

ting through the platform, and a cord carrier suspended above the platform and constructed to deliver the cord to the knotting devices, substantially as described. 10th. The knoter arm carrying cord knotting, severing, and securing devices, and provided with a slot arranged to insure the engagement of the cord laid therein, with the knotting and securing devices, substantially as described. 11th. The combination, in a grain binder, of a compressor, an arm hung to move to and from the compressor, and carrying devices for knotting, cutting and retaining the end of the cord, and a cord carrier constructed and arranged to present the cord to the knotting devices, substantially as described. 12th. In a binder, an arm vibrating to and from the compressor, and carrying the knotting devices combined with a cord carrying arm swinging front a point above the platform and operating to present the cord to the knoter device, substantially as described. 13th. The combination, with the compressor, of an arm carrying the knotting devices, and provided with a slot *z*, and a cord carrier swinging above the platform and operating to direct the cord to the slot, substantially as described. 14th. The swinging knoter arm having its fulcrum at one side of the platform, in combination with a cord carrier having its fulcrum opposite the other side of the platform, substantially as described. 15th. The combination, with the platform *X*, of the packers, compressor and arm *B* carrying the knoter devices, pivoted below the table, swinging to and from the compressor, and operated to fall below the table when the grain is being packed, substantially as described. 16th. In a binder, a swinging arm and compressors, arranged and operating to compress the ball between them, and a knoter device carried by the swinging arm and operated from below the platform, substantially as described. 17th. The combination of the arm carrying the knotting devices, and the compressor arm hung to swing on the same center, and appliances for swinging the arms to and from each other to compress and release the bale, substantially as described. 18th. The combination, with the gavel compressing and carrying devices, of appliances carried by one of the compressor jaws, constructed to knot, sever, and secure the end of the cord while the gavel is being compressed and carried, substantially as described. 19th. The combination, with the compressor jaws *B*, *Br*, of devices for bringing them upon to compress the gavel, and swinging them to carry the same outward, and appliances carried by one of the jaws constructed to tie the gavel while it is being compressed and carried, substantially as described. 20th. The combination of the knoter and compressor arms swinging on the same centre, and rods connected to the said arms and appliances for drawing back the rods to bring the arms together, substantially as described. 21st. The combination of the knoter and compressor arms swinging on same centre, and the crank shaft *ll* and connecting rods *M*, *H*, substantially as set forth. 22nd. The compressor arm consisting of jointed sections, and a spring interposed between the sections, substantially as and for the purpose set forth. 23rd. The combination of the swinging arms *B*, *Br*, and devices whereby the same are brought together to compress the bale, and then carried away from the platform and separated, for the purpose set forth. 24th. The combination, of the platform *X*, vibrating arms *B*, *Br*, and reciprocating packers, substantially as described. 25th. The combination of the packers, and the shaft *Q* geared to the driving shaft, and having cranks at the ends connected to the packers, substantially as set forth. 26th. The combination, in a binder, of the compressor arms, packers and movable supports, whereby the packers are carried away from the compressor arm as the bale is being compressed and tied, substantially as set forth. 27th. The combination of the packers, and driving shaft therefor supported by a movable frame, and appliances for moving the latter to carry the packers back as the bale is being tied, substantially as described. 28th. The combination, with the platform and packers, of adjustable supports for the latter, and means for moving said supports to carry the packers further below the platform when the bale is being tied, substantially as described. 29th. The combination of the packers, crank shaft connected thereto, and swinging frame supporting said shaft, substantially as described. 30th. The combination, with the packers, of a shaft *Q* connected thereto and geared to the driving shaft, and a frame carrying the shaft *Q* and swinging on the driving shaft, substantially as described. 31st. The combination of the packers, the movable support therefor, the compressor arm and knoter arm, arranged to operate substantially as described. 32nd. The combination of the movable frame supporting the packers, the arm *B* and connections, whereby the frame is moved by said arm, substantially as described. 33rd. The combination, in a binder, of the compressor knotting arm packers, and operating appliances, and stop device, all arranged in juxtaposition for the purpose set forth. 34th. The stop device arranged at the rear of the compressor arm, in combination with a movable lever on said arm, and connections between the lever and stop device, substantially as described. 35th. The combination of the packers, compressor and arm *B*, co-operating with the compressor to compress the bale and carrying cord knotting, severing, and securing devices, substantially as described. 36th. The combination, with the arms *B*, *Br* and packers, of 3 driving shafts *6a* and shaft *ll*, and connections in juxtaposition between the arms and packers, whereby motion is communicated from the driving shaft to the said parts, substantially as described. 37th. The combination of the arm *B*, crank shaft *ll*, and connecting rod extending between the shaft and a stud on the heel of the arm, substantially as described. 38th. The combination, with the arms *B*, *Br* hung to swing on the same centre of the shaft *ll*, provided with cranks or eccentrics and connecting rods extending therefrom to the said arms, substantially as described. 39th. The combination, with the vibrating arm carrying the cord knotting, severing, and securing appliances, of a cover disk *M* and devices whereby said appliances are operated from the movement of said disk. 40th. The combination, with an arm or jaw for carrying knotting, severing, and gripping devices, of an automatic stop motion and trip, substantially as described. 41st. The combination of the arm, carrying the knot forming, cord severing and gripping devices, and reciprocating packers, substantially as described. 42nd. The combination of the packers, stop and trip devices, and arm carrying the cord knotting, securing, and gripping appliances, substantially as described. 43rd. The combination of the compressor and knoter arms, the latter carrying cord knotting, severing, and gripping devices, of a stop and strip device, substantially as described. 44th. The compressor arm, knoter

arm carrying cord knotting, severing and gripping devices, packers and stop and trip devices all arranged in juxtaposition, substantially as described. 45th. The combination, with the vibrating compressor arms or jaws and reciprocating packers, of an intermediate shaft from which the arms derive all their movements, substantially as described. 46th. The combination of the arm *B*, connecting rod *M*, and connections between the rod and disk, whereby the latter is turned as the rods alters its angle to the arm, substantially as described. 47th. The combination of the arm *B*, disk *M* carrying a segment gear, and connecting rod *M* pivoted to the arm and provided with a tooth segment gearing with the segment on the disk *M*, substantially as described. 48th. The combination, with the arm *B* carrying a cord controlling device *W*, of a stud on the shaft of the controlling device, a stud on the arm, and a wedge *Q* and appliances for moving it between the studs to operate said device, substantially as described. 49th. The combination, with the arm *B* and its rod *M*, cord controlling device and studs *24*, *25*, of the wedge *Q* extending between the studs and connected to the rod *M*, substantially as described. 50th. The frame supporting the knoter arm compressor, packer and driving appliances in juxtaposition, and provided with an extension overhanging the platform and carrying the cord carrier shaft, substantially as described. 51st. The combination, with the overhanging frame supporting the cord carrier, of a shaft carrying a discharge arm, substantially as described. 52nd. The combination, with the frame *A*, of crank shaft *6* connected to the discharge arm, and crank shaft *ll*, of crank shaft *ll*, and spider *H*, substantially as described. 53rd. The combination, with the spider *H* and crank shaft *6*, of a rod *V* connected to the crank of the shaft *6*, and to the spider, substantially as described. 54th. The combination, with the packers, compressor and knoter arms, and operating appliances arranged in juxtaposition, and with the discharge and cord carrier arms swinging from points above the platform, of crank shafts extending to the side of the platform, and a spider connection between the shafts, substantially as described. 55th. A knoter arm for grain binders, consisting of a case, a device constructed to knot the cord, and a device for clamping the cord, and a cord severing device and operating appliances, all arranged within the case, substantially as described. 56th. The combination, with the hollow arm *B*, of a knoter device consisting of a spiral hook tapering to a point, and having separable jaws, substantially as described. 57th. The combination of the knoter hook, consisting of the upper spiral jaw and a lower jaw, and means for revolving both jaws simultaneously and for opening the jaws intermittently, substantially as described. 58th. The combination of the arm *B*, the knoter having an upper spiral and pointed jaw, and appliances whereby the jaws are revolved simultaneously and opened and closed by power applied near the heel of the arm, substantially as described. 59th. The combination of the arm *B*, knoter *J* and a griper device, whereby the cord is caught and secured prior to the completion of the knot, substantially as described. 60th. The combination, with the vibrating arm of the knoter and cord severing device, arranged to sever the cord between the two, and appliances for operating all said devices from power applied at the pivoted end of the arm, substantially as described. 61st. The combination, with the reciprocating arm, and the knoter and severing device, of a cord securing or clamping device, and means whereby the same is caused to clamp the cord before it is severed, substantially as described. 62nd. The combination, with the reciprocating arm of a knoter and severing device, of a winding device and means for revolving the same, first, to take up a part of the cord, and then to deliver the same to the knoter, substantially as described. 63rd. The combination, with the knotting device of a combined gripping and winding device, and means for operating the same to first secure the end of the cord, and to then wind up a portion of the cord for subsequent delivery to the knoter, substantially as described. 64th. The cord-securing device, arranged in a reciprocating arm, and consisting of a notched bar and bearing, and means for reciprocating the same to carry the notch to and from the bearing face, substantially as described. 65th. The combined gripping and winding device, consisting of a notched bar, a bearing, and appliances for reciprocating and rotating the bar above the face of the bearing, substantially as described. 66th. The combination of the rotating and sliding griper bar, and a cylinder and means for sliding the bar in said cylinder, and for rotating the two together, substantially as described. 67th. The combination of the knoter device, and means for securing the end of the cord, winding up a part of the same prior to the formation of the knot, and for unwinding the cord to deliver it to the knoter, substantially as described. 68th. The combination, with the cord griper device, carried by the arm *B*, of appliances whereby to operate said device from power applied near the heel of the arm, substantially as described. 69th. The combination, with the knoter device, of a knock-off finger, and appliances whereby the same is brought toward the knoter when the cord is to be removed therefrom, substantially as described. 70th. The combination of the knoter knock-off device and means for reversing the rotation of the knoter, when the knock-off device is brought toward the same, substantially as described. 71st. The combination of the knoter and movable cord guide, and appliances for moving it to carry the cord to a position adjacent to the knoter, substantially as described. 72nd. The combination of the devices for knotting a cord, and an arm carrying the same and provided with a slot arranged to guide the cord to said device, substantially as described. 73rd. The combination of the slotted arm, and knotting devices and a guide *R*, as set forth. 74th. The combination of the arm carrying the two-part knoter hook, a disk *M* provided with a rack and lugs, a pinion on the knoter-shaft arranged to engage with said rack, and connections with the movable part of the knoter arranged to be operated by said lug, substantially as described. 75th. The combination of the arm, two-part knoter-hook rod *R*, levers *RP*, *R*, *Q*, and a disk *M* carrying a lug *P*, substantially as described. 76th. The combination of the rotating knoter shaft and rotating griper shaft geared together, and appliances for reciprocating the griper shaft longitudinally, substantially as described. 77th. The combination of the griper-knoter and intermediate knife, secured to a shank provided with lugs arranged to be operated by a lug on the disk *M*, substantially as described. 78th. A knoter arm for a grain binder, in which are combined knot-forming and cord-severing and clamping devices, and appliances whereby