A. PÉREZ DE VILLA-AMIL.

TOOL HOLDER.

APPLICATION FILED NOV. 28, 1916.

1,227,398.

Patented May 22, 1917.

3 SHEETS—SHEET 1.

Fig. 1.

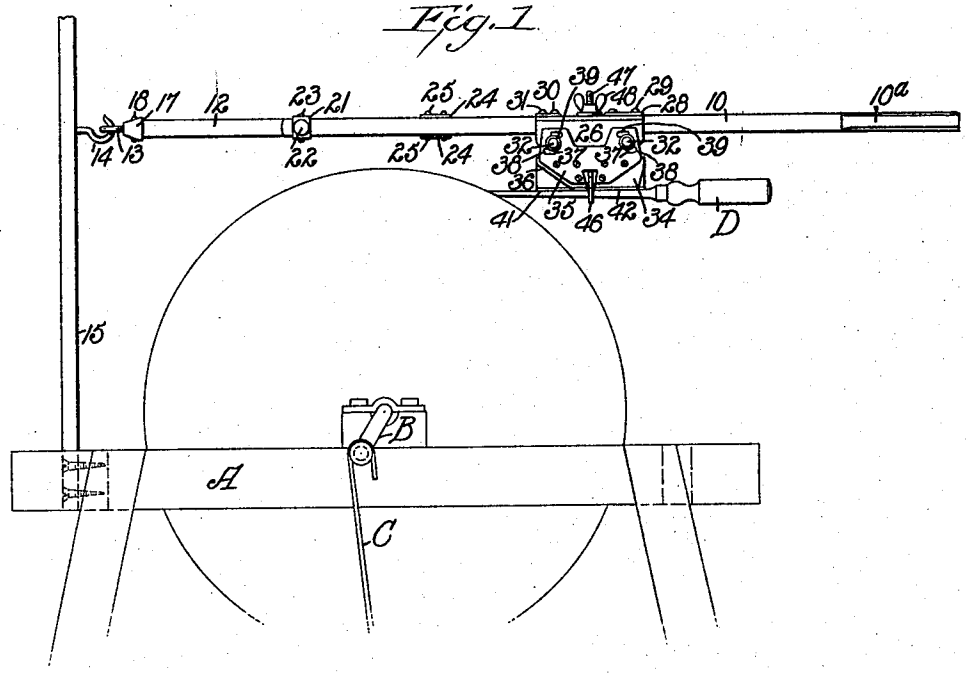


Fig. 2.

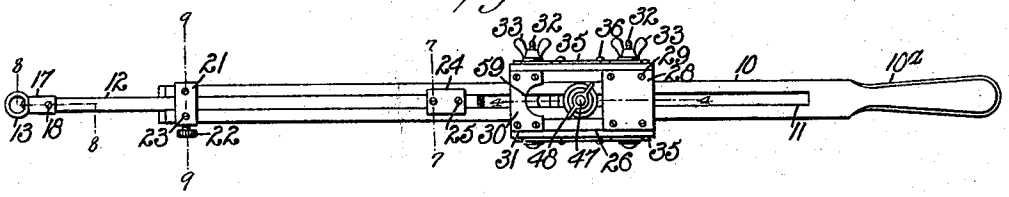
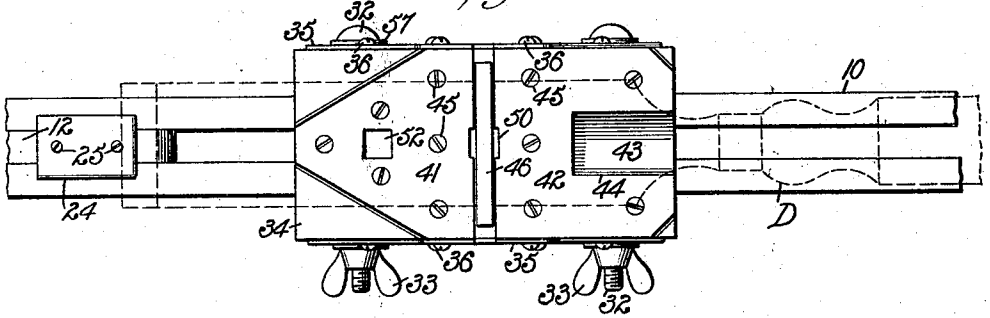


Fig. 3.



WITNESSES

Alex. H. Holmes

J. L. McCulloch

INVENTOR

Alberto Pérez de Villa-Amil

BY Munn & Co

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

A. PÉREZ DE VILLA-AMIL.

TOOL HOLDER.

APPLICATION FILED NOV. 28, 1916.

1,227,398.

Patented May 22, 1917.

3 SHEETS—SHEET 2.

Fig. 4.

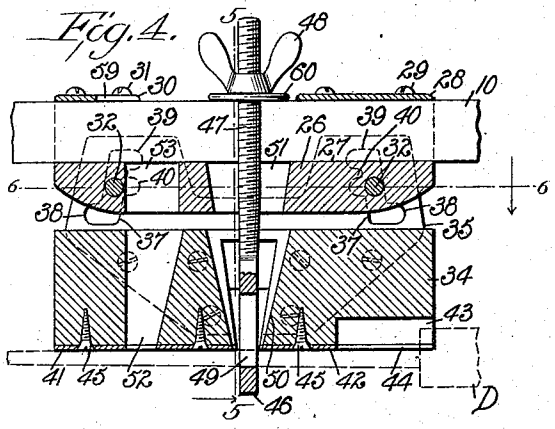


Fig. 5.

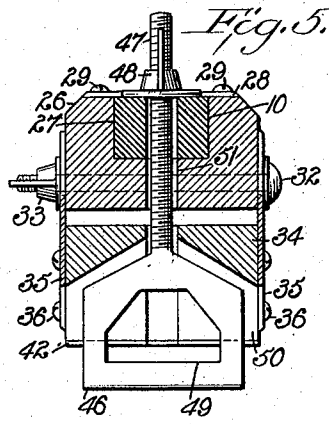


Fig. 6.

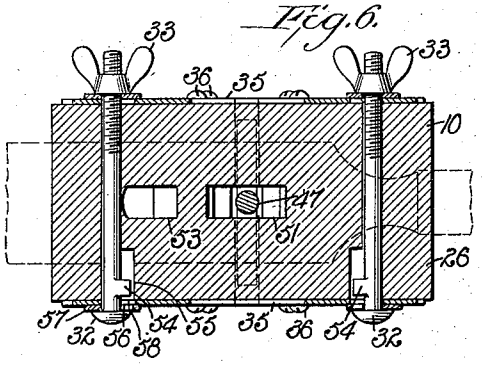


Fig. 7.

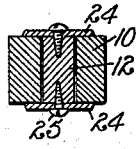


Fig. 9.

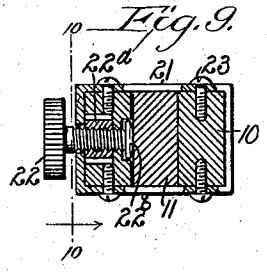


Fig. 8.

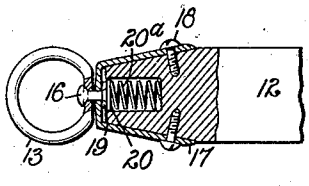
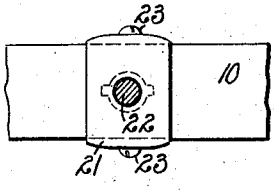


Fig. 10.



WITNESSES

Oliver N. Holmes

L. L. McAuliffe

INVENTOR

Alberto Perez de Villa-Amil

BY Munn & Co

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

A. PÉREZ DE VILLA-AMIL.

TOOL HOLDER.

APPLICATION FILED NOV. 28, 1916.

1,227,398.

Patented May 22, 1917.

3 SHEETS—SHEET 3.

Fig. 11.

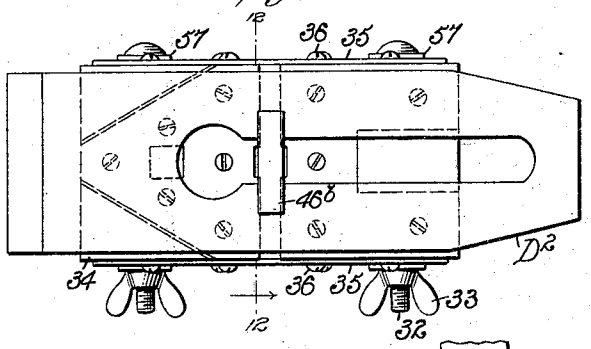


Fig. 12.

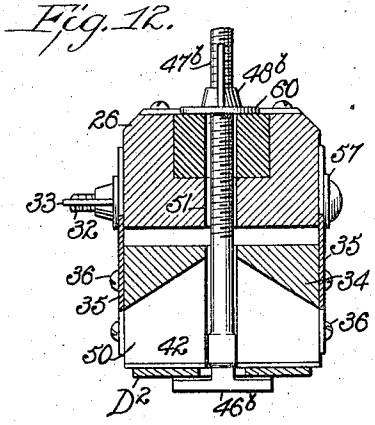


Fig. 13.

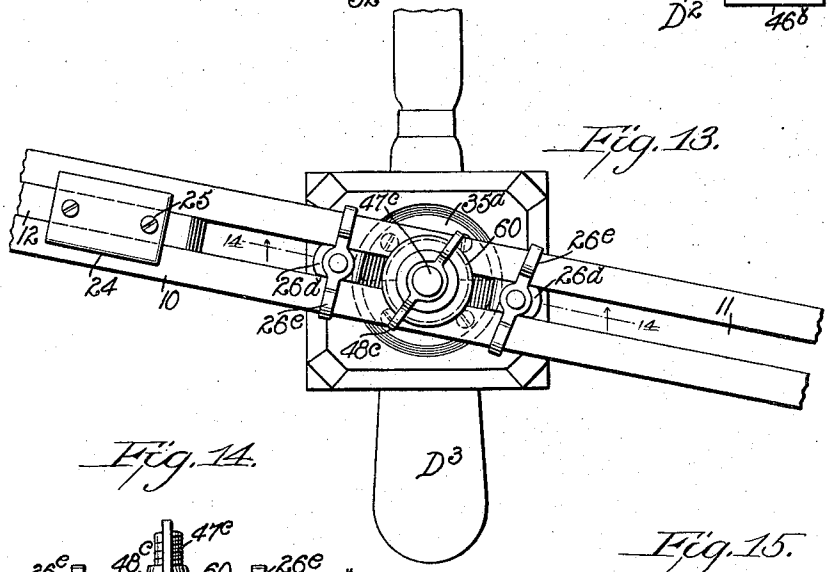


Fig. 14.

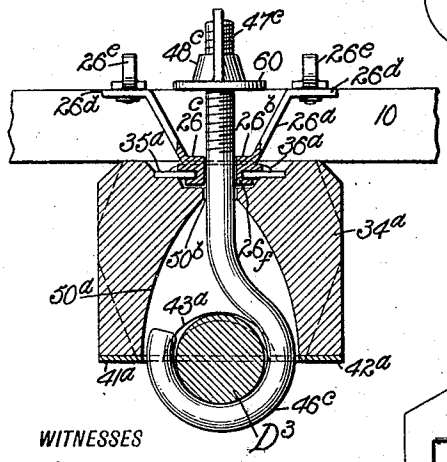


Fig. 15.

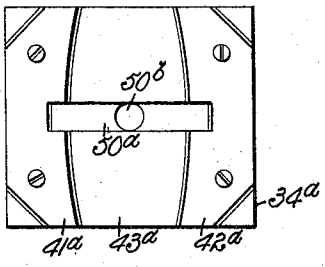
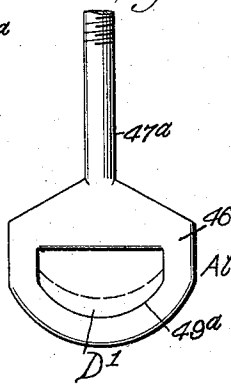


Fig. 16.



WITNESSES

Alexander W. Holmes

J. R. Whittemore

INVENTOR

Alberto Pérez de Villa-Amil

BY Munn & Co

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHING ., D. C.

UNITED STATES PATENT OFFICE.

ALBERTO PÉREZ DE VILLA-AMIL, OF CIENFUEGOS, CUBA.

TOOL-HOLDER.

1,227,398. Specification of Letters Patent. Patented May 22, 1917.

Application filed November 28, 1916. Serial No. 133,901.

To all whom it may concern:

Be it known that I, ALBERTO PÉREZ DE VILLA-AMIL, a citizen of Cuba, and a resident of Cienfuegos, Cuba, have invented a new and Improved Tool-Holder, of which the following is a full, clear, and exact description.

My invention relates to means for holding tools of various kinds for the grinding of the tools, such as chisels, plane irons, gouges, knives, etc.

A general object of the invention is to provide a holder adapted to be connected with a support on a grindstone frame or the like, and having means for holding various tools, as well as means for variously adjusting the tool to properly present the same to the grindstone.

The invention also has for its object to improve tool holders of the indicated character in various particulars whereby to promote convenience and accuracy of adjustment and control.

The nature of the invention and its advantages will clearly appear as the desciption proceeds.

Reference is to be had to the accompanying drawings forming a part of this specification in which similar reference characters indicate corresponding parts in all the views.

Figure 1 is a side elevation of a tool holder embodying my invention, showing the same applied;

Fig. 2 is a plan view of the holder;

Fig. 3 is a fragmentary inverted plan view on an enlarged scale;

Fig. 4 is a longitudinal vertical section on an enlarged scale, the section being taken on the line 4—4, Fig. 2;

Fig. 5 is a transverse vertical section on the line 5—5, Fig. 4;

Fig. 6 is a horizontal section on the line 6—6, Fig. 4;

Fig. 7 is a transverse vertical section on the line 7—7, Fig. 2;

Fig. 8 is a section on the line 8—8, Fig. 2;

Fig. 9 is a section on the line 9—9, Fig. 2;

Fig. 10 is a section on the line 10—10, Fig. 9;

Fig. 11 is a view similar to Fig. 3 showing the tool clamping device of a form adapted to hold a plane knife;

Fig. 12 is a cross section on the line 12—12, Fig. 11;

Fig. 13 is a view similar to Fig. 2 to illustrate a modification;

Fig. 14 is a longitudinal vertical section on the line 14—14, Fig. 13;

Fig. 15 is an inverted plan view of the tool carrier shown in Figs. 13 and 14;

Fig. 16 is a fragmentary side elevation of a tool-clamping device.

Referring more particularly to Figs. 1 to 12, my improved tool holder includes an elongated bar 10 provided with a suitable handle 10^a and formed with a longitudinal slot 11 extending from near the handle to the front end. In the slot of the bar 10 is received an extension bar 12 to vary the effective length of the bar. On the front end at the extension bar 12 is a swiveled ring 13 which is adapted to be engaged with a hook 14 on a standard 15 which is suitably fastened to the frame A of a grindstone which here is shown as having a crank handle B to be turned by hand or by a connecting rod C connecting said handle with a treadle (not shown).

The ring 13 is swiveled to the extension bar 12, as best shown in Fig. 8, by a rivet 16 which extends through an end cap or ferrule 17 suitably secured to said bar as by screws 18. The rivet 16 has a washer 19 and at the inner side of the same is a plate 20 against which a compression spring 20^a bears at its front end, said spring being suitably housed in the end of the extension bar 12 beneath the cap 17. The spring serves to exert a sufficient friction between the plate 20 and the washer 19 to hold the ring 13 in adjusted position.

To hold the extension bar 12 in adjusted position relatively to the main bar 10, a keeper 21 in the form of a rectangular sleeve is provided on the bar 10, and suitably secured thereto as by screws 23. The keeper 21 is provided with a set screw 22 to bind against the side of the extension bar 12. The set screw 22 as clearly shown in Fig. 9 engages a nut 22^a which is let into the adjacent side of the bar 10 and held against turning therein. Suitable means is provided for preventing the screw from damaging the extension bar 12, there being shown a head 22^b for the purpose. The ex-

tension bar 12 is retained and guided at its inner end on the bar 10 by means of upper and lower plates 24 secured to said extension bar by screws 25, or the like, and overlapping the sides of the said bar 10.

On the bar 10 is slidably fitted a carriage designated generally by the numeral 26 which is grooved at its upper side as at 27 (Fig. 5) to receive the slotted bar 10. To retain the carriage on the bar, a rear plate 28 is secured to the carriage 26 at each side of the groove 27 and bridges said slot. The plate is secured by screws 29. Also, a front plate 30 is secured to the carriage 26 at each side of groove 27 by screws 31 and bridges the slot 11 at the front of the carriage.

Transverse bolts 32, having nuts 33, extend through the carriage 26 and on these bolts there is suspended a tool receiving and seating element 34 through the medium of side plates 35 secured to element 34 by screws 36, or the like, and secured to the carriage 26 by the bolts 32. In order to provide for varying the angular position of the element 34 on the carriage 26 and relatively to the plane of the bar 10, the side plates 35 are formed with slots 37 which are oppositely inclined, the front slot 37 inclining rearwardly from its lower end and the rear slot 37 inclining forwardly from its lower end. At the lower ends of the slots 37 are complementary recesses 38, the recesses in the respective slots being oppositely disposed, the forward recess 38 being in the front wall of the adjacent slot 37 while the rear recess 38 is in the rear wall of the adjacent slot 37. Similarly, at the upper ends of the opposed walls of the slots 37, recesses 39 are formed complementary to said slots, and between the recesses 38 and 39, there are formed in the opposed walls of the slots intermediate recesses 40. Thus, by loosening the nuts 33 of the bolts 32, the element 34 and the plate 35 may be rocked in a vertical plane either forwardly or backwardly and the plates manipulated to dispose the bolt 32 in either of the recesses 38, 39, or 40. Thus, various angular positions may be given to the element 34 to properly position the tool D relatively to the grindstone.

On the under side of the element 34, front and rear wear plates 41, 42 are provided and secured by screws 45 or other means. As best seen in Figs. 3 and 4, the under side of the element 34 at the rear is formed with a depression 43 and the wear plate 42 is formed with a corresponding opening 44 to accommodate the forward end of a handle or ferrule of the tool D (see Fig. 4) when the tool is of a character to require the provision of said depression 43.

To secure the tool to the under side of the element 34 a clamp 46 is provided having a threaded shank extending upwardly through the said element 34, through the carriage 26 and slot 11, the shank being provided with a wing nut 48 at its upper end. The lower end of the tool clamp 46 has an opening 49 suitable for the particular tool being ground. A variant of the gripping device is shown in Fig. 16, it being designated generally by the character 46^a. Said clamp has a threaded shank 47^a corresponding with the shank 47 and an opening 49^a of a form to properly clamp the gouge indicated at D'. The swiveling of the ring 13 facilitates the grinding of the transversely curved edge of a gouge.

In Figs. 11 and 12 a plane iron or knife D^2 is shown secured to the tool receiving element 34 by a clamping device 46^b, the lower end of which is in the form of an inverted T-head which is adapted to be passed through the usual slot of the plane iron and then given a quarter turn to dispose the T-head transversely of the said iron. The threaded shank 47^b of the gripping device, Figs. 11 and 12, is provided with a wing nut 48^b.

In order that the element 34 may have clearance in its rocking movements in a vertical plane relatively to the tool clamp 46, etc., the said element is formed with an upwardly flaring opening 50 in register with a suitable vertical opening 51 in the carriage 26. In addition to the openings 50, 51, auxiliary vertical openings 52, 53 are formed in the element 34 and carriage 26, respectively, in front of the first mentioned opening, and said openings 52, 53 may receive the clamp 46^b. A detail also, of the tool holder, it will be observed, is the provision of a recess 59 in the plate 30 to accommodate the washer 60 provided beneath the nut 48 of the tool clamp 46 when the tool clamp is placed in the openings 52, 53.

To prevent the bolts 32 from turning when the wing nuts 33 are turned, the shanks of said bolts are each formed with a lateral lug 54 which are received in a recess 55 in the adjacent side of the carriage 26, there being a complementary slot 56 in the washer 57 on said bolt and a registering slot 58 in the adjacent side plate 35, said slots permitting the lug 54 to be entered in and withdrawn from the slot 55 with the entrance and removal of the bolt.

In the modified construction illustrated in Figs. 13 to 15, provision is made for swiveling the tool receiving element on the carriage. In this form the carriage designated generally by the character 26^a presents upwardly diverging arms rising from a circular base 26^b, said arms lying between the sides of the slotted bar 10. The base 26^b is formed with an annular groove 26^c which receives a disk 35^a formed in two sections secured by screws 36^a to the tool receiving element 34^a. Thus, the said element 34 is

swiveled to the carriage to turn in its own plane, that is to say, in a plane parallel with the bar 10. The arms 26^a of the carriage at their upper ends are offset horizontally in opposite directions as at 26^d and receive turn-buttons 26^e so that by giving the buttons a quarter turn they may be disposed transversely of the bar 10 and bridging the slot therein, or to positions registering with said slot whereby to permit the turn-buttons to be passed downwardly through the slot 11 for removing the carriage and the element 34 from the bar 10.

The tool clamp 46^c employed with the element 34^a, is given a hook form at the lower end to embrace the round handle of a knife D^3 for disposing the knife transversely or approximately so to the bar 10. The clamp 46^c has a shank 47^c receiving a wing nut 48^c, the shank having also a washer 60 bridging the slot 11. The tool clamp 46^c is accommodated in a vertical opening 50^a in the element 34^a, said opening being in register with a contracted opening 50^b accommodating the shank 47^c. The swiveled base 26^b of the carriage 26^a has a registering vertical central bore 26^f through which the shank 47^c passes. In this form of the invention also, the wear plates 41^a, 42^a are applied to the under side of the element 34^a. Between the plates 42^a the carrier 34^a is provided with a depression 43^a to accommodate the round handle of a knife D^3.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent:

1. In a tool holder of the class described, a supporting bar, a carriage adjustable longitudinally of the bar, a tool seating element on the carriage, and clamping means adapted at one end to secure a tool on said seating element and adapted at the opposite end to engage the bar and hold the carriage in adjusted position.

2. A tool holder for use in grinding, including a bar, a device swiveled on the bar at the front end and adapted for engagement with a supporting element, spring-pressed means opposing frictional resistance to the turning of said device on the bar, and tool-carrying means on said bar.

3. A tool holder for use in grinding, including a bar, a carriage longitudinally slidable on the bar between the ends thereof, a tool seating element disposed at the under side of said bar, and supported on said carriage, and means to hold a tool on said element and clamp the carriage to the bar.

4. A tool holder of the class described, including a supporting bar having a longitudinal slot therein, a carriage slidable on the bar, a clamp having a shank extending through the slot of the bar and through the carriage to move with the carriage longitudinally of the bar, a tool seating element on the carriage at the under side, said shank having means at its lower end to hold a tool against said seating element, and means to clamp the shank to the bar to secure the carriage against movement on the bar.

5. A tool holder for use in grinding, including a bar, a carriage on said bar, a tool seating element adjustably supported on said carriage, to be tilted forwardly or backwardly, and a clamp to hold a tool on said seating element at the under side thereof, said clamp including means to engage the bar and secure the carriage in adjusted position thereon.

6. A tool holder for use in grinding, comprising a bar, and tool holding means adjustable longitudinally on the bar, said means including a tool seating element, and a clamp adapted to hold a tool on said seating element, and adapted to engage the bar to prevent movement of the tool holding means longitudinally of the bar.

7. A tool holder for use in grinding, including a bar, a carriage longitudinally adjustable on the bar, a tool seating element suspended on said carriage, and positioned at the under side of the bar, said element having a face at the under side thereof forming a seat for a tool, and a clamping device serving to clamp a tool to the said seat and clamp the carriage in adjusted position on the bar, said clamping device having a formation at the lower end to embrace the tool and having a shank extending upwardly through the said seating element and through the carriage and bar to the upper side of the bar, and means at the upper end of the shank to clamp the same to the bar.

8. A tool holder for use in grinding, including a handled bar, means to secure the front end of the bar, a carriage longitudinally movable on the bar between the handle and front end, a tool receiving element suspended from the carriage at the under side of the bar, means to suspend the carrier on the bar, said carrier having a face at the under side forming a seat for the tool, and a tool clamp having a formation at its lower end to receive the tool and clamp the same against said seat and having a threaded shank extending upwardly through said tool receiving element and through said bar, there being a nut on said shank above the bar adapted for clamping engagement with the bar and adapted to secure the tool on its seat and hold the carriage in adjusted position longitudinally of the bar.

9. A tool holder for use in grinding, including a bar, a tool receiving element on said bar and presenting an under face forming a seat for the tool, said element being tiltable in a vertical plane in opposite directions relatively to the plane of the bar, and a clamp adapted to secure the tool to

said seat, the clamp having an upstanding shank extending through the said receiving element and above the bar, there being means on the shank at the upper end to effect clamping engagement with the bar, and said element having an upwardly flaring vertical opening through which the said shank extends, said opening affording clearance for the shank in the tilting of the receiving element.

10. A tool holder for use in grinding, including a bar, a carriage on said bar, transverse bolts extending through the carriage, side plates on the carriage and held by said bolts, the side plates having slots through which the bolts pass, said slots being oppositely inclined to the vertical and formed with oppositely disposed recesses complementary to the respective slots, a tool receiving element secured to the side plates at the under side of the bar, and means to clamp a tool on said element.

11. A tool holder for use in grinding, including a longitudinally slotted bar, means to connect the same with a supporting element, a carriage movable in the slot of the bar, means on the carriage at the upper end to hold the same on the bar or permit the removal of the carriage, a tool receiving element at the under side of the said bar and swiveled to the said carriage, and means to clamp a tool on the said tool receiving element.

12. A tool holder for use in grinding, including a longitudinally slotted bar, a carriage presenting arms movable in the slot of the bar, means on said arms at their upper ends to hold the same to the bar, or to permit the removal of the carriage, a tool receiving element swiveled to the carriage at the lower ends of said arms and positioned at the under side of the bar, the under face of said tool receiving element presenting a a seat for a tool, and a clamp having a formation at the lower end to clamp the tool to the said seat, and having a shank extending upwardly through the said element and carriage and through the said bar, and means on the shank at the upper end to clamp the same to the bar.

13. A tool holder for use in grinding, including a bar, a carriage adjustable longitudinally on said bar, a tool receiving element disposed at the under side of said bar and detachably connected with the said carriage to travel therewith on the said bar or to be detached from said carriage, and means to clamp a tool on the said carrier.

ALBERTO PÉREZ DE VILLA-AMIL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."