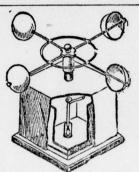
INSURES SAFETY IN DEEP MINES

Protects Lives by Showing Danger Point in Gases.

The apparatus shown in the accom panying illustration is intended espe-cially for use in measuring the ventilating current in a mine or other place where it is desired to ascertain the amount or velocity of the air passing such velocity providing the essential data from which the volume can be calculated at any distant point or station, thus oftentimes acting to save the lives of miners when the ventilation fails to carry off the explosive gases from the mine. Hitherto the accuracy of such instruments, particularly in coal mines, has been affected by the deleterious matter carried by the atmosphere in which they have to be placed, such as noxious gases, moisture, smoke, greasy matter, exhalations from a number of men and animals, gases exuding from the pores of newlygases exuming from the pores of newly-cut coal and the like. The inventor of this apparatus, Joseph Thompson, claims to have overcome this objec-tion by excluding all the deleterious matter from the working parts of the apparatus, and, while employing elec

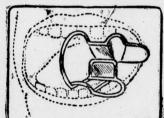


APPARATUS FOR MEASURING AIR CUR RENTS.

tricity to transmit the signals, make it safe to use in an explosive atmos phere by inclosing the contact points in a protecting casing. The vertical shaft which supports the hemispherical cups has a metallic disk in contact with a spring finger attached to the side of the chamber as shown, but one side of this disk is covered with crescent-shaped non-conductor, which serves to break the current by interposing between the disk and the finger at every revolution. The chamber is filled with petroleum or other oil, thus excluding dust and gas from the work ing parts and serving as a lubricant for the spindle.

Mirror Holds the Mouth Open.

Perhaps the invention of William Hare, as shown in the drawing, will the expression "open the mouth wide" altogether, or at least



DENTAL PROP TO PREVENT CLOSING THE JAWS.

make it uncommon enough not to an noy the dentist. The arrangement con sists of a steel frame of the shape shown, with mirrors fixed in different rays of light into a cavity in any teeth and reflect the interior to aid the dentist in his work. It will be seen that because of the shape and construction of the device, when it is placed in th mouth the cheek is held away from the teeth by the projecting brackets or re tractors, while the tongue is held from contact with the teeth by the inner por tion of the frame, the teeth being ex posed through the opening between the parallel ribs.

Buckle and Lock Combined.

Dog collars with locking buckles have the advantage of dispensing with the

padlock The buckle is well made and fitted



PADLOCK AND BUCKLE COMBINED.

with an excellent lock, which is lo cated inside the tongue and out of the the key entrance being at the of the buckle and conveniently accessible.

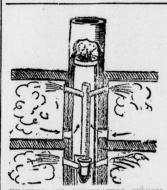
Many a man who is considered a good story-teller fails utterly when he gets home to his wife.

The lawyer rather encourages other people to tell him their troubles.

PURE ATMOSPHERE FOR BUILDINGS

New Solution of the Heating and Ventilating System.

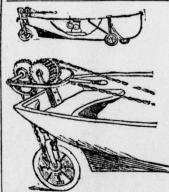
Pure air in rooms can only be ob tained by thorough ventilation, and as no provision is made in many buildings for a change of air except by



HEATING AND VENTILATING SYSTEM.

opening the windows, the latter are often allowed to remain closed in winter, owing to the low temperature out side. Or, if they are opened and the cold air admitted, increased heat must then be provided to make the rooms comfortable again. An improved heating and ventilating system recently devised by George H. Ennis solves the problem in a much better manner than is possible with the open window. The main feature of the apparatus, as shown, is the installation of a central ventilating shaft connecting with the several rooms. Inside this shaft is carried the direct heating pipe from the furnace, with branches entering each room near the ceiling. The hot air naturally rises through the pipes. and is discharged into the various rooms, where it depresses the colder air in the room, and this finds an exit through the opening close to the floor, ascending thence to the top of the shaft, and passing out. Thus the cold air is constantly withdrawn from the room and replaced by the warm air. Now, if the air for heating is obtained through a duct leading from the outer atmosphere into the furnace and thence to the air shaft the system will be found well-nigh perfect. In summer this same system may be utilized to cool the air of the rooms by displacing the warm air in the building with the cooler air from the basement.

Boat For Land or Water. With this contrivance the passenger may enter the boat and be driven along the beach into the water, and along the beach into the water, and when finally launched the same apparatus which accomplished that work is used to propel the boat through the water. Any ordinary form of motor is used, being geared by chains to the apparatus shown in the rear of the boat. This consists of a gear wheel with concave face secured in a rigid yoke, with a tilting post carrying a second gear wheel, meshing in the first. A second chain connects the lat-ter gear wheel to the propelling wheel. At either end of the shaft carrying the rear gear wheel is a yoke, extending forward and ending in a handle, which serves to turn the propeller after manner of a rudder. In order that the driving wheel may serve as a propel-



LAUNCHES PASSENGERS FROM THE DRY BEACH.

ler in the water it is fitted with a se ries of pivoted blades, which turn at right angles to the plane of rotation during the lower half of their revolu-To accomplish this a deflector is tion. ttached to the side of the fork, which throws the blades out Curing half of the revolution and then returns them as they pass through the fork.

Carnegie's Salmon Fisheries

Mr. Carnegie has just erected with in the Skibo castle grounds in Scotland a magnificent salmon and trout hatchery, in which 150,000 · ggs are incubating in well appointed boxes. In con nection also with his Skibo and other estates in Sutherlandshire he is the proprietor of extensive salmon fishings in Dornoch firth, and along the Kyle Sutherland, and there are several lakes, both natural and artificial. throughout his domains that are well stocked with trout.

LIGHTING DEVICE THAT IS HANDY

May Be Used in Places Where Illumi nation is Insufficient

The primary object of the invention illustrated below is to produce a light-ing device which occupies such a small space that it can be easily carried about and readily adjusted to a book or other object, thus enabling the or other object, thus chaining the user to read without discomfort in places where ordinarily a poor light or no light at all can be had, particularly out of doors on summer nights or in warm climates, on ship deck at night in the sick room or in poorly lighted trains or waiting rooms. In the case of our illustration it is attached to a pulpit to afford the preacher plenty of light for reading without injuring the light for reading without injuring the eyes of the congregation by the glaring rays of an ordinary light. With the improved storage batteries recently introduced very little discomfort is occasioned in carrying the entire apparatus to produce this light, the standard which supports the lamp being flexible and folding with the cord inside the case which carries the bat-When needed for lighting purtery. poses the support is opened and clamped on the book or paper, throw-ing the light just where it is most useful. Of course, for the purpose of pulpit lighting a larger size of apparatus

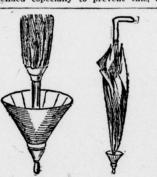


DESIGNED FOR INDIVIDUAL USE.

is necessary than for individual use, the latter concentrating its rays on a much smaller surface than the former, but the same general idea answers for both purposes. A switch is provided for turning off the current when not in use. The inventor is Burton S. Phil brook.

Improved Umbrella Drip-Cup

Our illustration shows a practical novelty for preventing the dripping of water over the floor from a wet umbrella when the owner, or borrower, enters a room. Oftentimes the umbrella is taken through the house to a rear room for spreading out to dry, and in this case a trail of water is generally left behind across the carpets. The drip cup here illustrated is intended especially to prevent this, as



well as the formation of the little puddles of water wherever the user of the chat with a friend. The cup is of rubber, with a thick end on the tip of the cone to hold the flexible cup in place when slipped over the end of the um brella handle. When the umbrella is opened as a protection for the person the drip cup covers the cloth around the stick, the very place where the cloth is apt to wear out first. When the umbrella is in use the device contracts slightly and is hardly noticeable, but when the cup is in operation it expands and holds quite a quantity of water, which is easily poured out by tilting the umbrella slightly before opening The inventor is William W. Winter.

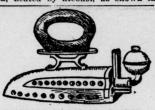
Plant \$1000 Voors Old

In the town of Hildersheim, Germany, is probably the most unique plant in the world. It is a rash bush 1000 years old, and sprouts from its branches have realized fabulous sums. Some years ago a rich Englishman offered \$250,000 for this entire tree, but the sum was indignantly refused. This wonderful plant clings amic thickly grown moss against the side of the famous old Church of St. Michael. It is claimed that it has bloomed perennially since the days of King Alfred, and this statement has never been disputed, for its record has been as carefully kept as the pedigree of the bluest-blooded family in the kingdom. It is supposed to have been discovered by some mysterious means through the medium of King Louis, of Hildersheim, as far back as 1022.

AN INGENIOUS UTENSIL

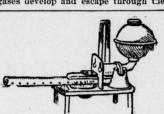
Flat Iron That is Heated in a Novel

***** A German manufacturer has just brought upon the market a new flat-iron, heated by alcohol, as shown in



FLAT-IRON HEATED BY ALCOHOL.

the accompanying cuts. The burner is to be pulled out of the iron and to be placed upon the heating grate. receptacle is then to be filled with al cohol, as is the little tub. The alcohol in the tub is lighted, and the heating har soon becomes hot whereupor gases develop and escape through the

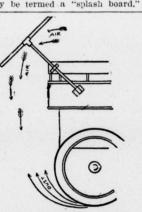


HEATING DEVICE FOR SELF-CONTAINED IRON.

holes of the heating bar. As soon as the alcohol in the tub is burned out the burner is placed back in the iron, where it is firmly kept by a spring arrangement. Heated in this way, the iron can be used for about fifteen minutes before receptacle and tub have to be filled again with alcohol.

Suppression of Dust.

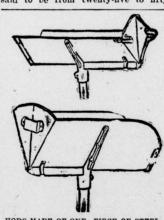
The absolute impossibility of entirely abating the dust nuisance is admitted by all operators of speedy automobiles, but several devices to prevent the dust, or a great portion of it, from reaching the occupants of the carriages have been tried by foreign automobilists, one of the most successful being that shown in the accompanying drawing, from Automobile Topics. This is what may be termed a "splash board," or



DISPENSING WITH THE DUST.

air deflector. Two T-shaped brackets are fastened diagonally to the rear of the car, and upon these is stretched a light shield of canvas or other suitable material, mounted upon a spring roller, like an ordinary window curtain, the shield being at an agle of forty-five degrees with the ground. The forward movement of the car creates a strong current of air, which, striking the shield, is forced downward to meet the uprising dust, with the effect that the dust cloud is broken up and is left behind. When not in use the loose end of the shield is unbooked from the bracket, and the whole apparatus rolls up in a small compass.

Steel Bods.
Hods of steel are being introduced. which, beside being water-tight, are said to be from twenty-five to fifty



HODS MADE OF ONE PIECE OF STEEL.

per cent. lighter than the wooden hod This feature is secured by the bodies being folded from a single piece of metal without the necessity of cutting the metal.

Invented the Postal Stamp

The inventor of the gummed pos agostamp was a Scotsman, Mr. James Chalmers, of Dundee, who, in 1834. suggested the adoption of the present system of affixing adhesive squares of paper to envelopes.

Mr. Chalmers was ridiculed, and

among others, medical men predicted that the constant licking of gum would be prejudicial to the health of the Na-It was not until 1841 that the plan of Mr. Chalmers received the serious attention of the postoffice author

DR. TALMAGES SERMON

DR. TALMAGES SERMON

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