

**NEW INVENTIONS.**

A device for holding a cuspidor, in connection with a chair or other article of furniture, in such a manner that it can be used very conveniently when desired, but is concealed when not in use, has been patented by Mr. Willard F. Wellman, of Belfast, Me.

Mr. Adrian C. Selby, of Maysville, Ky., has patented an improved soap that is adapted to all of the household uses, for cleaning clothing and fabrics, furniture, tinware, and for toilet use, the properties of the soap being such that it will remove grease, ink, and iron stains from fabrics without changing their color and causing the colored figures of the fabric to run upon the lighter ground. This soap is composed of sal soda, unslaked lime, soft water, bar soap, resin, alum, borax, benzene, salt of lemon, and cream of tartar.

Mr. George Wolfe, of Peoria, Ill., has patented improvements in earthenware pans, such as sauce and stew pans, which have their bails attached in a substantial way, and are so constructed that they are not damaged or broken by the action of the excessive heat. The invention consists in the peculiar means for connecting a bail to such earthenware pan, and in constructing the bottom of the pan with a series of spirally radiating ridges which are of greater depth as they approach the outer edge of the pan, so that the outer surfaces of these ridges rest in a plane, while the bottom of the pan is slightly curved, giving a slightly rising course to the air currents as they circulate outwardly from the center.

Mr. Orrando P. Dexter, of New York city, has patented an improved instrument for dividing and subdividing circles and angles. It consists in an instrument combining a series of bars or arms pivoted to a common center, and slide links connecting the bars.

A lunch box, in which tea, coffee, and other liquids can be carried and heated, has been patented by Mr. Henry B. Dummer, of West Troy, N. Y. The box is provided with double bottom and sides forming a space or chamber all around the box for holding liquids, which chamber is closed at the top, with the exception of an orifice through which it may be filled and emptied, the orifice being provided with a suitable stopper for preventing the escape of the liquid.

An improvement in railroad switches has been patented by Mr. Abraham Ayres, of New York city. The object of this invention is to simplify and cheapen the construction of the kind of railroad switches that are operated by the weight of the car horses.

Mr. John T. Crowther, of Carbondale, Ill., has patented an improved dumping car to run upon rails. It may be used in building railways or for carrying ore or coal at mines, or for loading or unloading grain, and for various other purposes.

Mr. Daniel B. Smith, of Topeka, Kan., has patented an improved car coupling formed of a draw-bar provided with an arm on which a lever is pivoted having a block sliding on an upright of the draw-bar suspended from its inner end, the coupling pin being attached to this sliding block, which is connected by a chain with a beveled link guide pivoted to the draw-bar, so that this link guide will be raised to the outer end of the draw-bar when the coupling pin is raised thus guiding the link into the aperture of the draw-bar.

Mr. Hans J. Müller, of New York City, has patented certain new and useful improvements in electroplating circuits for the purpose of preventing the secondary current of the plating bath from reversing the polarity of the machine. The invention consists in a third or separate line which leads from a piece of carbon or other electric conducting material to the inner positive end of the magnet wire or to a post connected with the end of the magnet wire.

Mr. Joseph H. Wright, of New York City, has patented an improved form of pencil holder for use as an attachment of writing desks. The body of the holder is a box or hollow cylinder having a funnel-shaped or flaring tubular extension to receive the pencil, and adapted for attachment to a desk or some appendage thereof. The cylinder contains a spring reel similar to those employed in a certain class of curtain roller attachments, and the pencil is connected with the reel by means of a cord that is quickly

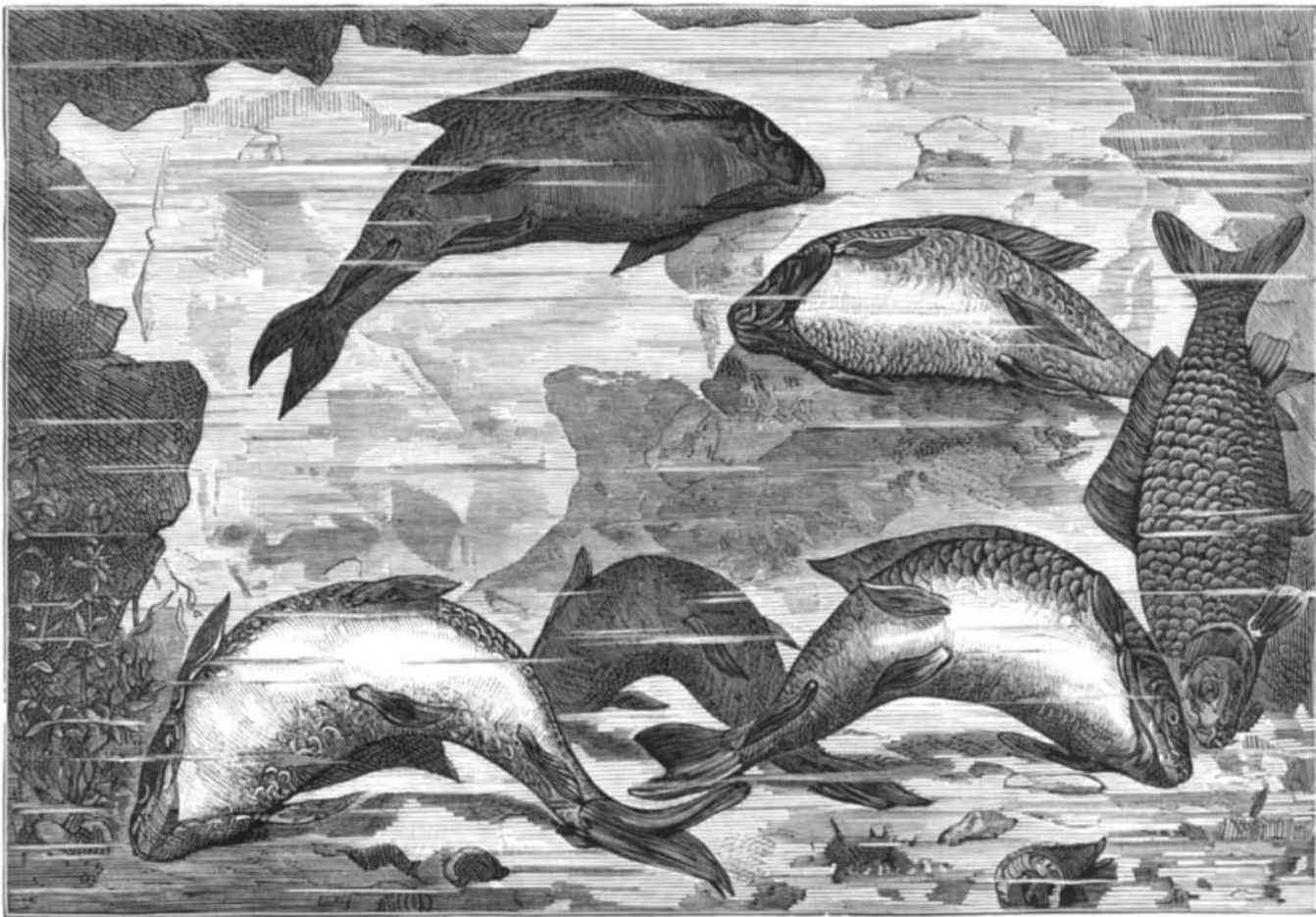
drawn off or wound up, according as the pencil is required for use or not.

Mr. Samuel E. Rusk, of Croton-on-the-Hudson, N. Y., has patented a novel telegraph relay and main line sounder; and it consists, essentially, of a permanent magnet having a movable pole extension surrounded by a helix, the pole extension projecting between the poles of a second permanent magnet and carrying the movable contact of the local circuit. The invention also consists in a local circuit, including a certain amount of resistance additional to that of the sounder magnets, which is either short-circuited or put wholly in the local circuit by the action of the relay.

Mr. William Russell, of Kilmarnock, County of Ayr, North Britain, has patented an improved apparatus for use in the manufacture of Scotch bonnets, etc. The invention consists of an improved "jack" to fashion or shape knitted fabrics while being woven or knitted by a straight bar hosiery frame into circular shaped fabrics.

An improved ice cutter has been patented by Mr. Peter D. Falardo, of Cohoes, N. Y. This invention relates to machines that are operated by steam engines for cutting ice on ponds, rivers, and lakes. It is designed for cutting ice blocks lengthwise and crosswise.

An improved door and window securer has been patented by Mr. William Seeman, of Honesdale, Pa. The invention consists in constructing a window sash fastening with two plates attached to each other at their lower ends and connected at their upper ends by a swiveled screw, and the pawl hinged to the upper end of one of the plates, whereby



**SLEEPING FISHES.**

the fastener can be adjusted to the size of the space between the sash and casing, and can be made to secure both sashes.

Mr. Thornton F. Williams, of Lower Cascades, Oregon, has patented an improved revolving dip net for catching fish as they are ascending streams. It is simple in construction, automatic, and adjustable to the height of the water.

Mr. Henry D. Hurley, of Weedsport, N. Y., has patented a convenient and efficient device by which eggs may be tested by means of a stream of light, the eggs being contained in a dark chamber.

Mr. James Baldwin, of Huntington, Ind., has patented an improved ink well which cannot be upset, preserves the ink in good condition, and is simple and convenient.

Mr. John Turner, of Springfield, Ill., has patented an improvement in sulky plows, the object of which is to lock the forward end of the plow beam of a sulky plow automatically when the plow is raised from the ground.

**Improved Tobacco Pipe.**

Mr. Jacob H. Van Riper, of 184 Market St., Newark, N. J., has lately patented an improvement in tobacco pipes, the object of which is to prevent the entrance of nicotine and essential oils of the tobacco into the mouth of the smoker, and to retain them in the pipe stem. The improvement consists of a sectional pipe stem having two central sections with large bores or chambers for the condensation of the nicotine and essential oils. These are coupled together with a coupling nut of comparative small bore, provided with reduced terminal central bosses, that serve to retain the condensed oils in the pipe stem, the nut being inserted into the opposite ends of the central sections. In effect this improved pipe stem is a doubly-chambered reversible stem.

**SLEEPING FISH.**

Since the invention of large aquariums the inhabitants of the marine world have been carefully studied in their native element, and many interesting observations and important discoveries have been made. The Berlin aquarium is especially well arranged for the scientific study of fish life, and lately it has settled a much disputed point.

"Do fishes sleep?" has often been asked, but never authoritatively answered. Older investigators denied the possibility, but lately this opinion has been changed in consequence of the following facts.

Generally the life of a fish is more simple and monotonous than that of animals or birds. The fish devotes its time entirely to seeking nourishment. It does not regularly hunt its prey, though it is known that it is much more active at some times than at other times when it seems to rest quietly. This active state is more frequent, as even when the fish is apparently playing at rest it is still ready to seize on any passing prey; but when tired or satiated it remains quiet in a way that resembles the sleep of the beasts of prey.

Generally fish hunt night as well as day; indeed some only commence their activity with the twilight, and rest during the day, in certain places, either lazily floating in the water or hidden in the mud, their belly only visible. These facts have been lately proved by Dr. Hermes and others.

In one division of the Berlin aquarium were about a dozen carp (*Caprinus carpio*) that commence in October to act curiously. From time to time the majority of the fish, occa-

sionally all of them, would assume a crooked position (see engraving), and remain so for hours, or until they were disturbed. When worms or other food were thrown into the water they would spring up to seize it and immediately resume their old position. These fish were often very particular in choosing their resting places. Some would examine carefully with their heads the surrounding rocks and stones, then slowly turn themselves over on the right or left side, and either remain quiet or swim away to seek some other place. Other fish would lie on the gravel, resting on their heads and tails, in the form of a bow. One carp always stood on its head with its body erect in the water—a veritable wonder of balancing that showed the capabili-

ties of its fins. It was easy to arouse most of the fish by means of food or of a noise, but some of them slept so soundly that it was only possible to disturb them by hitting or shaking them repeatedly. The lidless, always-open eye of the fish makes it difficult to distinguish its sleep from its periods of ordinary rest, but this last experiment was conclusive.

The suggestion that this behavior is the result of illness is answered by stating that this habit of sleep was observed nearly every day for more than six months, and during all that time the fish ate regularly, and were free from any appearance of sickness.

It is possible that, as carp bury themselves close together in the mud during the winter, when they are free in the ponds, this behavior in the aquarium was simply their usual winter sleep, modified by disturbances and their altered mode of life.

**The Geographical Congress.**

The first session of the Geographical Congress in Vienna—the third annual meeting—took place September 15. Many explorers and other celebrities were present. The congress was opened by the retiring president, M. De Lesseps. The acting president was Prince Teano, president of the Italian Geographical Society. One of the American delegates, Professor Barnard, of Columbia College, proposed a general meridian for all the world with a system of standard time. The plan is to divide the globe into twenty-four meridians of fifteen degrees each, each comparing with the twenty-four hours of the day, the prime or first meridian to pass through Behring Strait, the hours of the day to be counted from one to twenty-four, the A.M. and P.M. of the present system being abolished.