

strip and each of the controllable members of the matrix adjusting and justifying mechanisms. 17th. In a machine for making justified lines of types adapted to be controlled by a single strip perforated at intervals to represent the individual types in a line, the types to be varied in width as compared with the normal to effect justification, the amount or degree of variation for each of the selected types, the suspension of the casting operation, and the resetting of the justification mechanism, preliminary to its adjustment for the next line, the combination with said controlling strip of a mould adjustable in width, a series of movable matrices or discs co-operating with the mould and provided with controllable devices for determining the location of the several matrices opposite the mould, justifying mechanism for varying the width of the mould provided with controllable devices for effecting its adjustment, for re-setting it, and for causing it to operate upon the mould, a metal injecting apparatus furnished with a controllable stop for arresting the flow of metal to the mould, and a pneumatic system governed by the perforated strip and including the controllable members of the matrix mechanism, of the justifying mechanism and of the injecting mechanism. 18th. In a machine for making justified lines of type adapted to be controlled by a single strip perforated at intervals to represent the individual types comprising the line, the degree of variation to be effected in width of some or all of the types, the stopping of the flow of molten metal, the re-setting of the justifying mechanism and the transfer of the completed line to the galley, the combination with said controlling strip of the mould, the movable series of matrices, the justifying mechanism, the metal injecting mechanism, a galley mechanism, and the pneumatic system governed by said strip and actuating the controllable members of the matrix shifting mechanism, of the justifying mechanism, of the metal injecting mechanism, and of the galley mechanism. 19th. A die case provided with an open frame and a series of independent die or matrix blocks suspended upon transverse rods, the latter supported at the ends in said frame, substantially as described. 20th. A die case, comprising an open frame, a series of die or matrix blocks arranged in parallel lines within said frame, each line of blocks supported upon a rod extending transversely through all the blocks in the line and attached at its ends to the side bars of the frame, substantially as described. 21st. A die case for use in a machine such as described, the same including an open frame, a series of die or matrix blocks each provided with a transverse perforation, a matrix cavity or die case at one end, and a conical or tapering centering recess at the opposite end, said blocks being supported in lines upon parallel rods whose opposite ends are held in bearings in the side bars of the frame. 22nd. In a machine such as described, the combination with the supporting plate sustained upon elastic supports permitting vertical movement, of the supporting frame mounted to reciprocate horizontally upon said supporting plate, and the die case carried by said supporting frame and capable of reciprocating horizontally thereon in a direction transverse to the line of movement of said supporting frame upon the supporting plate. 23rd. The combination of the die case mounted to reciprocate in transverse lines and provided with a series of independent matrix blocks each furnished with a conical centering aperture, yielding supports for said die case permitting movement of the latter in a direction transverse to its first named reciprocating motions, and a plunger provided with a tapering pin adapted to enter the conical aperture of the die block when brought opposite thereto, and, by its forward motion, to first center the die block, and then advance the die case, substantially as and for the purpose set forth. 24th. The combination with the die case, the supporting frame, the supporting plate and the plunger, of the means for guiding and sustaining the supporting plate and actuating the plunger, to center the die or matrix blocks and reciprocate the die case and its supports, the same comprising rods attached to the supporting plate, the yoke connecting said rods, the springs for retracting and holding the supporting plate and its attachments, the two collars on the plunger, the loose sleeve and spring interposed between said collars, and the actuating lever engaging the sleeve. 25th. In combination with the horizontally reciprocating and vertically movable die case provided with a series of independent matrix or die blocks, the vertically reciprocating plunger provided with a centreing device for engaging and centreing the matrix blocks, yielding supports, such as springs, for upholding the die case so that the plunger will operate to first centre the matrix block and then depress the die case. 26th. In a type making mechanism, the combination of a stationary mould, a die case provided with a series of independent matrix blocks and supported to reciprocate in a plane substantially at right angles to the axis of the mould, and to move bodily towards and from the mould, yielding devices for holding the die case normally removed from the mould, a centreing plunger reciprocating towards and from the mould and engaging the interposed matrix block, to first centre it and then advance the die case towards the mould and hold the centered matrix block tightly against the end of the mould, devices for actuating the die case to locate the matrix blocks in line with the plunger and actuating devices for the plunger. 27th. In a type making mechanism, the combination of the mould, the movable die case provided with a series of independent matrix blocks, actuating devices for shifting the die case to bring any one of the matrix blocks in line with the mould, a reciprocating plunger provided with a centreing device for centreing the matrix block, advancing the die case towards the mould, and seating the centered matrix block against the mould, and actuating

mechanism for the plunger furnished with a yielding device serving to maintain the matrix block in position on the mould under elastic pressure, and permitting it to yield in case an obstacle is encountered. 28th. As a means for locating or positioning any one of a series of dies or matrices opposite a centreing point or station, the combination of a die case or carrier supported to reciprocate across the centreing point and provided with dies or matrices arranged serially in the direction of the motion of the die case, a driving member, such for example as a lever, to which a reciprocating motion of uniform extent is imparted, a yielding connection between said reciprocating driving member and the die case such as will permit the latter to be arrested while the driving member continues in motion, and a series of controllable stops located in proximity in the path traversed by the die case or some part connected and moving in unison therewith, said stops being spaced to correspond with the serial spacing of the dies or matrices, so that when any one of said stops is projected into the path of the die case or a part connected therewith, it will serve to arrest the motion of the die case with the corresponding die or matrix at the centreing point. 29th. The combination of a die case supported to reciprocate transversely of or across the centreing point or station, and provided with a plurality of dies or matrices serially arranged in the direction of the reciprocating movements of the die case, a driving member or lever to which a uniform degree of motion is imparted, a yielding connection between said driving member and the die case, causing the two to normally reciprocate in unison but permitting the die case to be arrested while the driving member continues in motion, and a plurality of stops, each adapted to be projected into the path traversed by a part connected to and reciprocating in unison with the die case, said stops being spaced to correspond with the serial spacing of the matrices or dies and operating to arrest the die case with corresponding die or matrix at the centreing point. 30th. In combination with the reciprocating die case, its reciprocating driving member or lever, and the interposed yielding connection through which the motion of the driver is communicated to the die case, a pawl mounted to reciprocate in unison with the die case, a fixed series of teeth with which said pawl is adapted to co-operate and a series of controllable stop pins adapted to be separately projected into the path traversed by the pawl, and by engaging the latter, to throw the pawl into engagement with the teeth and thus arrest the die case. 31st. The combination with the reciprocating die case, the slide connected thereto, the reciprocating driving member or lever having a uniform excursion, and a yielding connection between said driving member and the slide, of the two armed pawls carried by said slide, the ratchet plates, and the stop pins for operating upon the pawls to cause their engagement with the ratchet plates and thereby arrest the movement of the die case at any of the different points in its travels determined by the position of the stop pin employed for the purpose. 32nd. The combination of a die case mounted to reciprocate and provided with a plurality of dies or matrices, and two independent actuating mechanisms operating in intersecting planes on the die case, to control its position, each of said actuating mechanisms comprising a driving member, an intermediate yielding connection, a pawl or pawls reciprocating in unison with the die case, ratchet teeth, and a series of controllable stop pins for causing the engagement of the pawl or pawls with the ratchet teeth, to arrest the die case at different points in its movement. 33rd. The combination in a type making mechanism such as described, of the following elements, to wit: a stationary mould, a die case provided with a plurality of dies or matrices and supported to reciprocate across the end of the mould, two actuating mechanisms controlling the movements of the die case in intersecting planes, each of said mechanisms including a driving member, a yielding connection, pawls, ratchet teeth, and controllable stop pins, and a centering plunger operating to centre the selected die or matrix opposite the mould, and press and hold it in contact with the latter while the type is being formed. 34th. The combination in a type making mechanism such as described, of the following elements, to wit: a stationary mould, metal injecting mechanism, a die case provided with independent matrix blocks arranged serially on intersecting lines, said die case being mounted to reciprocate transversely of and across the end of the mould, two actuating mechanisms for controlling the position of the die case, acting on intersecting lines and each provided with a reciprocating pawl or pawls, fixed ratchet teeth, and controllable stop pins, and a plunger provided with a centering device for engaging the selected matrix block and bring it into contact with the mould preliminary to the injection of the metal therein. 35th. In a type forming mechanism the combination of the following elements, to wit: a stationary mould, a centering plunger in line with and opposite one end of said mould, a die case arranged to reciprocate between the plunger and mould in a plane at right angles to the axis of the mould and plunger, said die case being provided with a series of independent matrices, two actuating mechanisms operating at right angles to control the movements and position of the die case, each of said mechanisms comprising a driving member having a uniform degree of motion, a yielding connection, reciprocating pawls, stationary ratchet teeth and controllable stoppings, and mechanisms for actuating the plunger, to centre the selected matrix and hold it in contact with the mould. 36th. In a type making mechanism such as described, the combination of the following parts, to wit: the stationary mould, the die case and its supports including the supporting frame and the supporting plate, and two die case actuating mechanisms, the one connected to the