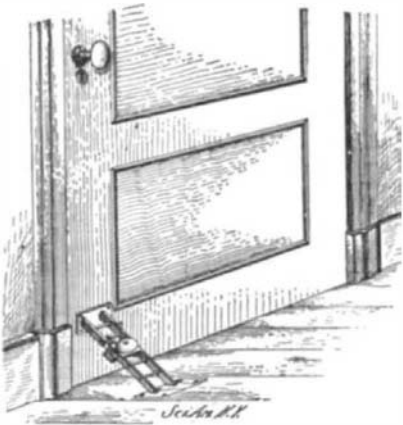


SIMPLE, INTERESTING INVENTIONS.

BURGLAR ALARM.—A simple burglar alarm which can be applied to any door is the subject of a recent patent. The burglar alarm consists of a main frame



A SIMPLE BURGLAR ALARM.

engaging the floor. On the main frame a clock-train is supported which is released by the motion of a frame sliding in the main frame. A socket plate is attached to the door, and serves as a supporting means for the sliding frame. When the door is pushed open the sliding frame is moved, the clock-train is released, and an electric bell immediately begins to ring. The construction is such that the alarm cannot be detached from the door on the outside. The alarm mechanism can be disengaged only by raising the main frame from the floor.

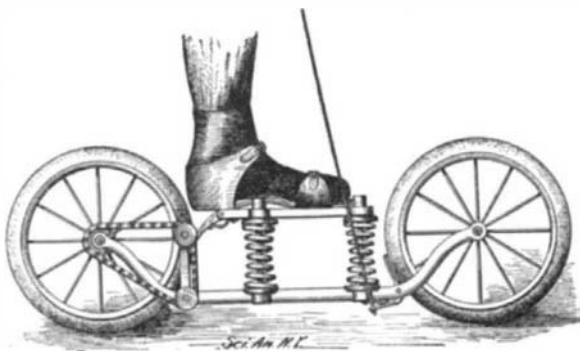
BARREL.—A simple method of permitting a farmer to inspect the contents of his fruit barrels is an invention which is illustrated in the accompanying engraving. The invention consists in providing one or



A NEW FORM OF BARREL.

more of the staves of a barrel with a longitudinally-split tongue, the very end of which is held securely in place by the hoop, but which can be released and opened to permit an examination of the contents by displacing the hoop.

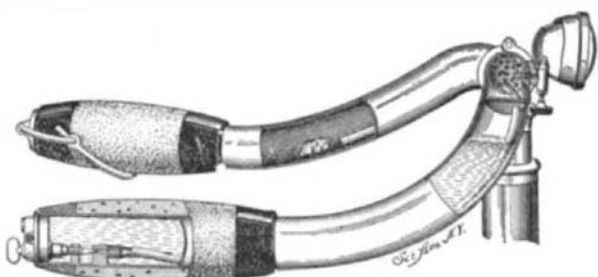
ROLLER SKATE.—The force expended in pressing downwardly on a skate is ordinarily wasted. Paul Jassman, of Brooklyn, New York city, intends to utilize this downward pressure in a novel skate of his invention, comprising a frame in which front and rear



CHAIN-DRIVEN ROLLER SKATE.

wheels are journaled and on which guide-posts are supported for the purpose of receiving a sliding foot-rest. Springs are coiled around the guide-posts and hold the foot-rest in an upper position. A spring-pressed pawl is secured on the rear of the foot-rest, which pawl, on the downward movement of the foot-rest, imparts movement to a sprocket-chain by which the rear wheel is driven.

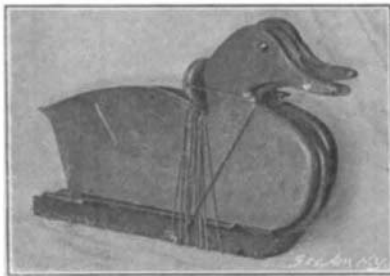
BICYCLE HANDLE-BAR GAS-GENERATOR.—Two Chicago inventors think it would be a good idea to use the



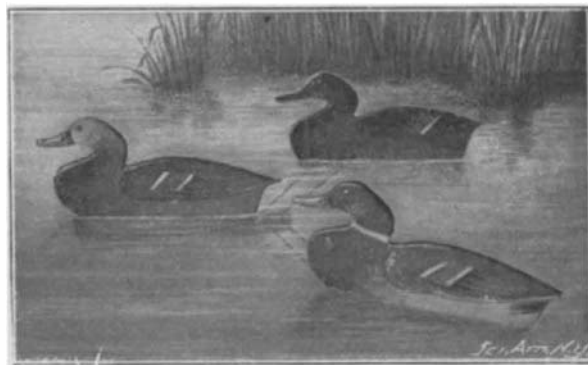
HANDLE-BAR USED AS AN ACETYLENE GENERATOR.

hollow bicycle handle-bar as a carbid and water compartment for an acetylene bicycle lamp. In carrying out this idea the handle-bar is divided into two chambers, the one constituting a water receptacle and the other a gas-generating chamber, containing the carbid packed in a porous bag. Between the water and carbid compartment is a gas-chamber having an outlet with which the lamp is connected. The water and carbid chambers are connected by a conducting pipe, the passage of water from the water chamber to the carbid chamber being controlled by a valve operated from one of the handles.

FOLDING DECOYS.—To the duck hunter the matter of the transportation of his decoys is a serious one for the reason that as these things have been constructed they are necessarily bulky, even though they are not heavy, and to get them from point to point has always been a matter of serious consideration to the gunner, especially as there is his gun and other necessary paraphernalia to be carried. The folding decoy shown in the accompanying cuts has been invented by Joseph Coudon, of Aiken, Md., an old Chesapeake duck hunter, who for many years has made a study of both the ducks and the decoys which are used to lure them within the reach of the gun. The decoys are made of wood and painted, and are arranged in groups of three. When they are unfolded for use the three decoys are separated, and held in this position by a hinge-like device of wire which is clearly shown in one of the accompanying cuts. The center and forward bird is supplied with



THE DECOY-DUCKS PACKED.



THE DECOY-DUCKS IN USE.

a float which supports all three, allowing them to float on the water all at the same depth in a very lifelike manner. The forward one is also supplied with an anchor which holds them in place against the action of the wind and tide, and when it is desired to collapse the dummies for packing or shipment, this anchor, being loop-shaped, slips over the neck portion and holds them firmly together.

Substitutes for Rubber.

Three Viennese inventors, C. and R. Paulitschky and F. Wueste, have patented a new substitute for rubber. Sole leather is disintegrated by machine until the material is reduced to partially connected fibers. By soaking and agitation for a considerable time in tanner's dressing (bruised barley, leaven, and water) these fibers are softened. After drying, the mass is steeped for some time in train-oil freed from acid by treatment with warm water (Lederol). Cork in pieces as large as hazelnuts is boiled in the thickened root-sap of the Landolphia plant to make it elastic and durable, then dried slowly. In moderately-sized lumps the waste rubber is boiled for fifteen minutes in a one or two per cent solution of caustic acid. "Rubber-linseed oil" is then prepared by dissolving about ninety-five parts of rubber in five parts of linseed oil at a temperature of 40 deg. to 60 deg. C. These materials, together with asbestos, are mixed together in proportions which have been established by the inventors. The product is placed in calenders having adjustable heated rollers, and is finally treated with sulphur chlorate diluted with carbon bisulphid for the purpose of vulcanization. The finished material is said to possess greater elasticity and durability than the rubber substitutes which have been hitherto manufactured.

Exhibition of Women's Inventions.

In the Woman's building of the South Carolina Interstate and West Indian Exposition, to be held in Charleston, S. C., from December 1, 1901, to June 1, 1902, there is to be an exhibit of women's inventions. The Committee on Inventions will be pleased to furnish all particulars to women who desire to place models on exhibition.

A Nicotine Insect-Destroyer.

In order to exterminate insects or mildew in gardens, compounds are employed which, upon being subjected to heat, are vaporized. The vapor thus generated is the medium by which insects and mildew are destroyed. One of the chief constituents of such compounds is nicotine, which is usually mechanically combined with absorbents, such as clay or lime, and formed into a paste for commercial purposes. These compositions present defects. After all the nicotine has been vaporized a quantity of residuum is left, which corrodes the receptacles in which the vaporization has taken place.

A new nicotine-containing compound has been invented by an Englishman, Mr. George H. Richards, of London, which can be used and commercially sold in the form of a powder or compressed cakes or tablets, and which is so completely volatile that no residual matter is left. The inventor has found that highly purified nicotine can be combined with salicylic acid to form a solid crystalline salt, and that this salt is entirely dissipated by heat and is extremely suitable for vaporizing compounds by reason of the insecticide property of nicotine and the germicide property of salicylic acid. It is claimed that no residue is left in the receptacle in which the vaporization is carried out.

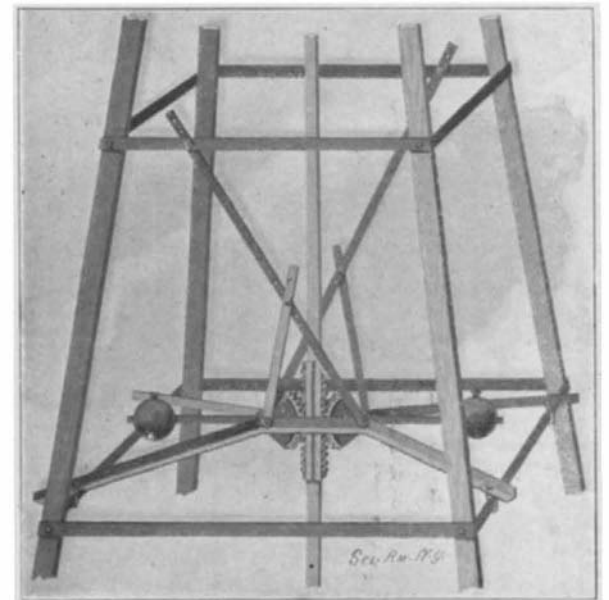
British Inventiveness.

Home Secretary Ritchie recently compared the British with the American inventor, much to the disparagement of the former. The Home Secretary has thus brought down a hornet's nest about his ears, and has been rather summarily convinced that his countrymen are by no means laggards in invention. If we refer to the Report of the United States Commissioner of Patents for the year ending December 31, 1899, we find that 38,937 applications for patents were made in the United States for the same period that 25,786 applications were filed in the English Patent Office. When it is considered that the population of the United States at the time given was considerably above 62,250,000, and that the population of Great Britain and Ireland was recorded as 37,732,922, it is evident that Englishmen are fully as active as their American cousins. If these figures be correct, it would follow that there is one invention filed for every 1,600 persons in the United States and one for every 1,075 in Great Britain.

A Novel Pump-Rod Balance.

Pump-rods operated in deep wells by windwheels or any power are usually balanced, the object being to increase the power and materially aid the operation of the windwheel on the upper stroke of the rod. An improved balance for such pump-rods has recently been patented by Arthur A. Koch, of Montezuma, Iowa.

The pump-rod is provided on both sides with racks meshing with segment-gears respectively carried by arms on which weights are adjustably mounted. The object in making the weights adjustable is to provide for the force or power of the windwheel and to bal-



A NEW PUMP-ROD BALANCE.

ance the weight of the water and the pump-rod, which weight varies in different wells. These weighted segment-gears are mounted to swing in a frame comprising two sections, the outer ends of which are provided with hook bolts for engaging with cross bars of the tower. The braces are connected with short braces extended from the frame. By reason of this construction the tower and its appurtenant parts are stiffened so that the pump rod and segment-gears will operate in a structure which is as rigid as it can be made.