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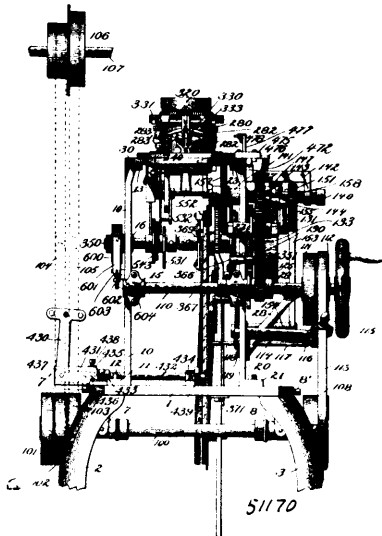
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INVENTIONS PATENTED.

NOTE.—Patents are granted for 18 years. The term of years for which the fee has been paid, is given after the date of the patent.

No. 51,170. Circular Knitting Machine.

(Machine à tricoter circulaire.)



The Providence Knitting Machine Company, Providence, Rhode Island, Assignee of Joseph Albert Burleigh, Laconia, New Hampshire, both in the U.S.A., 1st February, 1896; 6 years. (Filed 17th September, 1895.)

Claim.—1st. In a circular knitting machine, the combination of a needle cylinder, a fixed support therefor, a movable support for said needle cylinder, and means for shifting the movable support to bring it into and out of engagement with the needle cylinder for elevating and depressing the latter. 2nd. In a circular knitting machine, the combination of a bed-plate for a knitting head provided with an internal notched flange, a needle cylinder provided on its bottom with studs which project through said notched flange, a cam ring

disposed underneath said flange and adapted to engage the studs on said needle cylinder for elevating the latter, and means for shifting said cam ring. 3rd. In a circular knitting machine, the combination of a bed-plate for a knitting head provided with an internal notched flange, a needle cylinder provided on its bottom with studs which project through said notched flange, a cam ring disposed underneath said flange adapted to engage the studs on said needle cylinder for elevating the latter, and two separating actuating mechanisms for said cam ring, one of which operates during the knitting of the calf of the leg, and the other during the knitting of the heel and toe. 4th. In a circular knitting machine, the combination of a bed-plate for a knitting head provided with an internal notched flange, a needle cylinder provided on its bottom with studs which project through said notched flange, a cam ring disposed underneath said flange and adapted to engage said studs on said needle cylinder for elevating the latter, said cam ring being provided with a radial arm, a spring retracted slide rod engaging said radial arm, and means for actuating said slide rod. 5th. In a circular knitting machine, the combination of a bed-plate for a knitting head, provided with an internal notched flange, a needle cylinder provided on its bottom with studs which project through said notched flange, a cam ring disposed underneath said flange and adapted to engage said studs on said needle cylinder for elevating the latter, said cam ring being provided with a radial arm, a spring retracted slide rod engaging said radial arm, and two separate mechanisms for actuating said slide rod at different periods. 6th. In a circular knitting machine, the combination of a bed-plate for a knitting head provided with an internal notched flange, a needle cylinder provided on its bottom with studs which project through said notched flange, a cam ring disposed underneath said flange and adapted to engage said studs on said needle cylinder for elevating the latter, said cam ring being provided with a radial arm, a spring retracted slide rod engaging said radial arm, and two separate mechanisms for actuating said slide rod at different periods, one of said mechanisms imparting a partial stroke to said rod to actuate the cam ring and the other operating to thrust said rod and gradually withdraw it whereby said cylinder is gradually lowered. 7th. In a circular knitting machine, the combination of a needle cylinder, a vertically movable cam ring disposed below said cylinder and provided with cams on its under side, studs between the needle cylinder and cam ring, detachable supports for said cam ring engaged by said cams, and means for shifting said cam ring to raise or lower it and the needle cylinder. 8th. In a knitting machine, the combination of a needle cylinder, a fixed support therefor, a vertically movable cam ring provided with cams on its under side, studs between the needle cylinder and cam ring, supports for said cam ring engaged by said cam, and means for shifting said cam ring to raise or lower it into and out of contact with the said needle cylinder to elevate and depress said cylinder during the engagement with said cam ring. 9th. In a circular knitting machine, the combination of a knitting head whereof the rotary cam cylinder is provided with separate sets of narrowing and widening cams, and with means for positively throwing the widening cams into operative and inoperative position, a spring actuated lever for actuating said means, and a spring actuated latch for locking said lever, whereby on disengagement of the lever by the latch, the lever moves under the stress of the spring. 10th. In a circular knitting machine, the combination of a knitting head whereof the rotary cam cylinder is provided with separate sets of widening and narrowing cams, and with means for positively throwing the widening cams into operative and inoperative position, a lever for actuating said means, a bracket, and a spring actuated latch pivoted to the side of the bracket, and having a nose to project across the path of said lever for locking it. 11th. In a circular knitting machine, the combination of a knitting head whereof the rotary cam cylinder is provided with separate sets of narrowing and