

Improved Bar Register.

The pretty little piece of cabinet work, two pictures of which are embraced in the annexed engraving, is intended for the convenience of barkeepers—a class far too numerous in this country. The inventor says, and it is presumed that he knows, that there are frequently loafing about bar rooms persons to mean that when they see a company drinking they will step up and take a glass without any invitation, and hence, in settling, disputes are liable to occur between the barkeeper and the person giving the treat. To effectually prevent these disputes, and also to provide a check on the money receipts of the barkeeper, is the object of the invention here illustrated.

A number of red balls are placed in the apartment marked **DRINKS**, and a number of white balls in that marked **SEGARS**. If a person wants one drink he calls for it, and at the same time drops a red ball in the pigeon hole marked 1. The ball rolls through the cabinet to the back side where it drops into a box with a glass front in plain sight of the barkeeper. The barkeeper allows it to rest till he is ready to make change, the ball thus forming a record of the number of drinks ordered. When the drink is paid for the barkeeper turns the bottom of the box in which the ball rests, by means of a knob at the side of the cabinet, when the ball falls into a locked drawer below, preserving the record of the number of drinks sold. If a customer order two drinks, he drops a ball into the pigeon hole No. 2, when it falls into a compartment in the drawer of a corresponding number; and it will be seen that provision is made for any number of drinks from one to twelve. Beyond this it is not supposed that any treater will go, except politicians in election time, for whom no adequate provision can be made.

The apartment marked **SEGARS** contains a number of white balls, and when a customer orders a cigar, he will drop one of these balls into a pigeon hole numbered to correspond with the price of his cigar; if a six-cent cigar he drops a white ball into No. 6, and so on.

The drawers are locked with keys of peculiar construction, difficult if not impossible to duplicate, and the keys are carried by the proprietor, who, by opening the drawers every night and counting the balls in each compartment, can ascertain exactly how much money his barkeeper has received.

It is said to be a matter of common observation that barkeepers generally buy out their employers in about three years, but it is supposed that by means of this register the relations of employer and employed may be somewhat longer preserved.

The patent for this invention was granted, through the Scientific American Patent Agency, June 10, 1862, and further information in relation to it may be obtained by addressing the inventor, James McNamee, at Easton, Pa. [See advertisement on another page.]

Business in Lynn.

The Lynn, Mass., Reporter states that a great deal has been done in that place during the present season in the erection of buildings as compared with previous years. It also says:—"Carpenters and masons as well as shoemakers and other mechanics, have been and still are full of business and good prices. We can scarcely pass through a street in the city without seeing some evidence of thrift and a desire for improvement, either in the way of building, repairing or painting buildings, replacing fences, trimming up gardens and the like. This is the natural result of an improved state of trade, and a more free circulation of the "needful," without which almost everybody feels too poor to "improve" on anything. We should

lack space to enumerate one half of the improvements that have met our eye in our walks about town."

JEBB AND CUTLER'S ANKLE-SUPPORTING SKATE.

Another improvement in skates! It would have been naturally supposed that an implement so simple as this certainly could not require a very large number of improvements, but since skating became so fashionable as to create an extraordinary demand for skates, devices for making them better or for rendering them more convenient of adjustment or in

this screw is fitted to turn independently of the heel, and a small bar, *f*, is provided for turning it; the end of the bar fitting into holes in the shank of the screw.

For adapting this ankle support to skates with wooden stocks, a heel plate is made to be secured by wood screws upon the stock, and the projection to receive the support is turned downward in order that the screw may be turned into the heel in the usual manner; see Fig. 3.

The other peculiarities of this skate are manifest on an inspection of the cut.

It is well known that the principal fatigue in skating comes from the great strain on the ankles, and as this support is very thin in the longitudinal direction of the foot, while it is broad in the transverse direction, it supports the ankle firmly sideways, though yielding freely in the opposite direction. We are assured that new beginners and ladies find it a great assistance, and that old skaters are able with its use to continue the exercise for hours without any considerable fatigue.

The patent for this invention was granted July 2, 1861, and further information in relation to it may be obtained by addressing

the assignee and manufacturer, George D. Teller, at 170 Main street, Buffalo, N. Y.

Penetrating Armor Plates and Punching Iron.

An intelligent writer in the *Mechanics' Magazine* in the course of a series of articles on "The Iron Walls of Old England," makes the following remarks:—

The term penetrating force, and penetrating effect, are used with great laxity. They have been so used in reports of experiments to such an extent that their true meaning has been lost sight of. By penetrating force or effect, as applied to an iron projectile striking an iron plate, I understand the power of the shot to pass through or bury itself in the material of the plate, supposing the plate to be held firmly in its place without motion or vibration, and without any yielding of the back support on which it bears. To exemplify my meaning I will refer to the familiar example of a punching machine punching rivet holes in a plate. The effect produced in that case is the penetrating effect of iron, or rather of steel on iron.

Now, in this operation there is a law known to every boiler maker. No force will drive a punch through a plate unless it be of greater diameter than the thickness of the plate. A one-inch steel punch will not go through a one-inch iron plate; it will go through a $\frac{3}{4}$ or perhaps a $\frac{7}{8}$ -inch plate; but if the punch, instead of being of steel, were of iron, it probably could not be driven through a $\frac{3}{4}$ -inch plate. Experiments have been made which invariably have resulted in the punch or the machinery being broken if the former has been less in diameter than the thickness of the plate. Here, then, we have a law which applies to projectiles in the shape of cannon shot, which are punches propelled with the explosive force of gunpowder. Pursuing the analogy of the punching process, if a plate were placed under a punching machine without a die or a solid support at the back of the plate struck, the punch would not penetrate the plate. It might, if there were no support behind the plate, or if the plate were placed on a plank of wood, bulge and perhaps crack the plate, but it would not pass through it. I think, then, the nature and extent of the penetrating force of iron projectiles against iron plates is clearly defined by the punching process, and the truth of this definition is confirmed by numerous results of target experiments, showing that where the backing was hard, and rigid, and did not give way, the amount of penetration of the shot into the iron was extremely limited.

Fig. 1.

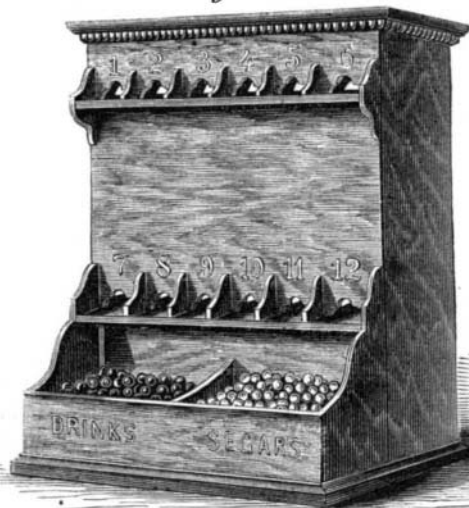
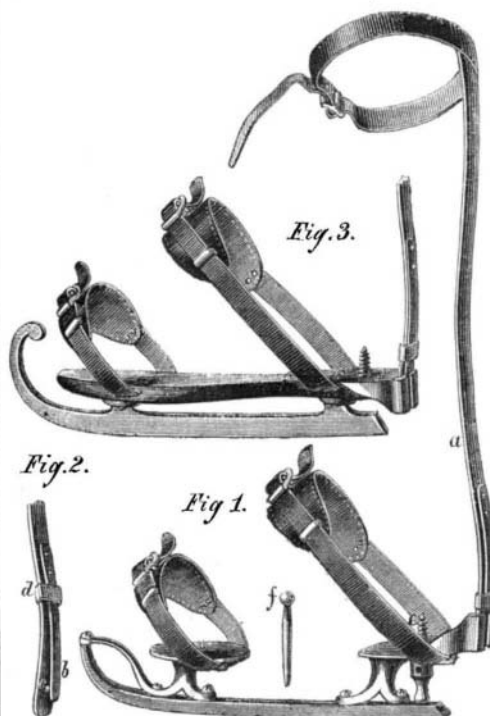


Fig. 2.

**McNAMEE'S BAR REGISTER.**

some way more nearly perfect, have come forth in astonishing variety, and we begin to think that even this little department of invention will never be exhausted.

The skate here illustrated was invented by Thomas Jebb and Abner Cutler, of Buffalo, N. Y., who have assigned the invention to George D. Teller, of the same place. Its principal feature is the ankle support. This is a thin strip of tempered steel, *a*, Fig. 1, which is inserted into a slot in the rear end of the



heel plate, and is secured at the upper end to the leg of the skater by a strap around the calf. The mode of securing this ankle support is shown in Fig. 2. A thin steel spring, *b*, is fastened to the back side of the support, and carries a pin, *c*, on its lower end, which projects forward, passing through a hole in the heel plate. It is held in place by slipping the loose band, *d*, down near the heel plate.

As the projection provided on the heel plate to receive the lower end of the ankle support would prevent the screw, *e*, from being turned into the boot heel, by turning the whole skate in the usual way,