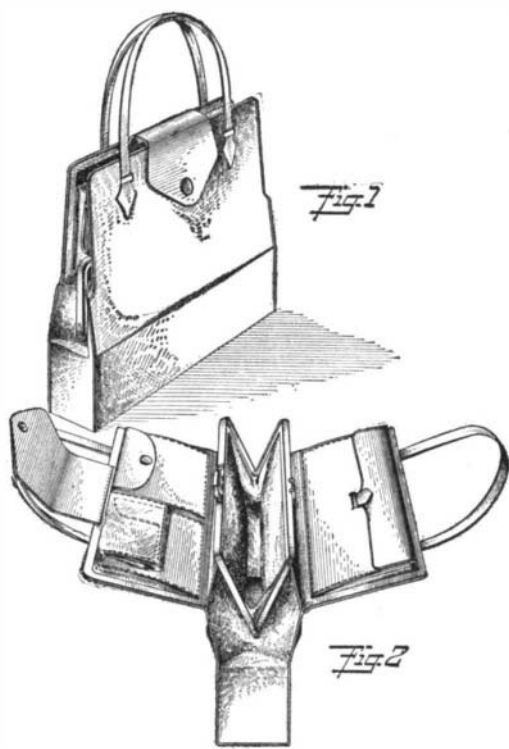


ancing the back pressure, and thereby insuring easier running of the blower or pump. As shown in our illustration, the water flows up the standpipe A, and into an enlargement or casing B secured thereon. The water passes into the casing B by way of a chamber C and a set of reaction arms E. The chamber C is mounted on a ball bearing, and as the water flows out through the arms E, it is rotated. Float D serves to lift the chamber C, and relieve the weight on the ball bearing. To prevent it from being lifted off entirely from the ball bearing, the upper surface of the float is engaged by a ball F, supported in a bracket. Our illustration shows a second reducer above the one just described, which may be used wherever necessary. This is of spherical form, the casing G serving the same purpose as the casing B. The water fills the chamber H at the top of the standpipe, and flows thence through the reaction arms I. To relieve the weight of the rotating member on the ball bearing, a spherical float J is provided, and this is prevented from rising too far by a ball K, which bears against the top of the float. A check valve is preferably placed in the delivery pipe above the reducer, to prevent downward leakage. The inventor of this back-pressure reducer is Mr. J. B. Ricketts, of Woodland Hall, Forest Park, Baltimore, Md.

**ODDITIES IN INVENTIONS.**

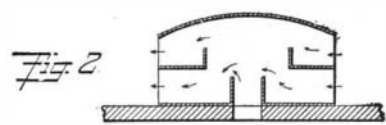
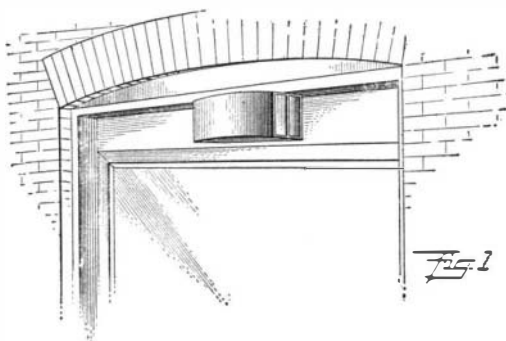
**HAND BAG.**—A rather complete hand bag is shown in the accompanying engraving. It is formed with a large compartment and a number of smaller compartments or pockets, in which money, visiting cards, etc.,



**HAND BAG.**

can be carried. Unlike the ordinary hand-bag, access can be had to any or all of these pockets without opening the main bag. The forward pocket on the left-hand side is formed with a catch, in which a pocketbook may be detachably secured.

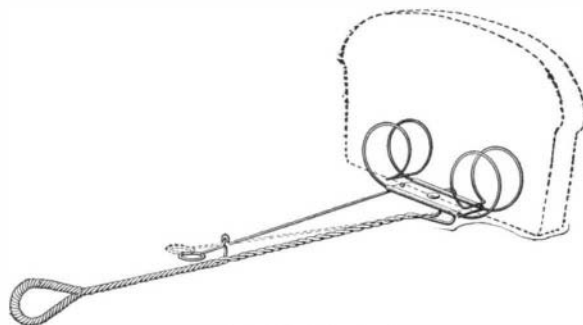
**WINDOW VENTILATOR.**—The ventilator which is shown herewith is arranged not to admit air into a room, but to withdraw the foul air from the room. The cross-sectional view, Fig. 2, shows how this is done. A small box projects from the upper part of the window at the outside. The ends of the box are open, so as to permit the air to flow through in either direc-



**WINDOW VENTILATOR.**

tion. An opening through the center of the box communicates with the interior of the room. By an arrangement of baffle plates in the box, an aspirating effect is produced, which will draw out the foul air from the room. The baffles also prevent rain or sleet from entering the room in stormy weather.

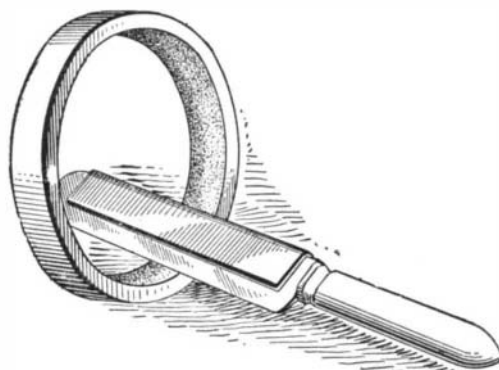
**TOASTER.**—The toaster which is illustrated in the accompanying sketch is arranged for use in toasting slices of bread in a vertical position. The holder is swiveled on the handle of the toaster, and a rod is



**BREAD TOASTER.**

attached to one end of it, with which the holder may be turned on its pivot to bring the opposite side of the slice to the fire. The rod passes through an eye formed on the handle, and is provided with a notch, which engages the eye when the holder is at right angles to the handle.

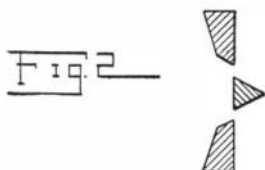
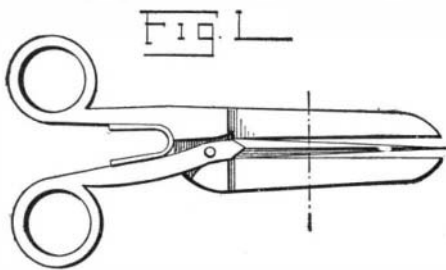
**KNIFE SHARPENER.**—Something rather novel in knife sharpeners has recently been invented. The device has the shape of a ring, with the sharpening surface on the inside. It can be used on the dining-room



**KNIFE SHARPENER.**

table. A protector or shield of metal is placed over the back of the knife blade. The blade is then sharpened by pressing it against the inner surface of the ring and rolling the ring along the table. While the ring is rolling, the knife should be moved lengthwise through it.

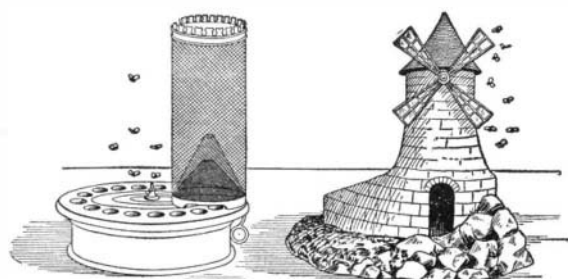
**DOUBLE-ACTING SHEARS.**—The ordinary shears or scissors will cut only when the handles are being pressed together. We show here a pair of shears that will also cut when the handles are moved apart. This double cutting action is obtained by the use of three blades, two parallel blades being connected to one handle, while the third is connected to the other handle. The purpose of this arrangement is to en-



**DOUBLE-ACTING SHEARS.**

able a person to do the cutting by moving the handles in either direction, thus saving the lost motion in the operation of the ordinary shears.

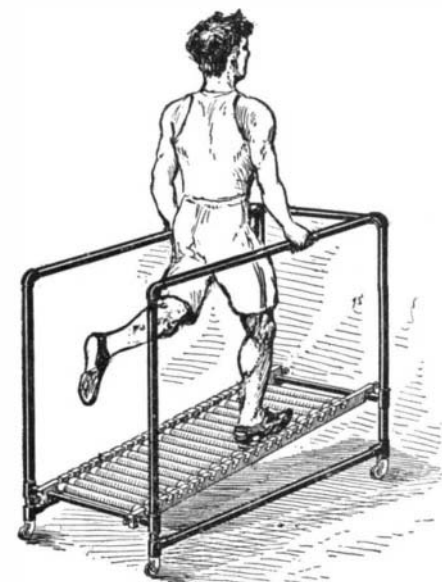
**AN ARTISTIC FLY TRAP.**—Fly paper and fly traps are not pleasing objects in the dining room and yet some means of suppressing flies is often absolutely necessary. A Frenchman, bearing this in mind, has designed a trap which makes a pleasing ornament for the table and yet is effective in capturing the annoying insect. He provides a disk formed with a ring of depressions or cups which are baited with jelly or the like. By means of clockwork in the base of the trap the disk



**AN ARTISTIC FLY TRAP.**

is slowly revolved, bringing the cups, one by one, under a vertical cylinder of wire netting. The trap is covered by a miniature representation of a windmill. The flies enter the door of the mill and while they are busy eating the bait, they are carried under the tower. Alarmed at this they fly upward, easily finding their way through the openings in the top of the two cones. Once in the prison tower they cannot escape, and must await the hand of the executioner.

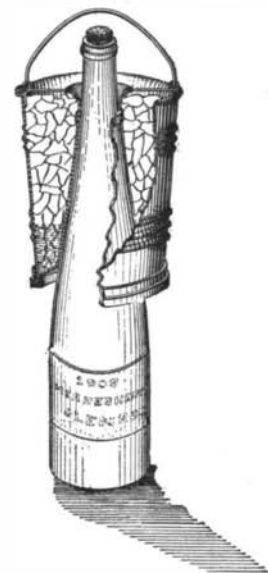
**INDOOR RUNNING MACHINE.**—An enthusiastic "Marathoner," who evidently does not get sufficient outdoor exercise, has devised a simple apparatus which will en-



**INDOOR RUNNING MACHINE.**

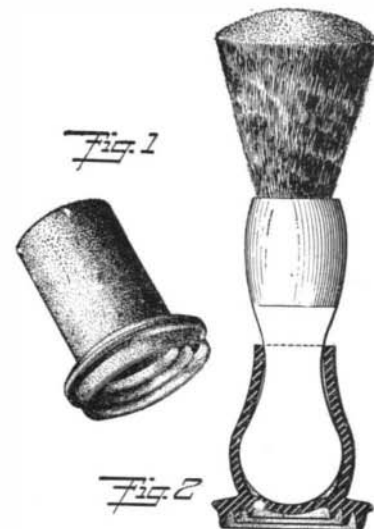
able him to develop his running muscles indoors. The apparatus is on the order of a treadmill. It consists of a rack mounted at an incline in a suitable frame, and provided with a series of rollers on which the athlete runs. The frame is formed with handles at the side, so as to prevent him from falling in case he should lose his balance, and which will permit him to stop running when he desires to do so.

**BOTTLE COOLER.**—In ordinary bottle coolers no provision is made for covering the upper part of the bottle with ice, and, as a consequence, the liquid first drawn out of the bottle is not as cool as it should be. A German inventor has conceived the idea of placing the ice over the top of the bottle, and as the cooler liquid falls owing to its greater weight, a circulation is set up which will cool the entire contents of the bottle. The cooler consists of a double-walled cylinder, the inner wall being arranged to fit onto the bottle. The ice is placed between the two walls of the cylinder. A rubber band on the inner wall presses against the bottle neck, so as to hold the bottle in the cooler when the latter is lifted by means of the handle.



**BOTTLE COOLER.**

**LATHER RUBBER.**—To obviate the necessity of rubbing lather into the skin with the fingers, when shav-



**LATHER RUBBER.**

ing, a small attachment for the shaving brush has been provided. It consists of a rubber cap which is fitted over the handle of the brush. The end face of the cap is formed with a series of concentric annular flanges which catch the lather and assist in rubbing it into the skin.