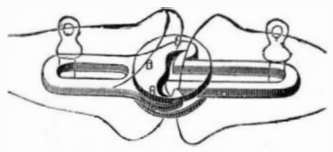
RECENT INVENTIONS.

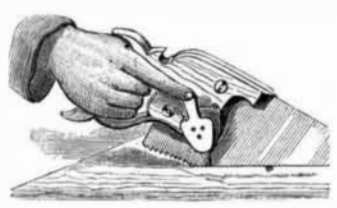
Improved Car Coupling.

The improved car coupling link shown in the engraving is arranged so that it will uncouple itself automatically should one or more cars leave the track. This link is coupled in the usual manner, by means of the ordinary coupling pins. The invention consists of a slotted piece provided at one end with an enlargement having inwardly projecting hook projections, and of a U-shaped piece provided at the ends of the shanks with outwardly projecting hook projections passing within the hook projections on the other piece. The outer ends of the drawheads are recessed, as shown, to receive the circular plates or disks. If at any time a car runs off the track and the drawheads are brought at an angle to each other, the free ends of the U-shaped piece are contracted, and are drawn out of the recess behind the projections in the other half of the link, and the two parts forming the link will be disconnected and the cars will be uncoupled. This is of great importance, as the car that runs off the track cannot draw off the other cars. This invention has been patented by Mr. Henry Keller, of Corpus Christi, Texas.



Novel Hand Saw Attachment.

This invention consists in a device for forcing a current of air down upon the board being sawed, for clearing away the sawdust from in front of the saw to show the line being followed in sawing. The inventor attaches a small pair of bellows to the handle of the saw in such manner that it may be worked either in the act of operating the saw, or by the movement of one of the fingers of the hand. The exit pipe of the bellows is carried down near to the teeth of the saw, so that the current of air forced from the bellows will strike the surface of the board at or about the point where the saw teeth rest in contact with the board, so that it will clear away the sawdust at that point, so that the line being followed in sawing will not be covered up or obscured by the sawdust. This useful invention has been patented by Mr. Henry Winter, of Hanover, Ill.



Improved Animal Poke.

The engraving represents an improved animal poke recently patented by Mr. B. S. Thomas, of Waverly, Ill. This invention is designed to prevent cattle from running down or jumping fences, fighting, pushing other stock, drinking their own milk, running through brush, and which at the same time permits them to graze and drink at will. The invention consists in a poke hinged to a board which can be fastened by means of straps on the forehead of the animal. On the board is secured a spring, the lower end of which terminates in a prong passing through the board. When the animal strikes against a fence or another animal with its head, the spring prong will be forced through the aperture in the board, and will prick the animal's nose. The spring immediately withdraws the prong as soon as the pressure on the poke is removed. All communications relating to this invention should be addressed to Mr. William Coe, Waverly, Ill.

Antiseptics and Volatile Products of Decay.

An investigation of antiseptic substances has led M. Le Bon to the following interesting conclusions, which we translate from the *Polytechnisches Notizblatt:*

1. The disinfecting power of an antiseptic is weaker the further the decomposition has advanced.

2. The most energetic of the disinfectants are permanganate of potash, chloride of lime acidulated with acetic acid, sulphate of iron, phenol (carbolic acid), and the glyceroborates of soda and potash.

3. There is no connection between the disinfectant power of an antiseptic and its effect upon microbes.

4. Neither is there any connection between the power which prevents decay from setting in and that which checks or stops it when it has once begun.

5. Antiseptic substances in general exert but a slight effect upon the bacteria; an exception is found in those substances, like corrosive sublimate, which are violent poisons.

6. The poisonous action of a decaying body has no relation to the poisonous qualities of the volatile alkaloids evolved from the decaying substance.

7. These volatile alkaloids, which form only during advanced stages of decay, are very violent poisons, resembling prussic acid and coniine in toxic effect, showing how injurious the air from graveyards may be under certain circumstances, even when there are few if any microbes present.

Working Low Grade Ores.

It is a conceded fact that the salvation of a large portion of the Western mining regions depends more on some means of economically working low grade ores already found, than on the discovery of new and rich mines. It is more particularly the case with the older regions of this State and Nevada that the low grade ores must be made marketable before any great era of prosperity will be again seen. In European countries, concentration is always resorted to, and the ore brought up to a certain standard before being treated; but here concentration has not become universal. In fact, it has been altogether too much neglected; but lately efforts have been successfully made in several localities, and the merits of concentration are gradually becoming recognized.

Of course, there are other things necessary also to make a low grade ore pay. There must be plenty of it; the locality must be readily accessible; means and charges of transportation must be favorable; economical management, and skill and knowledge on the part of superintendents and employes; and, moreover, the business must be conducted on business principles, without overcapitalization, extravagance, or carelessness. There is little doubt, as we are now progressing, that in ten years from now we will be surprised that intelligent persons conducted mining affairs as they are in most cases now carried on.

It may encourage many persons with low grade ore on hand to know that by the use of improved devices and appliances they have, in the Black Hills of Dakota, reduced the cost of mining to 89 cents per ton, and the cost of crushing to 45 cents. Perhaps some figures in this connection will interest miners generally. A statement from Superintendent McMasters shows the yield, together with the cost of mining and milling, at the different mines in the Black Hills. They embrace, as we understand it, the product of all the properties from the outset of their exploitation up to July 31, 1882, as understood:

Homestake M. Co. produced	$4,367,180 48
(Tons of ore milled, 684,733; average per ton, $6.37.)	
Highland M. Co. produced	1,175,632 45
(Tons of ore milled, 234,081; average per ton, $5.02.)	
Deadwood-Terra M. Co. produced	1,221,946 57
(Tons of ore milled, 249,329; average per ton, $4.90.)	
Deadwood M. Co. produced before consolidation of Deadwood-Terra M. Co	834,192 28
Golden-Terra M. Co. produced before consolidation of Deadwood-Terra M. Co	788.054 62
Giant and Old Abe M. Co. produced before consolidation with Homestake M. Co.	72,469 34
Father De Smet M. Co., from January 1, 1878, to August 1, 1882, produced	1,974,640 36
(Tons of ore milled, 343,394; average per ton, $5.74.)	
Total product	$10,434,116 10

In connection with the central enterprise of this group the following figures are significant:

Up to December 31, 1879, the gross bullion yield of the Homestake Co. was	$1,051,265 58
For January, 1880	78,569 65
For February, "	84,868 20
For March, "	90.159 23
For April, "	104,281 13
For May, "	118,463 31
For June, "	123,413 03
For July, "	128.768 96
For August, "	144,980 43
Total to September 1, 1880	$1,924,769 52

Thus we see a steadily increasing production, while Superintendent McMasters is able to show that the cost of mining has diminished from $1.98 down to 89 cents per ton, and the cost of milling from $1.59 down to 64 cents in the 80 stamp mill, and from $1.22 down to 45 cents in the 120 stamp mill. Further: "The average gross yield of ore to June, 1879, was $9.69 per ton. Since then it has been found of advantage to extract and mill all the rock between the walls of the veins. This has lowered the grade of the ore somewhat, but the gross amount milled has been increased in great proportion, while the cost of mining has been correspondingly reduced. The yield of the ore from September 1879, to February, 1880, varied from $4.25 to $5.60 per ton. Since that date it has been increased by the ore of higher grade extracted from the 100 foot level, and now averages $7.95 per ton."

From the dividend standpoint the showing is as follows:

DIVIDENDS PAID.

Homestake—47 dividends	$1,512,500
Father De Smet—21 dividends	540,000
Deadwood-Terra—20 dividends	740,000
Deadwood before consolidation	275,000
Terra before consolidation	75,000
Dividends of the group	$3,142,500
Total assessment	400,000

—*Mining and Scientific Press.*

A Human Storage Battery.

C. H. Hughes, M.D., editor of the *Alienist and Neurologist*, gives in the April number of that periodical the following:

In a recent number of the *Michigan Medical News*, Dr. S. C. Woodman has made the following singular statement. We append thereto Dr. Woodman's letter on the subject in reply to our (Dr. Hughes) inquiries:

"I have a singular phenomenon in the shape of a young man living here that I have studied with much interest, and I am satisfied that his peculiar power demonstrates that electricity is the nerve force beyond dispute. His name is Wm. Underwood, age 27 years, and his gift is that of generating fire through the medium of his breath, assisted by manipulations with his hands. He will take anybody's handkerchief and hold it to his mouth, rub it vigorously with his hands while breathing on it, and immediately it bursts into flames and burns until consumed. He will strip, and rinse out his mouth thoroughly, wash his hands, and submit to the most rigid examination to preclude the possibility of any humbug, and then by his breath blown upon any paper or cloth envelope it in flame. He will, when out gunning and without matches, desirous of a fire, lie down after collecting dry leaves, and by breathing on them start the fire, and then coolly take off his wet stockings and dry them. It is impossible to persuade him to do it more than twice a day, and the effort is attendant with the most extreme exhaustion. He will sink into a chair after doing it, and on one occasion, after he had a newspaper on fire, as I narrated, I placed my hand on his head and discovered his scalp to be violently twitching, as if under intense excitement. He will do it at any time, no matter where he is, under any circumstances, and I have repeatedly known of his sitting back from the dinner table, taking a swallow of water, and by blowing on his napkin at once set it on fire. He is ignorant, and says that he first discovered his strange power by inhaling and exhaling on a perfumed handkerchief that suddenly burned while in his hands. It is certainly no humbug, but what is it?"

PAW PAW, MICH., Dec. 20, 1882.

DEAR SIR: Yours in regard to Underwood at hand. The article referred to is no joke, but *strictly true*, as can be attested by any resident here, as he has been in the habit and indeed now will do it at any time for a small fee. It is a very singular thing, and in the light of it, although I might not be willing to take as a thesis that electricity is the nerve force, I would be glad to combat the negative. I am wholly unable to understand it unless as it now seems to me, he generates from his lungs or stomach gas, and then after filling the handkerchief with it sets the gas on fire by a spark of electricity, and this burns the paper or the cloth. Either of the editors of our local papers, the *True Northerner* or *Free Press*, will substantiate all.

Very respectfully,
S. C. WOODMAN.

To C. H. HUGHES, M.D.

The Chaldean Account of the Creation.

Prof. Charles B. Warring, of Poughkeepsie, read a paper before the New York Academy of Sciences, on Monday evening, March 26, entitled, "A Study of the Chaldean Account of Creation, as translated by Mr. George Smith and Profs. Sayce and Lenormant, and also of the Account by Berosus, in Reference to their Connection with the First Chapter of Genesis." Much has been said about the discovery of ancient Chaldean tables containing an account of the creation so similar to that found in Genesis as to indicate that Moses obtained the views therein given from the Chaldeans. Prof. Warring proceeded to read the inscriptions that have been deciphered, giving the translations of Mr. Smith, and comparing it with those of Prof. Sayce. These fragments, he showed, had in most cases not the slightest resemblance to the Mosaic account of creation, even when due allowance was made for errors and differences in interpretation. In the Chaldean records the moon is placed higher than the sun, and time is reckoned by months instead of days. In it, too, the gods were created instead of creating. The speaker considered these Chaldean myths as a kind of *theogony* instead of a *geogony*.

The subject was discussed at some length by Prof. Martin and others. President Newberry spoke of the remarkable agreement of recent scientific discoveries and theories, especially in geology, with the account of the creation as described in Genesis. The statement that the earth was without form and void was a substantiation of the nebular hypothesis. Either the undulatory or corpuscular theory of light substantiates the statements therein made in regard to the existence of light before the sun and moon were created. The gathering of the waters together to form seas, and of the dry land to form continents, was confirmed by the geological record. In fact, the description of creation could scarcely have been given more correctly in so few words, considering that the object and intent of the description was not for scientific purposes, but for general information.

Trap Ventilation.

The withdrawal of the suit of Mr. John McCloskey against Mr. James H. Young, of this city, for infringement of a patent for the ventilation of traps in sewer connections (No. 218,891, dated August 26, 1879) is a substantial admission of the invalidity of the McCloskey patent, and of the common right of builders to use ventilating pipes in connection with such traps.

The evidence submitted conclusively showed that the device patented by McCloskey had been in actual use in this country for more than two years prior to the date of the patent.

The *Sanitary Engineer* for January 18 contains a full report of the evidence proving such two years' prior use, with diagrams showing the application of trap ventilation to houses built in Brookline and Boston, Mass., as early as 1876; and to the Palace Hotel, San Francisco, previous to July, 1877. The same system was applied at the same time and earlier to certain private dwellings in that city. There was evidence also that this important sanitary device had been in use in England for several years previous to the application of McCloskey for a patent for it.