

# INDUSTRY & MECHANICS

## RAWHIDE IN COMMERCE.

**Cogwheels Are Made of It, and Mallets and Mauls and Many Other Useful Things.**

"One of the most curious of the many things made nowadays of rawhide," said a man who handles such articles in his business, "is the rawhide pinion, or cogwheel. You might think that the teeth of such a wheel would break down and wear off quicker than those of an iron wheel; but as a matter of fact they do not break, and a rawhide pinion will wear as long as an iron pinion, if not longer.

"Such pinions are made of many layers of rawhide pressed solidly together, and bolted through and through to metal plates placed on the sides. The teeth cut across the face of the wheel thus formed are, of course, each composed of many layers of the thoroughly compacted rawhide standing edgewise.

"Rawhide pinions are used for many purposes. One of their great advantages is found in their noiselessness. They are used in the machine shops against a gear, so as to make less noise; they are used for motor pinions on street railway cars, and so on.

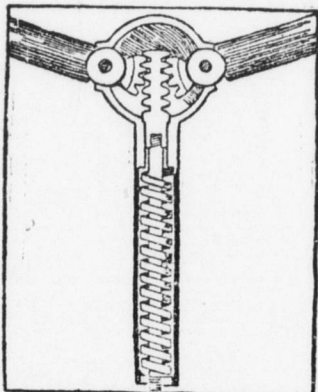
"Another rather curious though somewhat common use for rawhide is in the making of mallets and mauls having heads of rawhide, and hinged hammers. These are put to a great variety of uses, as for pounding on dies and punches and on polished metal surfaces.

"Rawhide is used for bell cord in street cars, for all manner of straps and for shoe and boot laces. It is used in the manufacture of artificial limbs, and for trunk handles and for trunk binding, for washers, for many sorts of harness and saddlery goods, and for whips and lariats, and not the least of its uses is in the manufacture of various kinds and all sizes of belting."—N. Y. Sun.

## ELASTIC HANDLE BARS.

**Designed to Relieve the Jar Caused by Riding Over Rough Pavements or Country Roads.**

The constant jar sustained while riding over rough pavements or country roads is somewhat fatiguing to the cyclist, especially on long distance rides, when it is desirable to support a portion of the weight on the handlebars, and it has occurred to J. K. Boehm and C. R. Widdron, of Ceylon, O., to lessen the shock of the rough places by the use of the cushioned handlebar shown in our illustration. The invention provides an elastic or yielding pair of handles, which will absorb the vibration when the cyclist is riding over a rough stretch of pavement, instead of transmitting them to the head and arms, as is the case with a rigid bar. The drawing shows the



ELASTIC HANDLE BAR.

two inner ends of the bar pivoted to the central head, with segmental gears projecting into the head and engaging the teeth of a vertical rack bar. This rack bar is under spring tension, and when the rider leans forward on the handles his weight overcomes the tension and allows the bar to tilt downward, according to the amount of pressure exerted. At the bottom of the rack bar is a nut, which can be adjusted to adapt the tension of the spring to suit riders of different weight. As the movement of the bars is all in a vertical direction, this device will not interfere with the steering qualities of the wheel.—Louisville Courier-Journal.

## Autocars for Mail Service.

For the collection and delivery of the mail of a large army the automobile has been demonstrated to be eminently well suited. The exigencies of this service require that the vehicles engaged in it shall be light, speedy, easily managed and possess an extended traveling radius. French army vehicles, as a rule, are fitted with large, solid rubber tires, the character of the ground they are often called upon to traverse being such as to increase the liability of puncture that pneumatics are laid low too frequently to render that type of first service.

## First Idea of a Balloon.

It is related that the hot-air balloon had its origin in a petticoat. Mme. Montgolfier had washed her garment, intending to wear it to a great festival the next day, and hung it over a chafing dish to dry. The hot air swelled out its folds and floated it up into the air. The lady, in astonishment, called her husband to see the sight. He at once grasped the idea and was not long in producing the hot-air balloon.

## LATEST YANKEE IDEAS.

**An Automobile Provided with Reins by Which It is Guided and Controlled.**

While there are several kinds of automobiles, it is only an expert who can distinguish them, the ordinary layman seeing in an automobile merely a horseless carriage which is moved by some unseen power. Now, however, an automobile has been invented in Massachusetts which differs from those in use at present.

It consists of an ordinary four-wheeled carriage, in front of which is a traction motor. The latter is mounted on separate wheels and is connected by couplings with the axle of the carriage. It is also provided



THE MECHANICAL HORSE.

with reins, by means of which it can be guided and controlled.

As the accompanying picture shows, this motor is driven very much in the same manner as a horse, and for this reason it is claimed that it will command itself specially to women. The reins are so adapted that when either is pulled the motor is at once guided to that side and when both are pulled a brake is set in motion.

This arrangement is certainly more simple and artistic than the ordinary method of guiding and controlling an automobile, but whether it will work in practice remains to be seen.—N. Y. Herald.

## A CURIOUS DISCOVERY.

**German Physician Claims That Weather Changes Are Indicated by Metal Wires.**

The sound made by the wind as it passes through telegraph or telephone wires is a familiar one to many, but probably few people have thought that the variations in pitch of that sound might foretell changes in the weather, says the Western Electrician. Yet this is the curious discovery that is credited to a German physician, Dr. Eydam. As this gentleman was waiting for a train at a country station the shrill sound of the wind passing through the telegraph wires nearby reminded him that he had frequently heard a similar sound either immediately before or after a storm or a heavy fall of rain or snow, and it naturally occurred to him to try to ascertain whether there was any connection between the sound and such changes in the weather. As a heavy shower of rain fell within 48 hours after he had heard the sound at the railroad station, he concluded that there was such a connection, and he then determined to investigate the matter thoroughly. As a result, the physician now maintains, first, that any unusual disturbance in the telegraph wires is an infallible indication of bad weather, and, second, that the nature of the changes in the atmosphere may be learned from the sound which the wind makes when passing through the wires. Thus a deep sound, he says, which is of considerable or medium strength, indicates that there will be slight showers of rain, with moderate winds, within from 30 to 48 hours, and, on the other hand, a sharp, shrill sound is the sure token of a heavy storm, which will be accompanied by much rain or snow. The physician's great discovery can probably be easily explained by a study of the expansion and contraction of metal wires as affected by the barometric changes in the atmosphere.

## Preserving Wood from Decay.

Consular Agent Johnson, at Stanbridge, Canada, reports to the Washington government a method recently invented for preserving wood from decay. It appears to differ from other processes of curing railway ties and rendering wood fireproof, although it possesses the merits of them both. The sap is first extracted from the timber, and then the latter is impregnated with chemicals. This treatment makes the wood fireproof, impervious to attacks of insects and capable of resisting salt or other waters. Beech wood can be made suitable for railway sleepers or for boat and shoe lasts. If necessary, the impregnating plant can be used at the felling ground. The cost of impregnating is about two cents per cubic foot; cost of plant, about \$1,000.

## Limitations of Liquid Air.

Liquid air cannot be profitably used to preserve meat, as it is no way an antiseptic and will not kill microbes. Moreover, it is now five times dearer than ice. It cannot be used for motor carriages or submarine boats, because when heated it is such a powerful explosive that no metal yet known could resist its shocks. The public needs to be warned against schemes for preserving meat or propelling motors by liquid air.

## Watch the Bearings Well.

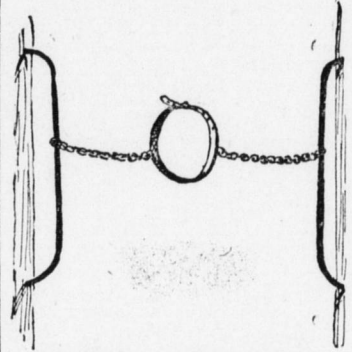
Better a bearing slightly too loose than too tight, especially when new. A bicycle with poor tires is like a horse with poor legs. It will pay you to see that your bearings are properly adjusted and that your wheel is fitted with serviceable tires.



## PAN-AMERICAN HINT.

**A Plan of Holding Cattle in Their Stalls Worthy of Commendation and Emulation.**

The humane system of holding the record-making cattle in their stalls at the Pan-American dairy is noticeable, and favorably spoken of by a great many visitors. It is doubtless used by some dairymen, but many who have not seen it would gladly adopt it. The animals wear a collar around the neck and to each side of this is fastened a



FASTENING DAIRY CATTLE.

chain three or four feet long. The chain ends in a ring through which is run a rod about three feet long. There are two rods, one on each side of the stall; they end in a bend of about two inches to each end, which allows it to stand parallel with and two inches or so from the side of the stall. By this means the chains, that are fastened to the collar, slide up and down very easily, as the cows stand or lie, and they are almost as easy as though they were not fastened at all, and there is no danger of being tangled.—Ohio Farmer.

## EFFICACIOUS REMEDY.

**The Schmidt Treatment for Milk Fever Has Been Tested with Success in Denmark.**

The Schmidt treatment for milk fever in cattle has resulted in a remarkable number of recoveries, reports from 107 veterinarians showing 86 per cent. Dr. Schmidt, of Denmark, assumes the disease to be due to the elaboration of a toxin in the udder. The treatment is simple, within the reach of all dairymen.

Dissolve 120 grains iodide of potash in one quart of water, which has been boiled, and allowed to cool to about the temperature of the body. Introduce a funnel and pipette into the ends of a rubber tube and place in a bucket of antiseptic fluid. Milk the udder dry; then place under the cow a piece of oil cloth about a yard square, so that the udder will be about the middle of the cloth. Wash the udder and teats thoroughly with castile soap and warm water, rinsing carefully with antiseptic fluid. Insert the pipette into the end of a teat and fill the funnel with iodide of potash solution. By passing successively from one teat to another distribute the solution equally among the quarters of the udder. Rub the udder from the teat toward the body and massage thoroughly in order to distribute the solution throughout. Eight or ten hours after the injection, or when recovery is assured the udder should be carefully milked out and then bathed with warm water, about 160 degrees F. A second injection is rarely necessary, but if so it should be done at the end of six or eight hours. If there should be a tendency toward hardness of the udder or "stringiness" of the milk, baths of warm water should be applied every three or four hours until relieved. If neglected garget will result. As a preventive measure it is advisable to restrict robust animals to a moderate allowance of dry food for seven or ten days previous to the end of their term; and where there is a tendency toward costiveness or constipation, correct it with a drench of epsom salts.—Prof. S. S. Buckley, Maryland Experiment Station, in Farm and Home.

## Test for Formalin in Milk.

A new test has been elaborated for determining the presence of formalin in milk. Phenylhydrazin and ten per cent. solution of soda is added to a small portion of the diluted milk. In the presence even of two drops of formaldehyde to 100 cubic centimeters of milk rose color will result. In normal milk no color is produced. In determining the presence of milk sugar, a small amount of sodium acetate is added in addition to phenylhydrazin and ten per cent. soda solution, as in the previous case. A rose color will result in the presence of milk sugar.

## Keep the Stables Clean.

The cow stables should have light, ventilation, cleansing, drainage, no offensive matter allowed about the stable, sufficient supply of pure water and wholesome food for the cows. No dairyman should be so negligent as to be responsible for the transmission of disease through the sale of milk for the want of cleanliness. Our best authorities claim that the danger from cow tuberculosis is small compared with the danger which may occur from uncleanness and improper sanitary conditions about the dairies.—Dr. G. H. Gore, in Farm and Home.

## Misapprehended Advice.

Out of that childish dependence that maternal care had encouraged Mamie had come her mother for help in the doing of some little act that she could have readily done herself.

"You shouldn't annoy me for assistance in such trivial things as that," remarked her mother; "it is time you learned to help yourself."

"I have learned, ma," Mamie returned, "but I don't know just when it's right to do it; don't you remember how you scolded me the other day when I helped myself to the preserves?"—Richmond Dispatch.

## Take Off Your Hat.

"Let me look into your hat, please. I must also inspect your clothing. Now, take off your shoes, while I look inside for the union label." Hereafter delegates to the New York Central Federation union cannot pass into its weekly meetings without examination on the above lines, spoken by the sergeant-at-arms, who is instructed by resolution adopted three months ago to inspect every labor representative's hat, coat, pants and shoes, and to deprive him of both seat and vote in the body unless he can show by the label that his clothing is union made.—N. Y. Sun.

## Joe Chamberlain.

Joseph Chamberlain, at 65, in broad daylight, could very well pass for ten years younger, and at times he looks positively youthful. The last two or three years have touched his raven locks with gray, but his figure is as slim and alert as ever.

## How It May Be.

"Have you any sort of machine to sew on buttons?" asked the bachelor in the twentieth century department store. "You will find the matrimonial agency the third aisle to the right," replied the floorwalker.—Philadelphia Record.

**Brewing and Distilling.**  
Cowboy—Yes, sir; life on a ranch's no cinch.  
There's trouble brewing all the time.  
C. Moonshine—Wasal, suh, it's purty much the same in old Kentucky, only ours is mostly stillin'!—Judge.

Miss Emerson (of Boston)—"I presume yours is not one of the Mayflower families."  
Miss Triplex (of Minneapolis)—"No, indeed. Ours is one of the famous Minnesota flour families."—Spokane Chronicle.

## Could Not Escape.

Isaacs—Myers says dot bankruptcy gonferts him vunce more.  
Cohen—It gonferts him? Vy, it could not keep out of his vay!—Brooklyn Life.

The less we have the more it costs us to be proud.—Elijah P. Brown.

"Want a job as conductor?" said the superintendent of the street car line. "Have you ever had any experience, any technical knowledge of the work?" "Well," replied the applicant; "I believe I have sufficient 'take-nickel' knowledge."—Philadelphia Record.

Mrs. Innocentia Gayboy—"I have no trouble in getting my husband to make love to me."  
Miss Kandor—"Nor I." Mrs. Innocentia Gayboy—"You silly girl! You have no husband."  
Miss Kandor—"Of course not. I didn't say that I had."—Philadelphia Press.

"You are looking handsome to-night, Miss Flite," Bagster remarked, in the pauses of the dance.  
"So Mr. Smythe told me a few minutes ago," Bagster (only remembering that Smythe is a hated rival)—"Well, you wouldn't believe anything that idiot said, would you?"—Heitere Welt.

Poor Chumpfleigh—"Why, pa, this is no dinner on the evening when Mr. Chumpfleigh was present as the guest of honor. 'Of course,' said the father. 'What of that?' 'Why, you told me this morning that you were going to bring a 'nutton-head' home for dinner this evening.'"—Philadelphia Press.

Sherlock Holmes, Jr.—"Jenkins wants to sell his place." Greene—"Why, I never heard him say anything about it, and I see him every day." Sherlock Holmes, Jr.—"That may be; but he wants to sell it all the same. I called there last evening and when I slapped a mosquito Jenkins said it was the first mosquito that had been on the premises this summer."—Boston Transcript.

A New Species.—"I would like to sell you the entire works of Omar Kayyam," began the book agent, glibly; "they are the finest things that ever came from a pen." "Then's a new breed, eh?" "No," commented Mr. Perkenland, scratching his head dubiously. "Are they anything like Berkshires?"—Ohio State Journal.

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## How He Lost His Chill.

"I see they are predicting a cold winter," said the man with the summer suit, "but I'm not worrying about it. In fact, I'm hoping for an early winter and something below zero right along. You see, I went over to Philadelphia last June and got a chill and was never so cold in my life. I walked into a saloon and asked for a hot Scotch, but after looking at me for a minute the bartender said: 'Hot Scotch be hanged! What you want is four fingers of regular old burning lava, with two red peppers, a dash of horseradish and a spoonful of tobacco sauce.' 'He prepared it, and I drank it, and you know I have worn an alpaca suit ever since, and had to sleep with my feet to a chunk of ice to even get up a decent shiver.'—Brooklyn Citizen.

## October at the Pan-American.

Less than 30 days remain before the gates of the Pan-American Exposition are closed forever. During the crisp, cool days of October Buffalo is at her best, and those who have delayed their visit until now will have the most delightful weather of the year in which to enjoy the wonders of the Rainbow City.

In planning your trip you will probably want to go east of Buffalo, and it will be well to keep in mind how pleasantly this may be done over the picturesque Lackawanna Railroad.

The same low rates are in force over the Lackawanna Railroad as during midsummer. At this season a daylight ride over the Lackawanna System is a journey long to be remembered. Through the Delaware Water Gap and over the Blue Ridge ranges the woods are radiant in their autumnal coloring while the agricultural region of western New York is mellowed by the wondrously rich tones of the fall harvest time.

Six solid vestibuled trains are run daily between New York and Buffalo, with daily through service between New York and Chicago and New York and St. Louis. Observations, dining cars and Pullman sleeping cars offer every comfort for the trip. A beautiful guide, profusely illustrated, telling about the Exposition and its features will be sent on receipt of two cents in postage stamps. Write for one to T. W. Lee, General Passenger Agent, Lackawanna Railroad, New York.

## Not That Kind.

"These hirings of capital may interrupt me," growled the snaggy-haired orator, "but they can't make me stop talking! If they had their way, my fellow citizens, they would silence me with giant powder!" "Not at all, sir," replied one of the jering minions of capital. "They would use insect powder on you!"—Detroit Free Press.

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## Of Two Evils.

"All those stories the papers are printing about you are lies," said the politician's friend. "Why don't you make them stop it?" "I would," replied the politician, "but I'm afraid they'd begin printing the truth then."—Philadelphia Press.

## You Can Get Allen's Foot-Ease FREE.

Write to-day to Allen S. Olmsted, Le Roy, N. Y., for a FREE sample of Allen's Foot-Ease, a FREE. It cures sweating, damp, swollen, itching feet. Makes new or tight shoes easy. Always use it to break in new shoes. At all druggists and shoe stores; 25c.

His Opinion.—"Well, what do you think of things?" asked one fly of another. "I replied the fly, 'am in favor of the open door and the seraglio window.'"—Pittsburgh Chronicle-Telegraph.

"I'm sorry for anybody's bad luck." "Of course." "Yes, I always think of those who will have to listen while he tells about it!"—Town Topics.

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Some men have reasons for doing things—and some have excuses.—Chicago Daily News.

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One drawback to stage realism is its unrealness.—Chicago Daily News.

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