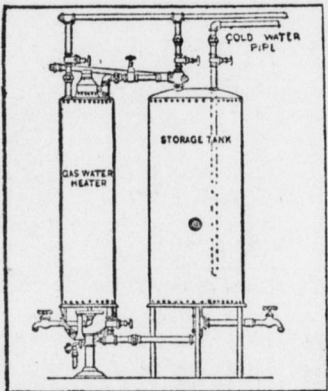


INDUSTRY & MECHANICS

HOW TO STORE HOT WATER.

System by Which a Large Supply Can Be Kept on Hand.

At the last meeting of the Pacific Coast Gas association a method was discussed for storing hot water in connection with a kitchen boiler supplied with heat from a gas burner. In the accompanying sketch is shown the combination of this boiler connected to a larger boiler in which the water is stored. The arrangement is suggested as one already being used in apartment houses where, for example, a 200-gallon storage tank is connected to two boilers, furnishing hot water for 50 basins, four baths and wash trays. The boilers were installed after oil burners and coal heaters had failed to give satisfaction. It will be seen that the hot water from the gas heater can be delivered directly into the hot water service pipe, or it can be sent to the storage tank alongside, valves being provided in both of these delivery pipes. Naturally it will require that the user understand the scheme of the connections, else the case might happen when all the water pipes to and from the heater were shut off by the valves, with the result that when heating is begun there will be an expansion of the water, the development of a dangerous pressure and bursting of the tank. It will be seen that the cold water supply is brought to the storage tank, and that



Hot Water Storage.

a pipe leads from the storage tank to the hot water heater. Sediment cocks are provided for both the storage tank and the gas heater. Above the gas heater is a so-called vent cap discharge for the products of combustion from the gas burner, which is shown below the boiler with an air mixer. Behind the pipes of the gas-heated boiler will be seen a pipe slanting upward from the storage tank. This is to indicate how a pipe from a second heater would be connected to the cross at the top of the storage tank.

OUR MINERAL PRODUCTS.

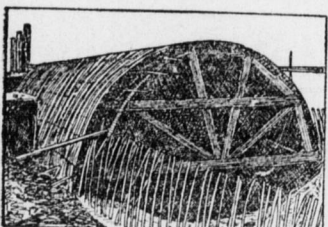
Immense Increase in the Quantity of Metals Mined.

The value of the mineral products of the United States for the year 1906, as shown by the geological survey report, exceeded by \$279,000,000 the total of the preceding year, and by \$755,000,000 that of the year 1900. As compared with the total for 1880 the increase is enormous, amounting to \$1,556,000,000. The total sum for 1906 is \$1,902,517,555. The production first surpassed a thousand million in 1899. The value of the metallic products in 1906 was \$886,110,856, which is \$184,000,000 in excess of that of 1905. Iron takes the lead, with a value of \$505,700,000; then comes copper, \$177,595,888; then gold, \$94,373,800; next lead, \$39,917,442; next silver, \$38,256,400; and then zinc, \$24,362,668. The value of the aluminum produced was \$4,262,286. Among non-metallic products bituminous coal stands at the head with \$381,162,115, Pennsylvania anthracite following with \$131,917,604. The clay products are valued at \$161,032,722.

LARGEST CONCRETE SEWER.

It Has a Clear Span of Twenty-Nine Feet.

The Harlem creek public sewer in St. Louis, Mo., is said to be the largest



Arch is 29 Feet Across.

reinforced concrete sewer in the world. It is 4,800 feet in length and has a clear span of 29 feet. This illustration shows the wooden form and the re-enforcing rods of steel in place ready to receive the layers of concrete.

Predicts Frost.

A French invention, consisting of bulb thermometers, predicts at sundown whether there will be a frost.

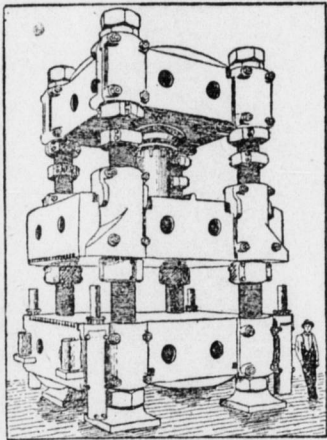
Army of Coal Diggers.

According to statistics 1,250,000 men are engaged in digging coal for the world.

HYDRAULIC PRESS.

It is of Huge Size and Will Exert 1,000 Tons Pressure.

This 1,000-ton hydraulic press is one of three used by a car-building company for making the large pressed shapes used in steel car construction. The main ram has a stroke of 48 inches and a capacity of 1,000 tons under water pressure of 3,000 pounds



One Thousand Ton Press.

to the square inch. The massiveness of the press, says Popular Mechanics, is shown in the illustration, the distance between the bolts being nine feet each way.

HOW TO MIX WHITE LEAD.

Method of Hauling Which Will Make the Task Easier.

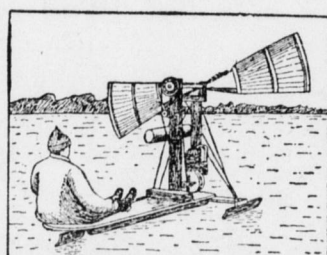
When a keg of white lead has stood for some months the lead becomes denser, owing to the soaking away of the oil into the wood. It is more difficult to work up into a smooth paint when in this condition, although it may have improved in quality. To remedy this to a great extent, take a stout, narrow paddle and put it into the lead until it strikes the bottom of the keg, then work the paddle back and forth from side to side for a few times, and the mass will soon become quite plastic, and then it may be removed into pots for further breaking up and thinning for use. This will save much time over the usual way of first taking the lead out of the keg and breaking it up into the pot, says the Master Painter.

White lead should always be beaten up before adding thinners, and then the japan should be added and well beaten up with the lead. If possible let the mass stand a few hours and then the thinners may be added to the desired amount. This will render the straining of the paint unnecessary unless the skins are present. If colors are to be added, beat them up separately and thin out so that they will unite readily with the paint.

MOTOR ICEBOAT.

It is Propelled by an Aerial Screw Run by Gasoline Motor.

The motor boat shown in this illustration is driven by a four horse



Motor Iceboat.

power motor which propels an aerial screw. The average speed of the boat is 30 miles an hour, says Popular Mechanics. At this speed the wings of the screw whirl so rapidly as to be almost invisible.

LAMB-TAILING INSTRUMENT.

New Device Being Manufactured in Australia.



A new device is being manufactured in Australia for use by breeders in the task of separating young lambs from their tails. This machine sears or burns the tail off in a simple and effective way. The knife has been the usual instrument used for this operation, but it is always attended with loss of blood, which hinders the growth of the lamb.

Electrified by Sun and Moon.

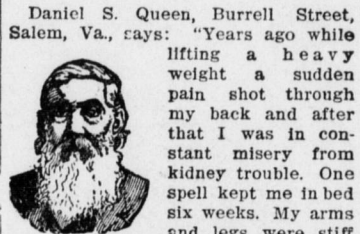
Recent observations made on the Pic du Midi, in the Pyrenees, confirm the results previously obtained at lower altitudes, which show that both the sun and moon induce a positive electric charge on the earth. The solar charge varies from one to six volts per minute, according to the state of the atmosphere. It is absorbed by clouds and by layers of moist air. The full moon induces a positive electric induction analogous to that caused by the sun.

Method of Testing Circuits.

In testing out electric circuits the following method is sure and simple: Twist the ends of the line together and attach two double-bladed knives to the terminal wires of the test box by closing the large blade of each knife, one on each wire. Open the little blades and cut through the insulation close to where the connections are made to the main line and test. The bell will ring when the work is done properly.

A WELL MAN, AT 81.

The Interesting Experience of an Old Settler of Virginia.



Daniel S. Queen, Burrell Street, Salem, Va., says: "Years ago while lifting a heavy weight a sudden pain shot through my back and after that I was in constant misery from kidney trouble. One spell kept me in bed six weeks. My arms and legs were stiff and I was helpless as a child. The urine was discolored and though I used one remedy after another, I was not helped until I used Doan's Kidney Pills, and I was so well then that the first box made only a slight change. To-day, however, I am a well man, at 81, and I owe my life and health to the use of Doan's Kidney Pills."

Sold by all dealers. 50 cents a box. Foster-Milburn Co., Buffalo, N. Y.

MORE THAN LIKELY.



W. Willie—I see automobiles have been introduced in Borneo.

T. T. M.—What do you think will be the result?

W. Willie—An increase in the number of wild men.

PUBLIC LAND OPENING.

The state of Wyoming will shortly throw open for settlement under the provisions of the Carey Act of Congress 245,000 acres of irrigated Government land in the Big Horn Basin. This affords an opportunity to secure an irrigated farm at low cost and on easy payments. The drawing will be held on May 12th.

A report containing illustrations, maps, plats and full information has been published by the Irrigation Department, 405 Home Insurance Building, Chicago. Anyone interested may obtain a free copy by applying to the Department.

JUDGING BY THE RESULTS.

'Illager's Conversion Had Not Been of Great Avail.

"In our business we get many doubtful compliments," said Col. John F. Bishop, deputy surveyor of the port, the other day, "but I do not think I ever received a compliment such as my grandfather got down in my native state of Tennessee. My grandfather was a minister and I was a very small boy when we both strolled down the road one day. One of our fellow villagers came along toward us.

"Good morning," said the villager, who apparently had looked upon the cap. 'Ish conver—hic—ted, parson,' he stammered with difficulty. 'An'thewashyou—hic—that con—hic—converted—hic—me.'

"That must be so," replied my grandfather, 'for it's certain the Almighty had nothing to do with your conversion.'—New York Evening Telegram.

Sees in the Dark.

"I tell you," began the first clubman, "there never was a cat like my wife."

"Oh, come, now," protested the other, "that's a pretty rough thing to say."

"Oh, you misunderstand me. I mean to say it doesn't matter how dark it is when I get home, she can always see what my condition is."—Philadelphia Press.

THE DOCTOR'S GIFT.

Food Worth Its Weight in Gold.

We usually expect the doctor to put us on some kind of penance and give us bitter medicines.

A Penn. doctor brought a patient something entirely different and the results were interesting.

"Two years ago," writes this patient, "I was a frequent victim of acute indigestion and biliousness, being allowed to eat very few things. One day our family doctor brought me a small package, saying he had found something for me to eat, at last."

"He said it was a food called Grape-Nuts, and even as its golden color might suggest, it was worth its weight in gold. I was sick and tired, trying one thing after another to no avail, but at last consented to try this new food."

"Well! it surpassed my doctor's fondest anticipation and every day since then I have blessed the good doctor and the inventor of Grape-Nuts."

"I noticed improvement at once and in a month's time my former spells of indigestion had disappeared. In two months I felt like a new man. My brain was much clearer and keener, my body took on the vitality of youth, and this condition has continued."

"There's a Reason." Name given by Postum Co., Battle Creek, Mich. Read "The Road to Wellville," in pgs.

WHAT WINTER WHEAT IS DOING FOR SOUTHERN ALBERTA.

Splendid Crops on the Former Ranching Plains of Canadian West.

That portion of the country in Western Canada formerly recognized as ranching country has developed into one of the best winter wheat districts in the continent. Yields are quoted running from 30 to 60 bushels to the acre, and giving a return to the farmer of from \$25 to \$50 per acre. These lands are now selling at from \$12 to \$20 per acre, and pay well at that figure. H. Howes of Magrath, Alberta, Western Canada, had 50 acres of land in wheat, which averaged 45 bushels to the acre; his yield of oats was 35 bushels. The value to him per acre of wheat was \$35.00. J. F. Haycock of the same place, says: "I had 65 acres of wheat, 35 acres of oats and four acres of barley. My average yield of oats to the acre was 80 bushels; wheat—winter—60 bushels and red fife, 33 bushels, and barley, 50 bushels. The value to me per acre was, wheat, \$28.00; oats, \$32.00, and barley, \$24.00." J. F. Bradshaw of Magrath, had 1,030 acres of wheat in crop that averaged 39½ bushels to the acre, his oats, 32 bushels; barley, 53 bushels. He threshed 31,000 bushels of wheat from 540 acres. He also had 250 tons of sugar beets from 25 acres worth \$5.62½ per ton. W. S. Sherod, of Lethbridge, says: "I came to Lethbridge from Souris, North Dakota, in April, 1907, having purchased 900 acres of land in this district last fall. I had 128 acres of Alberta Red winter wheat which was put in on breaking in the fall of 1906, which yielded 41½ bushels to the acre, for which I received 87½ cents per bushel, which paid me \$36.30 per acre. I had 190 acres 'stubbled in' that is disced in on the stubble, which yielded 22 bushels to the acre at 87½ cents per bushel, which paid me \$19.25 to the acre. I also had 350 acres of strictly volunteer crop, which was intended to prepare in the summer; but when it was seen that it was a good looking crop, it was allowed to go. From this we threshed 15 bushels to the acre, which paid us at the rate of 87½ cents per bushel or \$13.12 per acre. Our total crop yielded us 14,742 bushels of first-class wheat. Taking it as a whole, I consider that I had a first-class crop all through; and, taking into consideration the fact of part of the crop having been 'stubbled in,' and part strictly volunteer (which was never touched at all until the binder was put into it), I consider I had a heavy crop. I might say that I was in North Dakota five years, and I never grew as heavy a crop during that time. This is the 25th day of November, and my teams are still ploughing, and, from the appearance of the weather, will be for some time yet." R. W. Bradshaw of Magrath, says: "I had this year 400 acres in crop, viz.: 200 acres of wheat and 200 acres in oats. My average yield of oats to the acre was 50 bushels, and wheat, 22½ bushels. The value to me per acre for wheat was \$19.00, and oats, \$17.00. The highest price obtained by me this year or offered me for my grain was for wheat 82 cents per bushel, and \$1.05 per hundred for oats. I also had 100 tons of hay worth \$12.00 per ton, and will say my wheat was all volunteer this year. Lots of wheat is averaging from 50 to 60 bushels per acre on summer fallow, and on new breaking, when the breaking was done early in the spring." Writing from Spring Coulee, Alberta, W. L. Thompson says: "I had this year 3,000 acres in crop, viz.: 2,000 acres of wheat and 1,000 acres of oats. My average yield of oats to the acre was 30 bushels and of wheat 35 bushels. The value to me per acre for wheat was \$27.00 and for oats \$15.00."

(Information regarding the districts mentioned, best way to reach them, low rates, certificates, etc., can be secured from any agent of the Canadian government, whose advertisement appears elsewhere.—Ed.)

SHOWN QUITE PLAINLY.



Magistrate—The evidence shows that you threw a flat iron and saucepan at your husband.

Mrs. Bulligan—Shure, an be the look on 'im it shows as I hit 'im.

There is more Catarrh in this section of the country than all other diseases put together, and until the last few years was supposed to be incurable. For a great many years doctors pronounced it a local disease and prescribed local remedies, and by constantly failing to cure with local treatment, pronounced it incurable. Science has proven Catarrh to be a constitutional disease, and therefore requires constitutional treatment. Hall's Catarrh Cure, manufactured by F. J. Cheney & Co., Toledo, Ohio, is the only Constitutional cure on the market. It is taken internally in doses from 10 drops to a teaspoonful. It acts directly on the blood and mucous surfaces of the system. They offer one hundred dollars for any case it fails to cure. Send for circulars and testimonials.

Address: F. J. CHENEY & CO., Toledo, Ohio.

Sold by Druggists, etc.

Take Hall's Family Pills for constipation.

Only selfishness wins affection; only love achieves success; it is only the courageous heart that does brave deeds.—T. Farquharson.

Important to Mothers.

Examine carefully every bottle of CASTORIA, a safe and sure remedy for infants and children, and see that it

Bears the Signature of J. C. F. Hilditch.

In Use For Over 30 Years.

The Kind You Have Always Bought.

In looking out for No. 2 a widow looks out for No. 1.

WHISKEY FOR RHEUMATISM.

The increased use of whiskey for rheumatism is causing considerable discussion among the medical fraternity. It is an almost infallible cure when mixed with certain other ingredients and taken properly. The following formula is very effective: "To one half pint of good whiskey add one ounce of Toris Root compound and one ounce of Syrup of Sarsaparilla Compound. Take in tablespoonful doses before each meal and before retiring." Toris Root Compound is a product of the laboratories of the Globe Pharmaceutical Co., Dayton, O.

A prominent druggist states he fills this prescription often and has seen its good results. It is surely worth trying by anyone who may be afflicted.

What Did He Mean?

For a number of years a bitter feud had existed between the Browns and Perkins, next door neighbors. The trouble had originated through the depredations of Brown's cat, and had grown so fixed an affair that neither party ever dreamt of "making up." One day, however, Brown sent his servant next door with a peace-making note for Mr. Perkins, which read:

"Mr. Brown sends his compliments to Mr. Perkins, and begs to say that his old cat died this morning."

Perkins' written reply was bitter: "Mr. Perkins is sorry to hear of Mr. Brown's trouble, but he had not heard that Mrs. Brown was ill."—Harper's Weekly.

The Editor of the Rural New Yorker, than whom there is no better Potato Expert in the country says: "Salzer's Earliest Potato is the earliest of 38 earliest sorts, tried by me, yielding 464 bu. per acre." Salzer's Early Wisconsin yielded for the Rural New Yorker 736 bu. per acre. See Salzer's catalog about them.

JUST SEND 10c IN STAMPS and this notice to the John A. Salzer Seed Co., La Crosse, Wis., and they will send you the only original seed catalog published in America with samples of Emperor William Oats, Silver King Barley, Billion Dollar Grass which produces 12 tons per acre. Sainfoin, the dry soil luxuriant, etc., etc.

And if you send 14c we will add a package of new farm seeds never before seen by you. K. & W.

"The poor you have always with you," said a woman to her husband, who had a mania for offering excuses

Don't Try Uncertain Recipes.

It is entirely unnecessary to experiment with this, that and the other recipe. Get from your grocer, for 10 cents, a package of "OUR-PIE" Preparation—Lemon, Chocolate or Custard—for making pies that are sure to be good. "Put up by D-Zerta Food Co., Rochester, N. Y."

A Word from Josh Wise.

"It's 'cause he doesn't talk back that th' oyster's given so much sauce."

It Cures While You Walk.

Allen's Foot-Ease is a certain cure for hot, sweating, callous, and swollen, aching feet. Sold by all Druggists. Price 25c. Don't accept any substitute. Trial package FREE. Address Allen S. Olmsted, Le Roy, N. Y.

Leap-year girls would rather marry in haste and repent at leisure than never have a chance to repent at all.

You ought to be satisfied with nothing less than Nature's laxative, Garfield's Food of Herbs, it overcomes constipation, regulates liver and kidneys, and brings Good Health.

A powder magoozine iss full mit latent enertchey and sometimes mit power.

A Sore Throat or Cough, if suffered to progress, may affect the lungs. "Brown's Bronchial Troches" give immediate relief.

If you haf money to throw to der birds, id iss appropriately to hant id to der goldfinches.

PILES CURED IN 6 TO 14 DAYS. PAZO OINTMENT is guaranteed to cure any case of itching, blind, bleeding or protruding Piles in 10 to 14 days or money refunded, etc.

Dere iss always room ad der top. Dot iss why deattig iss full of chunk.

ONLY ONE "BROMO QUININE". That is LAXATIVE BROMO QUININE. Look for the signature of E. W. GROVE. Used the World over to Cure a Cold in One Day. etc.

Multiplying her words seldom adds to a woman's popularity.

Mrs. Winslow's Soothing Syrup. For children teething, softens the gums, reduces inflammation, allays pain, cures wind colic. 25c a bottle.

Malice supplies the want of age.—Latin.

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FACTS FOR SICK WOMEN



LYDIA E. PINKHAM

No other medicine has been so successful in relieving the suffering of women or received so many genuine testimonials as has Lydia E. Pinkham's Vegetable Compound. In every community you will find women who have been restored to health by Lydia E. Pinkham's Vegetable Compound. Almost every one you meet has either been benefited by it, or has friends who have. In the Pinkham Laboratory at Lynn, Mass., any woman any day may see the files containing over one million one hundred thousand letters from women seeking health, and here are the letters in which they openly state over their own signatures that they were cured by Lydia E. Pinkham's Vegetable Compound. Lydia E. Pinkham's Vegetable Compound has saved many women from surgical operations.

Lydia E. Pinkham's Vegetable Compound is made from roots and herbs, without drugs, and is wholesome and harmless.

The reason why Lydia E. Pinkham's Vegetable Compound is so successful is because it contains ingredients which act directly upon the feminine organism, restoring it to a healthy normal condition.

Women who are suffering from those distressing ills peculiar to their sex should not lose sight of these facts or doubt the ability of Lydia E. Pinkham's Vegetable Compound to restore their health.

Paxtine TOILET ANTISEPTIC

Keeps the breath, teeth, mouth and body antiseptically clean and free from unhealthy germ-life and disagreeable odors, which water, soap and tooth preparations alone cannot do. A germicide, disinfecting and deodorizing toilet requisite of exceptional excellence and economy. Invaluable for inflamed eyes, throat and nasal and uterine catarrh. At drug and toilet stores, 50 cents, or by mail postpaid. Large Trial Sample



WITH "HEALTH AND BEAUTY" BOOK SENT FREE THE PAXTON TOILET CO., Boston, Mass.

If interested in poultry, write for our new booklet 20 Years with Poultry Illustrated. Brimful of facts and up-to-date ideas for the advanced poultry-raiser. FREE! GEO. H. LEE CO., Omaha, Neb.

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DEFIANCE STARCH—16 ounces to other starches only 12 ounces—same price and "DEFIANCE" IS SUPERIOR QUALITY.

A. N. K.—C (1908—11) 2221.

ST. PATRICK IRELAND ST. JACOBS OIL

Drives all the snakes from the body. cures Rheumatism, Neuralgia and CONQUERS PAIN 25c.—ALL DRUGGISTS—50c.

W. L. DOUGLAS SHOES

\$3.00 SHOES AT ALL PRICES, FOR EVERY MEMBER OF THE FAMILY. MEN, BOYS, WOMEN