combine two or more foods in sufficient quantities to furnish the amount of nitrogen and carbon required by the body in twenty-four hours. Here is what Dr. Brubaker considers a "scientific" amount and assortment of food per day:

Meat	Half pound
Bread	One pound
Fats	One-quarter pound
Potatoes	One pound
Milk	Half pint
Eggs	Quarter pound
Cheese	One-third pound

This makes a weight of three and a third pounds of solid food. But to thrive upon this diet a person must add the amount of acids, sugar, or salts, which his particular system needs. The natural craving of the appetite is a pretty good guide in this matter.

OLD-AGE PENSIONS IN VICTORIA.

Old-age pensions have been adopted in Victoria, to begin at 10s. a week. It is now found that, whereas 6,000 applications were estimated for, 15,000 have come in, and the annual cost will be £400,000. The raising of the pension from 7s. to 10s. is supposed to be partly the reason, but another is that persons hitherto supported by their children have applied, and this was not contemplated. The Act will be amended next Session.

FOR THE PUBLIC GOOD.

If you don't take it, said the struggling young author, with a gleam of fierce determination in his eye. I'll find somebody who will.

The editor looked the poem over again.

Well, he said, how will $5 do for it?

I'll take it, replied the struggling young author, suppressing his eagerness. When will I see it in print?

You won't see it at all, young man, rejoined the editor, handing over the money. "I'm buying this merely to suppress it in the interests of a helpless public.

THE SUNDAY SCHOOL.

INTERNATIONAL LESSON, MAY 12.

"The Great Commission." Matt. 28. 16-20. Golden Text, Matt. 28. 20.

PRACTICAL NOTES.

Verse 16. Then. "But." The eleven disciples went away into Galilee. With simple faith obeying the direction of our Lord given in verse 7. The disciples are now "eleven" because of the treason and suicide of Judas. Probably some of the disciples were already in Galilee, John 21. 1-23. Meanwhile the enemies of our Lord were disseminating a lie, verse 11-15, trying to disbelieve their own consciences and to distort the testimony of eye-witnesses. Into a mountain where Jesus had appointed them. The Revised Version, "the mountain," may indicate a mountain well known, and, although there is no fact on which to base the conjecture, some scholars are disposed to identify it with the Horns of Hattin, where the Sermon on the Mount had been delivered. In Galilee Jesus and his disciples would be among the closest associations of their lives.

17. They saw him. This was the first great gathering of the believers in Jesus. We say "great," for it is generally conceded that this was the occasion when "above five hundred brethren at once," 1 Cor. 15. 6, saw the Lord. They worshiped him. It is implied that they fell prostrate at his feet. This was no unusual attitude for those who regarded him with homage; but it seems certain that the wonderful manifestations of our Lord after his resurrection had aroused a deep spiritual reverence, humiliation, and yearning aspiration, such as the disciples had never before felt. Some doubted. Doubted whether or not it was the risen Lord. This admission shows the frank sincerity of all concerned—those who were present, and the man who is writing the record.

18. Jesus came and spake unto them. Came near. The whole company of believers was addressed, not only the eleven apostles. In a very true sense the Church in all ages was addressed. All power is given unto me in heaven and in earth. All authority. "The universal dominion over heaven and earth, which appertained to him in his divine nature was conferred upon him as man, in virtue of his fulfillment of his Father's will and in reward of his obedience, See Phil. 2. 5-11; 1 Cor. 15. 24-28; Eph. 1. 20-23." Earth henceforth is to be the realm of Christ.

19. Go ye therefore, and teach all nations. Wherever the word of God says "therefore" the student of religious truth should ask "Wherefore?" The reason has just been given; because our Lord has been endowed with universal authority his servants are to "make disciples of all the heathen," for that is the literal translation of the Greek; to instruct those who have been cast out and neglected. A verse in our lesson for Sunday before last, John 20. 23, seems to place emphasis on what has been called the priestly element of the Christian ministry, but here stress is put on teaching, and that certainly is the first and the chief duty of Christians, whether ministerial or lay. There can be no fuller declaration of the universality of the Gospel than that in this verse. All the Gentile world is to be brought into the fellowship of our Lord's disciples. Baptizing them in the name of the Father, and of the Son and of the Holy Ghost. "The act of baptism is the initial means whereby the formal fellowship is effected." The rite symbolizes cleansing away the old and putting on the new. Baptism is not a charm pronounced on a young Christian, but an outward sign, sacrament or oath of faithfulness in fellowship with the triune God.

20. Teaching them to observe all things whatsoever I have commanded you: "To observe" is literally "to keep watch." Teaching nothing but what the Lord commands, and therefore avoiding superstitious practices; teaching all that the Lord commands and therefore avoiding looseness. Our Lord's commands were really new laws of life: the Sermon on the Mount, the promises recorded in the closing chapters of John's gospel, and the condensation of the law and the prophets in the new "commandment" of love. I am with you alway. All the days. "In spirit, in power, in influence, and by personal indwelling." Unto the end of the world. Unto the end of the age. To all eternity the Lord is with us.

FAR-AWAY SCENES.

Swiss Inventor Invents Process of Long-Distance Photography.

M. Vautier, a photographer of Granson, Switzerland, has just perfected an instrument by which he is enabled to take distinct photographs of objects at a great distance. For years he has been at work on the instrument and the successful results which he is now able to attain with it show that his labor has not been in vain.

He made experiments at Yverdon recently and took many photographs of landscapes that were several leagues distant. He even succeeded in photographing a group of huts which were 210 kilometers distant from Yverdon. And it was not a blurred, obscure picture which he took but one which was beautifully clear and which showed distinctly all the salient features.

The inventor is keeping his discovery a close secret, and all his neighbors know is that the camera which he uses is of extraordinary size, being between ten and twelve feet in length.

Representatives of the Swiss Government witnessed the experiments at Yverdon, and they have written a glowing report about them. The military possibilities of the invention are obviously great.

GENERAL INFORMATION.

A Few Paragraphs Which Will be Found of Great Interest.

About ten million cattle are now to be found in the Argentine Republic. They are said to be all descendants of eight cows and one bull which were brought to Brazil in the middle of the sixteenth century.

An elaborate organ is now being built in London for York Minster. By an ingenious arrangement the wind for the instrument will be supplied by means of power obtained by a fall of water from one of the towers of the cathedral, the water being pumped up the tower by a gas-engine.

Cape Town enjoys a certain distinction in respect to the height of its constables. The tallest is a giant 6 ft. 8 1-2 in. in height. There are five men ranging from 6ft. 3in. to 6 ft. 4 in., three men between 6 ft. 2 in. and 6 ft. 3 in., twelve men from 6 ft. 1 in. to 6 ft. 2in., and seventeen between 6 ft. and 6ft. 1in.

GETTING PERSONAL.

The favorite Scottish method of dealing with sleepers in church was publicly to denounce the delinquents.

When the Rev. Walter Dunlap, minister of a United Presbyterian Church in Dumfries, saw a member of his flock nodding while he was preaching, he stopped suddenly and said:

I doot some o' ye hae taen ower mony whey porridge the day. Sit up, or I'll name ye oot!

Another Caledonian preacher, on like provocation, cried out: Hold up your heads, my friends, and mind that neither saints nor sinners are sleeping in the next world.

Then, finding that this general exhortation was insufficient to deter a certain well-known member of the church from getting his night's rest forward, the reverend gentleman turned toward the offender and said:

James Stewart, this is the second time I have stopped to waken ye. If I need to stop a third time, I'll expose ye by name to the whole congregation.

DEAR OLD LETTERS.

The experiment was certainly not a success.

Frequently she had complained that he was not as he used to be, that his love seemed to have grown cold, and that he was too prosaic, and matter-of-fact. So when he found one of his old love-letters to her he took it with him the next time he was called away from the city, made a copy of it, and posted it to her.

John Henry, she exclaimed, when he returned, you're the biggest fool that ever lived. I believe that you have softening of the brain. What did you mean by sending me that trash?

Trash, my dear! he expostulated.

Yes, trash—just sickly, sentimental nonsense.

That isn't how you described it when I first wrote it and sent it to you, he protested. You said that it was the dearest, sweetest letter ever written, and you insist now that I have changed and you haven't. I thought I would try to—

Well, you didn't succeed, she interrupted, and she was angry for two days. Sometimes it is difficult to please a woman.

SCRUBBING FOR PLEASURE.

A school of domestic economy at Bethnal Green, London, is said to carry off the palm for enthusiasm among its pupils. The school is built and finished in imitation of an English working man's cottage, and the poor little girls of the district are taken in and trained to be capable housewives. The school has been a great success and is always crowded to its full capacity, but either the ordinary routine must be dull or the pupils' zeal monumental, for the records show that scrubbing and stone-cleaning are dealt out as rewards to deserving little women. When a pupil has been extraordinarily good she is allowed to scrub a floor or blacken a stove, for a treat.

THE FASTEST TRAINS.

According to the "Journal of German Engineers" the French railroad trains, instead of the English, hold the first place for speed, schedule time being the basis for comparison. A regular train between Paris and Amiens makes the distance, 82 miles, without stop, in an hour and a quarter, or at the rate of 65 miles an hour. The fastest regular train in Great Britain makes 60 miles an hour, for a distance of only 33 miles, between Perth and Forfar. In Germany a greater speed than 56 miles an hour is prohibited, but the fastest regular train makes only 52 miles, between Wittenberg and Hamburg.

AN INVASION OF RABBITS.

Australian papers state that the experiment of the West Australian Government in turning domestic cats loose in the south-eastern districts of the Colony to check the invasion of rabbits from South Australia has been a pronounced success. The felines destroyed immense numbers of the pests, and in some cases almost cleared the squatters' runs of rabbits. In anticipation of the demand which is expected for cats for this work breeding establishments are being started. It is believed, however, that it will be found much cheaper to import the animals from Great Britain and European countries, and preparations were being made when the mail left for some shipments.

INTERCEPTED LETTER.

Dear Mr. Carniggy I see you are giving away Monny for Librarys and I want to tell you that us Kids has Fixed up a Lair in a Cave witch We Bilt Ourselfs and we would like you to send us Father the Monny or a Series of the 6 fingered Ike stories and the Noosboy Defective Ceriey if you donto mined the Troubel.

"Your cinsere frend Johnny."

FROM BONNIE SCOTLAND.

INTERESTING NEWS FROM THE HIGHLANDS AND LOWLANDS.

As in the Times of Bobby Burns—Many Things Happen to Interest the Minds of Auld Scotia's Sons.

The handsome new town hall of Govan is now nearing completion.

Shopkeepers of Arbroath are opposing the electric lighting scheme.

Mrs. James Grant, Zoar, Forfar, on the 11th ult., attained her 100th year.

Glasgow has the fewest "pubs" to people of any city in the United Kingdom.

An Arran hen has laid a wonderful egg, containing other two perfect eggs.

The Buckshead hotel, Ayr, has been sold for £5,070 to Mr. John Murray, Bellshill.

The Earl of Glasgow is the president-elect of the Institute of Naval Architects.

During the 21 years of its existence St. Paul's Parish Church, Leith, has raised £19,000.

The Calton Hill was known 500 years ago as "Collis Apri," "the hill of the wild boar."

A sum of £10,000 has been bequeathed by the late Mrs. Colin Campbell to various Edinburgh institutions.

The condition of Dumbarton Castle is presently receiving the careful consideration of the Government.

George Russell & Co., Motherwell, are supplying twenty-two electric cranes to the Manchester ship canal.

Bristo church, Edinburgh, celebrated its 163rd anniversary on the 10th ult., when Principal Rainy preached.

Thirty thousand miners and colliery enginemen in Lanarkshire are out on strike, and the trouble is spreading.

An 1806 halfpenny was picked up in Tollcross kirkyard on the 15th ult. The date is the year in which the church was built.

Sheriff Hall, Kilmarnock, has decided that the thached roofs must go. Thus perishes the last relic of picturesque dwellings.

Alex. Adams, assistant furnaceman in the Edinburgh Foundry, met a terrible death by falling into the discharge from a furnace.

A gratifying decrease in the number of new cases of smallpox is reported by the Medical Officer of Health for the city of Glasgow.

The Edinburgh and District Water Trust has spent between £5,000 and £6,000 in its unsuccessful litigation with the Clippens Oil Company.

Mr. Alex. Ross, managing director of Grandholm Mills, Aberdeen, was murderously assaulted and robbed on the 13th ult., by salmon poachers.

A Moffat bailie shocked his fellow-councillors the other night by telling them that "their meeting was no better than the House of Commons."

The Duchess of Buccleuch, who was Mistress of the Robes to Queen Victoria, has been appointed to the same post in Queen Alexandra's household.

Captain J. Boyd King, who was killed in action in South Africa, was the eldest son of Mr. Hamilton King, late of Ibrox, Glasgow, and formerly in business in Ayr.

The Scotch coal trade is in strong contrast to that of a year ago. Then prices were high and advancing. Now prices are 6s. per ton down, and coalmasters find the greatest difficulty in selling the output.

The late Sir William Fraser, K.C.B., writer of histories of several ancient and noble Scottish families, left £25,000 for the purpose of erecting homes for poor persons preference to be given to authors and artists.

The death is announced at Bournemouth, England, of Mrs. Charles MacIver, widow of the late Mr. Charles MacIver, of Calderstone, near Liverpool, who was so long prominently associated with the Cunard Steamship Company.

CATS IN MID-OCEAN.

Every large ocean liner carries from six to ten cats, these being apportioned to various parts of the ship, as well as appearing on the vessel's books for rations. There is promotion for pussy on board ship. Ordinarily, unsociable cats are kept in the hold, in the steerage, or the forecastle; but a cat that is amiable and handsome is given the run of the first or second class saloons. When at sea the cats attend to the mice and rats; but after all, can do little more than scare them out of the parts of the ship frequented by passengers. In port the ship is visited by a professional rat-catcher, who frequently captures 500 in one day.

HOW LONDON GROWS.

Few people realize to its full extent the rate of London's growth. But the state of affairs is best brought home by the fact that every ten years the Metropolis increases by the size of a town bigger than Sheffield. The worst of it is that population increases four times as fast as house-room, and space has to be found somewhere or other for all and sundry of the new-comers. The consequence is an increase of overcrowding. In Spitalfields there is an average of fifteen people to each house, in Soho of a trifle over thirteen, and in a large part of London there are more than 150 people to every acre of ground. And the evil is growing, with little prospect of a remedy.

NO FURTHER.

I met Higg-nbot, and he stopped me to tell me what his little boy said, but I'll bet one thing.

Huh! What's that?

I'll bet he didn't tell his boy what I said.

ON BANKS OF THE CLYDE.

THE BUSIEST HIVE OF INDUSTRY IN THE WORLD.

Great Ship-Building Trade Carried on by About Forty Firms—Marvellous Output Every Year.

Frederick Dalmon had an illustrated article on Clyde shipbuilding in a recent issue of the Pall Mall Magazine. He recalls the fact that in 1770 an engineer consulted by the authorities deepened the River Clyde to four or five feet right up to Glasgow at low water, in place of the depth of 14 inches, which was its natural depth. To-day the Clyde has a uniform depth of about 30 feet, and the biggest liners can be taken to the centre of the city. This much, without which Glasgow could have become neither the shipping nor shipbuilding centre it now is, has been achieved at a cost of something like fifteen millions sterling. Two millions have been spent simply in dredging during the last fifty years, and there is now a large fleet of steamboats with very ingenious machinery, employed in this service.

Clyde shipbuilding is now carried on by about forty firms, but more than half the tonnage comes from six or eight yards. These firms have each a special reputation in their trade, one yard being noted for its huge warships and liners, another for its huge cargo boats, a third for large light pleasure craft. Beginning a little below the Custom station at Mavisbank, the yards extend on the right bank of the river to Dumbarton, and on the left to Port Glasgow and Greenock. At Govan and Patrick we are in the heart of the industry; on the lower reaches of the river there are, of course, breaks in the fusillade of riveting which sounds so sweetly to the ears of Glasgow people as the unmistakable token of "good times." According to weight of output, Russell's yard at Port Glasgow is easily first; according to value, which now-a-days with so much competition in speed is quite a different thing, the Fairfield and Clydebank yards dispute precedence. Dennys', of Dumbarton, are famous for their pleasure steamers, and Hendersons', of Meadowside, for their yachts—the Brittania, the Meteor, and other famous craft, were built there — although both yards produce a good number of fine ocean-going vessels.

THE CLYDE FROM THE RIVER.

All that most people see of Clyde shipbuilding is seen from the river. The view of Fairfield or Clydebank from the deck of a passenger steamer is impressive enough. Along a frontage of little less than half a mile there may be resting upon the stocks in various stages of construction the frames of nine or ten first-class cruisers and liners, with several smaller craft of a miscellaneous kind. Upon one single ship alone there will, perhaps, be a thousand men at work—for now-a-days a 10,000 tonner is built within twelve months—their moving figures in comparison with the mammoth skeleton of iron or steel looking like myriads of tiny marionettes. But of the vast amount of varied work for the equipment of ships which is going on over acres of ground behind the "slips" there is little more than a suggestion in the background of enormous sheds and tall chimneys.

There is one feature at Dumbarton which is, I believe, unique on the Clyde, if not in shipbuilding generally. This is an experimental tank, in which paraffin driven models of the ships to be built are tested for their stability, speed and resistance to the pressure of water. The tank is three hundred feet long and twenty-two feet wide, and contains nine feet of water. It is said that valuable results in hydrodynamics have been obtained from these experiments, which are carried on by a specially trained staff. Another interesting feature of Messrs. Dennys' works is the award of premiums to the workmen for any improvement, however small, they may be able to suggest or effect in tools, machinery or method.

FACTS AND FIGURES.

In 1861—fifty years after the launch of the Comet—the output on the Clyde was nearly 67,000 tons. In 1898 it reached a total of 466,832 tons, comprising 328 vessels. Enormous as these figures seem, they nevertheless represent a decline in Clyde shipbuilding relative to the rest of the country which has taken place during the last few years. In 1898 the tonnage launched on the Clyde was considerably less than a third of the total launched in British waters; in 1889 it actually exceeded one-half. But an examination of the figures clearly shows that the change in the percentage has been brought about by the advance of Newcastle, Hartlepool, Sunderland, Belfast, rather than by falling off on the part of Glasgow. When steel was first introduced in 1878, the prestige of the Clyde for ocean liners was at its height. According to data given by Mr. David Pollock, the naval architect, 79 of 138 vessels of 4,000 tons and upwards which were built between 1858, the Great Eastern's year, and 1884 came from yards between Glasgow and Greenock. The superiority of steel once demonstrated it was at once made auxiliary to skillful engineering as a means of maintaining this prestige, and in the Clyde returns the iron tonnage is not quite insignificant. Belfast and the north-east coast of England have shown that they can build of the best other than heavy iron cargo boats; but to travelling mankind generally "Clyde-built" continues to spell most surely speed and safety in navigation. The Clyde may not again produce in a year more shipping than all other British rivers combined, but it is still less likely that its leadership will be lost.

The Thames Tunnel cost £13 a ton for all the clay dug out, the St. Gothard tunnel only £9 for the rock excavated.