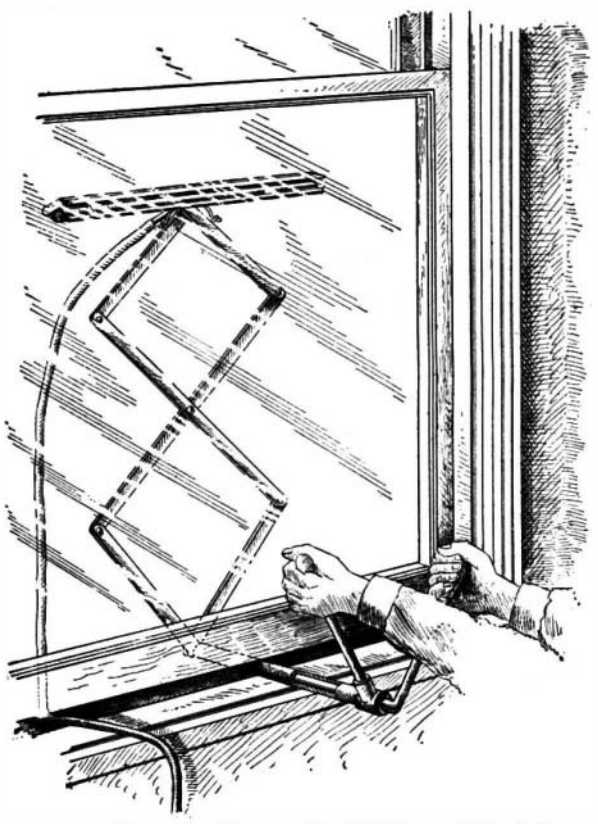
oil store, there being installed therein six 300-gallon cylindrical tanks in addition to five 130-gallon tanks in the lighthouse itself. The reservoirs in the old tower are connected to those in the lighthouse, a stop-cock being fitted to control the flow. The tanks in the old tower being higher than those in the new lighthouse, the oil gravitates from the former to the latter. All tanks are fitted with gages for determining the quantity of oil within. The oil is landed in barrels, and pumped into a 40-gallon sump tank having a removable cover and fine wire-gauze strainer.

The total cost of the undertaking somewhat exceeded the original estimate, owing to the difficulties encountered, aggregating $420,000. The staff for the lighthouse comprises four men, relieved twice a month, weather permitting. The cost of maintenance averages about $5,000 per year, to which $1,000 is contributed by Lloyd's for the privilege of using the lighthouse as a signaling station, this being the first point from which incoming vessels on the Atlantic are notified to London and Europe. The cost of oil and mantles for the burners averages approximately $225, and fog-signal ammunition about $1,300 per year.

The superintendence of the building was intrusted to Mr. C. W. Scott, engineer to the Irish Lights Commissioners; he also designed the special form of lamp used.

A DEVICE FOR WASHING THE OUTSIDE SURFACES OF WINDOWS.

There has long been need for some simple and practical device for washing the outside surfaces of windows. This need has greatly increased in late years with the increased height of modern buildings. The

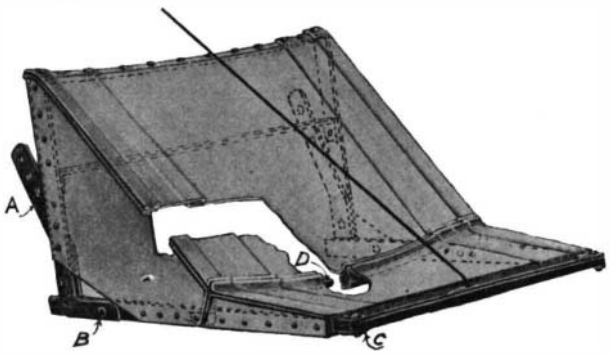


DEVICE FOR WASHING THE OUTSIDE SURFACES OF WINDOWS.

inaccessible exterior surfaces of the windows makes the work of cleaning them especially inconvenient and hazardous, so that trained experts are now commonly employed for this service. In the accompanying engraving we illustrate a device with which the exterior surface of a window may be readily cleaned from within the building, and without imperiling the life of the operator. It consists of a cleaning head, which may be projected to the desired point by means of a lazy tongs mechanism that connects the head with the operating handles. The lower legs of the lazy tongs are respectively secured to a pair of rock shafts which are concentrically mounted, one shaft being tubular to receive the other. Each shaft is provided with a handle, and by swinging these handles toward and from each other the lazy tongs may be extended or retracted. A flexible hose connects the head of the washing device with a source of water under compression, so that a flow of water may be had at the desired point. A patent on this window-washing device has been secured by Mr. William G. Himrod, of Third and G Streets, N.W., Washington, D. C.

A NEW TYPE OF CAR FENDER.

The accompanying engraving illustrates a fender which is particularly adapted for use on street cars, and which is so designed as to present no unflexible portions against which a person may be injured when picked up by the fender. The fender comprises a frame supported on two bars *A*, by which it may be secured to the end of a car. The frame is formed of two L-shaped members, connected at suitable points by cross bars. In order to prevent a person from being injured by the front cross bar or pilot bar of the frame, a strap *C* is provided, which is placed directly before the bar and serves as a guard. The frame is covered with canvas. The fender comprises a forward slightly-inclined portion and a rearward sharply-inclined portion. The boundary between these two portions is marked by cross bar *D*. The canvas is secured to this cross bar in the manner shown in illustration, so that there will be little danger of injury to a person striking this part of the fender. In order



A NEW TYPE OF CAR FENDER.

to strengthen the canvas covering, it is provided with a number of reinforcing folds, so that there is no danger of the canvas giving away when the fender picks up an object or a person. The frame of the fender is hinged to the bars *A* at the points *B*, so that the fender may be lifted up into folded position when desired. The strap *C*, which is placed in front of the pilot bar, is supported at opposite ends on rollers in such manner that it may be moved when pulled in either direction, or when it happens to receive a glancing blow from an obstacle. While the fender is more particularly adapted for use on street cars, the inventor hopes to introduce it on automobiles. Mr. Shozaburo Ishii, of New York, N. Y., has procured a patent on this fender.

Ginseng and Belladonna Growing in California.

Recent investigations made by the State Board of Trade demonstrate that the growing of ginseng can be made very profitable in California, although the plant is not indigenous to the State. All the requisites of soil, moisture, and climate are to be found in California.

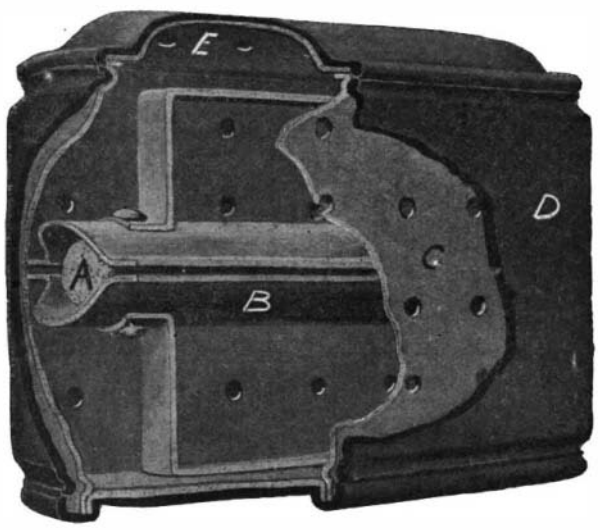
One tract of land located in Santa Clara County, containing over 100 acres, was planted in ginseng about two years ago, and gives flattering promise of good returns next year, when the first crop is to be harvested. Another tract in Marin County was planted a little later than the one in Santa Clara County, and now gives promise of yielding equally well.

Ginseng is a drug used as a basis for almost all Chinese remedies. It sells in the market in its natural state for about $8.50 a pound, while the fluid extract commands a higher price. The Chinese buy all that is to be had, and ship it to China. It is gathered in many eastern States and in the Ohio and Mississippi valleys.

Extensive experiments and investigations have also been made recently in the Gardens of Medical Plants in San Francisco, and at other points in California, in regard to the cultivation of the belladonna plant. These experiments show that it will grow very successfully in the State. There are movements now on foot to engage in its cultivation in California, on a very large scale. The raising, it is claimed, is decidedly profitable, as the price is good and the demand for this drug constantly on the increase.

HAND WARMER AND BODY HEATER.

The heater which is illustrated in the accompanying engraving is of the type in which a slowly-combustible substance is inclosed, and after being ignited is carried in the pocket for warming the hands. The device may also be applied to any part of the body to alleviate pain. When so used the heater has material advantages over hot-water bottles, or similar

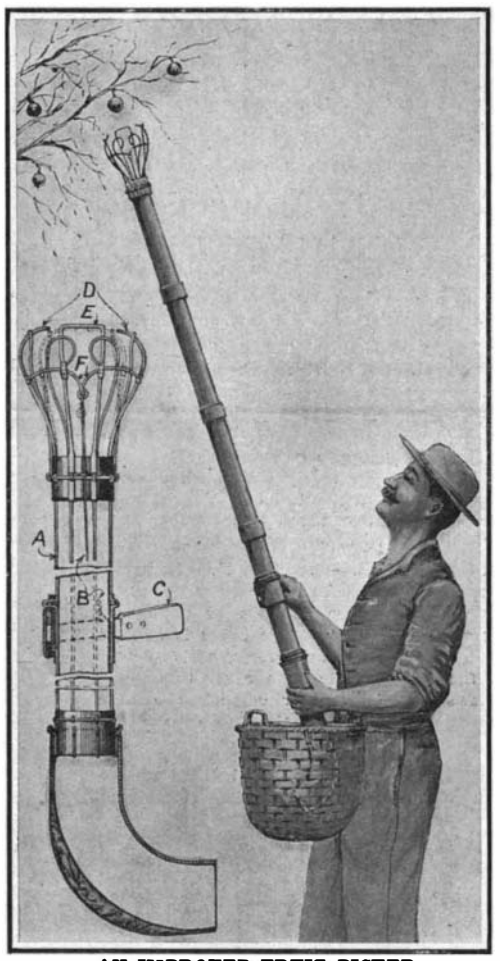


IMPROVED HAND WARMER AND BODY HEATER.

devices commonly used. The combustible material within the case continues to burn for a great length of time, maintaining its heat until the material is entirely exhausted, whereas a hot-water bottle soon becomes cold and is of no further use until reheated. The particular advantage of the heater which we show herewith is that a special means is provided for holding the combustible substance in the center of a casing, so that one side will not become heated more than the other side. The combustible material, which is preferably punk prepared for the purpose, is inclosed in a paper cartridge *A*. The cartridge is supported in a holder *B*, which is provided with brackets adapted to hold it in a central position. Flanges on the holder project laterally therefrom, and serve to space the cartridge from the side walls of the casing. The casing *C* is formed with a series of perforations in the side walls. The cover *E* of the casing is also perforated. A lining of cloth is fitted against the under side of the cover, and the side walls of the casing are covered with cloth, as indicated at *B*. The construction is such that there will be no danger of sparks passing through the perforations in the walls and igniting the clothing of the user. A patent on this body heater has been granted to Mr. Philip Stein, 220 to 226 West Santa Clara Street, San Jose, Cal.

IMPROVED FRUIT PICKER.

Pictured in the accompanying engraving is an apparatus adapted to enable a person standing on the ground to readily remove fruit from a tree without



AN IMPROVED FRUIT PICKER.

injuring the fruit. It consists, briefly, of a long tubular member provided with a picking device at the upper end, which may be operated by a lever conveniently located near the hand of the operator. At the lower end of the tubular member is a discharging elbow, which opens into a basket or other receptacle carried by the operator, so that the fruit when picked will pass down through the tube and into the basket. The tubular portion is formed of a number of rods *A*, connected by collars at suitable intervals, and which serve to support a lining of any suitable textile fabric. The discharging elbow is provided with a soft cushioned portion on which the fruit falls without breaking or bruising. The picker arms at the upper end of the tube are operated by means of rods *B*, which lead to a lever *C*, fulcrumed near the lower end of the tube. The picking device comprises two U-shaped flexible arms *D*, formed by extending a pair of the supporting rods *A*. In addition to these there are a pair of arms *E*, located between the arms *D*. Attached to the arms *D* are links *F*, which pass over pulleys supported on arms *E*, and are connected to the operating rods *B*. The device may be used by placing the picking arms around the fruit to be picked, and then detaching the fruit by a downward or lateral movement of the picker without using the lever *C*. In most instances, however, the fruit is detached by drawing the picking rods inward by means of the operating lever to the position shown by dotted lines. A patent on this improved fruit picker has recently been granted to Mr. Emil Gier, Mount Angel, Ore.