No. 831,862.

PATENTED SEPT. 25, 1906.

A. S. HAMILTON.

LINE ADJUSTING DEVICE.

APPLICATION FILED MAY 21, 1906.

FIG. 1

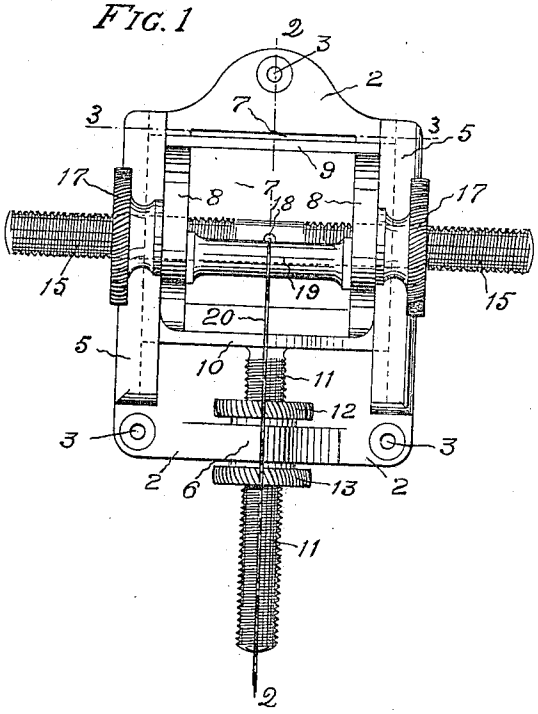
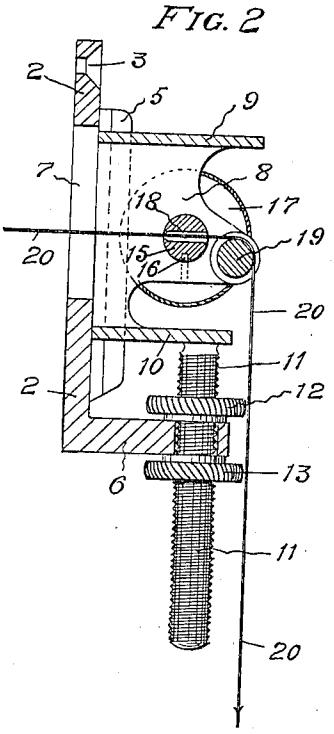


FIG. 2



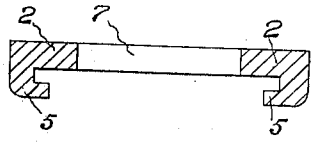
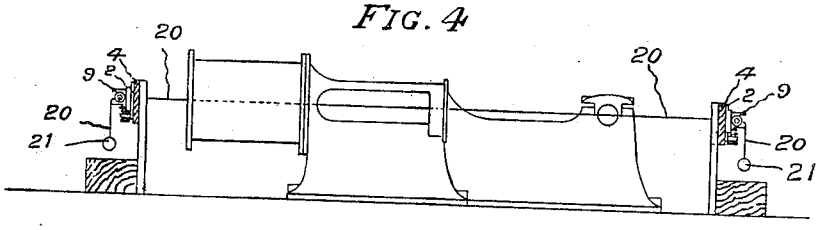


FIG. 3

FIG. 4



WITNESSES:

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LINE-ADJUSTING DEVICE.

No. 831,862. Specification of Letters Patent. Patented Sept. 25, 1906.

Application filed May 21, 1906. Serial No. 318,091.

To all whom it may concern:

Be it known that I, ABRAM SMELLIE HAMILTON, a citizen of the Dominion of Canada, residing at the city of Nanaimo, in the Province of British Columbia, Canada, have invented a new and useful Line-Adjusting Device, of which the following is a specification.

This invention relates to an improved means for adjusting a line such as is used in centering the crank-shaft bearings, &c., of an engine from its cylinder-bore; but although primarily designed with this object it is equally applicable for adjusting a line for any similar purpose.

The invention is fully described and its manner of application explained in the following specification, reference being made to the drawings by which it is accompanied.

Figure 1 is a front elevation of the device; Fig. 2, a vertical section on the line 2 2 in Fig. 1; Fig. 3, a section of the base portion on the line 3 3 in Fig. 1; and Fig. 4, a side elevation, to a reduced scale, showing the application of the device to the setting of a horizontal engine.

The device consists of a base portion 2, having screw-holes 3 for attachment of the same to a supporting-frame 4 exterior to the engine for which the lines are to be run. The base portion is provided with side guides 5, an outward projection 6 toward its lower end, and toward its center an opening or aperture 7. Between the side guides 5 is endwise slidable vertically an open frame having frontal projections 8 on the sides, a shelf projection 9 toward the upper end, and at the lower end a projection 10, to which is secured a downwardly-projecting screw 11, which screw is movable through an aperture in the projection 6 of the base portion. The open frame may be moved in the slideway of the base portion and may be locked in any desired position by milled nuts 12 and 13, threaded on the screw 11 and engaging the upper and lower sides of the projection 6. Endwise slidable through the lateral projections 8 of the open frame is a screw 15, which is prevented from rotating by a small feather-key engaging a corresponding longitudinal groove 16 in the screw 15. The movement of this screw 15 is controlled by milled nuts 17, threaded on it and engaging the outer sides of the side portions 8. Through the mid-length of the screw 15 is a small aperture 18, and rotatable in a frontal extension of the side members 8 is a small roller 19, the upper side of which is level with the aperture 18.

In the use of the device, which is represented in Fig. 4 as applied to the alinement of a horizontal engine, a light frame 4 is erected exterior to the engine, in which frame are apertures corresponding in position approximately to the center line of the engine and about the size of the aperture 7 of the base portion. One of the line-centering devices is secured, by means of screws, to the outer side of the frame 4 at each end of the engine, with the aperture 7 of the base portion approximately corresponding with the aperture which has been cut in the frame 4. A line 20 is then passed through the aperture 18 of the screw 15 of each, and to the ends of this line weights 21 are suspended, the line passing over the rollers 19 of each device. The position of the line may then be accurately adjusted as required, vertically by means of the milled nuts 12 and 13 on the screw 11 and horizontally by the nuts 17 on the screw 15.

Where a double-cylinder engine or pump is being set up, two pairs of the devices will require to be used, and the shelf-bracket 9 affords a support for a straight-edge across between the two, by means of which the lines of the engine may be leveled, as the distance from the axis of the screw 15, and therefore from the line 20 to the upper side of the shelf-bracket 9, is made exactly alike in each device. As the over-all length of the screw 15 is exactly equal in each device and the aperture 18 is in the middle of this length, the parallelism of the lines 20 through each engine may be determined by gaging between the adjacent ends of the screws 15 of each.

It will be apparent that by the use of this device an accurate adjustment of the lines may be readily made, and as the position of the aperture 18 may be securely fixed by the double nuts and a constant yielding tension is maintained on the line by the weights if the line is accidentally disturbed the alinement is not disarranged.

The shelf 9 affords a positive resting-place for the straight-edge instead of the setting being dependent on the attention and skill of the helpers, who under present practice are required to hold a straight-edge in contact with the line, a method which is subject to the possibility of considerable error owing to the difficulty of knowing when contact is made with a line without disturbing its posi-

tion. Similarly, in gaging for parallelism the adjacent ends of the screws 15 afford positive and firm positions between which the gage-rod may be applied.

Having now particularly described my invention and the manner of its application, I hereby declare that what I claim as new, and desire to be protected in by Letters Patent, is—

1. As a means for adjusting a line, a base portion having means for attachment of the same to a support and an opening through it toward the support, a member vertically slidable on the face of the base portion and having an opening through it approximately corresponding to that through the base portion means for endwise moving the vertically-slidable member on the face of the base portion and for securing it in any desired position of endwise movement, a stem horizontally slidable in the before-mentioned vertically-slidable portion such stem being prevented from rotating in its supports and having a small aperture horizontally through it at its mid-length means for endwise moving the stem and for securing it in any desired position, and a small roller the upper side of which is in approximate alinement with the aperture in the middle of the laterally-movable stem.

2. In a device of the class described a base portion having means for attachment of it to a support and an aperture through it toward the support, a portion vertically slidable between guideways on the outer face of the base portion and having at its upper side an outwardly-projecting shelf, means for adjusting and securing such vertically-slidable portion at any desired position of such movement, a stem horizontally movable in the vertically-movable portion means for adjusting and securing the endwise movement of such stem, an aperture through the stem at its mid-length and a roller the upper side of which is on a level with the aperture in the stem.

3. In a device of the class described, a base portion having means for securing the same to a support such base portion having an aperture through it toward the support and having side guides, a member vertically slidable in such guides having an aperture corresponding to that of the base portion and a downwardly-projecting screw passing through a projection on the base portion, nuts threaded on the screw engaging both sides of the projections through which the screw passes, a stem having screwed ends and an aperture through it at its mid-length such stem being horizontally slidable in the vertically-slidable member, a nut threaded on each end of the stem engaging the outer sides of its supports, a roller the upper side of which is about the level of the aperture in the stem, and a shelf on the upper part of the vertically-slidable member the plane of which is parallel to the axis of the horizontally-slidable stem.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ABRAM SMELLIE HAMILTON.

Witnesses:
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S. F. WHITTY.