

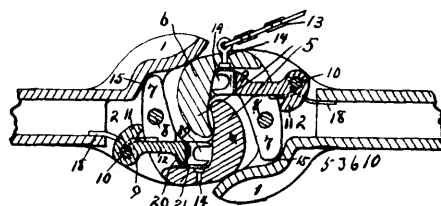
rollers also having a yielding bearing, a pair of feed rollers similarly arranged just beyond the pressure rollers, and the journal of one of said feed rollers having also a yielding bearing, a feed-regulating device comprising a pair of cone pulleys mounted on transverse shafts in a frame so as to be almost but not quite in contact, and a movable flexible contact ring around one of said cone pulleys and in contact with both, a lever and link connection between the movable flexible contact ring of the feed-regulating device and the yielding bearing of the lower feed roller, a main driving shaft, a bevel gear connection between the main driving shaft and the shaft of the upper cone pulley, a small independent pulley and a stepped-cone pulley on the shaft of the lower cone pulley, a transverse shaft above the feed-regulating device carrying a small independent pulley, and a stepped-cone pulley, a belt connecting the said two stepped-cone pulleys, pinions on the journals of the rollers of the delivery ends of the feed belts, a gear wheel on one end of the upper picker roller, a train of gears meshing therewith and with the pinion of the adjacent roller journal of the first feed belt, a linked-strap and pinion connection, on the other side of the machine, between the journals of the said pair of picker rollers, a like linked-strap and pinion connection between the journals of the pressure rollers, a gear wheel on the other end of the journal of the upper pressure roller, in mesh with the pinion of the adjacent roller-journal of the second feed belt, a stud on the frame carrying a large pulley and a pinion rigid therewith, said pinion being in mesh with the large gear wheel of the journal of the upper pressure roller, a like large gear wheel on the adjacent end of the journal of the upper feed roller, in mesh with the pinion on the stud, a like stud carrying a large pulley and a pinion rigid therewith in gear with the large gear wheel on the journal of the first named picker roller, a belt connecting the last named large pulley with the small independent pulley on the transverse shaft above the feed-regulating device, and another belt connecting the small independent pulley on the shaft of the lower cone pulley with the large pulley on the stud between the gear wheels of the upper pressure and feed rollers, substantially as set forth. 13th. The combination, with a suitable frame, of a former tube and mandrel supported thereby, a pair of delivery rollers arranged one above the other, the journal of the lower roller being mounted in yielding bearings, a glue pot spout interposed between the forward end of the mandrel and the said rollers, a main driving shaft having a bevel gear connection with the journal of the upper delivery roller, a bracket provided with an arc-slot, secured to the main frame, and through which bracket the main driving shaft passes, a pair of compressing rollers journaled near the end of the main frame, a train of gears connecting the said rollers with the upper delivery roller, a stationary blade projecting from the end of the machine, a knife shaft carrying a revolving knife at one end, and at its other end passing through said bracket and there carrying a pinion, a removable collar on the said knife shaft between the bracket and the pinion, an adjusting lever mounted loosely on the main driving shaft close to and on one side of the bracket, and a pinion rigid on said shaft on the other side of the bracket, a stud projecting from the bracket carrying a compound pinion loosely mounted thereon for engagement with the pinion on the main driving shaft and the pinion on the knife-shaft, and a bolt passing through the adjusting lever and through the arc-slot in the bracket and carrying a tightening nut on its end, substantially as set forth. 14th. The combination with a suitable frame, of a carding cylinder provided with retracting teeth, an endless feed belt located beneath the same, a pressure and guide roller having a journal mounted in oblique slots in the side pieces of the frame, an idler-roller beneath the last named roller, within the endless feed-belt, a paper-supporting frame on a plane below said endless belt, carrying a roll of fabric, a transverse roller for said fabric beneath the delivery end roller of said endless belt, a main driving shaft, a pair of large rollers, arranged one above the other, and with the journal of the lower roller mounted in yielding bearings, and with the journal of the upper roller connected by a bevel gearing to the main driving shaft, a transverse shaft adjacent to said rollers, and carrying a pair of pulleys, a belt connecting one of said pulleys to the upper of said rollers, another belt connecting the other pulley on said shaft with the first named pressure and guide roller, a pair of movable upright frames, carrying vertical guide belts, extending between the pair of large rollers named and the delivery end of the feed belt, a cross timber on the main frame adjacent to the carrying-cylinder, and an arm pivotally attached to said cross timber, and carrying a roller at its lower end resting on the last named pulley belt, substantially as set forth.

No. 53,610. Car-Coupler. (*Attelage de chars.*)

Philip C. Brown and Joseph I. Irwin, both of Columbus, Indiana, U.S.A., 28th September, 1896; 6 years. (Filed 8th July, 1896.)

Claim.—1st. In a car-coupling, the combination with the draw-head thereof, of a horizontally swinging knuckle pivoted in the draw-head, having a buffer surface so sloped that the point of contact of two such knuckles impacting will be such as to force the said knuckles open, and having another portion adapted to receive an impact from the co-operating knuckle and thereby throw said knuckle inward and effect a coupling. 2nd. In a car-coupling, the combination with the draw-head having a guard-arm, of a horizontally swinging knuckle pivoted in the draw-head, having a buffer surface so sloped that the direction of pressure at the point of con-

tact of two such knuckles impacting, when both are closed and the draw-heads in alignment, will pass outside of the pivotal axes of



the knuckles, whereby the pressure will open the knuckles from their closed position, and having another portion projecting out of the mouth of the draw head except when the knuckle is in its closed position and arranged to subsequently receive an impact from the co-operating knuckle to throw the knuckle inward and effect a coupling, substantially as described. 3rd. In a car-coupling, the combination with the draw-head having a guard-arm, of a horizontally swinging knuckle pivoted in the draw-head, having a buffer surface so sloped that the direction of pressure at the point of contact of two such knuckles impacting, when both are closed and with the draw-heads in alignment, will pass outside of the pivotal axes of the knuckles, whereby the pressure will open the knuckles from their closed position, and having another portion projecting out of the mouth of the draw-head except when the knuckle is in its closed position, and arranged to subsequently receive an impact from the co-operating knuckle to throw the knuckle inward, and effect a coupling, and independent means for so throwing said knuckle, substantially as described. 4th. In a car-coupling, the combination with the draw-head having a guard-arm, of a horizontally swinging knuckle pivoted in the draw-head, having a buffer surface so sloped that the direction of pressure at the point of contact of two such knuckles impacting, when the knuckles are closed and with the draw-heads in alignment, will pass outside of the pivotal axes of the knuckles, whereby the pressure will open said knuckles from their closed position, and having another portion projecting out of the mouth of the draw-head except when the knuckle is in its closed position, and arranged to receive an impact from the co-operating knuckle to throw the knuckle inward and thereby effect a coupling, and a spring for throwing said knuckle, substantially as described. 5th. In a car-coupling, the combination with the draw-head having a guard-arm, of a horizontally swinging knuckle pivoted in the draw-head, having a buffer surface so sloped that the direction of pressure at the point of contact of two such knuckles impacting, when both are closed and with the draw-heads in alignment, will pass outside the pivotal axes of the knuckles, whereby the pressure will open the knuckles from their closed position, and a lever pivoted upon the draw-head and projecting out of the mouth thereof and arranged to close said knuckle by impact of the co-operating knuckle, substantially as described. 6th. In a car-coupling, the combination with the draw-head having a guard-arm, of a horizontally swinging knuckle pivoted on the draw-head, a lever arranged to be actuated by the entering end of the similar knuckle of the opposite draw-head to throw the knuckle inward and effect a coupling, and means, independent of said entering end, for actuating said lever, substantially as described. 7th. In a car-coupling, the combination with the draw-head having a guard-arm, of a horizontally swinging knuckle pivoted on the draw-head, a lever arranged to be actuated by the entering end of the similar knuckle of the opposite draw-head to throw the knuckle inward, and a spring for so throwing said knuckle, substantially as described. 8th. In a car-coupling, the combination with the draw-head having a guard-arm, of the horizontally swinging knuckle pivoted on the draw-head, a movable guard arranged to be actuated by the entering end of a similar knuckle of the opposite draw-head, said guard having an operative connection with the first knuckle whereby the latter will be moved inward, or closed, by the impact of the opposite knuckle, and independent means for closing said knuckle, substantially as described. 9th. In a car-coupling, the combination with the draw-head having a guard-arm, of a knuckle pivoted on the draw-head and a guard lever pivoted on the draw-head, one arm of said lever being arranged to be actuated by the entering end of a similar knuckle of the opposite draw-head, and the other arm engaging the first knuckle so as to throw it inward, substantially as described. 10th. In a car coupling, the combination with the draw head having a guard-arm, of the horizontally swinging knuckle pivoted on the draw-head, a guard-lever pivoted on the draw-head, one arm of said lever being arranged so as to be actuated by the entering end of a similar knuckle of the opposite draw-head, and the other arm engaging the first knuckle so as to throw it inward, and independent means for actuating said knuckle, substantially as described. 11th. In a car-coupling, the combination with the draw-head having a guard-arm, of the horizontally swinging knuckle pivoted on the draw-head, and a guard-lever pivoted on the draw-head in the rear of the knuckle and having an arm interposed between said knuckle and the entering end of the similar knuckle of the opposite draw-head and actuated by said end, said lever also having an arm engaging the first knuckle so as to throw it inward, substantially as described. 12th. In a car-coupling, the combi-