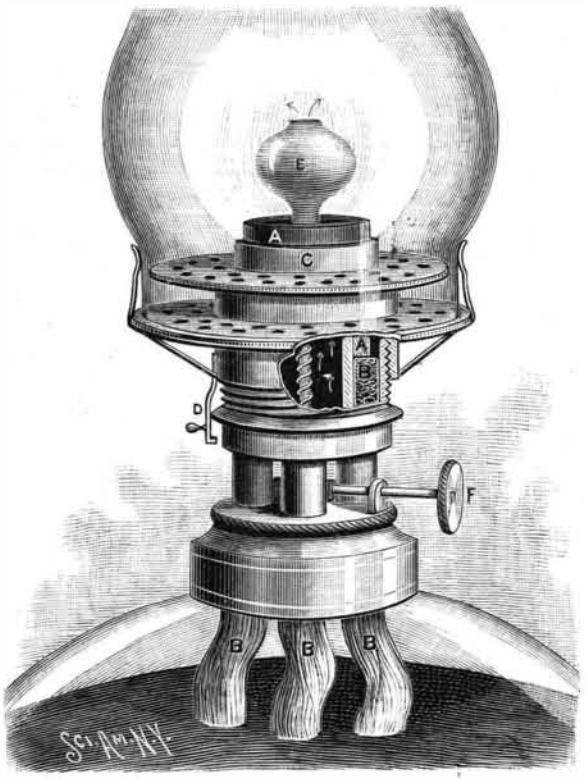
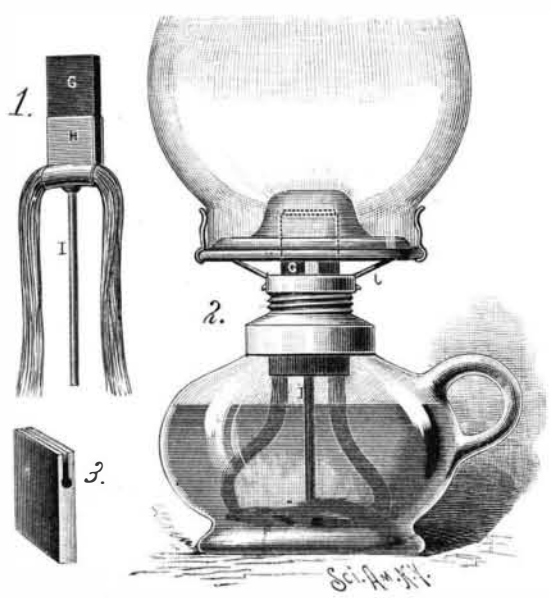
IMPROVED LAMP AND INCOMBUSTIBLE BURNER.

The accompanying illustrations show two forms of an improved lamp, in which the chief distinguishing feature is a compound wick, composed of an incombustible tip piece of mineral or refractory material and a cotton or other like fibrous or wick section, for feeding the burning fluid or oil to the tip piece. In the Argand or round burner form of lamp, the upper portion of the burner is connected with the cap which fits over the neck on top of the reservoir by three wick tubes, which admit air between them to the body of the burner, which is composed mainly of an inner tube, an outer cylinder, through the bottom of which the wick tubes communicate, and an upper adjustable cylinder screwed on to the latter. The latter cylinder carries the shade, and air is admitted to the exterior of the flame through the perforated diaphragms, air being supplied to the inside of the flame through the inner tube, on top of which is a perforated diaphragm (not shown). Between the inner tube and outer walls of the burner is carried the compound wick, having a tubular tip piece, A, of bath brick, unglazed pottery, or other like porous material, which projects slightly above the burner when the lamp is burning, and is held in place by the inner tube and the upper contracted portion of the outer cylinder, between the walls of which the tubular tip piece is loosely fitted. The lower end of the tip piece rests upon the upper end of a wick, B, consisting of a loose filling of fibrous material arranged between the inner tube and the lower portion of the outer cylinder. This loose filling may be made by unraveling the upper ends of the wicks, and serves to supply the oil or fluid taken up through the wicks by capillary attraction to the porous tip piece, which by its absorption keeps the flame supplied with the necessary burning gases or vapors. The amount of flame is regulated by screwing or unscrewing the adjustable outer cylinder, C, thus more or less exposing the tip piece; or the flame may be extinguished by sufficiently screwing up this cylinder, a spring catch, D, preventing its being accidentally detached when adjusted to its extreme upward position. The bulb-shaped flame spreader, F, is hollow, and forms a passage for the supply of air to the interior of the flame. The bulb is readily adjusted up or down by the finger screw, F.



THE YANEZ ARGAND LAMP, INCOMBUSTIBLE WICK.



THE YANEZ HAND LAMP, INCOMBUSTIBLE WICK.

The hand lamp shown, which may also be constructed in other forms, has a tip piece, G, of similar material to that heretofore noticed, but is made in flat or rectangular form, as shown in Fig. 1. It is held in a clamp or holder, H, forming a pincers-like clip, with a transverse tubular construction at its base, through which a cotton or other like fibrous wick is passed, and which descends into the lamp reservoir to supply the oil or burning fluid by capillary attraction to the tip piece, G. The wick clamp or holder is supported by a rod, I, which rests upon the interior bottom of the lamp. The wick clamp is thus held at a fixed or given altitude, fitting loosely at the top within the wick tube. To regulate the flame, the burner, J, is turned to the right or left, to screw or unscrew its lower neck down or up within the fixed top of the reservoir, thus exposing more or less of the tip piece above the wick tube. Fig. 3 shows a modification of the tip piece, G, with a lateral slot and tubular opening through its upper part, which facilitates the gasification of the oil.

These improvements form the subject of two patents recently issued to Mr. Adolfo Sáenz Yañez, Jefe de Construciones Civiles, Inspeccion Gen'l de Obras Publicas, Habana, Cuba (Chief of Civil Constructions in the General Inspection of Public Works, Havana).

Those Grasping Railway Monopolies.

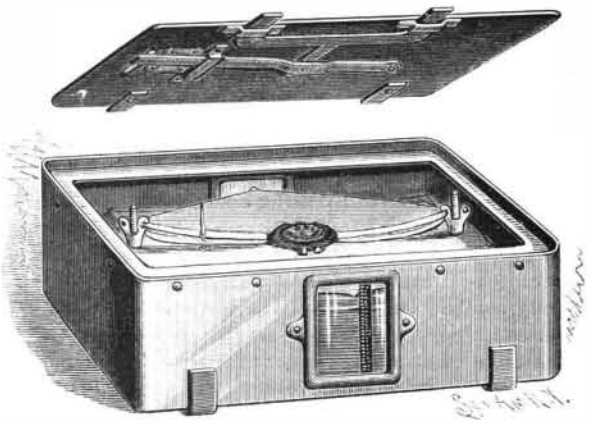
A magazine published in Philadelphia in 1818 gave the following as an item of news: "In the course of the twelve months of 1817, 12,000 wagons passed the Alleghany mountains from Philadelphia and Baltimore, each with from four to six horses, carrying from thirty-five to forty hundredweight. The cost of carriage was about $7 per hundredweight, in some cases as high as $10, to Philadelphia. The aggregate sum paid for the conveyance of goods exceeded $1,500,000." To move a ton of freight between Pittsburg and Philadelphia, therefore, cost not less than $140, and took probably two weeks' time. In 1886, the average amount received by the Pennsylvania railroad for the carriage of freight was three-quarters of one cent per ton per mile. The distance from Philadelphia to Pittsburg is 385 miles, so that the ton which cost $140 in 1817 was carried in 1886 for $2.87. At the former time the workingman in Philadelphia had to pay $14 for moving a barrel of flour from Pittsburg, against twenty-eight cents now. The Pittsburg consumer paid $7 freight upon every 100 pounds of dry goods brought from Philadelphia, which 100 pounds is now hauled in two days at a cost of fourteen cents.

A DEVICE TO KEEP VISE JAWS PARALLEL.

A simple device for securing perfect accuracy in the movement of the movable jaw of a vise, and which avoids the trouble of changing the adjustment by hand, is shown in the accompanying illustration, and has been patented by Mr. Edward D. Sloan, of No. 2102 Lafayette Street, Denver, Col. A fixed jaw is secured to the bench, and is curved at the upper end in the usual way, a similar movable jaw being swiveled opposite thereto by a screw, on the outer end of which is the handle for operating the vise. To the upper and lower cross timbers of the bench, near the rear, are pivoted levers which cross each other, a pin on one lever sliding in a slot in the other lever, the outer ends of these levers being connected with bars which extend through mortises in the fixed jaw, one bar being pivoted in the lower part and the other bar in the upper part of the movable jaw. By this means, when the screw is operated to carry the movable jaw in or out, a perfect parallelism of the jaws is maintained. This invention is especially adapted for vises used by wood workers, but may also be applied with iron vises.

A SAFETY PACKAGE FOR MONEY.

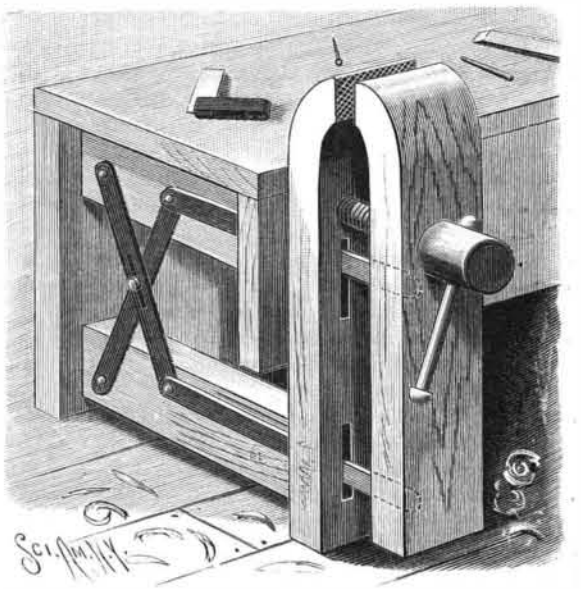
A box in which money in the form of bills can be placed and clamped so that none can be removed without breaking the seals, and so that the contents may be seen at any time, is shown in the accompanying illustration, and has been patented by Mr. Clarence R. Arnold, of Wellsville, Ohio. The box is made of sheet metal plates, their upper edges riveted to an inner strengthening frame, while to the bottom is attached a metallic frame made of a central bar and two cross pieces, the ends of the latter being bent up and riveted to the side walls of the box. From the center of each of these cross pieces posts extend upward within the box, the posts being threaded, and a clamping plate, apertured to fit over them, being held down upon a pile of bills, placed between the posts, by winged nuts. When the bills are so clamped, the bills being also impaled on a vertical needle screwed into the base if that be deemed necessary, a cord or ribbon is passed through the eyes of each of the nuts and tied and sealed on the clamping plate near its center. In each of the side faces of the box are small panes of tough glass through which the bills can be plainly seen, a pointer on the clamping plate registering with a scale on one of the panels. The small figure shows the under side of the cover, which has two fixed projections that fit under one of the side lengths of the frame, and a double-armed locking bolt arranged to be thrown outward and beneath the opposite side length of the frame, the operating lever for this bolt having an upward extension and connection on which is placed one of the seals used in fastening on the address tag. The advantages of a package of this kind, requiring no keys, and to use which no combination has to be remembered, recommend its employment also for valuable papers, such as bonds, wills, etc., which are usually deposited in safes, the package affording only sufficient means of viewing its contents to obviate the danger of substituting other papers for those thus put under seal.



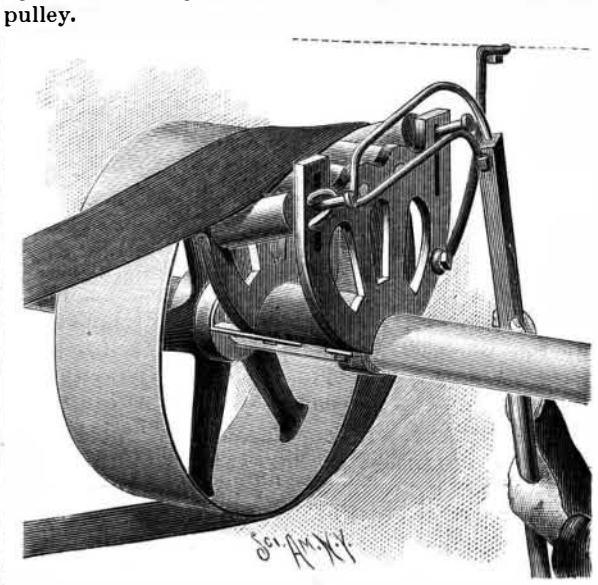
ARNOLD'S BANKER'S SAFETY EXPRESS BOX.

AN IMPROVED BELT SHIFTING DEVICE.

A device to be applied to a shaft near a pulley, to receive the belt when slipped off from the pulley and to facilitate the shifting of the belt back upon the pulley, is represented in the accompanying illustration, and has been patented by Mr. George H. Lowe, of Middletown, N. Y. A frame with a curved bearing and two side pieces, all cast in one piece, is held to the shaft near the pulley by a strap, and prevented from turning on the shaft by an arm secured to a support, or the device may be made fast to the hanger. Between the side pieces of the frame are centrally journaled two rollers, and on either side of them is hinged a rod carrying a tilting roller, the outer end of each rod passing through a slot in the side piece. The outer ends of these rods may be lifted in the slots, so that the tilting rollers they carry will lift the outer edge of the belt to cause it to run off from the rollers upon the pulleys, a handle with a rod bent to act as a fulcrum being employed for this purpose. The peripheries of the several rollers are arranged on a curve of the same radius as that of the pulley, so that a belt slipped from the pulley upon the rollers will be held upon the same plane with the circumference of the pulley.



SLOAN'S VISE EQUALIZER.



LOWE'S BELT SHIFTER.

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