To all whom it may concern:

Be it known that I, CLARENCE C. CRALEY, a citizen of the United States, residing at Mount Joy, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Metal-Working Machines, of which the following is a specification.

The present invention relates to metal working apparatus of the type disclosed in my Patents Nos. 1,007,185, dated October 31, 1911, and 1,217,572, dated February 27, 1917.

The primary object of the present invention is to provide a guiding means for the slide bearings to insure a reasonably tight fit and prevent dirt or dust entering said bearings and thereby affecting the accuracy of the apparatus.

An embodiment of the invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a perspective view of the bed of the machine, with the parts broken away to illustrate the bearing elements,

Fig. 2 is an end elevation of the same,

Fig. 3 is a detail sectional view.

Fig. 4 is a detail horizontal sectional view, and

Fig. 5 is a detail sectional view on the line 5-5 of Fig. 4.

Similar reference numerals designate corresponding parts in all the figures of the drawings.

In the embodiment illustrated, a support in the form of a base 6 is employed, which carries an upstanding guide 7 that is dovetail in cross section. Slidably mounted on the base is a carriage 8 having in its underside a dovetail guideway 9 that receives the guide 7. A suitable adjusting screw 10 is employed for effecting the sliding movement of the carriage in a well known manner.

Slidably mounted upon the carriage 8 and operating transversely of the guide 7 is a work-carrying table 11 having an undercut dovetail guideway 12 that receives a dovetail guide 13 formed upon the said carriage 8. An adjusting screw 14 is employed for moving the work table on the carriage.

In each of the guideways and interposed between one of the side walls thereof and the adjacent edge of the guide, is a gib 15 that is set at an inclination as clearly shown and is supported by pins 16 threaded through the adjacent wall of the guideway and entering horizontal openings 17 formed in the said gibs. The adjacent walls of the guideways are furthermore provided with sockets 18 having reduced internal shoulders 19 forming internal shoulders 20. Plungers 21 are located in the inner ends of these sockets and bear against the outer sides of the gibs 15, the plungers having heads 22 that are arranged to abut against the shoulders 20. Springs 23 are located in the outer portions of the sockets, the inner ends of said springs bearing against the heads 22 of the plungers 21 and their outer ends bearing against plug screws 24 threaded into the outer ends of the sockets. The inner ends of the plungers, it will be noted, are inclined to correspond to the inclination of the gibs 15.

With this construction, it will be evident that the gibs are yieldingly pressed against the guides, this tension serving to maintain a snug fit and thus preventing dirt and dust getting between the gibs and guides, and thereby affecting the accuracy of the instrument. Furthermore it provides a certain amount of tension that assists in preventing the accidental movements of the adjusting screws.

From the foregoing, it is thought that the construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In metal working apparatus, the combination with a supporting member, of a movable work-carrying member slidable upon the supporting member, one of said members having a dovetail guideway thereon, and other members having a dovetail guideway that receives the guide, a gib in the guideway interposed between the adjacent edge walls of the guide and guideway, and means carried by one member and pressing against the gib for yieldingly urging the gib against the other member to insure a snug engagement while permitting the necessary sliding movement of the work-carrying member.

2. In metal working apparatus, the combination with a supporting member, of a movable work-carrying member slidable
upon the supporting member, one of said members having a guide, the other having a guideway that receives the guide, pins carried by one member and projecting into the guideway alongside the guide, a gib mounted on the pins, and spring pressed plungers carried by one member and pressing against the gib to hold it in snug engagement with the other member, while permitting the sliding movement of the work-carrying member.

3. In metal working apparatus, the combination with a supporting member having an upstanding dovetail guide, of a work-carrying member having an undercut dovetail guideway in its under face that slidably receives the guide, an inclined gib in the guideway interposed between one of the walls thereof and the adjacent edge of the guide, pins projecting from the work-carrying member into the guideway and engaging the gib, sockets in the work-carrying member, plungers in the sockets having inclined inner ends that bear against the gib, and springs in the sockets behind the plungers.

In testimony whereof, I affix my signature in the presence of two witnesses.

CLARENCE C. CRALEY.

Witnesses:

WM. D. CHANDLER,

J. G. KEENER.