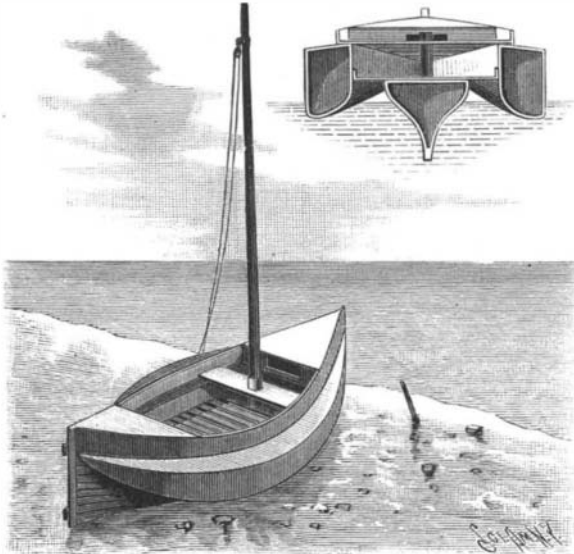


AN IMPROVED LIFE BOAT.

A life boat designed to be unsinkable and not liable to be capsized, and in which compartments are provided from which the passengers cannot be washed out, is shown in the accompanying illustration, and has been patented by Mr. John A. Aniello, of Biloxi, Miss. It is formed of two air and water tight side sections and a similar central section, as shown in the small sectional view. A grated flooring is arranged above the cen-



ANIELLO'S LIFE BOAT.

tral section and between the side sections, and compartments adapted to receive passengers are arranged at either end of the boat under a deck which extends from bulwark to bulwark, grated floorings being arranged beneath these decks. The air and water tight side compartments, being above the central section or compartment, render the boat practically non-capsizable, while the air spaces are designed to be of sufficient size to safely float the boat with its largest practicable load.

HARDING'S IMPROVED COUNTER.

The demand for an improvement in the line of speed

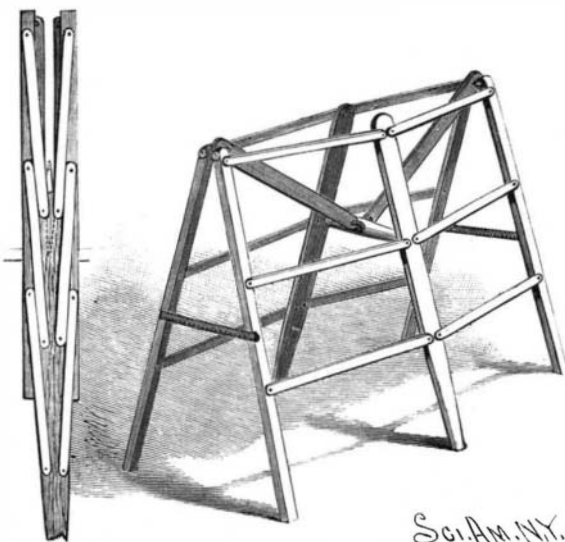


indicators has led Messrs. E. R. Harding & Son, of Leeds, England, the well known makers of large engine indicators, to introduce a small one that is at once compact, accurate, and convenient. It is nickel plated, incased in velvet-lined leather case, and has an attachment for indicating the rotation of a shaft or spindle, as shown in the accompanying cut. It is a useful addition to a

mill manager's or machinist's outfit. Messrs. Harding & Son make all kinds of self-registering indicators, from four to seven figures, for steam engines, turbines, shafts, and machinery in general. Messrs. Stoddard, Lovering & Co., 152 Congress St., Boston, Mass., are their sole agents in this country.

AN IMPROVED FOLDING CLOTHES FRAME.

A simple form of folding clothes frame has been patented by Mr. Samuel F. Burgess, of West Morris, Litchfield County, Conn., and is shown in the accompanying illustration, in a side view, folded, and as extended for use. It consists principally of two central braces connected to the upper ends of the end uprights



BURGESS' CLOTHES FRAME.

of the frame, and connected also at their adjacent ends to a central brace for spreading apart and bracing the center uprights. The end uprights are connected together at their upper ends by U-shaped wires, on which they are hinged, and are also connected together lower down by flexible tapes or strips, to prevent their spreading too far.

Steam Heating of Cars.

The heating of cars by steam has at last met with a genuine experience with the worst conditions that it can expect to ever be called to meet, viz., the bitter cold and blocking snow of a veritable northwestern blizzard. From the 12th to the 17th of last month a steam-heated train on the Chicago and Northwestern Railway struggled with snow and cold on a special run from Chicago to Des Moines, Iowa, 363 miles, and return. Seventeen hours of this time were spent in a snow drift. During the trip the temperature of the outside air ranged down to 29 degrees below. The cars were kept comfortable through all this. When the engine was detached to seek release from the snow drift, the cars were kept warm with the Baker heaters.

Steam heating is shown in this experiment to be here to stay, despite the cavil of unbelievers, for it has successfully carried a train through conditions that reach the maximum of severity in our latitudes. But it has also been shown that we are as yet only upon the threshold of the science of steam heating, for these severe conditions have brought out defects that must be removed before ordinary train hands can be trusted to carry it into a blizzard. We confidently expect that these defects will be remedied.—*Railway Review.*

AN IMPROVED WINDOW SILL.

A window sill designed to be strong and durable, and which when set in place will present a neat finish, excluding rain and snow, and protecting the wall of the building, is illustrated herewith, and has been patented by Mr. Hynek Breuer, of New Prague, Minn. It is preferably made of iron or steel, of one piece of metal cast in the ordinary way, having a ledge or plate which rests on the wall of the building and an ornamental or moulded front pendent portion. At its inner edge the sill plate has an upwardly projecting lip or flange designed to enter a groove made in the under side of the sill of a window frame built into the wall. The small views show cross sections of sills of different moulded forms.

Chinese Trade Unions.

The Minister of the United States at Peking, China, transmits to the State Department at Washington an interesting article on the Chinese guilds, in which it is shown that every branch of business and every trade is arbitrarily controlled by these despotic organizations. The trade unions boycott oppressively, regulate hours, apprentices, cause strikes, and adjust prices in a very complete manner. The guilds all have guild halls, with very expensive decorations, they being arranged for use of the members somewhat as are our club houses. The methods of the trade guilds are somewhat novel. One member of the gold leaf craft at Soochow recently violated the rule, and took more than one apprentice at one time. His union punished him by biting him to death. The union was composed of 123 men, and each member set his teeth in the flesh of the offending brother. Other penalties for slight infractions of rules are: the furnishing of a theatrical performance, a feast for over ten, and quantities of liquors. While their rule is, undoubtedly, very despotic, the minister considers them not altogether harmful, as they administer justice and compel their members to act honestly.

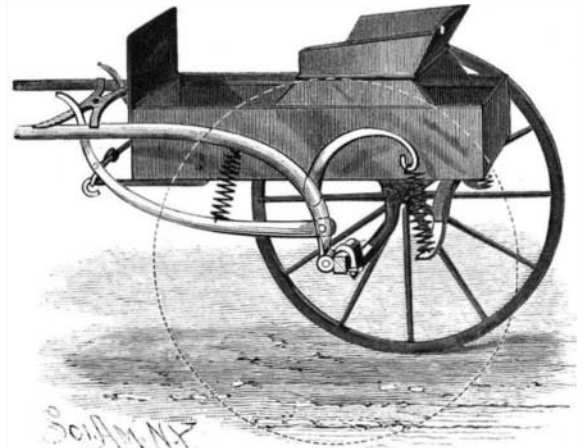
AN IMPROVED PUMP.

An invention providing means for securing a pump in place in a well, and for preventing oil or water from running down in the well and washing its sides, also providing the pump rod with a valve for allowing the water to be drawn out when removing the pump from the well, is illustrated herewith, and has been patented by Mr. Stephen La Point, of Yankton, Dakota Ter. To the body portion of the pump are pivoted arms or spurs, which project through openings in a loosely fitting conical sleeve, the upper end of the sleeve being screwed on the lower end of a larger valve casing. The plunger is operated through a stuffing box in the lower end of the casing, being connected with an upwardly extending pipe by means of a coupling, in which a valve is arranged, while above this coupling, and within the outer casing, is another valve casing, with which the upwardly extending pipe is also connected. In inserting the pump in a well the casing and conical sleeve are so held up that the arms or spurs will not project beyond the sleeve, but after the pump has been lowered to place the spurs will be thrown outward, as shown in dotted lines in the sectional view, and into engagement with the sides of the well, thereby holding the pump firmly in position. To remove the pump, as the casing and sleeve are drawn up by means of the pipe, the spurs are disengaged from the sides of the well, and at the

same time the valve in the upper inner casing is opened, allowing the oil in the pipe to flow therefrom into the outer casing, saving the oil and preventing it from washing the sides of the well. In the perspective view the pump is shown arranged to work by a weighted pendulum, the walking beam having also a weight to balance the pipe. Where a well is too small to allow of this arrangement, the anchor can be loaded to hold the pump down.

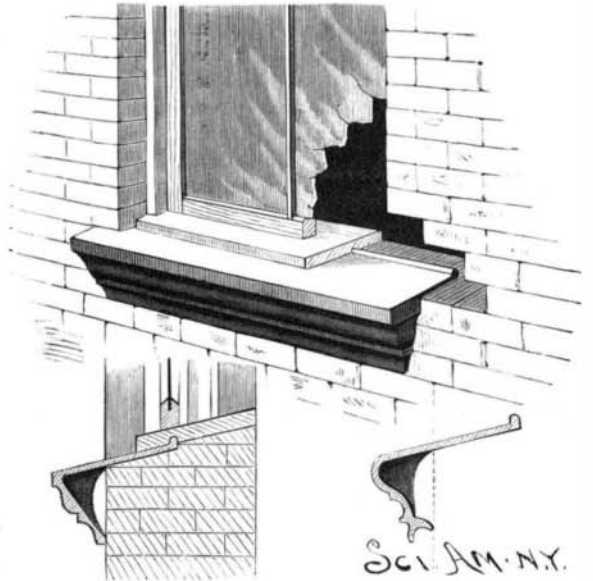
AN IMPROVED TWO WHEELED VEHICLE.

A two wheeled vehicle in which it is intended that



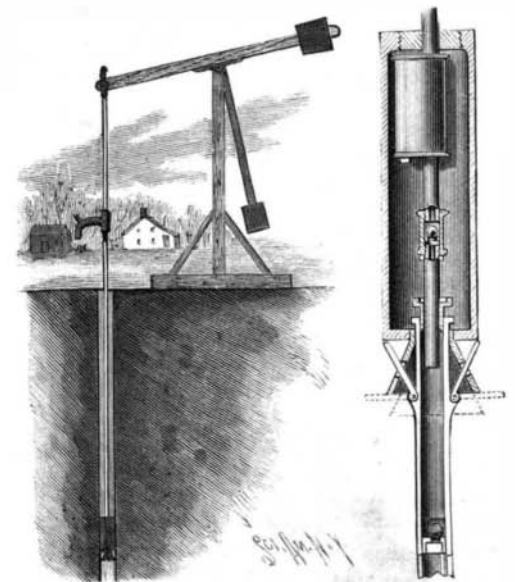
OLMSTED'S TWO WHEELED VEHICLE.

the seat shall be free from horse motion, and wherein, should one wheel strike an obstruction, the tendency to throw the rider sidewise will to a great extent be obviated, is illustrated herewith, and has been patented by Mr. Henry K. Olmsted, of Victoria, Ill. The thills are rigidly clipped to the axle, the shafts being connected in front of the wagon body by a bar with bifurcated ends. In the forward face of each thill, above the axle, is pivoted a curved arm, the other end of which is carried upward through the end spaces of the



BREUER'S WINDOW SILL.

bifurcated bar, the thills and arms being connected by a coiled spring, of such tension as normally to keep the upper ends of the arms in contact with the rear members of the bifurcated bar. At the rear end of each of the thills is also secured a curved steel bar or bracket, to an eye on the outer end of which is attached one end of a coil spring, the other end being connected with one end of a transverse semi-elliptic spring on the bottom of the wagon body. This attachment may also be applied to other styles of vehicles.



LA POINT'S PUMP.