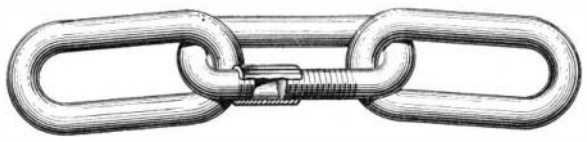
ODDITIES IN INVENTIONS.

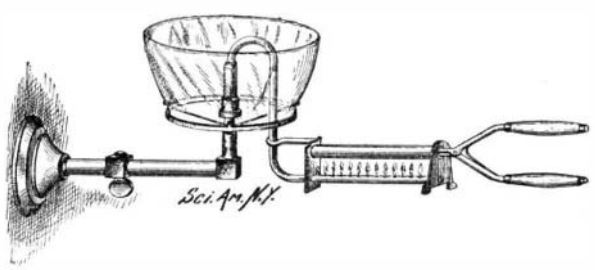
DETACHABLE CHAIN-LINK.—Instead of sending a broken chain to a blacksmith to be repaired, and thereby losing much time, William H. Baker believes it would be a good idea to use a detachable link, which can be used to splice the broken chain. The loop of



A DETACHABLE LINK.

steel comprising the link is not closed at the ends. A fixed opening is left for the insertion of another link. The ends of the loop are threaded. Upon one of the ends a sleeve is mounted which can be screwed on the other end so as to close the opening in the link.

A CURLING-IRON HEATER.—An inventor who lives in Kansas City will probably, earn the gratitude of every woman who uses a curling-iron. It is a common practice to hold the iron in a gas flame until it becomes hot. That takes time; and the arm grows tired.



A GAS-HEATER FOR CURLING-IRONS.

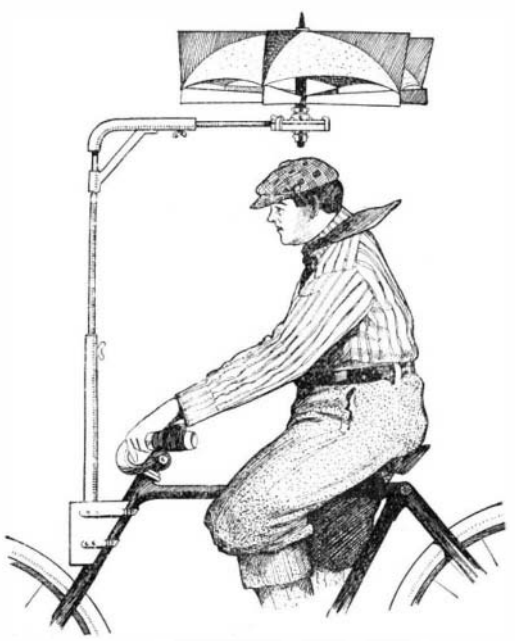
This inventor has, therefore, devised a gas-heater which can be slipped over a jet. The gas-heater comprises a gooseneck pipe with a long, horizontal end, provided with burner apertures. The curling iron is thrust in a tube over the burners and thus heated.

ELECTRIC SOLDERING IRON.—Electrically-heated irons have been made in a number of ways, but that devised by Henry Geisenhoener and Tycho Van Aller and made by the General Electric Company, of Schenectady, N. Y., seems to embody noteworthy improvements. The point of the iron is provided with a shank, which is surrounded with a coil of small

AN ELECTRIC SOLDERING IRON.

wire, the turns being insulated from each other and from the shank by an interposed coil of insulating material wound back and forth between two concentric layers of wire. This structure forms an open network of wire and insulation through which air can circulate freely, so that when the coil is heated by its resistance to a current of electricity, the heat readily reaches the shank of the soldering iron. An inclosing insulated jacket prevents undue radiation of the heat.

BICYCLE FAN AND SHADE.—A combined fan and canopy is a device which has recently been invented especially for the use of bicycle riders. The canopy is made in the form of an ordinary umbrella, and is provided with a number of blades. As the bicyclist spins along, the wind will strike the blades and rotate the umbrella-like canopy. Thus the rider is both cooled and protected from the sun. The canopy is carried by a frame which can be attached to the bicycle in the manner shown. The frame can be readily taken apart.

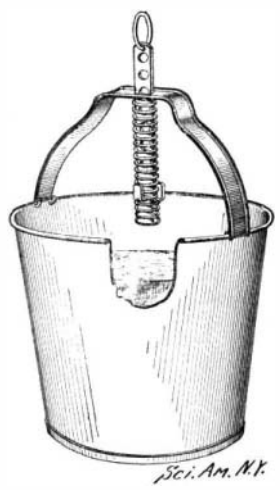


A BICYCLE UMBRELLA-FAN.

TACKLE-BLOCK HOIST.—An automatic grip for tackle-block hoists is the subject of an invention which presents interesting mechanical features. The frame of the hoist is composed of two rectangular members, and another member which comprises only the vertical arm. A pulley pivot connects these members. As many members can be employed as desired, this being determined by the number of pulleys employed in the hoist. A cam is pivoted between the horizontal arms, and the several members are separated by the pulleys and secured together to the top in any suitable way. Normally the cam hangs away from contact with the rope. The angular frame is maintained in the required position by the weight of the tackle-block suspended from the rope. One end of this rope is free to engage the cam and is held by the operator, while the other end is secured to a hook or some portion of the tackle-block. When it is desired to release the weight, the rope is swung in and held vertically to release the cam, thereby allowing the rope to run free, the cam swinging out from the pulley.

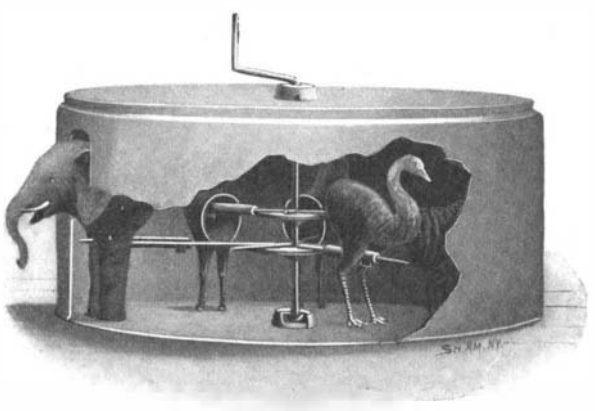
TACKLE-BLOCK HOIST.

A LIQUID SCALE.—If a tradesman wants to know the weight of a liquid which he is selling, he has but to provide himself with a bucket for which William Buschmann, a New Jersey inventor, has obtained a United States patent. The bail of the bucket is provided with a central opening through which an index rod penetrates. A spring engages the lower end of the rod and a portion of the receptacle, while a suspending device is connected with the index rod above the bail, the index rod having openings which the inventor calls "tactile indices." By means of these openings the quantity by weight of the liquid in the bucket can be determined according as the one or the other of the openings registers with the bail where the index rod penetrates it. The openings are provided especially to enable measurement by feeling the rod with the fingers, a feature of particular importance if the bucket is filled in a dark cellar.



A WEIGHING BUCKET.

MECHANICAL TOY.—A cheap and simple toy which is designed to afford instruction and amusement to children has recently been invented by Mr. Honrath, of 5 West End Avenue, New York city. The device comprises a number of toy animals contained within a casing having a doorway through which the animals may be arbitrarily brought to view. A vertical shaft is mounted centrally in the casing. The lower end of this shaft has a foot-piece which is housed within a cavity in the bottom plate. The upper portion of the shaft passes through a boss in the top plate and is bent to form a crank. The boss referred to serves to prevent the crank from rubbing on the top plate of the casing. On the shaft are one or more hubs from which a series of arms project radially. Each arm is equipped with a sleeve slidably mounted thereon, and on these sleeves the toy animals or objects are fastened. These objects may be made of sheet metal, papier mache or any other suitable material, and they are so located as to project through the doorway in the casing when desired. The objects are prevented from turning on the radial arms by stop pieces secured to these arms and projecting through slots in the sleeves. The stop pieces serve to limit radial movement of the sleeves, so that the objects cannot be entirely withdrawn. In using the toy the crank is turned to impart rotary motion to these objects which, by reason of their rapid movement, will not be visible through the doorway. When the parts come to rest one of the objects will be opposite the doorway, and by tilting the casing this will slide down into view. This action can be repeated at will and the probabilities are that no animal will present itself at the gateway twice in succession, so that the varying forms which the occupant of this mysterious box seemingly assumes will prove of great interest to the children.



MECHANICAL TOY.

Brief Notes Concerning Patents.

General Crozier was formally installed as the head of the Bureau of Ordnance on June 28, after a long struggle made against his appointment to the place. The opposition was based on the fact that he is the inventor of a large number of mechanisms designed for army use, and as the head of this branch of the service he would be called upon to pass on innumerable other devices, and the claim was made that under the circumstances he would not be able to give an unbiased judgment. This objection was largely removed by displacing him from the Board of Ordnance and Fortifications.

A new car coupling is being tried on the line from Berlin to Oranienburg, which has for its object to lessen the space between the cars. With this system, the distance has been reduced to 20 centimeters (7.8 inches). The buffers are the same as in the old cars, but the springs, which are a little shorter than before, are built into the cars, thus making the shorter couplings possible. The question has been raised if the shortening of the couplings will not bring about an increase of danger from collisions. Careful trials, however, have proved that this is not the case, as the effect of the buffers remains the same as in the old system.

A Swedish engineer, Mr. T. F. Malmros, has invented a lubricator for oiling piston-rods, cylinders, and guides on locomotives. By introducing the intermixed oil and steam, coming from the central steam-lubricating apparatus, through glandular bushings expressly constructed for this purpose, the invention has effected a good and economical lubrication of packings and rods, as well as of the cylinders and guides. The system has for five years been tested on the engines of the fastest train in Sweden, with such good results that all locomotives of the State railroads will be provided with it. This seems to be a revival of the old lantern brass used in the Cornish engine.

Herman O. Moritz, of No. 473 Fifth Avenue, Brooklyn, the inventor of a device called the aerial toboggan, was killed at Coney Island on June 12 while getting his toboggan slide in shape for operation. He had secured a patent on the thing with some difficulty and commenced the construction of the first one about three years ago, but until recently he was refused permission to operate it because of the danger. During the past spring, however, he modified the plans to such an extent that the building commissioners gave him the desired consent and preparations were being made to send the first car over the slide when it slipped from the chains which were holding it and started off "wild." The inventor was standing at the foot of the incline, and the car struck him with such force as to hurl him a great distance and injured him so seriously that he soon died.

Commissioner of Patents Allen said in a recent interview that the number of patents granted during the present year would be greater than that of any previous year, by far. This great increase in the number of patents granted always takes place at such times as the present, when prosperity prevails, and the receipts of this department of the government are said accurately to reflect the condition of the money market. The previous experience of the present Commissioner as a patent lawyer made him thoroughly familiar with the former shortcomings of the department, so that during his administration he has been enabled to remedy a great many of them. The system of the bureau has been bettered, to such an extent that litigated cases, if appealed immediately from one examiner to another, may be tried and passed up by the three tribunals of the department within sixty days from the time of the institution of the original contest. "This," says the Commissioner, "is faster than the attorneys generally wish." Out of all the applications last year, one in fifteen hundred was carried to the District Court of Appraisers.