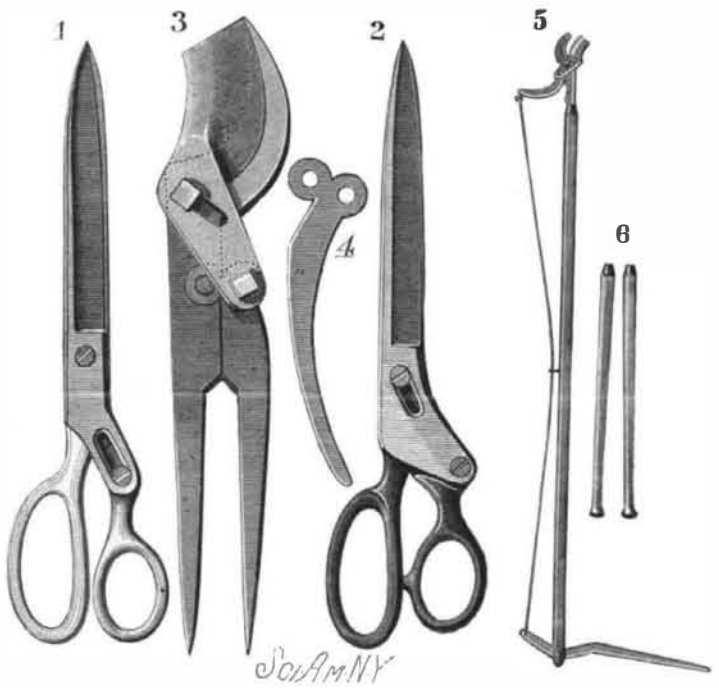
PRUNING AND HOUSE SHEARS.

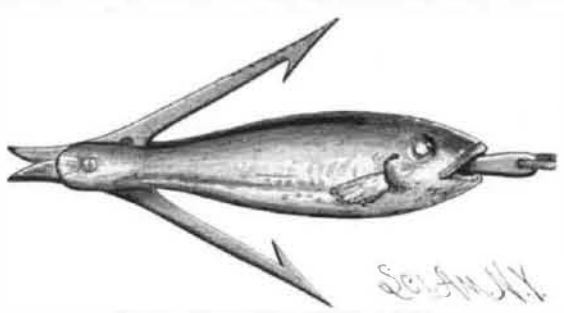
The accompanying illustrations show the improved pruning and housekeeper's shears recently invented and patented by Messrs. Wilsey & Holcomb, of Bloomville, Ohio. Fig. 1 represents the housekeeper's shears, which are so constructed as to derive increased power and cutting capacity from double leverage. The lower end of the short shank handle, being attached to the main blade just back of the pivotal screw, forms a leverage, so that as the shears are closed the screw in the slot increases the distance from the fulcrum, and the power and cutting capacity are thereby materially increased. Fig. 2 represents another style of house shears, constructed on the same principle as Fig. 1, only the short shank handle has a cam on the lower end that fits into a recess on the inside of the main blade, by which it is held in place. The upper end of the main blade is attached to the lever handle, and has a slot that works backward and forward on the pivotal screw in the slot, that gives the blade a drawing motion, thereby greatly adding to the cutting capacity. In the pruner, Fig. 3, increased power is obtained by compound levers in connection with a drawing cut. This gives it great force, and it is stated that with it an inch and a half limb can be most easily cut. Fig. 4 is an extra lever piece, intended to be used on the pruner in connection with a long single handle, as shown in Fig. 5. By removing the bolt in the lower end of the pruner blade, the straight lever can be easily detached and the crooked shank put in its place. This is operated by a wire secured to a swivel in its outer end and extending to a short lever in the bottom end of the long handle. This change can be quickly effected, and with the long handle the operator can, while standing on the ground, trim fruit and shade trees of medium height. Fig. 6 shows the handles intended for the pruner shown in Fig. 3. The patentees will furnish particulars concerning the manufacture of these shears.



ECLIPSE PRUNING AND HOUSE SHEARS.

IMPROVED FISH HOOK.

The engraving shows a combined hook and bait which is simple in construction, alluring in appearance, and effective in operation. The body of the artificial fish is shaped and colored to represent any variety of fish likely to attract the game sought, and

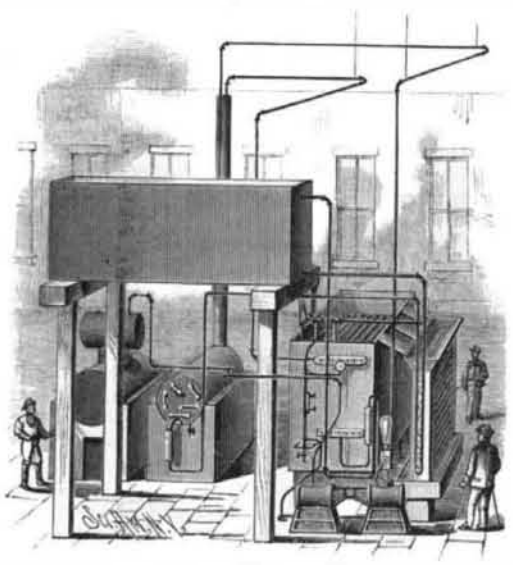


LIE'S IMPROVED FISH HOOK.

is composed of two parts hollowed out and cut away on their meeting faces sufficiently to contain the working mechanism and hooks. The line is attached to a flat bar passing through the fish. The lower ends of two fish hooks of the ordinary pattern are pivoted to the lower end of this bar, and are formed with slots, through which passes the rivet uniting the lower ends of the two parts of the bait; these slots are so inclined that, when the fat bar is pulled, the points of the hooks are spread out as shown in the cut, but, when there is no strain upon the line, the hooks are kept concealed within the sides of the bait by a spring that presses the bar downward. The greater the tension on the line, the farther out will the points of the hooks be thrown, and the more securely will the fish be held. The rear ends of the hooks are curved to form a homocercal tail, so that, when the bait is seized, the pressure brought upon the tail will spread the hooks. This hook is the invention of Mr. Cornelius Lie; the patent has been assigned to Mr. J. J. Eskil, of Florence, Wis., who will furnish further information.

LUSCHER'S ICE MACHINE.

In ice machines using ammonia as a refrigerant, it has hitherto been introduced directly from a still to the coils in the cooling tank. This resulted, however, in a constant back pressure in the absorber of from 25 to 35 pounds. This prevents the free expansion of the gas and its complete absorption by the liquid.



LUSCHER'S ICE MACHINE.

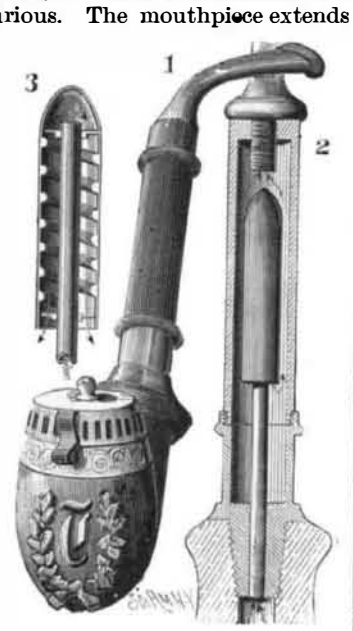
In the improved form illustrated, which was recently patented by Mr. Sigmund Luscher, of Frankfort, Ky., this defect has been remedied. The ammonia is pumped from the receiver into a stand pipe and still, where it is heated by steam. The hot vapor of ammonia generated is converted into anhydrous ammonia in the coils of the cooling tank, and is then fed into the pipes of the refrigerating tank.

After performing its work, the expanded gas is returned to an absorber, being introduced at a point in advance of where the weak ammonia from the receiver enters.

An injector is thus formed by which the weak ammonia is drawn in. The gas is thus almost entirely absorbed, and the back pressure is reduced to a minimum. This permits the gas contained in the pipes of the refrigerating tank to expand freely, the ammonia in the absorber is strengthened before its return to the still for redistillation, and the mixing of the gas and weak ammonia assists in cooling the heated vapors.

TOBACCO PIPE.

This pipe is so constructed as to collect and hold the nicotine, and to cool, purify, and render the smoke more agreeable and less injurious. The mouthpiece extends through the cap and projects a short distance into the upper end of the body, as shown in Fig. 2. Secured to the lower section of the body is a small tube, which extends upward and terminates within a short distance of the upper, closed end of a larger return tube, shown in section in Fig. 3. To the central tube are fitted two perforated diaphragms, through which the smoke passes; and to the interior of the return tube is fitted a spiral to retard the smoke. By this construction of a pipe in sections, economy of material, and facility of assembling the several parts are obtained. The manner of uniting the several parts and the course taken by the smoke in passing from the bowl to the mouthpiece will be understood from the second and third figures. The smoke is cooled during its passage, and the nicotine is collected in the recess in the lower section, from which it can be removed at pleasure.



TAPPE'S TOBACCO PIPE.

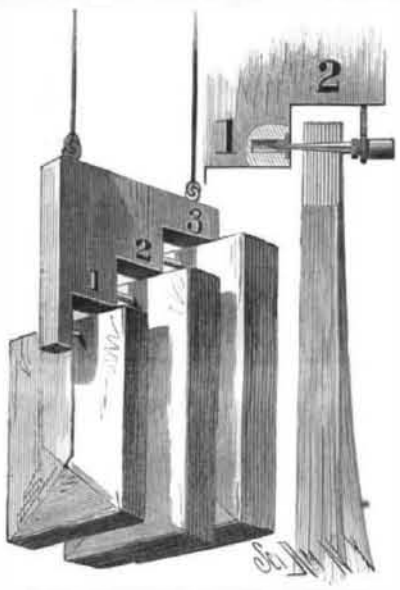
This invention has been patented by Messrs. August and Charles Tappe, of Bloomington, Ill.

A New Method of Introducing Medicine into the System.

At a meeting of the French Academy of Medicine, held September 22, M. Brondel read a paper on the introduction of certain medicines into the system by means of electricity. If the electric current is made to pass through a solution of a salt, the salt is decomposed, the metallic base passing to the negative pole, and the acid, or metalloid, to the positive pole. The iodides are easily decomposed by electricity. In order to introduce iodine into the system, a rubber plate, moistened with a solution of iodide of potassium, is placed upon the surface of the body. Over this plate the negative pole of a battery is applied, while the positive pole is placed upon a part of the body toward which it is desired that the iodine travel. The iodine separates from the potassium, which remains at the negative pole, and passes with great rapidity through the tissues toward the positive pole. This may be demonstrated by testing with a starched paper, which becomes blue. A great number of substances can thus be made to traverse the tissues, and the applications of this discovery are numerous and important. M. Brondel has in this way cured uterine fibroids, a case of perimetritis, rheumatic ovarian neuralgia, and several cases of chronic rheumatism.—*Le Progres Medical.*

PAPER BAG HOLDER.

The holder herewith illustrated is adapted to hold a number of paper bags of different sizes. The top edge of the board has eyes for hanging it, and the lower edge is formed with steps. In the vertical part



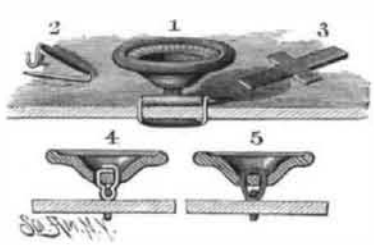
MARTIN'S PAPER BAG HOLDER.

of each step is a recess containing a cap for receiving the end of a pin whose other end is supported by a hook secured near the outer edge of the horizontal part of the step, as shown in the sectional view. Each pin has a head formed with an annular groove to receive the hook. The pin is driven through the upper ends of the bags, and then the point is passed into the cap, and the head is hung on the hook. The bags can then be pulled from the pins, which, to prevent tearing of the paper, are made diamond shape in cross section. The different sizes of bags are arranged as shown in the perspective view.

This invention has been patented by Mr. Edward T. Martin, of Concordia, Kansas.

BUTTON FASTENER.

This device is for fastening buttons of all kinds on garments, shoes, etc., in a perfect manner, and so that they can easily be removed when desired. The fastener consists of a safety pin formed as shown in Fig. 2. The button is provided with a thread loop, or with a loop formed by means of a metal strip, shaped as shown in Fig. 3; the ends are passed through slots in the button, and the side tongues are bent to form a loop (Fig. 4) on the under side of the button. The shank and hook of the pin are passed through the fabric, and the shank is passed through the loop, thereby holding the button securely, as shown in Fig. 1. The shank is wound to prevent the discoloration of the fabric. Fig. 5 shows the button provided with a thread loop. The fastening is not liable to tear out, as the entire length of the shank rests against the fabric.



IRVINE'S BUTTON FASTENER.

This invention has been patented by Mr. Albert G. Irvine, of Gloucester City, N. J.