

O. A. SCHMIDT.
MACHINE FOR GRINDING ROLLERS.
APPLICATION FILED NOV. 18, 1911.

1,018,930.

Patented Feb. 27, 1912.

2 SHEETS—SHEET 1.

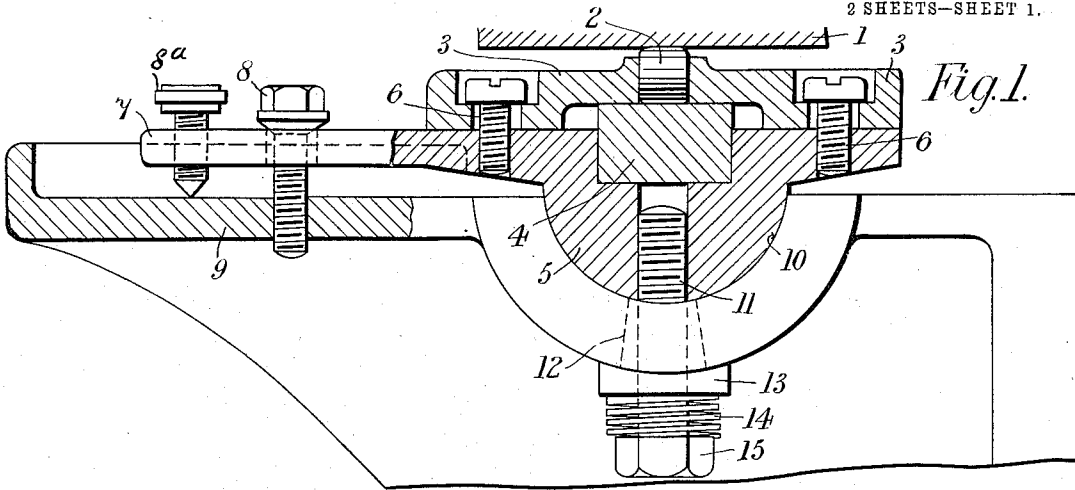


Fig. 1.

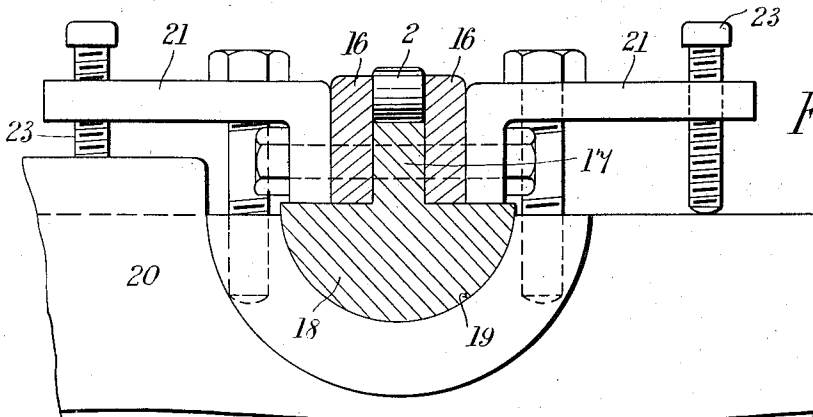


Fig. 2.

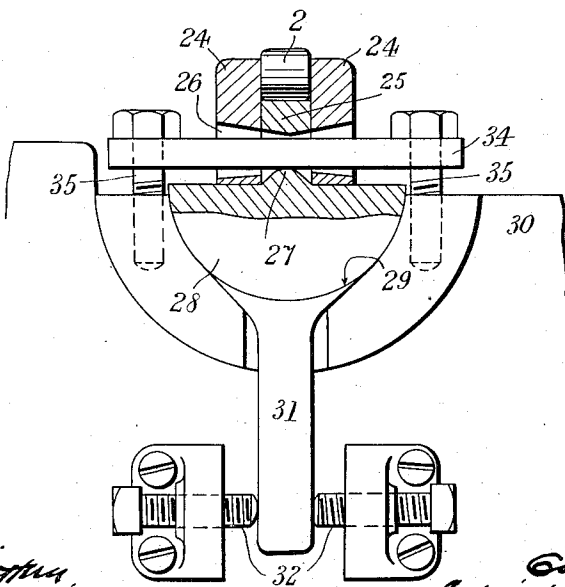


Fig. 3.

Witnesses.

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2 SHEETS—SHEET 2.

Fig. 4.

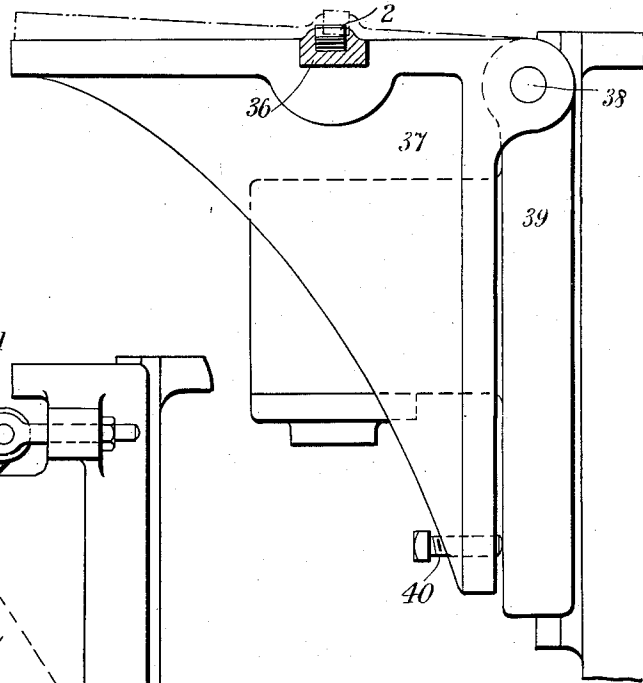


Fig. 5.

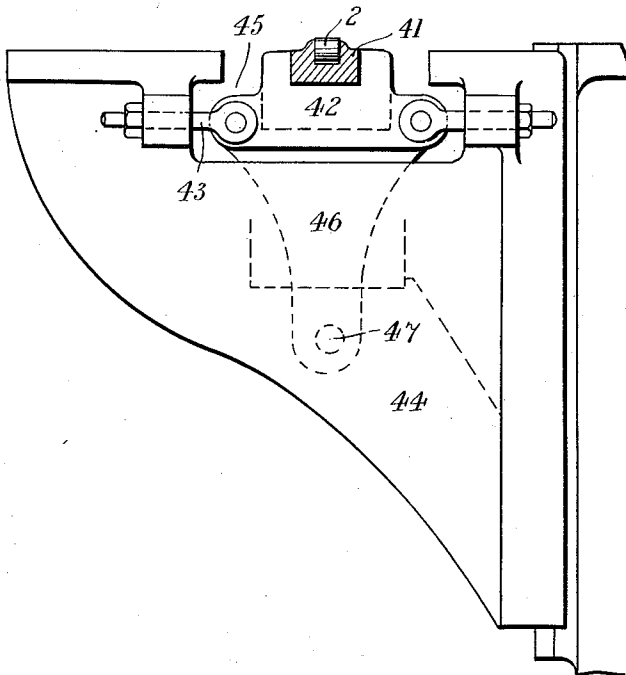
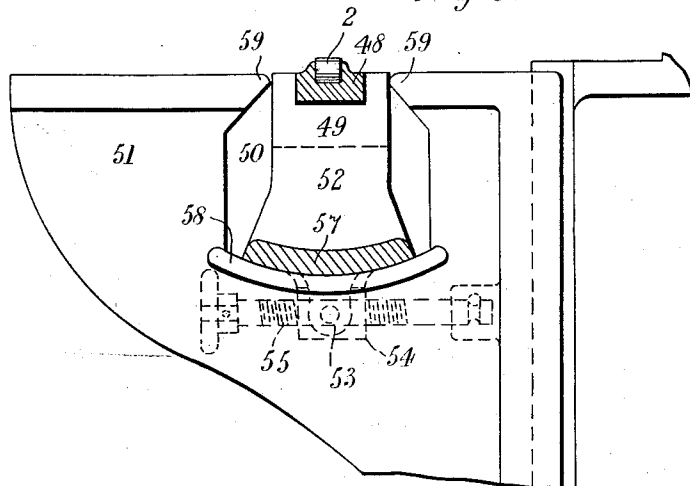


Fig. 6.



Witnesses.
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UNITED STATES PATENT OFFICE

OTTO ALWIN SCHMIDT, OF CHELMSFORD, ENGLAND, ASSIGNOR TO THE HOFFMANN MANUFACTURING COMPANY, LIMITED, OF CHELMSFORD, ENGLAND.

MACHINE FOR GRINDING ROLLERS.

1,018,930.

Specification of Letters Patent.

Patented Feb. 27, 1912.

Application filed November 18, 1911. Serial No. 661,067.

To all whom it may concern:

Be it known that I, OTTO ALWIN SCHMIDT, a subject of the German Emperor, and a resident of Chelmsford, in the county of Essex, England, have invented a certain new and useful Improvement in Machines for Grinding Rollers, of which the following is a specification.

This invention relates to an improvement in machines for grinding rollers such as those used in roller bearings, wherein the rollers are carried and closely guided with a traveling rolling motion in a straight groove or holder and presented by same to a grinding member, such as in the machine described in the specification to Letters Patent 965776 26th July 1910.

In a later specification to Patent No. 1002765 5th September 1911 there is described a holder adapted to closely hold and present the rollers evenly to the face of the grinding member and to be adjusted to that end, the particular construction illustrated comprising a curved rocking seat for the holder which through adjusting bolts could be made to assume the required position.

The present invention deals with improved constructions of such adjusting holder by which the adjustment can be very readily and accurately effected through the medium of an extended part, arm or arms, or lever or levers, and suitable adjusting and securing devices whereby a ready and fine adjustment may be obtained.

Several forms of holding devices according to the invention are hereinafter described by way of example and illustrated in the accompanying drawings.

In such drawings Figures 1 to 6 represent in all cases cross sectional elevations of holders carried by various forms of adjusting devices.

Referring to Fig. 1, 2 represents a roller being ground and 1 the grinding member, the holder proper being composed of two side plates 3, 3 and a bottom plate 4. The side plates are attached to a supporting portion or block 5 by screws 6, 6. Such block has a circular or curved base portion and an extension arm or lever 7. The arm or the like carries setting screws 8, 8^a which bear on, and engage respectively with a part of the machine frame 9, which has a curved seat 10 to receive the block 5. Through the wall portion of this seat a set screw 11

passes into the block 5 for the purpose of holding it securely in its seat or bed. To allow for the adjustment the opening 12 through which the screw passes is splayed and a covering washer 13 for such opening is employed a spring 14 being preferably located between the washer and screw head 15. The screws 6 pass through openings in the side plates 3 which openings are larger than they, so that the plates can be adjusted on the bottom plate 4, to enable different sized rollers to be dealt with.

In Fig. 2 the roller 2 is guided by side plates 16 16 and a bottom plate 17 which forms part of a block 18 having a curved base and capable of rocking in the seat 19 of the frame 20. On either side of the side plates are extension arms or levers 21 21 which are secured with the side plates to the bottom plate 17 which forms a central rib of the block 18, by bolts 22. The arms or levers 21 carry setting screws 23 23 which bear on, and engage respectively with the frame 20.

In Fig. 3 the rollers 2 are guided between side plates 24 24 and a bottom plate 25 which are bolted or secured together at suitable points. Through this combined piece are formed slots or holes 26 the internal wall of which on its upper side is flared or tapered so that a central point is formed while the under sides are also flared or tapered. Centrally of the bottom plate 25 which is of less depth at this point than the side plates there projects a coned projection 27 of the carrying block 28 which block has a curved base and rests on a curved seat 29 of the frame 30. The block 28 carries in this case an extension arm or lever 31 which is adjustable in a gap of the frame between side setting screws 32 32. The block is held in position by bars 34 which pass through the slots or holes 26 and bear on the coned projection 27 the flared shape of the slots allowing of the desired rocking. The bars are held to the frame 30 by the screw bolts 35.

In Fig. 4 the rollers 2 are carried in a guide or holder which may be a solid grooved block 36 as shown or a built up block and which is held in a table 37 pivoted at 38 to the frame 39 which table forms the extension arm or lever and is adjusted by the set screw 40 bearing against the frame at or near an end of the table.

In Fig. 5 the rollers 2 are carried in a guide or holder 41 which in this case also is shown as a solid block. This is in turn carried by a block 42 having ears to which are pivoted eye bolts 43 adjustable by nuts in parts of the frame 44 which frame is recessed at 45 for the purpose of receiving the block. The block is provided with a part 46 which forms the extension arm or lever and is pivoted at 47 in the frame, adjustment being obtained by the pivotal action on the fulcrum 47 the operation being effected and controlled by the screw bolts 43.

In Fig. 6 the rollers 2 are also carried in a guide or holder 48 which in this case also is shown as a solid block. This is mounted in a block 49 located in a gap 50 in the frame 51 and having a part 52 which as in the case of Fig. 5 forms the extension arm or lever but which here is movable by means of ears 53 pivotally carrying a nut 54 of a screw 55 also pivotally carried at one end in the frame 51. The part 52 carries a curved face piece 57 which seats and can rock in a correspondingly curved seat 58 of the frame the ears 53 passing through a gap in the frame so as to allow of the required movement. The upper end of the block 49 is centered and held by edges 59 59 of the frame which are brought up close to same to form fulcrum points.

It will be seen in the examples given that the desired movement of the roller holders is obtained from or near the extremity of a lever or the like by means which permit of a ready and fine adjustment.

It will also be understood that various other constructions embodying the invention could also be devised.

What is claimed is:—

1. A machine for grinding rollers comprising in combination, a grinding member, an adjustable holder adapted to present the rollers to the face of the grinding member, an extended part for such holder, and means for moving same, whereby a ready and fine adjustment may be obtained.

2. A machine for grinding rollers comprising in combination, a grinding member, an adjustable holder adapted to present the

rollers to the face of the grinding member and having a curved rocking face working in a curved rocking seat an extended part for such holder, and means for moving same whereby a ready and fine adjustment may be obtained.

3. A machine for grinding rollers comprising in combination, a grinding member, an adjustable holder rocking about a point below said rollers adapted to present the rollers to the face of the grinding member, an extended part to such holder and means for moving same whereby a ready and fine adjustment may be obtained.

4. A machine for grinding rollers comprising in combination, a frame, a grinding member, an adjustable holder adapted to present the rollers to the face of the grinding member rocking about a point below said rollers an extension arm carried by said holder, a setting screw passing through said arm and bearing on the frame, and a screw engaging the holder portion proper and adapted to lock same to the frame.

5. In a machine for grinding rollers and in combination, a frame, a grinding member, an adjustable holder comprising a block having a curved base, adapted to be received in a curved seat in the frame, side plates carried by the base adapted to aline the rollers and present them to the face of the grinding member, an extension arm carried by said holder, setting screws passing through said arm, and bearing on the machine frame, and a securing screw passing through an enlarged opening in the curved seat of the frame and entering the curved base of the holder.

6. In a machine for grinding rollers and in combination an adjustable holder comprising a base portion, and side plates, one of said side plates being movable and means for securing such movable side plate when adjusted to the length of roller it is holding.

In testimony whereof I have set my hand in the presence of two subscribing witnesses.

OTTO ALWIN SCHMIDT.

Witnesses:

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