

June 23, 1931.

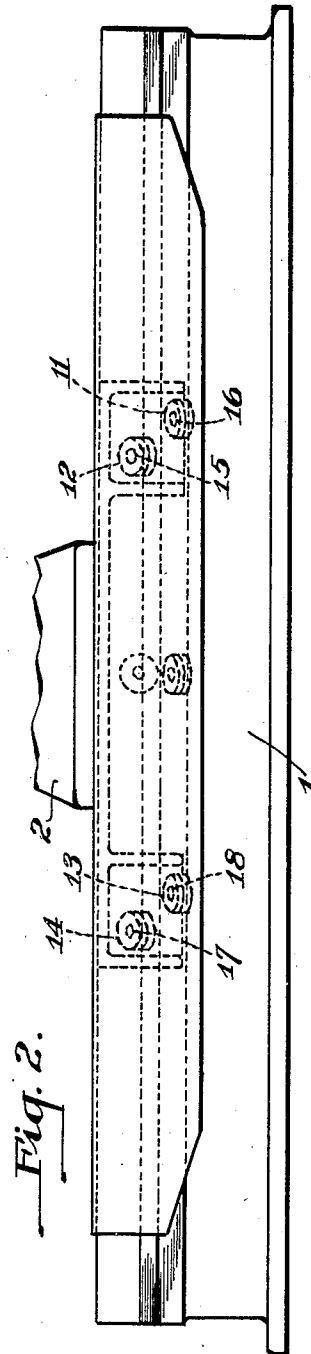
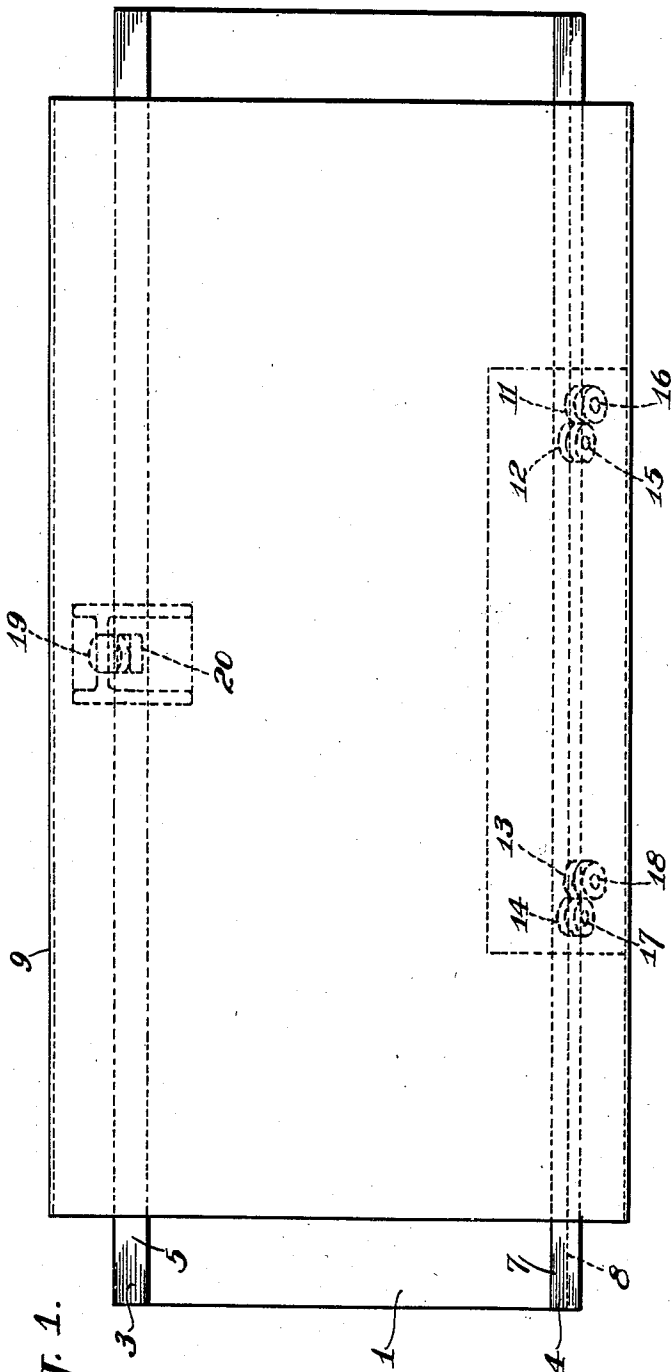
N. H. KLAGES

1,811,508

RECIPROCATING MACHINE BED

Filed Nov. 3, 1928

2 Sheets-Sheet 1



INVENTOR

Norman H. Klages
by *James C. Bradley*
att'y

June 23, 1931.

N. H. KLAGES

1,811,508

RECIPROCATING MACHINE BED

Filed Nov. 3, 1928

2 Sheets-Sheet 2

Fig. 3.

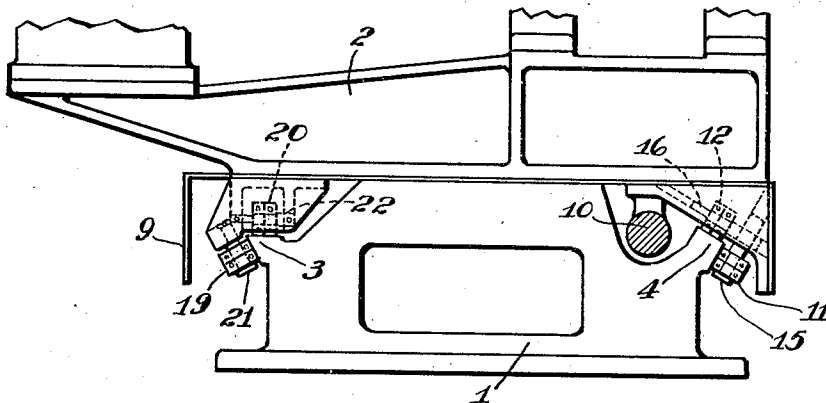


Fig. 4.

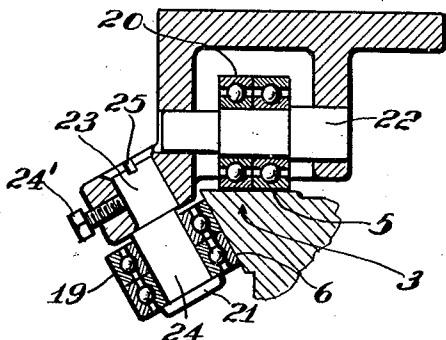


Fig. 6.

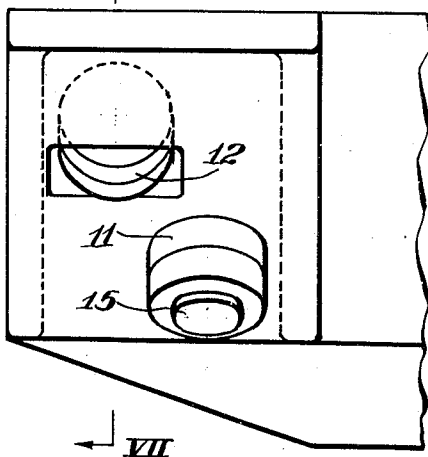


Fig. 5.

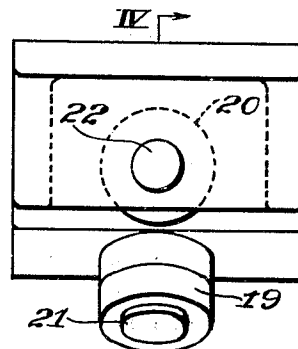
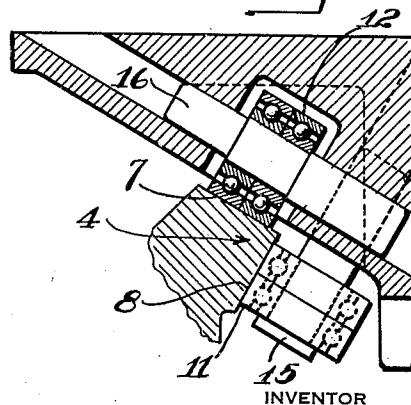


Fig. 7.



INVENTOR

Norman H. Klages
by
James L. Bradley
att'y

UNITED STATES PATENT OFFICE

NORMAN H. KLAGES, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR TO G. W. KLAGES & SON, INC., A CORPORATION OF PENNSYLVANIA

RECIPROCATING MACHINE BED

Application filed November 3, 1928. Serial No. 317,007.

The invention relates to reciprocating machine beds. The particular bed shown and described is designed to carry a grinding wheel and driving mechanism, such as that shown in my copending application, Serial Number 317,008, of even date, but the invention is applicable to machine beds for a wide variety of uses. The invention has for its objects the provision of an improved form of anti-friction mounting for the bed which is very rigid in construction, which is easily adjusted to take up lost motion, and which will maintain itself in alinement free from lost motion over a long period of time. One embodiment of the invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a plan view of the bed. Fig. 2 is a side elevation. Fig. 3 is an end elevation. Figs. 4 and 5 are enlarged detail views of one of the bearings, Fig. 5 being a side elevation, and Fig. 4 being a vertical section on the line IV—IV of Fig. 5. And Figs. 6 and 7 are enlarged detail views of another of the bearings, Fig. 6 being a side elevation, and Fig. 7 a section on the line VII—VII of Fig. 6.

Referring to the drawings, 1 is the base member of the bed which is of heavy rigid construction, and 2 is the table mounted on the bed for reciprocation longitudinally thereof. The bed is provided along its front and rear sides with the guide rails 3 and 4, the rail 3 having a pair of guide surfaces 5 and 6 (Fig. 4), and the rail 4 having the guide surfaces 7 and 8 (Fig. 7). A guard plate 9 is provided on the front side of the table projecting down to a point below the rail 3, as indicated in Figs. 1 and 3, such plate serving to cover the bearing members and give the table a better appearance and protecting to a considerable degree the guide surfaces 5 and 6 and the bearing members from dust and grit. The table is reciprocated by any suitable means, such as the rod 10 (Fig. 3) which is the piston rod of a hydraulic ram (not shown).

The guide surfaces 7 and 8 of the rail at the rear of the bed are engaged by two sets of rollers 11, 12 and 13, 14 (Figs. 1 and 2) mounted on the pins 15, 16 and 17, 18. These

rollers as shown in detail in Figs. 6 and 7 are of ordinary anti-friction type and include the usual inner and outer collars of hardened steel with interposed balls, the inner collars being shrunk onto the pins.

The guide surfaces 5 and 6 of the rail 3 at the front of the bed are engaged by the single set of rollers 19 and 20 (Figs. 1 and 2) mounted on the pins 21 and 22. The rollers here are of the same anti-friction type as the rollers 11, 12, 13 and 14 above described. In order to provide an adjustment of the roller 19 relative to the rail 3, the pin 21 has its end 23 eccentric with respect to the part 24 on which the roller 19 is mounted (Fig. 4), such end 23 having a slot 25 by means of which the pin may be turned by a screw driver to secure the desired adjustment. When once adjusted, the pin is held against turning by the set screw 24'. This adjustment provides for the taking up of any lost motion which may develop between the rails and the rollers. This single adjustment will take up all the lost motion in the table, as the turning of the pin 23 to tighten the contact of the roller 19 with the surface 6 will similarly tighten the contact of the roller 20 with the surface 5, and the tightening of these contacts will tend to move the table 1 to the left (Fig. 4), thus pulling the two sets of rollers 11, 12 and 13 and 14 on the other side of the table into tighter contact with the surfaces 7 and 8 on the rail 4.

What I claim is:

In combination, a base provided with a pair of guide rails, each of which has a pair of guide surfaces lying at an angle to each other and extending longitudinally of the base, one of said rails having the surfaces thereof at an acute angle to each other, and a table carried by the base and provided on one side with a single set of rollers, one roller of which set engages one surface on the guide rail having its surfaces at an acute angle, and the other of which set engages the other surface on said rail, said table being provided on its other side with two sets of rollers spaced apart longitudinally of the table, with one roller of each set engaging one surface on the other guide rail and the other roller of

each set engaging the other surface on such last rail, the surfaces on said last rail lying at an acute angle to a horizontal plane, and means for adjusting one roll of said single
5 set toward the surface which it engages comprising a bearing pin on which the roll is mounted having an end which is eccentrically disposed with respect to the axis of rotation of the roll, a support in which said end is
10 mounted for rotative adjustment, and means for securing said end against rotation in its various positions of adjustment.

In testimony whereof, I have hereunto subscribed my name this 19th day of October,
15 1928.

NORMAN H. KLAGES.

20

25

30

35

40

45

50

55

60

65