RECENTLY PATENTED INVENTIONS.

Mechanical.

CONSTRUCTION OF DRY DOCKS.—Edward S. Walsh, New York City. The invention relates to an improvement in the construction of dry docks and like structures, and the object of the invention is to provide a means whereby the excavating machinery or apparatus may be much more expeditiously and conveniently handled during the progress of the work than heretofore, and consequently lessening the expense and labor in creating such structures. This invention consists in a method of constructing dry docks and similar excavations by the employment of machines necessary for the work and capable of floating, so that the work shall consist, first, in dry excavation, next supplying water to the excavation for the purpose of floating the said machinery, and, finally, erecting a partition at one end of the excavation when completed.

DUMPING WAGON.—Thomas Hill, Jersey City, N. J. The invention relates to dumping wagons and carts, having longitudinally moving or rolling bodies upon the truck portions of the frame. The device is simple and durable in construction and cheap to manufacture. The invention consists principally of a wagon body provided at its under side with eyes forming the fulcrum for the body to tilt the latter on the lower end of the rail or running surface of the side bars of the frame.

WHEEL.—Samuel Carnes, Vienna, Ga. This invention consists of the combination with the hub having annular flanges provided with peripheral spoke sockets, and the tire and felly of the clips having pins entering recesses in the felly and having pins and concentric recesses on their opposite sides, and the spokes entering the hub recesses and there provided with nuts for adjusting them outwardly into engagement with the clip pins and recesses.

ICE VELOCIPEDE.—James Edward Leahan, Boston, Mass. This invention relates to certain improvements in that class of devices commonly termed "ice velocipedes," constructed on the principle of a bicycle and adapted to be propelled over ice or snow, and the object of this improvement is to provide a device of this character of a simple and inexpensive construction which shall be light and strong and provided with means whereby, when the device is used for coasting, the least possible resistance will be offered to its passage over the ice. The invention consists in an ice velocipede having a frame provided with skates or runners, and also provided with a driving wheel adapted to be operated by the feet of the rider, one of the skates or runners being vertically movable, so as to be adapted to be raised or lowered to take the weight of the machine and rider off the driving wheel or to raise said wheel entirely out of operative position.

WINDMILL. — Olef E. Peterson and George L. Curtis, Logan, Utah. This invention is an improvement in the class of windmills having a variable crank, that is to say, a crank which is slidable longitudinally, such movement or adjustment being regulated by the force of the wind on the wheel, so that the work done is automatically graduated to correspond with the power applied. In brief, the invention consists in a windmill of the class specified and in the combination with the casing or rotatable support of the slidable journal box, the wind wheel and its shaft, which is rotatable in and movable longitudinally with such journal box, a crank keyed on the inner end of said shaft, and the pump rod lever which is slidable in its fulcrum and has a universal joint connection with said crank, and means for holding the wheel against the pressure of the wind.

DUMPING WAGON.—Charles E. Plummer, Winchendon, Mass. The invention relates to dumping wagons, and the object of the invention is to so construct a dumping wagon that while the body of the wagon is fulcrumed over the rear axle, a portion of the load will be carried by the forward axle in a four-wheeled vehicle. Another object of the invention is to so hang and mount the body of the vehicle on the running gear thereof that, no matter how heavy the load may be in the body, the body may be carried from carrying to dumping position by the action of the team, thereby dispensing with the services of an attendant or attendants in the dumping operation. Another object of the invention is to so mount the body of the wagon on the running gear that, when the body is dumped, the entire vehicle may be drawn forward and the body carried away from the load. In brief, the improvement consists of the combination with an axle, a reach attached to the axle, and a body mounted to slide over the said axle, of a push bar provided with portions for engaging the body and having sliding and guided movement in the reach, and locking devices adapted to secure the body to the push bar and reach.

AXLE BOX.—William Walker, Mayfield, Pa. The object of the invention is to so construct the box as to prevent water and dirt from gaining access to the oil holder, thereby preventing a waste of oil, since in many mines, where coal is loaded out of water, the water and dirt run into the boxes usually employed and force the oil out from the holder. Another object of the invention is to construct the axle box in such manner that no packing will be required, and so that it will not be necessary to remove any bolts or nuts when changing a bent axle or a broken or worn out wheel, since the box is made in slidably connected sections. In brief, the invention consists of a body section, provided with an axle seat, an oil holder partially embracing the axle and having slidable connection with the said body, lugs projecting from the slide of the oil holder, and stops carried by the body and adapted to be engaged by the said lugs and limit the movement of the oil holder in one direction, whereby the said oil holder will not be separated from the body, and yet may be filled or cleaned.

Electrical.

MAGNETIC MEDICAL APPARATUS.—Augustus B. Slater and Nils A. Renstrom, Omaha, Neb. The invention relates to improvements in magnetic medical apparatus, and the object of the invention is to produce an apparatus which may be made in the form of a couch, sofa, chair, or other article on which a person may sit or lie, and which has a series of electro-magnets arranged in such a manner as to create a magnetic field in which a patient may lie and thus receive the benefit of the electromagnetism without danger of objectionable shock, even though the patient have very delicate sensibilities. A further object of the invention is to produce an apparatus of this kind which is constructed in such a way that the lines of force may be varied at will, so that the electromagnetic influence may be made to exert itself on any part of the patient's body, causing the currents to travel in different directions when desired. It consists of a support for a body and electro-magnets distributed beneath the surface of the support, so as to create a magnetic field.

Agricultural.

BAND CUTTER AND FEEDER.—William McCaleb, Bluff, Ills. This invention is an improvement in that class of band cutters and feeders in which the portion of the apparatus constituting the sheaf or bundle carrier is adapted to be turned up or detached, so that it may be supported on the body or main portion of the frame while the machine is stored or being transported. The feature of novelty is the construction and combination of parts whereby the bundle carrier is adapted to be detached and swung over and held in place on the main portion of the frame.

LAWN MOWER. — Alexander J. Bluntach, Olivia, Minn. The invention relates to an improvement in lawn mowers, and the object of it is to so construct a lawn mower that a reciprocating knife forming a portion of the cutting mechanism may be operated by the manipulation of the handles of the machine, and furthermore, to provide a balance wheel rotated by a reciprocating movement of the handles, the momentum of which balance wheel will be utilized to make uniform and regular the propelling power for the aforesaid knife. In brief, the invention consists in a lawn mower of the combination with a frame, of a fixed and a reciprocating knife, handles pivoted to the said frame, and capable of movement to and from each other, a crank shaft the crank arms of which are connected to the handles, a balance wheel driven by the crank shaft, gearing driven from the crank shaft, and a connection between the said gearing and the reciprocating knife.

CORN HUSKING ATTACHMENT FOR FEED CUTTERS.—George Arthur Stevens, Ringwood, Ill. The object of the invention is to provide a machine in which the cornstalks may be cut into suitable lengths for feed simultaneously with the effecting of the husking of the ears of corn, and to so construct the husking mechanism that but few of the kernels of corn will be separated from the cob, and whereby, further, should any of the kernels of corn become detached during the process of husking, said kernels will be caught and carried to a conveyor together with the husks of corn, thus preventing the loose or shelled corn from being fed to the stock together with the cut feed, since it is more desirable to feed the kernels of corn in a pulverized condition. In brief, the invention consists in a husking machine, of the combination with a substantially smooth roller and of an adjacent roller having flattened peripheral surfaces, and blades longitudinally located upon the said flattened surfaces, the cutting edges of the blades in the revolution of the rollers being made to face the substantially smooth roller.

Miscellaneous.

FOLDING STAND.—William E. Baxter, of Frankfort, Ky. The invention is an improvement in folding stands, and especially in stands for use in and forming parts of camping kits, which may be employed efficiently for supporting a coffee pot, boiler, or cooking utensils on a fire when in use, and when not in use can be folded compactly for a storage. In brief, the invention consists of a folding stand comprising the open frame top, the legs pivoted near their upper ends to said top and foldable into the plane of said top or down to form legs and stopped in both adjustments by abutment with the top frame.

COOKING APPARATUS. — William E. Baxter, Frankfort, Ky. The invention is in the nature of a cooking apparatus for campers, for house use, and for wood, charcoal, gas, oil, etc., wherein are provided an oven and a stove, the stove being formed in detachable sections, and such sections being adapted when separated to be stored within the oven, the oven being also adapted to contain pans, dishes, etc., sufficient to constitute a limited camp kit, the whole being adapted for compact storage, adapting the improvement for pleasure or army camp purposes. In brief, the invention consists of the combination with the oven having an outer casing provided at its open end with inwardly projecting lugs, and the inner casing or shell fitted removably in the outer casing and having at its free end a flange overlapping the open end of the outer casing and having notches or openings for the lugs of the outer shell, the door hinged to the inner shell and the bolt pivoted to said door and turning into engagement with the lugs whereby to hold the door closed, and the inner shell within the outer one.

CLOTHES PIN. — Irvin Y. Baringer, Perkasie, Pa. The invention relates to that class of clothes pins which are adapted to remain permanently on the clothes line; and it has for its object to construct a pin of the character indicated, so that its members will exert a uniform pressure throughout their length. A further object of the invention is to provide such a pin with means for facilitating putting it on the line and removing it therefrom. A still further object of the invention is to provide the pin with an additional means for clamping the clothes pin. The invention consists of a clothes pin, comprising a twin shank, the members of which are a less distance apart than the diameter of the clothes line, and an open or split loop at one end of the shank, one member of the loop being bent over the end of the other member and then down approximately parallel therewith, forming overlapping members between which a line can be passed into the loop.

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(6882) L. S. writes: 1. I wish to make an induction coil capable of throwing a ten inch spark. Please give length and diameter of secondary coil; size of wire for primary and number of layers; size of wire for secondary and number of pounds. What kind of current passes through condenser—static or otherwise? Explain how condenser increases length of secondary spark. Why is primary generally made considerably longer than secondary? A. Our SUPPLEMENT, No. 160, describes a coil capable of giving a 1½ inch spark. A coil of double the linear dimensions of this one, if properly constructed, should give a ten inch spark. Such coils are hard to make and should not be attempted by the amateur. Wind the secondary in six or more sections. There is no such thing as a static current; the condenser becomes charged ("statically" may be applied, but adds nothing to the meaning), and at once discharges, overcoming the prolongation of action due to the extra current, demagnetizing coil and causing more of the energy to go into the spark discharge. The primary is much shorter, as regards feet of wire in it, than is the secondary. If the number of turns in the secondary is divided by the number in the primary and the voltage of the primary circuit is multiplied by the quotient, the result gives the approximate voltage of the secondary circuit. The approximation is apt to be far from close, however.

(6883) W. J. S. writes: Will you kindly tell me how I can make the cells of battery to use to light a one or two candle power electric lamp for a bicycle headlight? A. A small bicarbonate plunge battery is probably as good for your purposes as any. Use very perfectly amalgamated zincs and have it so that they can be withdrawn from the solution when not in use. The carbons you may have very thin, to save room. You will need three couples for one candle power.

(6884) F. M. asks where to procure a description of all the different automatic circuit breakers that are now on the market. Also, please tell me what is the best practical insulator, that is, will stand the greatest amount of heat. A. You will have to apply to the different dealers in electrical supplies for such information. Porcelain represents about the best insulator under the limitations of your query.

(6885) E. J. M. asks: 1. What is meant by saying that galvanic batteries are connected in series and in parallel, and what are these different modes of connection used for? A. The SCIENTIFIC AMERICAN, vol. 61, No. 15, and our SUPPLEMENT, No. 792, describe different ways of connecting battery cells. 2. What is an earth battery? A. Our SUPPLEMENT, No. 157, among other batteries, describes this. It is of little value. 3. In the SCIENTIFIC AMERICAN of August 9, 1879, page 91, communication (10) H. W. F., describes a cheap battery. Does this battery soon polarize? What is it used for? A. The battery is for closed circuit work. It will polarize rather early, owing to small quantity of solution. 4. Have you a number of the SCIENTIFIC AMERICAN SUPPLEMENT describing the making of the different kinds of galvanic batteries? If so, will you please send it to me? A. We refer you to our SUPPLEMENT, Nos. 157, 158, 159, and 792, for illustrations and descriptions of numerous forms of batteries.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

June 16, 1896,

AND EACH BEARING THAT DATE.

[See note at end of list about copies of these patents.]