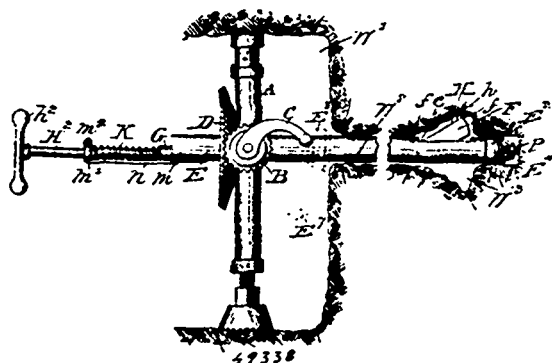


Claim.—1st. In a jacquard mechanism for looms, the combination of the harness bands, a series of tail cords connected to each of the harness bands, and means for operating the tail cords whereby at one operation of the loom both the figure and ground may be woven, substantially as specified. 2nd. In a jacquard mechanism for looms, the combination of a series of trap boards the harness bands, a tail cord passing through each of the trap boards, one tail cord from each trap board connected to a single harness band, and means for operating the tail cords to lift the harness band, substantially as specified. 3rd. In a jacquard mechanism for looms, the combination of the frame, two trap boards vertically movable in the frame, a tail cord passing through each of the trap boards, a harness band to which each of the tail cords is connected, and a needle for moving the tail cords, substantially as specified. 4th. In a jacquard mechanism for looms, the combination of the frame, two trap boards vertically movable in the frame and arranged to be lifted alternately, two tail cords connected to the frame and arranged to pass one through each of the said trap boards, a harness band, the lower ends of both the tail cords connected to the harness band, a needle to operate the tail cords and a pattern cylinder, substantially as specified. 5th. In a jacquard mechanism for looms, the combination of the frame, a top board for the frame, two trap boards vertically movable in the frame, two tail cords connected to the top board, one passing through each of the said trap boards, a needle to operate the said tail cords, a harness band to which each of the tail cords is connected, and a pattern cylinder to operate the needle and tail cords, substantially as specified. 6th. In a jacquard mechanism for looms, the combination of the frame, a top board for the frame, two trap boards vertically movable in the frame, two tail cords connected to the top board, one passing through each of the said trap boards, a needle to operate the said tail cords, a harness band to which each of the tail cords is connected, a pattern cylinder to operate the needle and tail cords, a guide board below the trap boards through which each of the tail cords passes, and a sinker connected to each of the tail cords below the guide, substantially as specified.

No. 49,338. Reamers, etc. (Alésoir, etc.)



Robert Habersham Elliott, Birmingham, and John Bruce Carrington, Jasper, both of Alabama, U.S.A., 25th June, 1895; 6 years.

Claim.—1st. In a drill of the character described, the combination with an air pipe, of a hollow tube revolvably connected thereto and receiving air therefrom, and means for revolving the same, of a cutter mounted in said tube, means for moving said cutter beyond the circumference of said tube, and means for blowing air through said pipe and said tube for the purpose of carrying off the cuttings, substantially as described. 2nd. In a mining drill of the character described, the combination with a rotating tube slotted near the forward end thereof, of a wing pivoted in said tube and adapted to swing outward through said slot, the said wing being provided with a longitudinal groove therein, an auxiliary cutter moving in said groove, and means for pressing said wing outwards, substantially as described. 3rd. In a mining drill of the character described, the combination with a spindle or drill body and means for rotating the same, of an extensory wing provided with a guideway therein, and an auxiliary cutter moving in said guideway, substantially as described. 4th. In a mining drill of the character described, the combination with a spindle or drill body and means for rotating the same, of an extensory wing provided with an inclined longitudinal guideway therein, an auxiliary cutter mounted in said guideway, and means for moving said cutter backwards and forwards, substantially as described. 5th. In a mining drill of the character described, the combination with a rotary spindle or drill body, of an extensory wing pivoted thereto and provided with a guideway therein, a yielding elastic device for pressing said wing outwards, an auxiliary cutter moving in said guideway, and means for moving said cutter backwards and forwards, substantially as described. 6th. In a mining drill of the character described, the combination with a rotary tube slotted near the forward end thereof, of an extensory wing pivoted in said tube and adapted to swing outward through said slot, the said wing being provided with a

guideway therein, an auxiliary cutter mounted in said guideway, a rod movable longitudinally in said tube, and links connecting said rod and said auxiliary cutter, substantially as described. 7th. In a mining drill of the character described, the combination with a spindle or drill body and means for rotating the same, of an extensory wing provided with a guideway therein, and means for swinging said wing outwards about its pivot, and an auxiliary cutter mounted in said guideway, and means for moving said auxiliary cutter, substantially as described. 8th. In a mining drill of the character described, the combination with a rotating tube slotted near the forward end thereof, of a wing pivoted in said tube and adapted to swing outward through said slot, the said wing being provided with a longitudinal groove therein, an auxiliary cutter mounted in said groove, a yielding elastic device for pressing said wing outwards, a rod extending inwardly into said tube and projecting from the rear thereof, and links connecting said rod with said auxiliary cutter, substantially as described. 9th. In a mining drill of the character described, the combination with a spindle or drill body and means for rotating the same, of an extensory wing provided with a longitudinal guideway therein, an auxiliary cutter mounted in said guideway, and a rod and flexible connection between it and said cutter, for moving said cutter backwards and forwards in said guideway, substantially as described. 10th. In a mining drill of the character described, the combination with a spindle or drill body and means for rotating the same, of an extensory wing provided with a longitudinal guideway therein with bottom sloping as shown, an auxiliary cutter mounted in said guideway, and adapted to move up said inclined bottom of said guideway, and a rod and a flexible connection between it and said cutter for moving said cutter backwards and forwards in said guideway, substantially as described. 11th. In a mining drill of the character described, the combination with a rotary tube slotted near the forward end thereof, of an extensory wing pivoted in said tube and adapted to swing outward through said slot, the said wing being provided with a guideway therein, an auxiliary cutter mounted in said guideway, a rod movable longitudinally in said tube, links connecting said rod and said auxiliary cutter, and an air blast passing through said tube for carrying off the chips or cuttings, substantially as described. 12th. In a mining drill of the character described, the combination with a rotating tube slotted near the forward end thereof, of a wing pivoted in said tube and adapted to swing outward through said slot, the said wing being provided with a longitudinal groove therein, an auxiliary cutter mounted in said groove, a yielding elastic device for pressing said wing outwards, a rod extending inwardly into said tube and projecting from the rear thereof, links connecting said rod with said auxiliary cutter, and an air blast passing through said tube for carrying off the chips or cuttings, substantially as described. 13th. The combination, with a reamer spindle of a centering device forming a journal bearing for the forward end thereof, the said centering device being provided with three or more extensory arms adapted to press outward when said centering device is subjected to longitudinal pressure, substantially as described. 14th. The combination, with a reamer spindle, of a cap forming a journal bearing therefor, a sliding cap mounted on said first cap, and extensory arms connected to said first cap and operated by said sliding cap, substantially as described. 15th. The combination, with a reamer spindle, of a centering device forming a journal bearing for the forward end thereof, the said centering device being provided with three or more extensory arms adapted to press outward when said centering device is subjected to longitudinal pressure, with a spring normally drawing said extensory arms inwards towards the axis of the reamer spindle, substantially as described. 16th. The combination, with a reamer spindle, of a cap forming a journal bearing therefor, a sliding cap mounted on said first cap, and extensory arms connected to said first cap and operated by said sliding cap, and a spring interposed between said caps and normally tending to draw said arms inwards towards the axis of the reamer spindle, substantially as described. 17th. In a reamer spindle centering device, the combination with the reamer spindle, of a cap forming a journal bearing therefor and terminating in a forwardly projecting lug, a sliding cap normally projecting beyond the end of said lug, and extensory arms connected to said first cap and operated by pressure on said sliding cap, substantially as described. 18th. In a reamer spindle centering device, the combination with the reamer spindle, of a cap forming a journal bearing therefor and terminating in a forwardly projecting lug, a sliding cap normally projecting beyond the end of said lug, and extensory arms connected to said first cap and operated by pressure on said sliding cap, and a spring interposed between said caps and normally tending to press forward said sliding cap, substantially as described. 19th. In a reamer spindle centering device, the combination with the reamer spindle, of a cap forming a journal bearing therefor and terminating in a forwardly projecting lug, a sliding cap normally projecting beyond the end of said lug, and toggle-joints connected to each of said caps and operated by pressure on said sliding cap, substantially as described. 20th. In a reamer spindle centering device, the combination with the reamer spindle, of a cap forming a journal bearing therefor and terminating in a forwardly projecting lug, a sliding cap normally projecting beyond the end of said lug, and toggle-joints connected to each of said caps and operated by pressure on said sliding cap, and a spring interposed between said caps and normally tending to press forward said sliding cap, substantially as described.