

**Scientific and Useful.**

**THE LIFETIME OF A LOCOMOTIVE.**—The iron horse does not last much longer than the horse of flesh and bones, the ordinary life of a locomotive rarely exceeding thirty years. Some of the smaller parts require renewal every six months; the boiler tubes last five years, and the crank axles six years; tires, boilers, and fire-boxes from six to seven years; the side frames, axles, and other parts, thirty years. An important advantage is that a broken part can be repaired, and does not condemn the whole locomotive to the junk shop; while, when a horse breaks a leg, the whole animal is only worth the flesh, fat, and bones, which amount to a very small sum in this country, where horse-flesh does not find its way to the butcher's shambles.

**TREATMENT OF DYSPEPSIA.**—On this subject Dr. A. Leared says, in the "British Medical Journal": "In the treatment of all forms of dyspepsia attention to diet claims a prominent place. Articles known to be slow of digestion must be avoided, and a lessened amount of food must be taken only at proper times. But, as a rule, absolute strictness in diet is more necessary in dyspepsia from defective secretions than in that from impaired action; for, as already said, in the latter affection digestion is sluggish rather than imperfect. One dietetic rule is, however, of the greatest importance in this case. The principal meal should be taken early in the day, before the nervous system has been exhausted either by mental or bodily exertion. In some instances the power of digestion seems to diminish in proportion as the day advances. A distinguished literary lady consulted me, who had by incessant brain work fallen into a state of great suffering from gastric oppression and flatulence after meals. At my suggestion she dined early instead of late in the day. This change was beneficial, but was not effectual in affording relief. I then advised that she should eat meat at breakfast only, and that no writing should be done before the meal. This plan succeeded perfectly."

**THE PLANET MARS.**—The editor of the "Providence Journal" has been taking a look at the ruddy planet Mars through the fine telescope of the Roger Williams Observatory, and thus describes what he saw: A fiery ball of glowing red seemed to suddenly spring into existence as the planet entered the field of vision. In size it approached that of the full moon when high up in the heavens, while such was the brightness and fierceness of its rays that we involuntarily sought to shade our eyes from its glare. At first we saw nothing but a brilliant flame-coloured disc, its circumference aglow with prismatic hues caused by chromatic aberration, without a trace of zones of snow, or the strange markings that practised eyes discover on the Martian globe. As we observed more carefully, the ice-bound circles came as plainly into view as the well known features of the Man on our own luminary, and we enjoyed a peep at the Martian poles, the southern polar cap being much larger than the northern; for it is summer in the northern hemisphere, and the ice zone around the pole has partly disappeared under the influence of the sun's heat. A still more careful scrutiny revealed the presence of dusky spots on the beaming disc. These indicate the land, which is of a reddish hue when the planet's atmosphere is clear, while the lighter parts of a greenish hue mark the contour of the seas and oceans. Thus with our own eyes we saw land, water, and ice on the surface of our Martian neighbour, and had a view of its ruddy disc, which, after a few weeks have passed will not be equalled in size and brilliancy until 1892. Though Jupiter, with its brilliant belts and sparkling moons, exceeds in beauty every sight in the celestial picture-gallery, yet we obtain a better view, and on a larger scale, of Mars than of any other object in the heavens except the moon. It is probably the only planet whose real surface is ever visible; for Venus, though the most splendid of all planets to the naked eye, is, on account of its great lustre, unsatisfactory for telescopic observation, while Jupiter and Saturn are surrounded by cloud envelopes of immense extent that hide the solid portions from the eyes. Mars, then, for a month to come, will afford unusual facilities for observation, beautiful to the naked eye, and magnificent beyond description when revealed by the far-seeing eye that pierces the depth of space.

**Cleanings.**

It is the proper work of faith to believe what thou seest not, and the reward of faith to see and enjoy what thou hast believed.

EVERY successive awakening, from Pentecost until to-day, has begun and ended in a sense awakened to the duty and privilege of almsgiving.—*Presbyterian.*

NONE are so fond of secrets as those who do not mean to keep them: such persons covet secrets as a spendthrift covets money, for the purpose of circulation.

How beautiful is God's Word! How rich are the treasures of His thoughts! How straight the ways of His law! How glorious the end of those who delight in His precepts!

God pity the man of science who believes in nothing but what he can prove by scientific methods; for if ever a human being needed divine pity he does.—*Dr. J. G. Holland.*

GIVE entertainment to pious thoughts, hear what they say. Holy thoughts are precious things, and if not angels, they are God's messengers, and in that sense angels sent from God. They come from God and they tend to God.

How deeply rooted must unbelief be in our hearts, when we are surprised to find our prayers answered, instead of feeling sure they will be so, if they are only offered up in faith, and are in accord with the will of God.—*Guesses at Truth.*

OH! how many precious moments are wasted in softness and self-indulgence, in frivolous pursuits, in idle conversation, and in vague and useless reverie, which, if rightly improved, might tell upon the world's destiny and the Redeemer's glory!—*Clarke.*

WE may lose heaven by neutrality, as well as by hostility; by wanting oil to our lamps, as well as by taking poison. The unprofitable servant will as surely be punished as the disobedient and rebellious servant. Undone duty will undo the soul!—*Bowes.*

It ought to be the great care of every one of us to follow the Lord. We must follow Him universally, without dividing; uprightly, without dissembling; cheerfully, without disputing; constantly, without declining; and this is following Him fully.—*Matthew Henry.*

"LEST they be discouraged:" Children teased and irritated lose heart, renounce every endeavour to please, or render at best but a soulless obedience. Approbation is as necessary to the child as counsel, and promise as indispensable as warning and reproof.—*Endic.*

It is almost as difficult to make a man unlearn his errors as his knowledge. Mal-information is more hopeless than non-information; for error is always more busy than ignorance. Ignorance is a blank sheet, on which we may write; but error is a scribbled one, from which we must first erase. Ignorance has no light, but error follows a false one.

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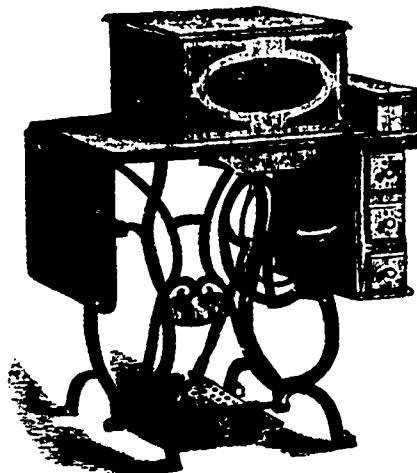
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