

**FIRE ESCAPE LADDER.**

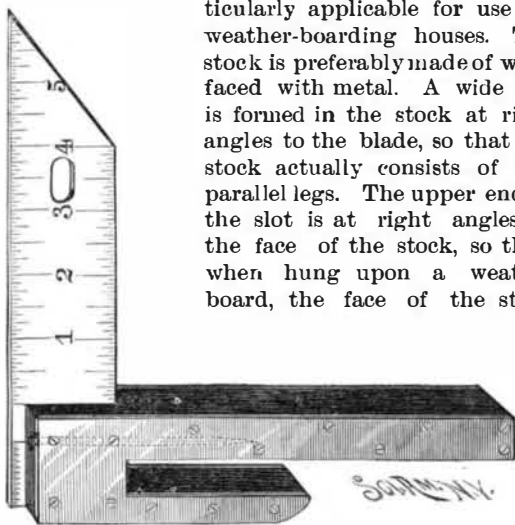
The rounds of the ladder are connected to opposite side ropes or chains by tying the ropes around the rounds near their ends, the rounds being reduced in diameter at these points to prevent slipping. The upper end of the ladder is supported by a metal hanger or frame, the shape of which is clearly shown

**ROSE'S FIRE ESCAPE LADDER.**

in the engraving. The upper ends of the sides of the hanger are bent to form inwardly projecting hooks, which are adapted to be caught over and behind the window sill, to give a strong support to the hanger and consequently to the ladder. It will be seen that the ladder hangs clear of the capstones and sills of the windows below the hanger. The lower round is made of such length that it may be extended across a window if it should be necessary to support the ladder from that end. The ends of this round also form handles, by which the lower end of the ladder may be drawn back from the building. It is evident that the ladder may be rolled up and stored away with the hanger; the apparatus is always ready for use, and requires but a few moments to place it in position. This invention has been patented by Mr. Alexander Rose, of Lawrence, Kansas.

**IMPROVED SQUARE.**

This square is for the use of carpenters and other wood workers in marking out their work in order to form perfect joints, and is particularly applicable for use in weather-boarding houses. The stock is preferably made of wood faced with metal. A wide slot is formed in the stock at right angles to the blade, so that the stock actually consists of two parallel legs. The upper end of the slot is at right angles to the face of the stock, so that, when hung upon a weather board, the face of the stock

**SEARGEANT'S IMPROVED SQUARE.**

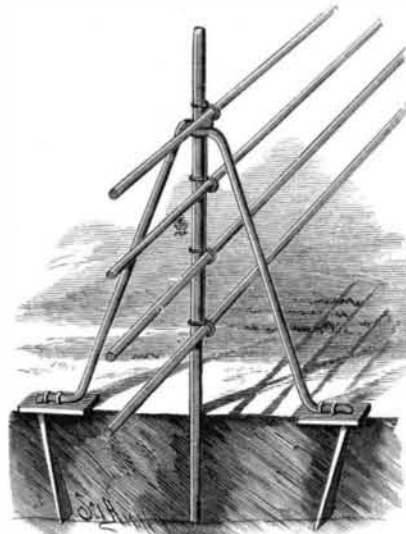
gives a line at right angles to the edge of the board. The blade is graduated as shown, and its projecting end is beveled, in order that it may be used in marking miters. By the use of this square, accurate joints may be formed at the points where the boards abut against the window casings and the corner boards, and in such cases the board is placed in the slot, the outer edge of the stock is brought in line with the casing or corner board, and the board is marked at the exact point where it is to be cut. The square may also be used for all ordinary purposes. In the blade is a hole, so that the square can be hung upon a peg or nail. This invention has been patented by Mr. William F. Seargeant, of Marshall, Missouri.

**A Fall of 250 Feet without Severe Injury.**

Dr. Evans relates, in the *Bristol Med. Chirurg. Journal*, the history of a girl who attempted suicide on May 8, by jumping from the Clifton Suspension Bridge. The bridge is 250 feet high, and has been a favorite place for suicides. Sixteen persons have been known to have succeeded in self-destruction by making this same leap. One other only was picked up alive, but survived only thirty minutes. Twenty days after the fall the patient was considered convalescent and able to walk without pain. There was apparently no permanent injury. As far as the writer knows, no case of survival after a fall from as great a height as 150 feet has hitherto been recorded, and considers this instance as probably unique.

**FARM FENCE POST.**

The central part of the post is made of an iron rod, to which the wires forming the panels of the fence are secured. A rod bent spirally in the middle of its length, to form an eye for receiving the center rod, is bent to the form clearly shown in the engraving. The extremities of the rod are bent downward, and inclined slightly inward; near the ends of this rod shoulders are formed. When the post is to be used in hard ground, the main rod is driven vertically into the earth, the eye of the brace is placed on it, and the flattened extremities are either driven into the earth or

**HICKS' FARM FENCE POST.**

set in holes with the earth tamped around them. When the post is set in soft ground, bearing plates are placed under the shoulders; these plates are apertured to receive the rods, to which they are secured by staples. The posts may be made of half inch iron, and the panels of any wire of suitable size. A fence so constructed has great rigidity with but little weight, and may be quickly erected or taken down.

Further particulars may be obtained from the inventor, Mr. Samuel Hicks, of Orangeville, Ind.

**A SEPARATOR TO REMOVE IMPURITIES FROM WHEAT.**

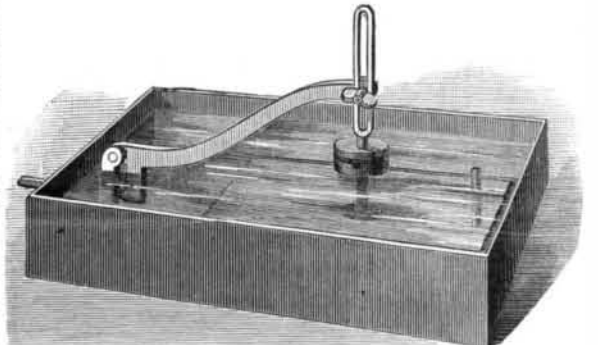
In connection with an ordinary grain separator and thrasher, the invention herewith illustrated shows a novel construction and arrangement of parts to facilitate the removal of cheat and other small seeds and impurities from wheat. An opening in the bottom of the elevator trough is covered with a wire screen of such fineness of mesh as to prevent kernels of wheat from passing through, while allowing the passage of finer particles; and this screen is protected from being worn or injured by the friction of the elevator lags by wires placed on the screen longitudinally with the elevator trough, and attached at their ends to stationary parts of the trough bottom. These wires are so put in as to serve for ways on which the elevator lags slide, while the lags themselves come so close to the screen that no kernels of wheat will be left thereon. In the trough of the shoe at the lower end, shown in the engraving in a part broken away, is another fine screen for sifting out small seeds and impurities, and conducting them away into a separate discharge spout.

This invention has been patented by Mr. Andrew T. Hawley, of Alton, Ill.

THE Machine Tool Works, Fred'k B. Miles, Engineer, Philadelphia, has been united with the Industrial Works, William B. Bement & Son, Callowhill and Twenty-first Streets, Philadelphia, and the two establishments are conducted as one by William B. Bement, Clarence S. Bement, Fred'k B. Miles, and William P. Bement, under the firm name of Bement, Miles & Co.

**AUTOMATIC DISCHARGER FOR EVAPORATING PANS.**

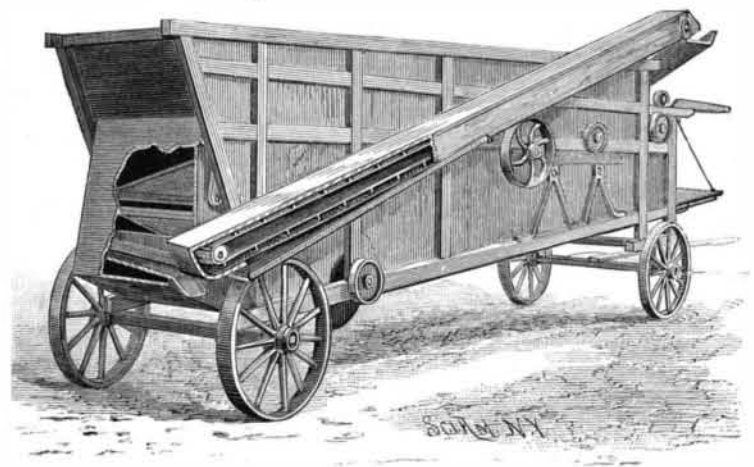
A discharger for evaporating pans, recently invented by Mr. M. E. Sprague, of Plymouth, Vermont, is so constructed as to automatically open an outlet near the bottom of the pan, when the liquid being evaporated has reached the desired density. A hollow float, having a vent tube to allow for the expansion of the air, is provided with an upwardly projecting stem, which may be weighted, as shown. The stem terminates in a slotted portion, to which the free end of a curved lever is adjustably attached. At its fixed, pivoted end the lever is formed with a downwardly projecting arm, which carries a valve. This valve is adjusted to close the outlet of the evaporating pan so long as the hollow float rests upon the bottom. In

**AUTOMATIC DISCHARGER FOR EVAPORATING PANS.**

operation, the lever is so weighted that the float will not rise until the liquid has reached the proper degree of evaporation. When this point is reached, the rising of the float moves the lever upward, and consequently its downwardly extending arm and valve on the same outward, by which the outlet of the pan is uncovered, and the liquid is automatically discharged. In our illustration, the float is shown resting on the bottom of the pan, and the outlet closed. The adjustable connection between the lever and the stem of the float permits the device to be used on pans of different depths. The discharger is applicable in concentrating sirup, brine, and other liquids, and aims to secure their automatic discharge at any degree of concentration desired.

**The Treatment of Obesity.**

Starvation, semi-starvation, surcharging, "banting," alkalies, purgatives, Turkish baths, exercise, and the thousand and one ways of reducing corpulency to respectable dimensions, still leave a large section of our stout population in despair. M. Germain See comes to the rescue, and solves (?) the difficulty with his accustomed dash and skill. "Oh, ye massive fat ones desiring to be made lean, eat not much meat, but drink enormously of tea." That is M. See's good news put in a nutshell. That is the cry now to be heard in the Parisian wilderness of fat. Obese individuals may suffer from shortness of breath from many causes, writes M. See, and infiltration of the muscles with fat is an important one. There are many ways of reducing the fat. The first is by diet, the second

**HAWLEY'S GRAIN SEPARATOR.**

by moderating the imbibition of fluid, the third by muscular exercise; and there are also balneotherapy, or bathing, and treatment by medicaments. M. See does not approve of "banting," as it takes too long; and further, he argues that proteids, such as meat, eggs, etc., are productive of fat. Ebstein has recently advocated "banting," combined with some fatty food; but our author does not fall in with this method. Stout people do not bear bleeding well, although this was the treatment in vogue in the sixteenth and seventeenth centuries. Iodides, alkalies, and diuretics are not well borne by fat persons. Moreover, these medicines, when they reduce obesity, do so by destroying, or at least damaging, the organs on which the nutrition of the body depends.—*Lancet*.