

of reed rods having spaces and abutments in the arrangement specified, and resting on said supports and constrained to move in said vertical ways, a separate lever for each reed support, whereby each reed may be raised and lowered independently of another, for the purpose set forth. 3rd. In a lease forming mechanism, substantially as described, a set of reeds each of which comprises a series of reed rods suitably supported, which rods are spaced or separated from each other and open to their top ends, whereby entrance to said spaces may be had thereat, and every reed rod having at its upper end an extension or shoulder 14, projecting against but unsecured to the next adjacent reed rod, the alternate spaces in each reed being provided intermediate of the lengths thereof and below said shoulders with yarn engaging abutments, and the relatively intermediate spaces being free or unobstructed with respect to their middle portions, for the purpose set forth. 4th. In a lease forming mechanism a set of reeds, each reed comprising a series of reed rods suitably supported on an outer frame, which rods are spaced or separated from each other and open to their upper portion, whereby entrance to said spaces may be had thereat, and every reed rod having at its upper end an extension or shoulder 14, projecting against but unsecured to the next adjacent reed rod, and the top of each extension or shoulder being obliquely formed, the alternate spaces in each reed being provided intermediate of the lengths thereof and below the said shoulders with yarn engaging abutments, and the relatively intermediate spaces being free or unobstructed with respect to their middle portions, and the movable cap *n*, for covering and steadying the upper extremities of the said reed rods, for the purpose set forth.

No. 35,652. Stick for Booms. (*Estacade*.)

William Goldie, West Bay City, Michigan, U. S. A., 20th December, 1890; 5 years.

Claim.—A boom stick consisting of three longitudinal timbers secured around central supports at an equal distance from each other, and provided with an open space between the timbers and between the ends of the said central supports, substantially as set forth.

No. 35,653. Coupling for Boom Sticks.

(*Accouplage d'estacades*.)

William Goldie, West Bay City, Michigan, U. S. A., 20th December, 1890; 5 years.

Claim.—The combination, in a boom stick, with the timbers provided on their adjacent ends with centrally located longitudinal chambers, and with transverse openings for the coupling pins, of a coupling device consisting substantially of two rigid arms passed into the said chambers, and with their outer adjacent ends joined or connected together by a flexible joint or central link, and with their inner ends provided with eye openings, the coupling pins passed transversely through the timbers and through the said eye openings in the arms, substantially as and for the purpose set forth.

No. 35,654. Grain Binding Machine.

(*Machine à engerber les grains*.)

George Greenlee, Belvidere, Illinois, U. S. A., 23rd December, 1890; 5 years.

Claim.—1st. The combination of the grooved cam fixed on the overhanging arm of the binder supporting frame, a dog carrying arm fixed on the binder shaft, a constantly driven wheel loosely mounted on said shaft, a pin on said shaft wheel, a dog pivoted to the arm and adapted to traverse the groove in the cam, and a sliding bolt in the cam groove for withdrawing the nose of the dog from engagement with the pin, and thereby unlocking the said arm, and hence the binding shaft, from the driving wheel, substantially as set forth. 2nd. The combination, with the binding mechanism, the binder shaft, and a suitable support for the same, of a grooved cam located on the shaft support, a dog secured to the shaft in position to traverse the cam groove, a driven wheel loosely mounted on the shaft in position to engage the free arm of the dog, and thereby cause the shaft to rotate with the wheel, an endwise sliding bolt mounted in the shaft support to control the action of the dog, a gavel receiving arm in engagement with the endwise sliding bolt, and a spring to hold the gavel receiving arm, substantially as set forth. 3rd. The combination, with the grooved cam fixed on the overhanging arm, of the supporting frame, the binder shaft, a dog to traverse the cam groove fixed to rotate with the shaft, a driven wheel loosely mounted on the shaft, an endwise moving bolt entering the cam groove to control the movements of the dog to throw it into or out of engagement with the driven wheel and the gavel receiving arm, substantially as set forth. 4th. The combination, with the trip lever, a gavel receiving arm pivoted centrally to the long arm of the lever, the upper end of the gavel receiving arm having an engagement with the lever to limit the rearward movement of its upper end, and a spring in engagement with the gavel receiving arm adapted to act directly upon the gavel receiving arm and through the gavel receiving arm of the lever, substantially as set forth. 5th. The combination of a hinged binding table, a guard board pivoted to the lower edge of the binding table and provided with an arm fixed thereto and depending below the hinge between the board and table, as described, a link connecting said arm with the supporting frame, so that as the table descends the link and the arm on the board fold inward, and means for raising and lowering the hinged binding table, substantially as set forth. 6th. The combination of a hinged binding table, a guard board pivotally secured to the lower edge of the table and provided with an arm fixed thereto and depending below the hinge between the board and table, as described, a link connecting the depending arm with the supporting frame, so that as the table descends the link and the arm on the board fold inward, a rock shaft, a jointed connection between the rock shaft and the free end of the hinged binding table, and means for operating the rock shaft, substantially as set forth.

No. 35,655. Appliances for Railways.

(*Appareil à l'usage des chemins de fer*.)

Edwin David Graff, New York, U. S. A., 23rd December, 1890; 5 years.

Claim.—1st. The combination, with a fixed or permanent railway bridge, of a trip adapted to co-operate with a portion of the brake mechanism of a railway train, and a rod or cable connected to the bridge and to the trip and fusible at one or more points at a comparatively low temperature and means, substantially as described, for throwing said trip into operative or working condition the instant said rod or cable is divided or sundered. 2nd. The combination, with a railway bridge, of a rock shaft, means connecting the rock shaft with the bridge and adapted to actuate the same in case of accident to the bridge, a lifter on each side of said rock shaft, and a guided trip to co-operate with the air brake mechanism of a railway train. 3rd. The combination, with a rock shaft and means for actuating the same, of a lifter extending outwardly on each side of the rock shaft, and a guided trip having a convex or cam surface for engagement by said lifter in either direction of its movements.

No. 35,656. Appliances for Railways.

(*Appareil à l'usage des chemins de fer*.)

Edwin David Graff, City of New York, New York, U. S. A., 23rd December, 1890; 5 years.

Claim.—The combination of a transverse rock shaft, a crank arm, and a trip attached to said rock shaft, a horizontally arranged bell crank, a longitudinally arranged connecting rod, attached to the crank arm and to one arm of the bell crank, a transverse rod connected to the other arm of the bell crank and protruding beyond the track, a spring operating to move said rod endwise in one direction and through the described connections to maintain the trip in an elevated position, and a draw or swiveling bridge adapted to contact with the protruding end of said transverse rod and to move the same endwise in the opposite direction against the tension of said spring and also adapted through said connections to depress the trip.

No. 35,657. Separating Machine.

(*Machine à séparer*.)

Orville Marion Morse, Jackson, Michigan, U. S. A., 24th December, 1890; 5 years.

Claim.—1st. The combination, with a closed tapering separating chamber, provided at its large end with an outlet for the heavy material, and at its small end with an outlet for the light material, of a feeder which delivers the material to be separated into the chamber, and a rotating air propelling device arranged within the chamber, whereby the air contained in the chamber is caused to circulate from the axial portion of the chamber to the peripheral wall at the large end, thence along the peripheral wall to the small end, and thence back to the large end through the axial portion of the chamber, thereby separating the heavy from the light material and discharging the products of the separation respectively from the large and small ends of the separating chamber, substantially as set forth. 2nd. The combination, with a closed chamber tapering upwardly and provided with an outlet for the light material at its upper end, and an outlet for the heavy material at its lower end, of a feeder delivering the material to be separated into the upper portion of the separating chamber, and a rotating air propelling device arranged within the separating chamber, whereby the air contained therein is caused to circulate in the same along the peripheral wall to the upper end, and through the axial portion back to the lower end, substantially as set forth. 3rd. The combination with a closed tapering separating chamber, provided with an outlet for the light material at its small end and an outlet for the heavy material at its large end, of a feeder, whereby the material to be separated is delivered into the separating chamber, a rotating shaft arranged axially in the separating chamber, and an air propelling device mounted on said shaft in the large portion of the separating chamber, whereby the air is caused to circulate within the chamber along the peripheral wall to the large end, the small end, and through the axial portion back to the large end, substantially as set forth. 4th. The combination with the body of air separating chamber, provided with means whereby the body of air in the chamber is caused to rotate therein, of a feeder whereby the material to be separated is delivered into the chamber and outlets arranged at different distances for the heavy and light material, substantially as set forth. 5th. The combination with an upwardly tapering separating chamber, provided with means whereby the body of air in the chamber is caused to rotate therein, of a feeder whereby the material to be separated is delivered into the chamber, an outlet for the heaviest material arranged at the bottom of the chamber, near its periphery, and an outlet for lighter material arranged in the bottom of the chamber, near its centre, substantially as set forth. 6th. The combination with an upwardly tapering separating chamber, provided with means whereby the body of air in the chamber is caused to rotate therein, of a feeder whereby the material to be separated is delivered into the chamber, an outlet for the heaviest material arranged at the bottom of the chamber, near its periphery, an outlet for lighter material arranged in the bottom of the chamber, near its centre, and an outlet for the lightest material at the top of the chamber, substantially as set forth. 7th. The combination with a circular separating chamber, provided with a feeder whereby the material to be separated is delivered into the chamber, and with an outlet for the heavy material at its bottom and an outlet for the light material at its top, of rotating blades arranged obliquely in the separating chamber, whereby the material is deflected upwardly, substantially as set forth. 8th. The combination with a tapering separating chamber, provided with a feeder, whereby the material to be separated is delivered into the chamber, and with an outlet for light material near its small end and with an outlet for heavy material near its large end, of a rotating shaft arranged axially in the chamber, and oblique blades connected with said shaft whereby the material is