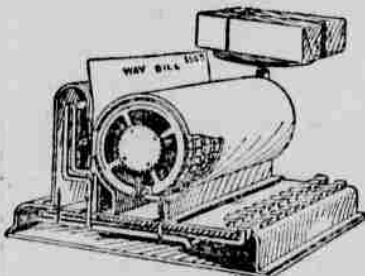


Marvels of Everyday Science

Competent Scientists Apply Their Skill to Problems of Agriculture, Housekeeping, Schools, Business and Governmental Activities.

AN INGENIOUS waybilling machine recently invented automatically weighs a package and computes the charge for shipment at any given rate per 100 lbs., and then prints on the waybill both the weight and the charge. This machine has the appearance of a cylindrical computing scale and works on much the same principle. In using, the package is placed on the platform of the scale and the mechanism is allowed to come to rest, when it indicates the correct weight. A double row of



keys occupies the front of the scale, and the one of these corresponding to the rate per 100 lbs. for the given distance is then depressed. This results in a further revolution of the mechanism, and at the same time a full record of the weight and charge is printed on the waybill. The waybill is inserted at the back of the cylinder and the printing is done by means of keys that strike a typewriter ribbon and produce an ink impression on the paper.

Fighting a Duel With a Spring Target.

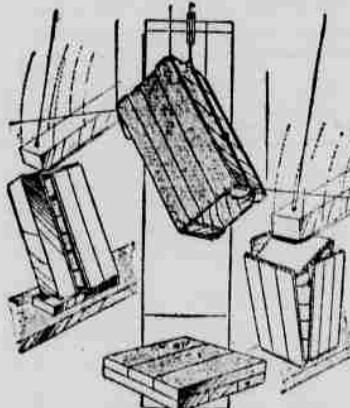
THE dueling target is one of the new games for children recently introduced in France. It is really a duel between a marksman and a spring target, for every time the player hits the target it throws a rubber ball at him. The weapon used by the marksman is a small spring pistol which fires soft-



headed darts and has a wire basket fitted upon the muzzle for catching the returning ball. Behind the target there is a spring arm which is released when a dart strikes the bull's-eye and throws a ball in a long sweeping curve toward the player. The game is to fire at the target, hit the bull's-eye, and catch the ball in the wire basket on the end of the pistol.

Government Tests Packing Boxes for Rigidity.

TESTS for durability of wooden packing boxes were made by the Forest Service of the United States Department of Agriculture at the Forest Products Laboratory maintained at the University of Wisconsin not long ago, when 96 cases of three different sizes were tried in three distinct tests, including endwise compression, diagonal compression, and dropping. Twenty-four of the boxes were nailed, 32 were wire bound and 40 dovetailed. Each box was



filled to its capacity with cans of water. In the drop test, a box was allowed to strike on one corner on a heavy board platform resting on a cement floor, and 6 in. were added to the height of each preceding drop until the contents fell out. In this instance,

wire-bound boxes showed greatest resistance and, altogether, this class revealed well-balanced construction. The tongue-and-groove joints of dove-tailed cases were weak features of construction, although this style stood up well in the diagonal compression test, under which nails pulled out in the nailed boxes.

A Handy Umbrella.

WHEN an umbrella is in use the most desirable place under it is occupied by the handle. A clever inventor has solved the problem by devising an umbrella with a jointed handle, as shown here. When the umbrel-



la is raised the center or tip is directly over the head of the person carrying it, while the handle is held in natural manner at a point near the body. When it is desired to close it the jointed stick assumes a straightened position and is held so by the ribs, which are rolled tightly to it.

How the Steel Car Saves Life in Derailment.

WITHSTANDING the terrific shock of overturning while speeding, the steel cars recently placed on a western railroad line proved their worth as out of more than 200 persons aboard only one was killed and 20 slightly injured. Four cars were completely overturned, but, aside from broken glass and displaced trucks, were but little the worse for the accident, and could be hauled back on the rails. What would have happened to old wooden cars under similar circumstances may easily be imagined.

How a Ship Gets Through the Gatun Locks.

AVESSEL passing through the locks of the Panama Canal will have all its movements controlled in much the same manner that the movements of a train are controlled in entering a complicated railroad terminal. At Gatun, Pedro Miguel and Miraflores, an operator standing before a control board will open and close the gates, fill and empty the lock chambers and perform every other operation necessary for letting a ship through, simply by throwing a succession of switches, and will know at any instant just what is happening in the locks without ever having to look beyond the indications shown on the board before him. Furthermore, the mechanism is so interlocked that it will be impossible for him to set any machine in motion except in the proper order and at the proper time. The triple flight of locks at Gatun extends for a distance of 6,200 feet, while the operating machinery is scattered over about 4,000 feet of this distance. This is all controlled from a board, 64 feet long, which is virtually a miniature of the locks and the operating machinery, and is located in an operating tower at the foot of the upper flight of locks.

Revolver in Handle of Valise for Protection.

AS a protection against those bold thieves who prey upon bank messengers and others carrying large sums of currency to and from the banks, an inventor of New York has patented a handbag, in the handle of which a revolver is concealed, which may be aimed and fired readily without disengaging the hand from the handle of the bag.

Health and Sanitation

ALMOST any ache about the head is dubbed neuralgia, and yet not one person in a million probably ever stops to think what the word actually means. A compound from the Greek root neuron (nerve) and algos (pain), the person who has neuralgia believes it is true to its derivation, whether or not it is just as applicable to pains in other parts of the body. So far as the word goes, it is just as applicable to a pain in the knee as in the head.

The pain of neuralgia is evidence that something has happened to the aching nerve. It may be the result of pressure on the nerve or irritation from anemia, poisoning, strain, loss of sleep, gout, kidney distempers, or even a broken bone, a mass of scar tissue, a swollen gland, a muscle spasm, a growth or the dislocation of a joint. Things that you may have eaten, or poisons taken into the system may be the cause. The cure is to find out first if there be any impingement of the nerve; if not, then you want to change your habits of living. Any drugs that may be taken will also act upon all the other nerves of the body equally with the ones that are giving pain, so that they should never be employed unless absolutely necessary, when everything else tried has failed. The nutrition of the body is the one thing essential.

"Nerves" is evidence that the body's health has been neglected, and of course the nerves have suffered to an equal extent, and may show their neglect more than the body. Foods containing phosphates are needed in the daily menu, and attention should be paid to exercise of the body in the open air. You won't have nerves if you treat the body right.

ELECTRIFYING SCHOOL CHILDREN

SCHOOL authorities in Stockholm, Sweden, have been experimenting with apparent success on the effect of electricity on the minds of pupils. A similar experiment has been started in New York under the name of "The Electrified School Room to Brighten Dull Pupils."

The Stockholm method was to take two lots of fifty school children each, averaging the same age and physical condition, and to put them in rooms exactly alike, to all appearances. One room, however, has insulated wires cleverly concealed in its walls. Not even the teacher knew what had been done. The atmosphere of that room was impregnated with delicate electrical waves every day for six months. The results were as follows:

"The children in the magnetized room increased in stature two and one-half inches; those in the unmagnetized room increased but one and one-fourth inches. The former also grew heavier than the latter.

"Those exposed to the electrical rays

averaged 92 per cent in their school work; those in the other room averaged but 72 per cent. Fifteen pupils in the electrified room were marked 100 per cent.

"The teachers in this room experienced a quickening of the faculties and an increase of endurance."

CLEAN-UP DECALOGUE

IN connection with a clean-up campaign which Hoboken is to undertake the Hoboken Board of Trade Bulletin contains, for careful memorizing by every true and housewifely resident, a decalogue worded in terms of cleanliness and sanitation. The ten rules, styled a "Clean-up Decalogue," are:

First—Remember thy garbage can to keep it covered.

Second—Thou shalt cut the weeds in thy vacant lot, lest it become a hiding-place for old tin cans.

Third—Thou shalt bear witness against thy neighbor's rubbish heap.

Fourth—Thou shalt clean out the habitation of thy horse.

Fifth—Thou shalt prevent the breeding of the fly, that thy children unto the third and fourth generation need not swat him.

Sixth—Remember thy back yard and alley to keep them clean. Six days shalt thou labor. If yet the task is not accomplished, thou couldst do worse than continue on the seventh.

Seventh—Thou shalt covet the air and sunshine.

Ninth—Remember thy cleaning-up day and keep it holy.

Tenth—If thou dost harken unto these sayings to do them thou shalt live long in the land and the "clean-up" spirit shall last 365 days in the year.

DO YOU KNOW

That a bag of hot sand often relieves neuralgia?

That warm boracic acid solution will remove dandruff?

That a little soda water will relieve sick headache caused by indigestion?

That a cupful of strong coffee will remove the odor of onions from the breath?

That well ventilated bedrooms will prevent morning headaches and lassitude?

That a cupful of hot water before meals will sometimes relieve nausea and dyspepsia?

That one in a faint should be laid flat on the back, with the head lower than the rest of the body if possible, the clothes loosened, cold water applied to the face, and otherwise let alone?

That the best time to bathe is just before going to bed, as any danger of taking cold is thus avoided and the complexion is improved by keeping warm for several hours after leaving the bath?

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