wheel A, and a driver's seat D located over or nearly over the centre of said hind driving wheel. 2nd. The front steering wheel having a fork N extending perpendicularly to the point *f*, in combination with the turning rod *g* set back from the top of said fork and provided with a handle or tiller. 3rd. The reach C and front wheel B, in combination with the spring bearing P between the fork N of said wheels B, and boss g^1 of the turning rod *g*. 4th. The velocipede having a front steering wheel B, hind driving wheel A and treadles G, which are connected to said driving wheel A and have their foot rests project forward and upward. 5th. The velocipede having a clutch mechanism operating the driving wheel and connected to an operating treadle consisting of the block or pawl K, fixed friction disc or ratchet H and loose disc or annulus c. 6th. The annulus c provided with a stop pin *m*. 7th. The clutch mechanism, in combination with the treadle G and the returning or restoring spring M.

No. 11,853. Improvements on Attachments for Gates and Doors. (*Perfectionnement aux fermetures des barrières et des portes.*)

George W. Simons, St. Catherines, Ont., 9th October, 1880; for 5 years.

Claim.—The combination of the sliding bar A and the boxing D with the latch B.

No. 11,854. Improvements on Drawbars for Car Bumpers (Buffers). (*Perfectionnements aux ressorts de traction pour les tampons des chars.*)

Thomas Hibbert, Cochran, Ind., U.S., 9th October, 1880; for 5 years.

Claim.—The combination, with the car frame having the parallel buffer blocks *b* springs *e* recessed into the ends of said blocks, the guide pins *d*, the brackets *f*, followers *g* and the stirrups K, of the rabetted draw-heads B C extending through the stirrups and followers and provided with the transverse keys *l*, and the draw rods D having longitudinal slots *i* in their ends, and passed over and secured on the ends of said keys.

No. 11,855. Process of Preparing Grain for after Milling. (*Procédé de traitement du grain à moudre.*)

Jacob Cornwell, Cadillac, Mich., U.S., 9th October, 1880; for 5 years.

Claim.—The process of preparing wheat or other grain previous to the reduction of the same into chop or meal for the manufacture of flour, which consists in moistening the kernel or berry, and then removing the outer portion of the hull of the berry and the fuz and fibre thereto attached, by means of a decorticating machine, and afterwards separating and cleaning the wheat from the bran, fuz and fibre produced by the action of the decorticating machine.

No. 11,856. Improvements in Sweat Pads. (*Perfectionnements aux matelas de transpiration.*)

Frederick Benoit, Rockton, Ill., U.S., 9th October, 1880; for 5 years.

Claim.—A pad for horse collars, composed of a series of detachable sections and an enclosing envelope or casing adapted to secure such sections.

No. 11,857. Improvements on Dynamo-Magneto-Electric Machines and Motors. (*Perfectionnements aux machines et aux moteurs dynamo-magneto-électriques.*)

Thomas A. Edison, Menlo Park, N. J., U. S., 9th October, 1880; for 5 years.

Claim.—1st. A rotating armature composed of thin metal plates, discs or rings with alternating interposed insulating material secured together upon a shaft or hub. 2nd. The combination, with a commutator, of contact brushes or springs arranged at an angle to the axis of the commutator. 3rd. The combination, with the shaft of a commutator or rotating armature, or both, adapted to have a reprocating movement in its supporting journals, of means for giving such motion. 4th. The combination, with a rotating shaft of a commutator or armature, or both, of an armature, a magnet, a circuit controlling device for giving a reciprocating motion to the shaft. 5th. The combination, with a revolving armature, of a governor receiving motion therefrom and adapted to control the main circuit. 6th. The combination, with a revolving armature, of a fly or balance wheel. 7th. The combination, with the main circuit, of a circuit breaker adapted to break or close the main circuit at several points simultaneously. 8th. The combination, with an elector-motro, of a brake applied to the main driven wheel. 9th. The combination, with an electro-motor, of a friction pulley on the rotating shaft of the motor, and a brake applied to the main driven wheel and adapted to control its speed. 10th. The combination, with an electro-motor, of a mechanical brake applied to the main driven wheel and adapted to control its speed.

No. 11,858 Improvements on Sewing Machines. (*Perfectionnements aux machines à coudre.*)

James McAllister, Chicago, Ill., U. S., 9th October, 1880; for 5 years.

Claim.—1st. As a means for operating the vibrating arm K and in combination therewith, the shaft M provided with the disc O and crank pin *o*, the shaft P having the radial arm *p* provided with the slot p^1, the sliding block Q fitted within said slot and over said crank pin, and the connecting bar R pivoted at its ends to, or upon the lower end of said vibrating arm K and the outer end of said slotted arm *p*, said parts being combined to operate as specified. 2nd. As a means for operating the shuttle carrier T and in combination with the same, lever V pivoted at its upper end within the hollow boss B, the bar W connected at its lower end with, and forming part of the eccentric straps *w* and having the upper end pivoted to said lever, in front of and below the pivotal bearing of the same, the eccentric X secured upon and revolving with the shaft M, and the bar Y pivoted upon and extending between the lower end of said lever and the rear end of said carrier, said parts being combined to operate as shown. 3rd. As a means for imparting longitudinal motion to the feed bar Z and in combination therewith, the eccentric X, the strap *w*, the bar W provided with the longitudinal slot w^1, the pivoted block b^1, the bar B^1 having the angular arm b^{11}, the pivoted bar C^1 engaging with a shoulder of said feed-bar and provided with the cam recess c_{11} which engages with a bearing D, said parts being combined to operate in the manner set forth. 4th. The means employed for imparting vertical motion to the feed bar Z consisting of the shaft H^1, journalled lengthwise of and below the base plate A, provided at its front end with a crank arm *h* which extends beneath said feed-bar and having at its rear end a second crank arm h_{11} that at its end engages with a cam groove o_1, which is formed within the inner face of the plate or disc O, said parts being combined to operate as described. 5th. The means employed for regulating the longitudinal motion of the feed-bar Z consisting of the bar E_1, provided at its inner end with a roller D^1 and made longitudinally adjustable towards or from the cam recess c^1 of the bar C^1 by means of the screw F_1, said parts being combined to operate in the manner specified. 6th. As a means of giving to the tension plate L^1 a yielding pressure against the plate M^1 in the flat spring o^1 contained within the head D having its lower end secured in position between the sections of said head, and its upper end forked, the screw N^1 passing through said tension plate and at its inner end in engagement with the forked end of said spring, and the thumb nut n^1 placed upon the outer end of said screw, said parts being combined to operate as shown. 7th. As a means for taking up the slack of the thread, the head D provided with the thread eyes d_{111} d_{1111}, the vibrating arm K having near its outer end the stud K_1, and the plate P pivoted at its upper end, within or upon the upper rear portion of said head, provided at its lower end with a thread eye *p* and having a longitudinal slot p^1 which extends downward, and then rearward and downward and engages with said stud K^1, said parts being combined to operate in the manner shown, so that the said thread eye *p* is caused to move forward in a line parallel with the length of the machine, while said vibrating arm K is passing from the centre of oscillation to the lower limit of its motion and to move rearward as said vibrating arm rises to its centre of oscillation. 8th. The means employed for giving the presser bar F downward a yielding pressure, consisting of the spiral spring S^1 resting upon the lug *f* of said bar, the block T^1 placed at the upper end of said spring and provided with a radial lug t^{11} which engages with a vertical groove d_{1111}, which is formed in the head D and the threaded rod U^1 that passes downward through said head, said block T^1, said spring S^1 and said lug *f*, said parts beingc ombined to operate as described. 9th. As a means for connecting the presser foot W_1 to or with the presser bar F and in combination therewith, the interiorly threaded lug w_{11} projecting rearward from the former through the opening f_{11} in said presser bar, and the pointed screw X_1, which passes through said lug and fits within a half round groove f_{111} in said presser bar. 10th. The means employed for pivoting the shaft P having in one end a conical recess and upon the opposite end a conical bearing, and for compensating for pivotal wear of said shaft, consisting of the screw Y^1 provided at one end with a screw thread *y* and near its head with an inclined shoulder y_{11} and having beneath its head y^1 a washer y_{111}.

No. 11,859. Improvements on Wood Pavements. (*Perfectionnements au pavage en bois.*)

William H. Stow, Chicago, Ill., U. S., 9th October, 1880; for 5 years.

Claim.—1st. The upper course of a wood pavement composed of round blocks and half round blocks mingled promiscuously, so that the edges of the round blocks will be protected by the half round blocks. 2nd. A wood pavement composed of a board flooring A and an upper course B of round blocks and half round blocks mingled promiscuously, so that the edges of the round blocks will be protected by the half round blocks. 3rd. A round and split block pavement having the gutters composed wholly of small round blocks. 4th. A wood pavement having the centre of the roadway made wholly of half round blocks placed in regular rows, breaking joints, and with gutters paved with small round blocks.

No. 11,860. Improvements on Oscillating Steam Engines. (*Perfectionnements aux machines à vapeur oscillantes.*)

Augustus B. Wood, Moses A. Rice, Hamburg, and William A. Wood, Monticello, Ark., U.S., 9th October, 1880; for 10 years.

Claim.—1st. The steam chest of an oscillating engine supported by a trunnion and an adjusting screw, at right angles to the axis, by additional set screws. 2nd. The adjustable valve chest H of an oscillating engine, divided into two compartments, each connected by a pipe and ports with the valve M for reversing the engine.

No. 11,861. Improvements in Saddle Stirrups. (*Perfectionnements aux étriers des selles.*)

David B. Comly, Adena, Ohio, (Co-inventor with Horace Updegraff, Hampton, Ks.,) U. S., 9th October, 1880; for 5 years.

Claim.—1st. A stirrup composed of a frame or yoke adapted to be attached to the saddle strap and of a loop for the foot, the said yoke and loop being held together by projections and stands a^5 e_1, so that said loop will be detached from the yoke and remain on the foot of the rider if the latter should be thrown from the saddle. 2nd. The combination, with the frame *a* having shoulders a^3 and notches *c*, of the loop *d* provided with the projections *f*, and pins *e*. 3rd. The combination, with the frame *a* provided with recesses a_4 and cam surfaces a^5 leading into said recesses, of the detachable loop *d* having the pins or projections *g* adapted to slide into the recesses a^4 and provide an additional safety support for the stirrup. 4th. The combination, with the frame *a* constructed with the open notches or recesses *e* in the lower ends of its arms a^1 a_1 and having the bevelled edges e_1 surrounding said notches, of the detachable loop *d* provided with pins *e* having heads e_1 enlarged or rounded on their inner sides, and adapted to fi snugly in the notches *e* and bevels *c*.