

E. D. SHERRILL.
ANGLE TOOL.
APPLICATION FILED AUG. 28, 1912.

1,063,937.

Patented June 3, 1913

Fig. 1.

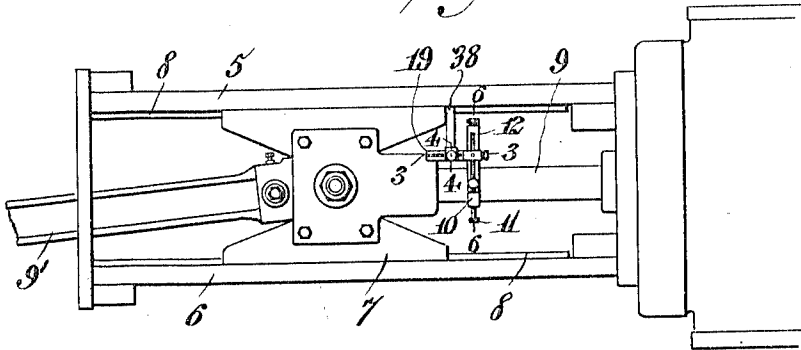


Fig. 2.

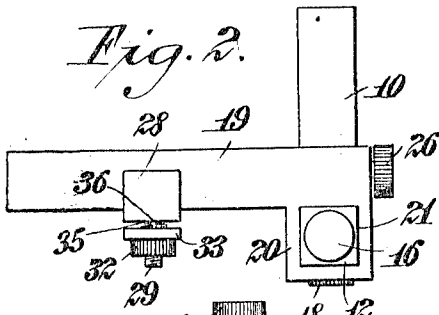


Fig. 3.

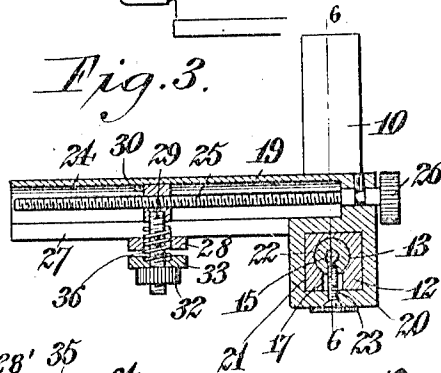


Fig. 5.

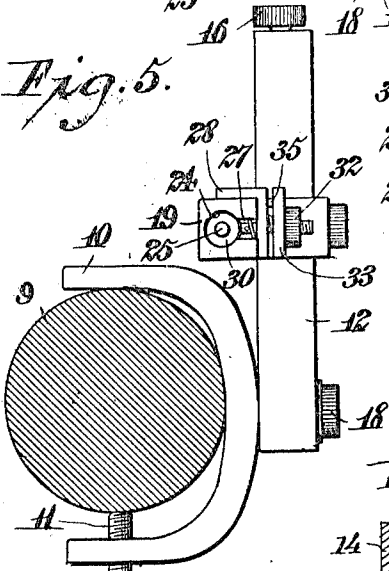


Fig. 4.

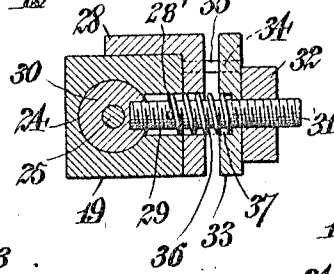


Fig. 7.

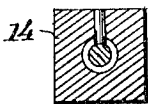
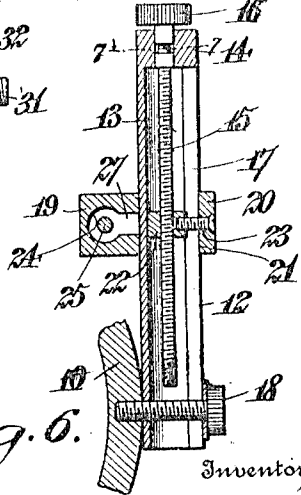


Fig. 6.



Witnesses:

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UNITED STATES PATENT OFFICE.

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ANGLE-TOOL.

1,063,937.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, **ESPY D. SHERRILL**, a citizen of the United States, residing at Hickory, in the county of Catawba and State of North Carolina, have invented new and useful Improvements in Angle-Tools, of which the following is a specification.

The invention relates to a truing instrument, and more particularly to the class of adjustable angles for lining or truing up work.

The primary object of the invention is the provision of an instrument of this character which can be readily and easily clamped to the connecting rod of the cross head of the piston rod of a locomotive for supporting a tool, whereby on reciprocation of the cross head the said tool will operate upon the cross head guides for truing or lining up the same.

Another object of the invention is the provision of an instrument of this character which is especially useful for many lines of work where it is desired to obtain a true line in the work, the instrument being adjustable so as to accurately regulate the same when truing or lining up work, thus saving a machinist considerable time and also enabling the work to be performed in an easy and convenient manner.

A further object of the invention is the provision of an instrument of this character which is simple in construction, readily and easily adjusted, thoroughly reliable and efficient in its operation, and inexpensive in manufacture.

With these and other objects in view the invention consists in the construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claims hereunto appended.

In the drawings: Figure 1 is a fragmentary side elevation of a pair of cross head guides of a locomotive, showing the cross head mounted therein, and its connecting rods, with the instrument, constructed in accordance with the invention applied to one of the connecting rods. Fig. 2 is a top plan view of the instrument. Fig. 3 is a sectional view on the line 3—3 of Fig. 1. Fig. 4 is a sectional view on the line 4—4 of Fig. 1. Fig. 5 is an end elevation of the instrument. Fig. 6 is a sectional view on the line 6—6 of Fig. 3. Fig. 7 is a sectional view on the line 7—7 of Fig. 6.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings by numerals 5 and 6 designate the upper and lower cross head guides respectively of a locomotive, 7 the cross head which is adapted to travel back and forth between the said sides upon the track flanges 8 formed thereon, 9 one of the piston rods which is pivoted to the cross head 7, and 9' the connecting rod which is pivoted to the driving wheel of the locomotive as usual, and to either of these rods 9 and 9' is adapted to be fastened or clamped the angle instrument presently described.

The angle instrument comprises a substantially U-shaped clamping member 10 in one limb of which is threaded a binding screw 11, so that when the clamping member 10 is engaged upon one of the connecting rods 9 the screw 11 may be tightened for the fastening of the same thereto.

Mounted upon the clamping member 10 is a section 12 which is of squared formation in cross section throughout its length, the same being formed with a circular-shaped central bore 13 opening through only one end thereof, while the opposite closed end 14 has swiveled therein an adjusting screw 15, the same extending through the bore and being formed at its outer end with a knurled head 16, whereby the screw 15 may be readily rotated when desired. Opening through the outer face of the section 12 is a slot 17, which is coextensive with the bore 13 and communicates therewith, the section 12 being adjustably connected to the clamping member 10, by means of a set screw 18, which is passed through the said section 12 and is threaded in the clamping member, so that the section 12 can be locked in any desirable angular position relative to the clamping member.

Arranged at right angles to the section 12 is a section 19, one end of which is formed with an offset sleeve 20 provided with a squared opening 21 receiving the section 12, the said sleeve 20 being slidable upon the section 12, and being adjusted in a manner presently described. Arranged within the bore 13 in the section 12 is an internally threaded collar 22, which adjustably surrounds the screw 15, the collar being fastened to the sleeve 20 by means of a locking screw 23, threaded in the latter, and the said

collar 22, the screw 23 working through the slot 17 so that upon the turning of the screw 15, the section 19 will be adjusted longitudinally upon the said section 12 to the desired position.

The section 19 is formed with a central bore 24 which opens through one end thereof, while the opposite closed end has suitably swiveled therein an adjusting screw 25, the outer end of which is formed with a knurled head 26, whereby the said screw may be manually turned. Formed in one side of the section 19 is an elongated slot 27, the same extending from the sleeve 20 to and through the open end of the section 19 and communicating with the bore 24 by opening into the same, whereby a tool holder can be adjustably connected with the screw 23 in a manner presently described.

The tool holder comprises an L-shaped base plate 28 which embraces the slotted side face and the top face of the section 19 for sliding movement thereon. Passed through the plate 28 and the slot 27 is a connecting stem 29 which is fixed to a collar 30 surrounding and threaded on the adjusting screw 25, the stem 29 being provided with threads 31 for the adjustable connection of a knurled nut 32 therewith. Surrounding the stem 29 between the base plate 28 and the nut 32 is a clamping block 33 the same being formed with an opening 34, receiving a guide lug 35 mounted in and projecting outwardly from the base 28, so that on the turning of the nut 32 the clamping block 33 will be prevented from turning therewith. Surrounding the stem 29 is a coiled expansion spring 36 one end of which is engaged in a counter seat 37 formed in the block 33 while its opposite end engages a pin 28' mounted in the stem, and this spring is designed to separate the said block 33 from the base 28 on the unscrewing of the nut 32 on the stem 29 so that a truing tool 38 may be engaged between the base and block for the mounting of the same upon the tool holder, the tool being designed to act upon the guide flanges 8 of the cross head guides for the truing and lining up of the same when the cross head 7 is reciprocated between said guides. It is evident that when the adjusting screw 23 is turned the tool holder may be moved to the desired position on the section 19 for properly positioning the tool carried by said holder. The device is readily adjustable as will be obvious to regulate the same to the work to be operated upon by the tool when mounted in the tool holder.

When a locomotive is not in use and it is desired to true the cross head guide thereof the tool hereinbefore described is employed. The clamping member 10 is mounted upon

the piston rod 9 and the section 19 is properly adjusted, and thereafter the tool 38 which is in the form of a planer is engaged between the plates 28 and 33 and secured therebetween by the tightening of the nut 32 on the stem 31. After the said tool 38 has been properly positioned with respect to either of the cross head guide flanges 8 the locomotive is started to reciprocate the piston rod 9, so that the said tool 38 will act upon the flange 8 to be trued, and in this manner the proper truing thereof is accomplished. It is evident that the tool can be readily adjusted as the occasion may require.

What is claimed is:—

1. In a device of the class described, a clamping member, an arm section adjustably connected to the clamping member, adjusting means extending longitudinally in said section, a second arm section at right angles to the first arm section and slidably connected with the latter, means surrounding the adjusting screw and connected with the second arm section for moving the same on the turning of the screw and a tool holder adjustably mounted on the second arm section.

2. In a device of the class described, a clamping member, an arm section adjustably connected to the clamping member, an adjusting screw extending longitudinally in said section, a second arm section at right angles to the first arm section and slidably connected with the latter, means surrounding the adjusting screw and connected with the second arm section for moving the same on the turning of the screw, a tool holder adjustably mounted on the second arm section, and an adjusting screw extending longitudinally in said second arm section and engaged with the tool holder.

3. In a device of the class described, a clamping member, an arm section adjustably connected to the clamping member, an adjusting screw extending longitudinally in said section, a second arm section at right angles to the first arm section and slidably connected with the latter, means surrounding the adjusting screw and connected with the second arm section for moving the same on the turning of the screw, a tool holder adjustably mounted on the second arm section, an adjusting screw extending longitudinally in said second section and engaged with the tool holder, and knurled heads on the screws and disposed exteriorly of the arm sections.

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

ESPY D. SHERRILL.

Witnesses:

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C. A. MOSER.