

O. SMITH.
 COINING PRESS.
 APPLICATION FILED OCT. 24, 1902.

912,194.

Patented Feb. 9, 1909.

5 SHEETS—SHEET 1.

Fig. 1.

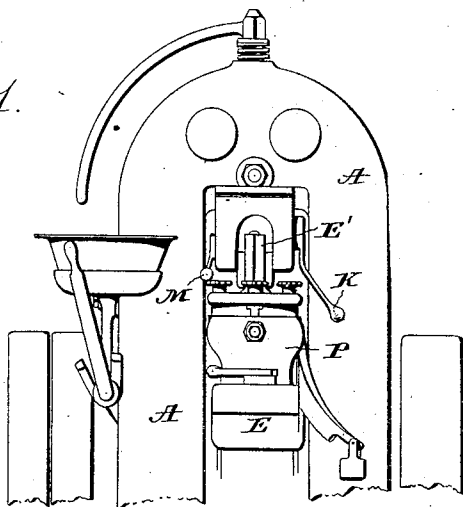
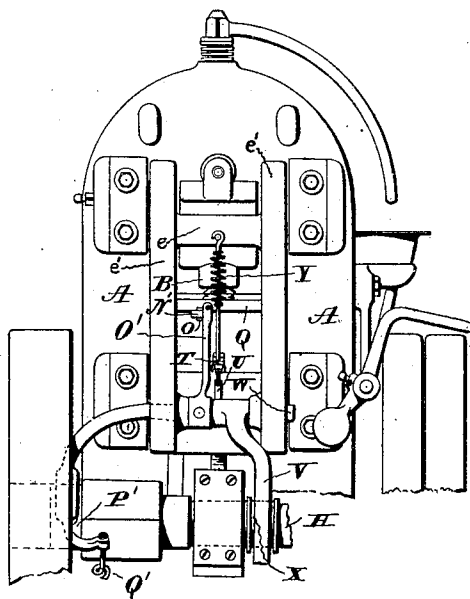


Fig. 2.



Witnesses:
James Hutchinson.
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Inventor.
Oberlin Smith,
by Edwin J. Prindle, his atty.

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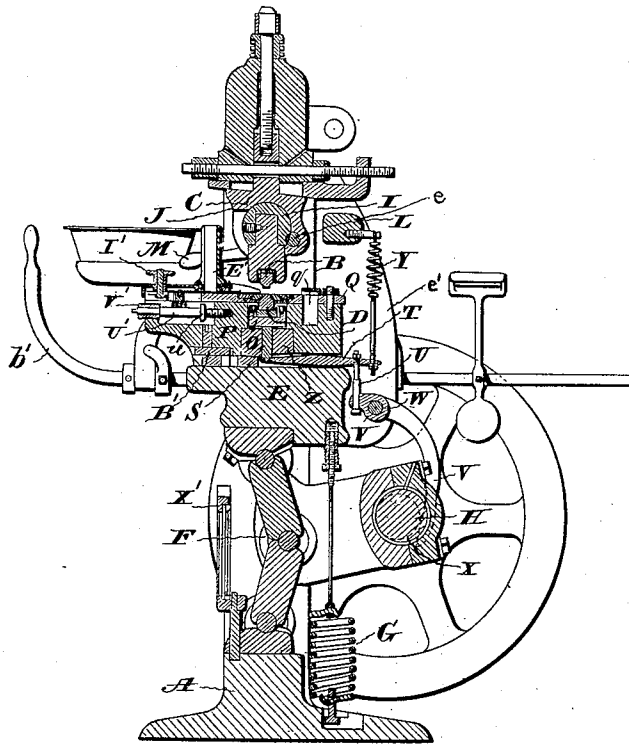
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5 SHEETS—SHEET 2.

Fig. 3.



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5 SHEETS—SHEET 3.

Fig. 4.

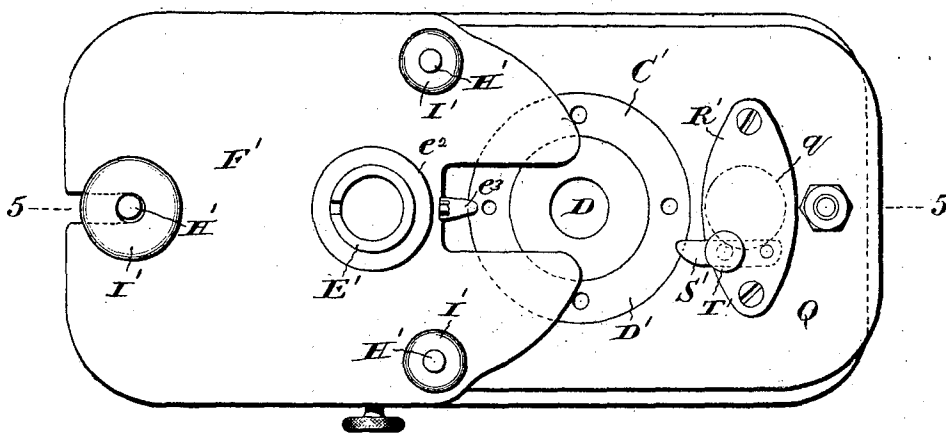
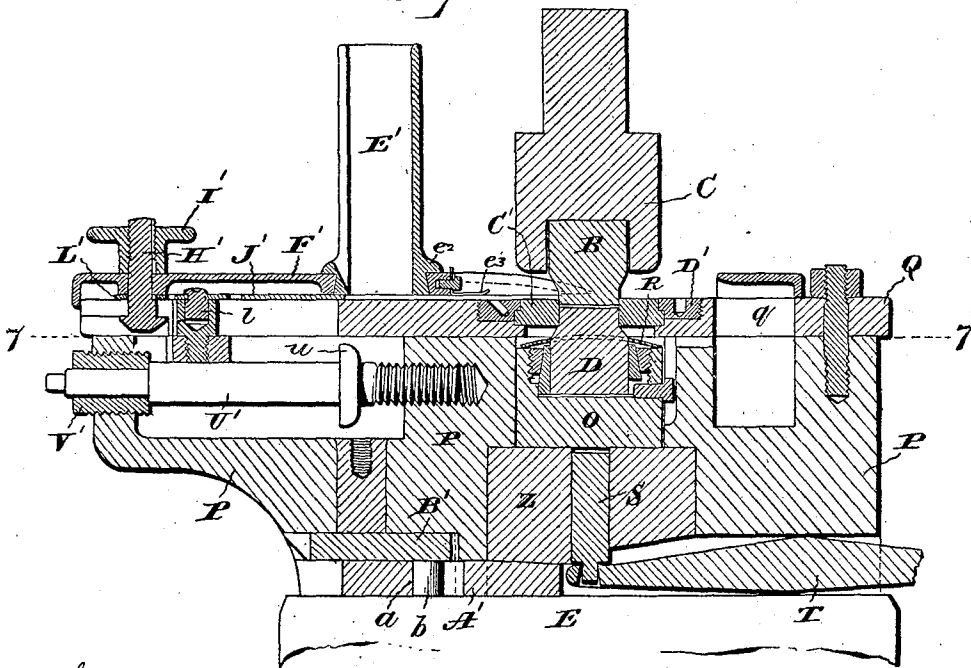


Fig. 5.



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Fig. 6.

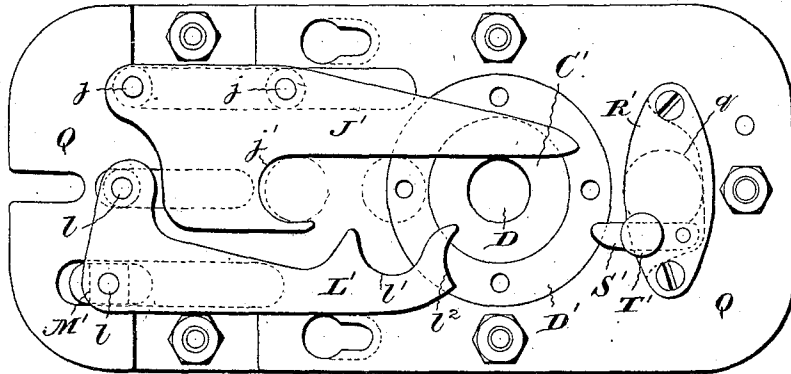
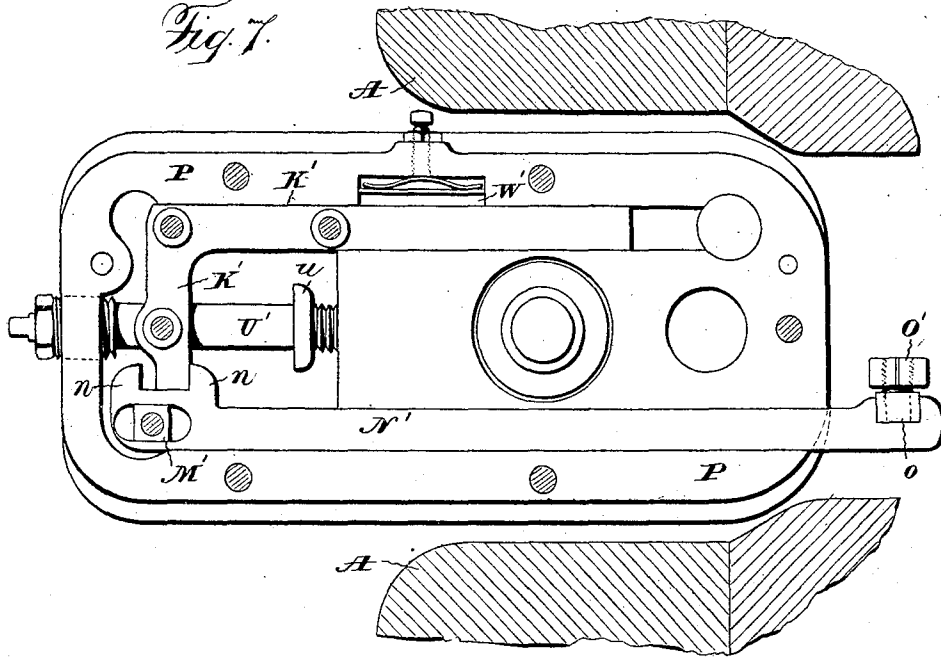


Fig. 7.



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 5 SHEETS—SHEET 5.

Fig. 8.

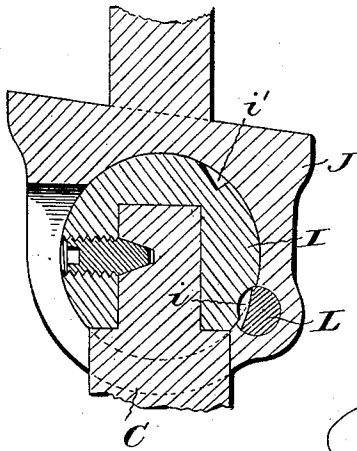


Fig. 9.

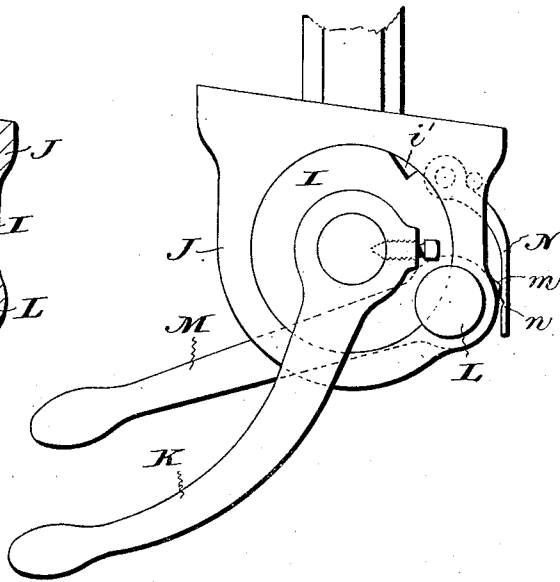
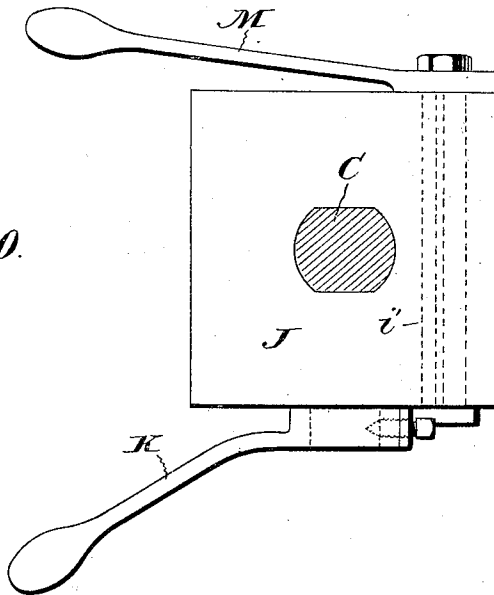


Fig. 10.



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UNITED STATES PATENT OFFICE.

OBERLIN SMITH, OF BRIDGETON, NEW JERSEY.

COINING-PRESS.

No. 912,194.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed October 24, 1902. Serial No. 128,654.

To all whom it may concern:

Be it known that I, OBERLIN SMITH, of Bridgeton, in the county of Cumberland, and in the State of New Jersey, have invented a certain new and useful Improvement in Coining-Presses, and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which:—

10 Figure 1 is the front elevation of the upper portion of a coining press embodying my improvement; Fig. 2 is a rear elevation of the same; Fig. 3 is a vertical section of said press embodying my invention; Fig. 4 is a detail view in plan with the upper die and the frame removed; Fig. 5 is a detail view in vertical section on the line 5—5 of Fig. 4; Fig. 6 is a detail view in plan showing the planchet feeding plates; Fig. 7 is a horizontal section on the line 7—7 of Fig. 5; Fig. 8 is a detail view in vertical section showing the pivot for the upper die-holder or chuck; Fig. 9 is a detail view inside elevation of the same; Fig. 10 is a detail view thereof in plan.

25 The object of my invention is the improvement of coining presses to the end of simplifying their construction, increasing their efficiency, and facilitating access to parts thereof for cleaning and for change when 30 coins of different sizes are to be made, and to this end my invention consists in the press having the construction of parts substantially as hereinafter specified and claimed.

In its general construction, the press in 35 which I illustrate my improvements as embodied is similar to the one covered by United States Patent, No. 574,227, granted to me Dec. 29th, 1896, there being employed, as in the press of said patent, a frame A 40 comprising a base and two vertical posts or columns rising therefrom and connected at their tops, an upper coining die B mounted in a hinged or swinging holder or chuck C, a lower die D, a vertically movable support 45 or ram E carrying the lower die, a toggle F for raising the ram, interposed between the ram and the frame base, a spring G for lowering the ram, and a crank driving shaft H.

The upper die chuck C is attached to a 50 horizontal rock shaft or pivot I that is journaled in a head J depending from the cross piece that connects the tops of the two posts or columns of the frame A, said head having as clearly shown in Figs. 3 and

8 a slot for the passage of the chuck to per- 55 mit the swing or movement of the latter to move the upper die to and from position for work. Attached to the shaft or pivot I at one end thereof is a handle K that extends to a convenient point for the operator to 60 grasp it to rotate the pivot to swing the chuck.

Fitted in an opening in the head J that extends parallel with the pivot axis and intersects the opening for the pivot is a rock 65 shaft L having one side cut away, and preferably on a curve of the same radius as that of the pivot, and in the side of the pivot is a longitudinal groove *i*. When the shaft L is turned to place the curved surface of its cut-away portion in coincidence with the curved surface of the periphery of the pivot I, the latter is free to be moved, while when the longitudinal groove *i* is contiguous to the shaft L, the latter may be turned to project 70 a portion of it out of the head opening in which it is mounted and into engagement with the groove *i*, and thus the pivot I will be locked. That portion of the shaft L which is moved into the pivot groove *i* has, 80 preferably, a cam or eccentric formation, so that, should the pivot I lack a little of being moved to place the upper die B in accurate alinement with the lower die, said eccentric or cam portion of the shaft L will operate 85 force the pivot to the position desired. The pivot I has a second angular, longitudinal groove *i'* for engagement by the portion of the shaft L opposite that which engages the groove *i*, to support the chuck when it is swung from its vertical, or die-working position, to a horizontal position. Attached to one end of the shaft L is a handle M for rocking the shaft, and to hold the shaft L in position where it engages the groove *i'* 95 there is preferably provided a lug *m* on the handle M, and a spring-plate N suitably attached at one end to the head J, and having in its side a notch *n* with which the lug *m* interlocks. 100

The lower die D is secured in an opening in the upper end of a block O, slidingly fitting a vertical opening in a bolster P that rests upon the ram E, said block O having room in its hole for limited vertical movement. Be- 105 tween the upper end of the die-carrying block O and the under side of a plate or table Q, bolted to the top of the bolster, is a spring

R that presses block and die downward, and yieldingly holds them at the lower limit of their movement in the bolster hole. Centrally beneath the block O is a vertical rod S
 5 whose lower end rests upon one end of a horizontal lever T that extends through an opening in the bolster to the outside of the bolster, said lever having bearings about midway its length upon the bolster and ram,
 10 respectively. A rod U, having a swiveled connection with the lever T, connects the latter to one arm of a lever V pivoted on a shaft W journaled in bearings on the ram, and having its other end engaging a cam X
 15 on the shaft H. By the cam and lever V, the lever T is rocked to lift the rod S, and thereby raise the lower die block. Said lever T is moved in the opposite direction by a spring Y which is connected at one end to the
 20 lever, and at the other end to a convenient point on the ram. By reference more particularly to Fig. 2, it will be seen that the two side or cheek pieces of the ram are connected near the top thereof by a cross-piece *e*, to
 25 which the upper end of the spring Y is connected, its lower end being connected to the lever T. Said cheek pieces are designated *e'*. The lower end of the rod S is reduced in size, and enters a hole in the lever T, and, as the
 30 rod U which connects said lever T and the lever V passes through the lever T, it will be seen that the lever T is securely restrained from endwise movement, and therefore, no pivot pin is required for said lever T. The
 35 vertical movement of the lower die which is thus provided for, is, as will be understood, for the purpose of raising the coin after it has been made to the level of the table Q, so that it may be ejected. The bottom of the hole in
 40 the bolster which contains the lower die block is formed by a block Z, and the said block is movable vertically so that, when desired, it may be dropped, to permit the lower die block O to descend sufficiently to
 45 remove the lower die from position for coining, it being desirable to place the lower die out of position for coining when, for example, the press is being run preliminary to getting up speed for work. Said block Z rests upon
 50 a wedge A' that is slidable horizontally in a space between the bolster and the ram, and for conveniently moving the wedge to lift the block Z, or to permit it to descend, said wedge has a slot *a* which is engaged by a pin
 55 *b* on the under side of a lever B' having a handle *b'* for moving it. The rod S for lifting the lower die block passes through and is guided by a vertical hole in the block Z.

The rim or edge of the coin is formed by a die consisting of an annulus or collar C' which is seated in a cavity in the upper side of the table Q and there held by a ring D' having a flange to overlap a flange on said collar, and which ring is threaded in an opening
 65 in the table provided for said die, the

thread being interrupted or mutilated so as to enable the ring to be applied and removed by only a partial revolution. The upper sides of the collar and its holding ring are flush with the upper side of the table Q. 70

The planchets are supplied, as usual, by means of a vertical tube E' which is supported above the table Q by a plate F', to which the tube is fastened at its lower end. The plate F' has an opening that receives the lower end of the tube, the tube having a flange *e*² that engages the upper side of the plate, and its portion in the plate-opening being downwardly and outwardly inclined, and the plate-opening for one-half its circumference being large enough in diameter to permit the passing of the lower end of the tube into and out of the opening. A thumb-screw G', situated to engage the lower end of the tube at a point diametrically opposite that portion of the opening which has an inclined side is provided to move and hold the tube in position, so that its inclined lower end is overhung by the inclined side of the table opening. The means described for connecting the tube to the plate is very simple, permits of the easy attachment and removal of the tube, and forms a rigid connection between the tube and plate. The plate F' is attached to the table Q, so that it may readily be removed, when desired, several bolts H' and thumb-nuts I' for the bolts being the attaching means. 85 90 95

Lying on the top of the table Q, beneath the plate F', are two thin plates, which I term, respectively, a feeder and a gripper, by which the planchets are carried to the dies. Projecting from the under side of the feeder J' are two pins or studs *j* that, respectively, engage holes in a slide bar K' mounted in a groove or way in the top of the bolster, and projecting from the under side of the gripper L' are two similar pins or studs *l*, one of which engages an opening in a right-angled extension of the slide bar K', while the other pin *l* engages an opening in a block M' in a slide bar N' in a guideway in the bolster. The end of the slide bar N', adjacent the point of connection between it and the gripper L', is notched to provide two lateral extensions or fingers *n* between which extends the end of the right-angled extension of the slide bar K', the portion of said extension between the fingers being of less width than the space between the fingers, so that the slide bar N' may be moved a short distance independently of the slide bar K'. At its other end, the slide bar N' has a notch in its side, into which projects a roller *o* carried by the upper end of a lever O', which is fixed to the shaft W, said shaft having at one end an arm which is actuated by a cam P' on the driving shaft H, a spring Q' being employed to hold the shaft arm in engagement with the cam. As the lever V for lifting the lower die 100 105 110 115 120 125

is fulcrumed on the shaft said shaft thus serves a double purpose. By the movement of the slide bar N' in one direction, the gripper L' will first be rocked on its pivotal connection with the extension of the slide bar K', and then said extension being engaged by one of the fingers n, the slide bar K' and the feeder J' will be moved, the gripper and the feeder then moving simultaneously.

10 The feeder has a notch y' to engage the lowermost planchet in the stack in the tube E', and the travel of the feeder is sufficient to carry such planchets half way to the dies, and the gripper has in one side a notch l' to

15 engage the planchet where it is left by the feeder, into engagement with which it is moved by its swinging motion, and by this movement at the time it moves with the feeder it carries the planchet to the dies.

20 When the planchet is engaged by the gripper, it is also engaged by the feeder, the latter being extended or given sufficient length for this purpose, and its length preferably being such that when the feeder is fully retracted it

25 will extend beyond the dies. It will be seen that while the gripper is moving a blank to the dies the feeder is moving one from the hopper in readiness for engagement by the gripper in its next succeeding onward movement.

30 Besides the notch l', the extremity of the gripper has a notch l² to engage the newly formed coin, so that, when the gripper is moved onward, it will carry the coin with it, the coin being guided by the extension of the feeder. The expelled coin drops

35 into a hole q in the table Q, and thence passes from the machine to a suitable receptacle. A shield R' is placed above and partially around the hole q, and at the side of the hole

40 opposite the feeder L', is a guide-plate S', pivoted at one end to the table, so that it may be adjusted towards and from the hole, as may be found necessary, a thumb-screw T' in the shield R' being provided, that is

45 adapted to engage said plate and clamp it in a desired position. To insure the stoppage of the planchet when moved from the bottom of the supply tube by the feeder L' at the point for proper engagement by the

50 gripper notch l', a friction device is provided which consists of a spring e³ that bears gently upon the upper side of the planchet at said point.

An adjustable stop for the feeding devices

55 is employed that consists of a horizontal rod U', situated beneath the lateral extension of the slide bar K' and having an annular enlargement or flange u which lies in the path of said extension, said rod having one end threaded to engage a threaded opening in the bolster, and at its other end being reduced in diameter, and journaled in a thimble V' that is screwed into the bolster, and which serves as a lock nut to hold the rod with its

65 stop flange in the desired position. The end

of the rod is projected beyond the thimble, and is formed for the reception of a suitable tool for revolving the rod. The stop rod is round in cross-section, and, having an annular stop flange, it can be very easily and

70 cheaply made, since it can be turned in a lathe. The movement of the slide bar N' by the lever O' for feeding is produced by the action of the spring Q' on the lever O', so that the adjustable stop for the feeding devices

75 may be employed as the spring will permit the slide bar K' to be stopped at the desired point.

The feeder J' and the gripper L' are not positively attached to their respective slide bars, but the pins or studs on their under side, which enter openings in their respective slide bars, are merely dropped therein. By this construction, the application and removal of the feeder and gripper are most

80 easily accomplished, so that but little time and work are required for the removal and replacement of the feeder and gripper for cleaning, or when it is desired to change the feeder and slide to suit the press for coins of

85 different diameter. It will be observed that the operating mechanism for the feed devices is of very simple construction. The end of the gripper L' that passes between the dies is preferably made separate from the remainder

90 of the gripper so that if, by accident, such end should be caught between such dies, it alone would be injured and not the entire plate and, preferably, such end is made of bronze.

100

Preferably a friction brake W' is applied to the slide bar K' to prevent its accidental movement with the slide bar N'.

A foot guard to prevent the feet of the operator getting into the toggle is preferably

105 employed, that consists of a glazed frame X' that is removably mounted in place between the frame posts or columns.

Having thus described my invention, what I claim is:

110

1. The combination of a pair of dies, a pivot for one of the same having a peripheral groove on which the die may be moved into and out of position for use, at will, a rock shaft whose axis is parallel with the axis of

115 the pivot having a cut-away portion and positive means consisting of a handle for turning said rock shaft to interlock it with the pivot groove.

2. The combination of a die-supporting

120 block, a part in which the same is movably mounted, a movable rod adapted to engage said block to move the same, but unconnected with it, and means for causing said block to move relative to, and independent of, the rod.

125

3. The combination of a die-supporting block, a part in which the same is movably mounted, a spring for moving said block in one direction, and a rod adapted to engage but unconnected with the block to move it

130

in the other direction and means to move the block relatively to and independently of the rod.

4. The combination of a die, means for 5 moving said die, a die-supporting block, a part in which said block is mounted, a second die towards which the first-mentioned die is movable to cause them to coact, said block being movable in the direction opposite 10 that in which said first-mentioned die moves to remove the die supported by the block from its normal operative position, and a support for said block, said support being movable to a position to change the position 15 of the die supported by the die-supporting block.

5. The combination of a die-supporting block, a part having a vertical opening in which said block is movably mounted, a 20 second block at the lower end of said opening, means whereby said second block may be raised and lowered, and a rod adapted to engage the die-supporting block passing through an opening in said second block.

6. The combination of a pair of opposing 25 dies, a collar through which one of said dies is movable, a block supporting said movable die, a part having a vertical opening in which said die support is mounted, a second 30 block at the bottom of said opening that is vertically movable, and a rod adapted to engage the die-supporting block.

7. The combination of a blank feeder, an operating part below the same, and a pin and 35 hole connection between the feeder and said part, the feeder being removable by lifting it from the operating part.

8. The combination of a blank feeder, a 40 slide bar having a hole and situated beneath the feeder, and a pin extending from the

feeder down into the hole, the feeder being removable by lifting it from the bar.

9. The combination of a feed mechanism comprising two parts and means to operate them simultaneously, and to operate one of 45 them independently of the other, one of said parts being situated to engage the article to be fed after it has been moved by the other.

10. The combination of a feed mechanism comprising two parts, one of which has a 50 motion with and independently of the other, and means to move said parts together and to move the one that is movable independently of the other towards and from the other, the part that is movable independ- 55 ently of the other being situated to engage the article to be fed after it has been moved by the other part.

11. The combination of a feed mechanism comprising two parts, two slide bars, to one 60 of which one of said parts is connected, and to both of which the other of said parts is connected, and means for imparting motion to said slide bars simultaneously, and to one of them independently of the other. 65

12. The combination of a feed mechanism comprising two parts, two slide bars, to one of which one of said parts is connected, and to both of which the other of said parts is 70 connected, a loose connection between said bars whereby they may move simultaneously and one may move independently of the other, and means for imparting movement to said bars.

In testimony that I claim the foregoing I 75 have hereunto set my hand.

OBERLIN SMITH.

Witnesses:

JAMES J. REEVES,
MAX LEVY.