

ing device such as the described chain with which said latter arm engages and by which it is actuated, and means, such as the cam, pawl, and ratchet mechanism, for operating said measuring device, substantially as described. 11th. In a knitting machine, the combination, with the oppositely inclined needle-beds, the rows of needles therein, the yoke reciprocating cam-frames, their actuating mechanism, the sliding needle cam-supporting plates arranged in said frames, the slide-bars and provisions whereby they are operatively connected with said plates, respectively, of the fixed end stops, the laterally movable end stops or blocks provided with the offsets or depressions therein, the rock-arms supporting said blocks, the rock-shafts, the rod connecting the same, the outer arm on the end of one of said shafts, the measuring device such as the described chain with which said outer arm engages and by which it is actuated, means, such as the cam, pawl and ratchet mechanism, for operating said measuring device, and means, such as the spring, for holding said outer arm in engagement with the measuring device, substantially as described. 12th. In a knitting machine of the class recited, the combination, of the measuring chain, the sprocket wheel, its shaft, the ratchet on said sprocket wheel, and the cam on said shaft, the pivoted arm engaging with said cam, and the pawl pivoted on the end of said arm and engaged with the ratchet wheel, substantially as described. 13th. In a knitting machine, the combination, with the needle bed provided with the open needle-grooves the needles therein having downward bends which project through said grooves and the reciprocating needle, operating cams of the shaft O, the right and left hand screws thereon, the nuts on said shafts, the crossed fingers pivoted on said nuts, the longitudinally movable and rotatable studs on said shaft adapted to actuate said fingers, substantially as described, means such as the springs o^{24} , adapted to return said fingers to their normal positions, the clutch adapted to return said fingers to their normal positions, the interposed sliding sleeve, the rock-shaft o^{25} , connected with said sleeve, the end arm on said rock-shaft, and the pattern chain for starting, reversing arm on said shaft O, substantially as described. 14th. In a knitting machine, the combination, with the needle-bed provided with the open needle-grooves, the needles therein having downward bends which project through said grooves, and the reciprocating needle-operating cams of the shaft O, the oppositely-pitched screws thereon, the nuts on said screws, the broad-faced arms on said nuts, the longitudinally movable splines connected with the latter and provided with the projecting studs or heads respectively, the curved crossed fingers pivoted on the nuts below said shaft, and provided with the opposite enlargement thereon which project into the paths of said studs or heads and are actuated by the latter, substantially as described, means, such as the springs o^{24} , adapted to return said fingers to their normal positions, the bevel gear wheel fixed on the end of said shaft, the vertically driven shaft, the opposite bevel gears loosely mounted thereon, and engaging with said fixed gear, the longitudinally movable and rotatable toothed sleeve between said loosely-mounted gears, the studs or teeth on the opposite faces of the latter, the rock-arm o^{25} , connected with said sleeve, the spring of the rock-shaft, its arm o^{21} , and the pattern chain, substantially as described. 15th. In a knitting machine, the combination, with the open needle-bed, the downwardly bent needles therein, and the reciprocating needle-actuating cams, of the shaft O, the right and left hand screws thereon, their nuts, the arms on said nuts provided with the upper lateral needle-sustaining plates, the needle-actuating fingers, the longitudinally movable and rotatable studs for actuating said fingers, and means, such as the spring o^{24} , adapted to return said fingers to their normal positions, substantially as described. 16th. The combination, in a knitting machine, with the needle beds, the needles therein contained, and the reciprocating needle-actuating cams of the longitudinal guide-bar, the yarn-carrier adapted to slide thereon, the pivoted rocking lever adapted to move in concert with said cams, and mechanism, such as the plain and studded pattern-chain links, the lever engagement therewith, and the cam-actuated arm for automatically throwing said pivoted lever into and out of action with the yarn carrier, substantially as described. 17th. The combination, in a knitting machine, with the needle-beds the needles therein, the needle-actuating cams, and the yoke connecting the same, of the longitudinal guide-bar, the yarn-carrier adapted to slide thereon, the rocking lever pivotally connected with said yoke, and mechanism such as the plain and studded links, the pivoted arm, and the lever engaging with said links, and arm for automatically throwing said rocking lever into and out of engagement with the yarn carrier, substantially as described. 18th. In a knitting machine, the combination, with the needle beds, the needles therein, the needle actuating cams, and the yoke connecting the same, the longitudinal guide bar, the yarn carrier adapted to travel thereon, the plate secured to said yoke, the rocking lever pivoted on said plate, the spring washer and mechanism such as the plain and studded links, the pivoted arms and the lever engaging said links, and arm for automatically throwing said rocking lever into and out of engagement with the yarn carrier, substantially as described. 19th. In a knitting machine, the combination, with the needle beds, the needles therein, and the reciprocating needle actuating cams of the longitudinal guide bar, the yarn carriers adapted to slide thereon, the pivoted rocking lever adapted to move in concert with said cams, and mechanism, such as the plain and studded pattern chain links, and the intermediate lever and pivoted bifurcated arm for automatically engaging said rocking lever with one yarn carrier, and disengaging it from the other yarn carrier, substantially as described. 20th. In a knitting machine, the combination, with the needle beds, the needles therein, the reciprocating needle actuating cams, and the yoke connecting the same, of the longitudinal guide bar, the yarn carrier adapted to slide thereon, and provided with the notched finger, the rocking lever pivotally connected with said yoke and provided with the projecting studs p^{15} , p^{17} , the pivoted arm provided with the beveled or inclined inner end, and with the cam slot, the pattern chain provided with the plain and studded links, and the lever engaging with said links and cam slot, substantially as described. 21st. In a knitting machine, the combination, with the needle beds, the needles therein, the reciprocating needle actuating cams, and the yoke connecting the same, of the longitudinal guide bar, the yarn carriers mounted thereon and provided with the oppositely notched fingers, the

rocking lever pivotally connected with said yoke and provided with projecting studs p^{15} , p^{17} , the arm p^{18} , pivoted on said bar and provided with the V-shaped end and with the cam slot p^{20} , the pattern chain provided with the series of studs p^{20} , and the stud p^{22} , and the lever engaging with said links and cam slot, substantially as described. 22nd. In a knitting machine, the combination, with the needle beds, the needles therein, the reciprocating needle actuating cams, and the connecting yoke of the longitudinal guide bar provided with the rib p^{19} , the yarn carrier mounted on said bar and provided with the notched finger, the rocking lever pivotally connected with said yoke and provided with the projecting studs p^{15} , p^{17} , the arm p^{18} , pivoted on said bar and provided with the beveled or inclined inner end, and with the cam slot, the pattern chain provided with the plain and studded links, and the lever engaging with said links and cam slot, substantially as described. 23rd. In a knitting machine, the combination, with the needle bed, the latch needles therein, the needle actuating cams and their frames of the sliding bars actuated by said frames, and the V-shaped latch controlling plate secured to said bars, substantially as described. 24th. In a knitting machine, the combination, with the needle bed, the latch needles therein, the needle actuating cams and their supporting frames, of the sliding bars actuated by said frames, and the V-shaped latch controlling plate provided with the opening r^1 , therein, and secured to said bars, substantially as described. 25th. In a knitting machine, the combination of the needle bed, the latch needles therein, the needle actuating cams and their frames, the sinker frames, the sinkers therein, the sliding grooved bars engaging with said sinkers, and the latch controller composed of the V-shaped plate secured to said sliding bars and adapted to move in concert with the latter, substantially as described. 26th. In a knitting machine, the combination, with the needle bed, the needles therein, and the recessed frame or block as e^2 , of the bar or strip S, and the end lever cams e^1 , e^2 , thereon, substantially as described. 27th. In a knitting machine, the combination, with the needle bed, its needles and the recessed frame or block as e^2 , of the bar or strip S, the end lever cams e^1 , e^2 , and the springs e^3 , substantially as described. 28th. In a knitting machine, the combination, with the yarn carrier, of the take-up lever through which the yarn passes, the shifter bar provided with the toggle-joint, and the belt shifter frame, the drop-rod between said lever and bar provisions for supporting said rod and permitting it to drop, and thereupon to release the toggle-joint, and means, such as a spring, for actuating said toggle-joint, together with the fast and loose pulleys, substantially as described. 29th. In a knitting machine, the combination, with the reciprocating yarn carrier, of the take-up lever having its outer arm weighted and its inner arm hooked or looped, the vertically movable rod provided with the laterally projecting arm at a point thereon below and adjacent to said weighted arm, and provided with a stud or pin at its lower end the bearing t^{12} , with means for supporting the rod t^2 , and for permitting it to drop under the circumstances stated, the spring t^3 , the toggle lever provided with the extension adjacent said pin or stud, and the shifter bar connected with said toggle lever and provided with the shifter frame, together with the fast and loose pulleys, substantially as described. 30th. In a knitting machine, the combination, with the reciprocating yarn carrier, of the take-up lever having its outer arm weighted and its inner arm hooked or looped, the vertically movable rod provided with the laterally projecting arm at a point thereon below and adjacent to said weighted arm, and provided with a stud or pin at its lower end, the bearing t^{12} , with means for supporting the rod t^2 , and for permitting it to drop under the circumstances stated, the spring t^3 , the toggle lever provided with the extension adjacent to said pin or stud, the shifter bar connected with said toggle lever and provided with the shifter frame, the set screw t^{20} , and its bracket, substantially as described. 31st. In a knitting machine, the combination of the cam frame, the slide plate transversely movable therein and provided with the inclined face slots, the slide bar having studs which engage with said slots, the needle actuating cams mounted upon the slide plate, and the spring controlled pin adapted to lock the slide bar in positions of longitudinal adjustment, substantially as described. 32nd. In a knitting machine, the combination of the cam frame, the slide plate transversely movable therein and provided with the inclined face slots, the notched or recessed slide bar having studs which engage with said slots, the needle actuating cams mounted on the slide plates, and the spring controlled locking pin disposed in the cam frame and adapted to bear against the notched or recessed edge of said slide bar, substantially as described. 33rd. In a knitting machine, the combination, with the needle bed, the needles therein, the reciprocating cam frame, the needle actuating cams therein supported, the slide bar, and provisions whereby it is operatively connected with said cams, of the laterally movable end stop or block, the rock arm adapted to support said block, the rock shaft, the arm on the extremity of the latter, the measuring device, such as the described chain, with which said latter arm engages and by which it is actuated, and means, such as the cam and pawl and ratchet mechanism adapted to operate said measuring device, together with the opposite end stop, as u^2 , substantially as described. 34th. In a knitting machine, the combination, with the needle bed, its needles, the reciprocating cam frame, the needle actuating cams therein supported, the slide bar and provisions whereby it is operatively connected with said cams, of the fixed end stop, the movable end stop or block provided with the offset therein, the rock shaft adapted to support said block, the rock shaft, the arm on the extremity of the latter, the measuring device, such as the described chain, with which said latter arm engages and by which it is actuated, and means, such as the cam and pawl and ratchet mechanism, adapted to operate said measuring device, substantially as described. 35th. In a knitting machine, the combination, with the needle bed provided with the open needle grooves, the needles therein, and the reciprocating needle actuating cams, of the shaft O, the right and left hand screws thereon, the nuts on said screws, the fingers pivoted on said nuts and adapted to engage and actuate the needles, the longitudinally movable and rotatable studs on said shaft adapted to actuate said fingers, substantially as described, means, such as the springs o^{24} , adapted to return said fingers to their normal position, clutch mechanism such as the described gear devices, the interposed sliding sleeve, the rock shaft o^{25} , con-