

as described. 17th. In a calculating machine, the combination with a key board comprising series of independently movable keys, of locking plates common to the several series of keys for locking a depressed key in its lowered position, and the remaining keys in an elevated position, slide bars which are movable independently of said locking plates, a handle connected to said bars for operating the same, and devices operated by the handle for restoring all of the locking plates to effect the release of the depressed keys, substantially as described. 18th. In a calculating machine, the combination with a series of independently movable keys, of locking plates common to the several series of keys for locking any depressed key of a series in its lowered position, and the remaining keys of that series in an elevated position, a pivoted frame against which the locking plates abut in their forward movement, and a lever for operating said frame and effecting a manual restoration of the locking plates to release all the depressed keys, substantially as described. 19th. In a calculating machine, the combination with a key board comprising series of independently movable keys, of locking plates common to the several series of keys for locking the depressed key in its lowered position, and the remaining keys in an elevated position, a series of latch pins co-operating with the locking plates, slide bars provided with projections for co-operating with stops set up by the different keys, a handle for moving said slide bars forwardly until they are arrested by the key stops, adding wheels, means for connecting wheels with the slide bars after said bars have been arrested, a rearward movement of the handle restoring the slide bars and rotating their connected adding wheels, and mechanism connected with the handle for restoring the locking plates and releasing the keys only when the handle has started on its rearward movement, substantially as described. 20th. The combination with a key board, for setting up stops, in which keyboard are included sliding plates for holding the operated keys in a depressed position, of slide bars co-operating with the key stops, adding wheels, which are connected with the slide bars when said bars are arrested in their forward movement by the key stops, latch pins co-operating with the slide bars and with the locking plates, springs for holding said latch pins in position against the slide bars, a bar common to all of the locking plates, and mechanism operated by the handle for actuating said bar to restore the locking plates and release the keys, said mechanism also relieving the latch pins of restraint so that they are in position to co-operate with their respective slide bars, substantially as described. 21st. The combination with a key board for setting up stops, in which key board are included sliding plates for locking operated keys in a depressed position, of levers in the path of movement of said locking plates, latch pins operated by said levers, a rocking frame for co-operating with the sliding plates, a cam shaft co-operating with the rocking frame, a tappet on the end of said cam shaft, an operating handle, and means connected to said handle and co-operating with said tappet for rocking the frame when said handle is moving in one direction, substantially as described. 22nd. The combination with the key board, in which are included sliding locking plates, of a rocking frame for co-operating with said plates, a cam shaft for rocking said frame, a tappet mounted on said cam shaft, a sliding rod provided with a lateral projection for co-operating with said tappet, and an operating handle for moving said sliding rod, substantially as described. 23rd. The combination with a key board, in which are included locking plates, of an operating handle, mechanism operated by said handle for restoring said locking plates, and means for rendering the restoring mechanism operated by the handle, inoperative, substantially as described. 24th. The combination with a key board, in which are included locking plates, of a rocking frame for restoring said plates, an operating handle, mechanism actuated by said handle for rocking said frame to restore the plate, and devices under control of the operator for rendering the handle operated mechanism, inoperative, substantially as described. 25th. The combination with a key board, in which are included sliding locking plates, of a rocking frame for restoring said plates, a cam shaft for rocking said frame, a tappet on said cam shaft, an operating handle, devices operated by said handle for engaging said tappet and rocking the cam shaft in one direction, and a manually operable device for engaging the tappet and throwing it out of the path of the handle operated mechanism, substantially as described. 26th. The combination with the key board, in which are included sliding plates, of a rocking frame for restoring said plates, a cam shaft for rocking said frame, a tappet loosely mounted on said shaft and locked against independent rotation in one direction, an operating handle, a slide bar provided with a lateral projection for co-operating with the tappet and rocking the cam shaft in one direction, and a repeating key for co-operating with said tappet and idly rotating the same on the cam shaft to throw said tappet out of the path of movement of the handle of the operated mechanism, substantially as described. 27th. The combination with a series of independently movable slide bars, of latches or detaining devices co-operating therewith, a bar common to all of said detaining devices, a lever for operating said bar, and an operating lever 127 for actuating said last-mentioned lever, substantially as described. 28th. The combination with a series of sliding bars, of detents therefor, a bar common to all of said detents, a lever 127, a rocking arm connected with said lever, and connections between said rocking arm and said bar for simultaneously operating said detents, substantially as described. 29th. The combination with sliding bars, of detents therefor, a frame carrying a bar designed to simultaneously engage said detents, a lever for operating said frame,

a rocking arm with which said lever co-operates, means for rocking said arm, and a spring for holding the frame and lever in position, substantially as described. 30th. The combination with sliding bars, of rock arms connected therewith, and friction devices for moving said rock arms and their connected sliding bars, substantially as described. 31st. The combination with sliding bars, of rock arms connected therewith, and friction devices for moving said rock arms and their connected sliding bars, said friction devices comprising spring pressed balls engaging said rock arms, substantially as described. 32nd. The combination with sliding bars, of a driving shaft, arms loosely mounted on said shaft, and having a slot and pin connection with said bars, and fixed arms on said driving shaft carrying spring pressed balls for co-operating with the loosely mounted bar arms, substantially as described. 33rd. The combination with sliding bars, of a shaft, arms 49 loosely mounted on said shaft and connected to said bars, rock arms fixedly mounted upon said shaft, and carrying spring pressed balls in their outer ends for co-operating with the arms 49, said arms 49 being provided with recesses or openings in the paths of the spring pressed balls, substantially as described. 34th. The combination with sliding bars, of a shaft 50, means for rocking said shaft, arms 49 loosely mounted upon said shaft and having slot and pin connections with said sliding bars, said arms being also provided with track extensions, rocking arms 52 fixedly mounted on said shaft, and spring pressed balls mounted in the ends of said arms 52, and co-operating with the arms 49, said arms 49 recessed in the paths of the balls to afford seats or sockets therefor, substantially as described. 35th. The combination with the main driving shaft 57, of a handle for operating said shaft, a rock arm on said shaft, a slide bar having a link connection with said rock arm, a rack on said sliding bar, a segment in mesh with said rack, a shaft which is rocked by said segment, and a dash pot whose plunger is vibrated by said last-mentioned rock shaft, substantially as described. 36th. The combination with a rock shaft, of a notched disc 75 mounted thereon, oppositely extending lateral projections on said disc, a double ended pawl co-operating with the notches in said disc, and tappets conjoined to said pawl and co-operating with the projections on the disc to throw one or the other end of said pawl into engagement with the disc, substantially as described. 37th. The combination with sliding bars, of pivoted racks carried thereby, adding wheels, a rocking frame for throwing said racks into and out of engagement with said adding wheels, an operating handle and friction devices between said handle and racks for frictionally driving said racks in a forward direction, said handle rocking the frame to throw said racks into engagement with the adding wheels, and returning said racks to rotate said adding wheels, substantially as described. 38th. The combination with sliding bars, of racks pivotally connected therewith, a rocking frame for carrying the free ends of said racks, an arm 109 for rocking said frame, adding wheels, and an operating handle for rocking the arm 109, and said frame and throwing the free ends of the pivoted racks into and out of engagement with the adding wheels, substantially as described. 39th. The combination with sliding bars, of pivoted racks connected therewith, said racks being slotted at their free ends, a rocking frame provided with a cross bar passing through the slots in the free ends of the pivoted racks, an arm 109 for rocking said frame, and an operating handle for rocking said arm 109, to raise and lower the free ends of the racks, substantially as described. 40th. The combination with sliding bars, of racks pivotally connected therewith and having their free ends slotted, adding wheels with which said racks are designed to mesh, a rocking frame carrying a member which passes through the slots in the pivoted racks, an arm 109, for rocking said frame, locking dogs for the adding wheels, and means on said rocking frame for co-operating with said dogs to unlock or release the adding wheels whenever the racks are thrown into engagement therewith, substantially as described. 41th. The combination with sliding bars, of slotted racks pivotally connected therewith, a rocking frame having a member which passes through the slots in said racks, an arm 109, for rocking said frame, adding wheels with which the racks are thrown into and out of engagement when the rocking frame is actuated, transferring devices for actuating the next adjacent adding wheels of higher order, and a centering device actuated by said rocking frame, and co-operating with the transferring devices, substantially as described. 42nd. The combination with slide bars, or racks pivotally connected therewith, a rocking frame for raising and lowering the free ends of said racks, an arm 109, for rocking said frame, adding wheels, transferring devices co-operating with said adding wheels to impart motion to the next adjacent adding wheel of higher order, an operating handle for restoring the slide bars and their carried racks to rotate the adding wheels, and mechanism positively operated by the operating handle previous to its restoring movement for actuating the transferring devices, substantially as described. 43rd. The combination with sliding bars, of pivoted racks carried thereby, adding wheels, a rocking frame for throwing said racks into and out of engagement with said adding wheels, transferring devices which are tripped by the adding wheels, key stops for arresting forward movement of the sliding bars, frictional devices moving said sliding bars forwardly, an operating handle for actuating said frictional devices, and mechanism for restoring the tripped transferring devices, said mechanism comprising a shaft, on which is arranged a series of projections in spiral order, substantially as described. 44th. The combination with adding wheels and means for operating the same, of transfer