

THE BREAK OF DAY.

Gathering up the star-gems  
That fall from the brow of night,  
Morning over the hill-tops  
Scatters her golden light;  
All over the dowy valleys,  
Laughing up and down,  
Are playing the shimmering sunbeams  
Shook from her shining crown.

All through the deep, deep forest,  
Silent, and chill, and grey,  
They glide like a band of spectres,  
Weaving the web of day.  
The blue-bell down in the meadow  
Timidly looketh up,  
And showers of quivering light-drops  
Dance in its purple cup.

The tall pine tree on the upland  
Raiseth its bristling spires,  
And light like a crown of glory  
Earth's slender fibre fires.  
But onward the morning bieth,  
With dew on her twinkling feet,  
And the moon comes lazily creeping  
Alone in the hazy heat.

A CO-OPERATIVE COMMUNITY.

There is an Iowa colony that seems to come nearer the realization of man's long dream of peace and bliss on earth than any other similar community that ever existed. They actually believe that they have solved the problem of combination and co-operation. They call themselves "Amanes," and are Germans, dating back their organization 200 years or more. A colony of them came to this country about 40 years ago, and settled upon an old Indian reservation of 6,000 acres, near Buffalo, N. Y. They found it too small for their numbers and purposes, and moved West. They have now 30,000 beautiful acres on the banks of the Iowa river, about seventy miles from the Mississippi—woodland and prairie pleasantly diversified. They went to this place sixteen years ago, and have made wonderful progress in agriculture and various other industries. The colony now numbers about 1,300. They have everything in the way of property in common, but recognize the accepted forms of family life, and each family has a separate house or apartment. Those who join the community contribute all their property to the common stock, and if they become dissatisfied they receive back just what they put in without interest or wages, and leave. So property cannot well become a bone of contention, and no one can regard himself as a prisoner when he is free to go where he pleases. The objects of the Amanes society are religious associations, industrial and domestic co-operation, and the special advancement of the useful arts. The members dress plainly, live plainly, build plainly but substantially, and are in no respect ornamental. They have extensive vineyards, make and drink wine and lager-beer, and drunkenness is unknown among them.

They appear to have no vices whatever, commit no crimes, and have no use for courts. There is, however, a committee of arbitration to settle minor disputes when they arise, as they sometimes do. The government is administered, and the whole business of the community is supervised, by a board of thirteen trustees, who are elected by the votes of all the adult population, and hold the common property. Each department of industry has its manager, who is responsible to the board trustees, by whom he is appointed. This is what they have done in sixteen years. They found wild lands, and began their work just where nature had left off hers. They have bridged the river, made good roads, planted hedges of white willow, built a canal nine miles in length, nearly parallel with the river, to supply their needed water-power; several flouring mills, woolen factories, machine shops, starch, sugar, and vinegar manufactories, all fitted out with fine machinery made by their own machinists. They have built five villages on the tract, and two of them are stations for the Rock Island and Pacific Railroad, which comes to their doors. They have good schoolhouses, and plain churches, and two grain elevators at the railroad stations, each of a capacity for storing about 80,000 bushels of grain. The children are kept at school until they are fourteen, then they are taught a trade, or agriculture, and their education is continued in night schools. English is taught, but German is the medium of communication in business life. The women assist in light out-door work, especially in the vineyards. Early marriages are discouraged, and men are not considered of suitable age for wedlock until they attain the maturity of 35 years. There is a great deal of intelligence in this community, but no brilliancy of any kind.—*Missouri Republican.*

A MARVELOUS MACHINE.

Mr. Thomson, a well-known Edinburgh civil engineer, has for many years paid special attention to the properties and capabilities of india-rubber. He was the first, some twenty years ago, to apply tires of this substance to the wheels of trucks &c., at railway stations, in order to deaden the sound; and to him we are also indebted for the more recent discovery that india-rubber, when in great masses, flattens on a road or floor, and, by presenting a greater extent of bearing surface, causes any superincumbent weight to be distributed over a much larger area. Hence he conceived and

carried out the idea of providing the wheels of a steam-engine, to run on common roads, with india-rubber tires of immense thickness. In consequence of the soft, elastic property of such tires, the wheel surface may, according to the condition of the road over which it passes, "present the broad, quiet tramp of the foot of the elephant, the gentle step of the feline race, or the web-footed effect of the aquatic animal when walking on the morass."

When the first patent road-steamer was tried, some three years ago, its success was complete, and far exceeded Mr. Thomson's expectations. In the beginning of 1870, the War Department, having heard of some of its performances, commissioned Mr. Anderson to proceed to Edinburgh to examine it personally, and to report upon its capabilities for military purposes of various kinds; and it is from this report, dated the 8th of April, 1870, and from a second report, dated the 14th of May, 1870, and signed conjointly by Mr. Anderson and Mr. Bailoy, Assistant Controller, that we have obtained most of our information regarding this marvelous machine.

The road-steamer has two driving-wheels, about five feet in diameter, on which almost the whole weight of the engine rests; and a smaller wheel in front, which is for steering purposes, and is so completely under control as to answer the slightest touch of the hand. Each wheel has a broad iron tire, with narrow flanges, upon which is placed a soft, vulcanized india-rubber ring, about twelve inches in width and five in thickness, the flanges keeping it in place. Over the india-rubber there is placed an endless chain of steel plates, three and a half inches wide, which forms the portion of the wheel that comes in contact with the rough road; and this particular chain is connected with what may be called vertebrae at each side of the wheel.

The india-rubber tire and the ringed steel plates have no rigid connection, and are at perfect liberty to move round independently of each other, or even without the concurrence of the inner ring of the wheel which they both inclose. This remarkable combination contributes materially to the great success of the wheel. Small tubes are perforated in the iron tire of the wheel, to admit the atmosphere under the india-rubber. Without such holes, it was found that "the weight of the load was sufficient to exclude the atmosphere, so that one side of the india-rubber would thus be made to adhere to the iron with the full atmospheric pressure, while the other side would have to stretch and bag outward." An ordinary wheel, if it is a rigid structure, presents to the road only a small surface; but this wheel conforms to every irregularity for a space of nearly two feet, by the weight of the engine causing the india-rubber to collapse, and thus producing so great a change of form.

The road-steamer's boiler is of the vertical, tubular type, made entirely of steel, very simple, and of great strength. An ingenious device in connection with the exhaust tube almost completely suppresses the noise caused by the escape of steam. It has received the somewhat undignified name of the "pot boiler," from there being a copper pot for holding water within the furnace; and it is so contrived that if the boiler contains any water, the pot will have a full supply. By this arrangement, the centre of gravity is thrown so low that the engine can run up an incline of one in ten, or go along at an angle of thirty-five degrees, looking as if it must tumble over.

Road steamers of various powers are constructed, the smallest being those of eight-horse power.—*Once a Week.*

THE BED OF THE OCEAN.

The wonders of the sea are as marvellous as the glories of the heavens.

Among the revelations which scientific research has lately made concerning the crust of our planet, none are more interesting to the student of nature, or more suggestive to the Christian philosopher, than those which relate to the physics of the sea.

They not only lead us into the workshops of the inhabitants of the sea—show us through their nurseries and cemeteries, and enable us to study their economy—but conduct us into the very chamber of the deep; they treat of facts which go to show that the roaring waves and the mightiest billows of the ocean repose—not upon hard or troubled beds—but upon cushions of still water. That everywhere at the bottom of the deep sea the solid ribs of the earth are protected as with a garment from the abrading action of its currents, and the cradle of its restless waves by a stratum of water at rest, or so nearly at rest that it can neither wear nor move the lightest bit of drift that once lodges there.

The tooth of running water is very sharp. But what are all the fresh water-courses of the world, by the side of the Gulf Stream and other great "rivers in the ocean"—and what is the pressure of fresh water upon river-beds, in comparison with the pressure of ocean water upon the bottom of the deep sea?

And why have not the currents of the sea worn away its bottom? The pressure of water upon the beds of our mightiest rivers is feather-light in comparison with the pressure of the deep sea upon the bottom under it.

Let us see what the pressure is where the sea is only 3000 fathoms deep—for in many places the depth is even greater than that. It is equal there, in round numbers, to the

pressure of six hundred atmospheres, piled up one above the other, which would press upon every square foot of solid matter beneath the pile with the weight of 1,396,000 pounds, or 648 tons.

The better to comprehend the amount of such a pressure, let us imagine a column of water just one foot square, where the sea is 3000 fathoms deep, to be frozen from the top to the bottom, and that we could then, with the aid of some mighty magician, haul this shaft of ice up, and stand it on end for inspection and examination. It would be 18,000 feet high; the pressure on its pedestal would be more than a million and a quarter of pounds; and if placed in a ship of 640 tons burden, it would be heavy enough to sink her.

There are currents in the sea where it is 3000 fathoms deep, and some of them—as the Gulf Stream—run with a velocity of four miles an hour, and even more. Every square foot of the earth's crust at the bottom of a four-knot current 3000 fathoms deep, would have no less than 506,880—in round numbers, half a million—of such columns of water daily dragging and rubbing, and scouring, and chafing over it, under a continuous pressure of 648 tons.

Water running with such a velocity, and with the friction upon the bottom which such a pressure would create, would, in time, wear away the thickest bed, though made of the hardest adamant.

Why, then, has not the bottom of the sea been worn away? Why have not its currents cut through the solid crust in which its billows are rocked, and ripped out from the bowels of the earth the masses of incandescent, molten matter that are pent up and boiling there?

If the currents of the sea, with this four-mile velocity at the surface and this hundred-ton pressure in its depths, were permitted to chafe against the solid matter of its bed, the Atlantic, instead of being two miles deep and 3000 miles broad, would, we imagine, have been long ago cut down into a narrow channel that might have been, as the same ocean, turned up on edge, and measuring two miles broad and 3000 deep. But by this the proportion of land and water surface would have been destroyed, and the winds could not have sucked up from the sea—for the lack of area to play upon—vapors for the rains; and the face of the earth would have become as a desert without water.

Now there is a reason why such changes should not take place—why the currents should not uproot nor score the deep bed of the ocean—why they should not throw out of adjustment any physical arrangement whatever in the ocean; for in the presence of everlasting wisdom a compass has been set upon upon the face of the deep, its waters were measured in the hollow of the Almighty hand, bars and doors were set to stay its proud waves, and when He gave to the sea His decree that its waters should not pass His command, He laid the foundations of the world so fast that they should not be removed for ever.

The currents of the deep sea are therefore so adapted and arranged that they should not wear its foundations away. Its bed is protected from abrasion by a cushion of still and heavy water. There it lies—that beautiful arrangement—spread out over the bottom of the deep, and covering its foundations as with a garment, so that they cannot be fretted. If the currents chafe upon it now here, now there, as they sometimes probably do, this protecting cushion is self-adjusting; and the moment the unwanted pressure is removed, the liquid cushion is restored, and there is again compensation.

This discovery suggests that the streams of running water in the sea play rather about its surface than in its depths.

The greatest depth at which running water is to be found in the sea is probably at the narrowest part of the Gulf Stream, as, from its mighty fountain, it issues through the Florida pass; and the deep-sea thermometer shows that even here there is a layer of cold water in the depths beneath, so that this "river in the sea" may not chafe against the solid bottom.

What revelations of the telescope, what wonders of the microscope, what facts relating to the physical economy of this terrestrial globe, is more beautiful or suggestive than this secret from the hidden paths of the sea?

No marks of running water have as yet been found impressed upon the foundations of the sea beyond the depth of two or three thousand feet. Should future researches establish this as a fact, it will prove of the greatest value in submarine telegraphy.

What may be the thickness of this cushion of still water that covers the bottom of the deep sea, is a question of high interest; but we must leave it for future investigation.

LOOK UPWARD.

Young man, look up! Let every thought, every action, place you a little nearer heaven; and while you raise yourself you may be able to assist the weaker ones around you, whose faltering steps bid fair to take the downward road, for the monotony of onward, onward, ever up the rugged hillside, may seem very tedious to some. But, when the summit is at last reached, and we find ourselves resting among cooling zephyrs and gazing upon thousand and untold beauties, we feel that our joy is incomparable, and that we are doubly repaid for the weary climbing step by step.

The sun attracts all vegetation, from the

smallest blade of grass to the mightiest monarch of the forest. All plants and flowers point upward as they rise, and open their bright little blossoms to meet the approving smile of the creator of all things. Who has not rested upon the shady banks of a pond or lakelet on a summer day, and watched the pure white lilies, like so many bright-eyed angels, floating upon the river of time, waiting to guide some lost spirit to a haven of rest? Who has not gazed upon these lovely flowers, and thought how they spring from the black, murky depths, and arise slowly and steadily through the deep, dark waters, regardless of the many strokes they receive from the numerous finny tribes, as they pursue their course upward, ever upward, until their broad, green leaves reach the surface, and expand, as if preparing a place for the purest and most beautiful flower that God ever sent to remind man of his great and glorious presence?

How can man, blessed as he is with powers of thinking and reasoning, gaze upon nature in so many beautiful forms, and allow himself to sink lower than the beasts of the field? Cast into this world a helpless little babe, we see nature stretch forth her ever-willing hand, and raise him through infancy and childhood.

In the first year of their pilgrimage we behold human beings in their most beautiful form; they stand in their innocent loveliness a true image of God; but as years roll by, and the time of self-reliance reaches them, they hesitate, they waver, and are tempted at last to take the first step downward, and then the way is easy enough. Sin extends her soft, white hands, invisibly gloved in treachery and blood, to guide him down into darkness more impenetrable, until his soul is lost, and his body sinks into its grave, polluting the very earth that falls upon it.

Look up! I repeat, and if you feel that you are already on the downward path, arrest your steps at once. The task is easier at the present moment than it will ever be again. Try each day to do some kindness for yourself or some suffering mortal, no matter how small it may be. Let your life be such that when the end draws near, and you are about to enter the valley of shadows, you may feel that your good deeds have already arisen to the Throne of Grace, and prepared for you a place at God's right hand.

FEATS OF AN INEXPERIENCED COOK.

Uncle Enoch, the hero of the annexed incident, was not an experienced cook, as we shall presently show. He and Tom B. once went on a clamming and eeling cruise, to stay several days.

They carried provisions with them, and took possession of a small house built for the convenience of such parties, where they could lodge and do their own cooking.

One day, when they had been at work hard digging clams until the sun was getting well up to noon, Enoch started to the house to make preparations for dinner. The bill of fare for the day was to consist simply of rice. Some half an hour later, his partner, with an appetite sharp set, walked into the shanty. He was struck with astonishment at beholding their two little camp pans heaped up with half cooked rice, and a pyramid of the same on the inverted pot lid.

Enoch was holding a ladle full in his hand, and staring aghast at the rice in the pot, which was swarming over the rim like a cloud of white ants, while a suspicious odor indicated that it was burning at the bottom.

"Where'n the thunder'll I put all this swamp seed," he exclaimed, in despair. "I've filled all the dishes in the shanty, but I don't gain on it much."

Tom saw how the case stood, and became volcanic with suppressed laughter.

"How much rice did you put in the pot, uncle Enoch?"

"Well, I filled her up level full—I thought I'd cook enough, as we might be pretty hungry."

"You old woodenhead! Didn't you know that rice would swell in boiling?"

"Swell?" he repeated, as if his mind was just grasping a new philosophical fact. "Swell! yes, yes; so 'twill. Well, it's too late now to stop it. I reckon we'll have to let her swell."

And to this day Tom B. "swells," even to the point of explosion, whenever he recalls the scene to mind.

"LAYING IT ON TOO THICK."

THE TRADESMAN'S TIRE AND HOW IT RESULTED.—AMUSING STORY.

If at certain times the telling of a little lie may be found convenient, it often proves a source of trouble or annoyance afterwards, sometimes serious and sometimes bordering on the ridiculous. Such was the case with a Preston bootmaker, who at the time when top boots and Wellingtons wore the prevailing fashion, was considered at the head of his craft. One morning he was busily engaged behind his counter cutting out, when a servant man entered the shop, and, placing a pair of boots on the counter, thus accosted him:

"Our gaffer has sent these boots, and says he'll call himself this forenoon."

"Why, what's the matter with them?" inquired the bootmaker.

"Oh, he says you told him they were your own make, so he swears they're nothing but sala work, or else they wouldn't have ripped up as these have done. But he'll call himself," and the man left.

Taking up the boots and examining them,

the tradesman thus communed with himself:

"Now then I'm in a hobble, for they really were a pair of sale boots; but as I said they were made specially for him I must stick to it," and calling the errand boy, he said:

"Go and tell Jim O'Brian I want him, and he must come immediately."

Presently Jim, who was a good workman, and an excellent specimen of the gentle craft, put in an appearance, and the master said:

"Now, Jim, I want you to do me a service, and I'll give you a shilling. You see this pair of boots; they're a pair I passed off as bespoke, and they are but flimsy sale boots. Well, the gentleman is going to call, and I want you to own them as your make; for it will never do to let him know that they are sale work. Go into the back shop, and when he comes I will call."

To all these suggestions, though detrimental to his honor as a workman, Jim promised a ready compliance, having sundry squibs in perspective.

Presently the door opened, and the subject of their conversation entered, and inquired if his man had brought a pair of boots. Being answered in the affirmative, he upbraided the bootmaker with having sent him a wretched pair of sale boots instead of those of his own make. The bootmaker denounced the impeachment, and insisted that they were positively his own make; and called out for poor Jim to corroborate his statement. Jim appeared with his hands in his coat pockets, and the tradesman, looking sternly at him, said:

"Look here, my man, these are a pair of boots of your make, and a nice piece of workmanship they are. I tell you what, my good fellow, you mustn't think to pass off this sort of slim work here—it will not do for me. The greatest botch in the town wouldn't own these as his make; and you, that profess to be a don craftsman, have proved yourself nothing but a flimsy hotel."

Now, this was laying it on too thick for Jim O'Brian, who justly prided himself on being one of the best workmen out of London. His Hibernian blood immediately fired up into open revolt; and, giving his employer a look of withering scorn and contempt, replied:

"Is it Jim O'Brian that's goin' to stand an' be called a botch for the price of a shillin'?"

"Take yer dirty shillin', an' to the devil wid it."

Then giving the counter a blow with his fist, he shouted in his loudest tones:

"My name is Jim O'Brian, sur! as can work any man in Preston, sur! and—"

"Jim, Jim, hold!" interposed the thoroughly discomfited tradesman.

"Oh, to the devil wid yer blarney, and yer dirty shillin' too!"

Then turning to the gentleman, he said:

"They are a pair of dirty sale boots, sur; an' the mane fellow wanted to give me a shillin' to own them as my make!"

The indignant Irishman then bounced out of the shop, leaving the disagreeably astonished bootmaker looking the very picture of foolishness, and in a state of feeling that may be more easily imagined than described. The scene proved too much for the gravity of the gentleman, who left the establishment after enjoying a hearty fit of laughter.—*Preston Advertiser.*

A BEAUTIFUL INCIDENT.

A good while ago a boy named Charlie had a large dog which was very fond of the water, and in hot weather he used to swim across the river near which the boy lived. One day the thought struck him that it would be fun to make the dog carry him across the river, so he tied a string to the dog's collar, and ran down to the water's edge, where he took off his clothes; and then, holding hard by the dog's neck and the bit of string, he went into the water, and the dog pulled him across. After playing about on the other side some time, they returned as they came; when Charlie looked for his clothes, he could find nothing but his shoes. The wind had blown all the rest into the water. The dog saw what had happened, and making his little master let go the string, by making believe to bite him, he dashed into the river and brought out first his coat and then all the rest in succession. Charlie dressed and went home in his wet clothes, and told his mother what fun he and the dog had had. His mother told him that he did very wrong in going across the river as he had done, and that he should thank God for making the dog take him over and back safely; for if the dog had made him let go in the river he would most likely have been drowned. Little Charlie said, "Shall I thank God now, mama?" and then he kneeled at his mother's knee and thanked God; and then getting up again he threw his arms around the dog's neck saying, "I thank you, too, dear doggie, for not letting me go." Little Charlie was afterwards Admiral Sir Charles Napier.

WHITE HART, corner of Yonge and InE streets, is conducted on the good old English principle by Bell Belmont, late of London, England, who has gained the reputation, by strict adherence to business, of keeping the best conducted saloon in this city. The bar is pronounced by the press to be the "pride of bars," and is under the entire management of Mrs. Emma Belmont, whose whole study is to make the numerous patrons of this well-known resort comfortable. Visitors to this city will not regret walking any distance to see this—the handsomest bar in the Dominion.

Adv.