

No. 16,086. Improvements on Seals for Securing Car Doors and other Purposes. (*Perfectionnements aux fermetures scellées pour assujétir les portes des chars et autres fins.*)

Edward J. Brooks, New York, N. Y., U. S., 10th January, 1883; for 5 years.

Claim.—1st. A tin and rivet seal composed of a strip having rivet holes in its respective ends, and a rivet fast thereon having its stem secured within one of said rivet holes and loosely fitted to the other.

No. 16,087. Improvements on Seed Drill Distributors. (*Perfectionnements aux distributeurs des semoirs en ligne.*)

John Bartlett, Oshawa, Ont., 10th January, 1883; for 5 years.

Claim.—1st. The combination, with the seed cup K and the hollow distributing wheel N, of an interior actuating disk Q. 2nd. The combination, with the cut off slide b and the seed cup K, of a gauge slide e arranged in a recess of the cup K and below the slide b. 3rd. The combination, with the disk Q and slotted seed cup K, having a recess below the cut-off slide b, of the handle slotted gauge slide e and the screw f working through cup and gauge slide into slide b, to adapt the distributor to sow seeds and grains of different sizes and kinds.

No. 16,088. Improvements on Moulding Machines. (*Perfectionnements aux machines à mouler.*)

James Anderson, Boston, Mass., U. S., 10th January, 1883; for 5 years.

Claim.—1st. In the spiral molding machines, the bed B provided with revolving feed-screw i and centres a b, the worm shaft r, wheels arbor e and connections to the feed screw combined as described. 2nd. The revolving shaft a, bevel pinions m n, the swinging bracket n and threaded arm q, in combination with the feed screw i and work carrying bed B. 3rd. The suspended bracket n provided with threaded arm n and the pivoted arms o, in combination with the bed B and feed screw i. 4th. The bracket n provided with threaded arm n, pinions m n, shaft p, pivoted arms o, revolving shaft w and pulleys p q connected by belt, in combination with the work bed B and feed screw i. 5th. The combination of the revolving shaft w, friction driver h, hub d provided with arms e, arbor f and friction sleeves g carrying the cutters. 6th. The adjustable hub d provided with arms e, and arbor f carrying the cutter, in combination with the driving shaft c and driver b.

No. 16,089. Improvements in Telephones. (*Perfectionnements dans les téléphones.*)

Henry B. P. Strangways, London, Eng., 10th January, 1883; for 15 years.

Claim.—1st. The combination, with the principal magnet B of a telephone transmitter or receiver, of a diaphragm tympan or plate D of wood, metal, or any material capable of rapid vibration to which is attached approximately, at right angles and near the centre thereof, a small magnet bar or piece of metal d capable of inductive action, and a helix or solenoid coil of wire such as E closely surrounding, but not touching the said piece of metal d, so that the latter may freely reciprocate or vibrate endways, opposite the principal magnet B and within such helix or solenoid coil of wire E, without touching it or the principal magnet B. 2nd. In combination with the pole piece B mounted on one leg of a horse-shoe or two-legged magnet B and a helix or coil around the said pole piece B, the diaphragm, or tympan D of wood, metal or other material capable of rapid vibration having a small magnet bar or piece of metal d capable of inductive action, attached at right angles thereto and arranged to reciprocate or vibrate, endways in a line with the axis of the pole or pole piece B through a hole in the other leg of the principal magnet B and within the helix or coil E, which closely surrounds, but does not touch the said piece d. 3rd. In combination, with the principal horse shoe, or two legged magnet B of a telephone transmitter or receiver, the diaphragm D, small magnet or piece of metal d capable of inductive action attached to said diaphragm and arranged to vibrate endways between, but without touching the two poles or pole pieces of said magnet B, and the helix or coil E closely surrounding, but not touching the small magnet bar or piece of metal d. 4th. A telephone receiver consisting essentially of a diaphragm tympan or plate such as D, a small magnet-bar or piece of metal d capable of inductive action attached to said diaphragm or plate D approximately at right angles thereto, a piece of iron rod or wire B preferably screwed at its inner end to facilitate its adjustment within the coil E surrounding the rod B and piece d, but not touching the latter, so that the diaphragm D and piece d are free to vibrate without touching either the piece of iron rod or wire B on the helix or coil E. 5th. In a telephone, whether used as a transmitter or receiver, a diaphragm tympan, or plate D of wood, metal or other material capable of rapid vibration, one or more small magnets bars or pieces of metal d attached to said diaphragm, or plate D at right angles thereto and arranged to vibrate freely opposite to, through or between, but without touching the poles, or pole, or pole piece, of the principal magnet or magnets, or its, or their equivalent B, and a helix or coil of wire closely surrounding, but not touching each of the said small magnets, or pieces of metal d, whereby the efficiency of the telephone is greatly increased. 6th. In a telephone, whether used as a transmitter or receiver, the combination of the diaphragm D of wood, metal or other material, capable of rapid vibration, a magnet or piece of metal capable of inductive action d attached to said diaphragm and of such small size as will not unduly check its vibration, and a solenoid coil, or helix E surrounding, but not touching the said piece of metal d. 7th. In a telephone, whether used as a transmitter or receiver, the combination of the diaphragm D of wood, metal, or other material, capable of rapid vibration, and the magnet or piece of metal, capable of inductive action d, attached to said diaphragm and of such small size as will not unduly check its vibration.

No. 16,090. Improvements on Pumping Engines. (*Perfectionnements aux machines à vapeur.*)

William A. Perry, Bay Ridge, N. Y., U. S., 10th January, 1883; for 5 years.

Claim.—1st. The combination of a high pressure and an expanding cylinder co-operating upon one side of the engine with an expanding cylinder operating alone upon the opposite side, the whole being arranged and operated to produce an equal development of power upon both sides of the engine. 2nd. The combination, with the high pressure and expanding cylinders arranged upon one side of a duplex pumping engine, of the intermediate tank and single expanding cylinder operating alone upon the opposite side of the engine.

No. 16,091. Improvement on Call Apparatus for Telephone Lines. (*Perfectionnement des appareils d'appel pour les lignes téléphoniques.*)

James P. Stabber, Sandy Spring, Md., U. S., 10th January, 1883; for 5 years.

Claim.—1st. In a telephone line, a series of call instruments with travelling switches and motor magnets, all in the line, and local shunt circuits combined with a magneto-generator of electricity and a circuit closer for the operation of the same. 2nd. In a travelling switch, actuating electro-magnets for the same, and a circuit closer, all in the electric line combined with a series of station stops provided with ground connections to arrest the movement of said switch, short circuit the current and cut out the line, and means whereby said circuit closer may be controlled. 3rd. In a travelling switch, actuating electro-magnets and a circuit closer, all in the electric line, combined with a series of station keys, and a corresponding series of station stops, having ground connections controlled severally by said keys, to arrest the movements of said switch, and means whereby said keys severally control said circuit closer, so that, when either station key is moved, the circuit will be closed and said switch will be caused to move until arrested by the corresponding station stop, the current be short circuited and the line be cut out. 4th. The travelling switch H and its motor magnets in the electric line combined with a key T and stop W and ground connections for the same, and a circuit closer, whereby, when said key is depressed, the line circuit is closed on the generator, the switch H automatically moved to, and arrested by the stop W and the current then short circuited. 5th. In a generator, a circuit closer in the line conductor therefrom, a travelling switch which also forms part of the line, a key having a ground connection, a stop to arrest said switch and short circuit the current to the ground, and means whereby the motion of said key will also operate the circuit closer. 6th. In a telephone local call central office instrument, the combination essentially as follows: a magneto-generator, motor magnets, a travelling switch, all in the line circuit, a series of radial station key levers, stops severally controlled by said keys to arrest the switch, a ring against which said keys severally make contact to close the circuit, and a ground connection for said ring. 7th. In a telephone local call central office instrument, the combination of a magneto-generator without a commutator, motor magnets actuated by to and fro currents therefrom, a travelling switch in the line circuit a series of radial key levers severally mounted on a ring having a ground connection, and stops severally attached to said keys to arrest said switch, and a ring against which said keys make contact to close circuit, whereby the circuit is closed by depressing one of said key levers and contact of the travelling switch with the stop of said depressed lever will short circuit the current to the ground and cut out the line. 8th. In a local call key board, comprising a series of keys, each one whereof has a ground connection contact when depressed, and elastic stops to arrest the travelling switch and thereby short circuit the current and cut out the line, combined with a relief ring Z provided with its contact points a and temporary ground connections, whereby the electrical tension in the switch instrument is relieved. 9th. In a telephone local call instrument, a source of electric energy, motor magnets and a travelling switch in the line circuit actuated by said magnets, a unison detent shunt and a series of radial station stop key levers, whereby said switch may be arrested, combined with an indicator stop key F, whereby said switch may be moved to a position aside from its normal position of rest. 10th. The secondary circuit closing and switch key G, which does not form a part of the circuit conductor e d, combined with the contact switch spring k and contact closing spring d and the circuit connections. 11th. A series of call instruments and a magneto-generator to operate the local travelling switches of said instruments, combined with an intensity key y, contact points z and q and a magneto-generator l, provided with a single current commutator, whereby the current may be shifted from one generator to the other. 12th. In a telephone local call central office instrument, a travelling switch in the line circuit, a dial rim in the line circuit for contact with the same, a detent or unison shunt interposed in said rim, motor magnets to actuate said travelling switch, detent magnets, the armature spring whereof will not yield to the current which actuates the motor magnets, combined with two magneto-generators of different generative powers, and a suitable switch key whereby the weaker or stronger current may be passed to the line at will. 13th. In a telephone local call central office instrument, motor magnets, a vibrating armature, a travelling switch actuated thereby, combined with a series of radial key levers, provided with elastic stops, said key levers and stops being arranged with reference to the movements of said armature, so as to arrest said switch at or near the conclusion of a movement of said armature in the same direction, whereby a stronger current of the same polarity as the last operative current may be sent over the line to operate the local bell or detent magnets without moving either the vibrating armature or travelling switch from its position. 14th. The travelling switch of a telephone local call with its operative motor magnets, vibrating polarized armature, push and pull pawls and ratchet wheel combined with an escapement actuated by said armature, whereby the ratchet wheel is arrested prior to the engagement of said switch with, or disengagement from, the station shunt. 15th. The travelling switch H with its motor magnets and the vi-