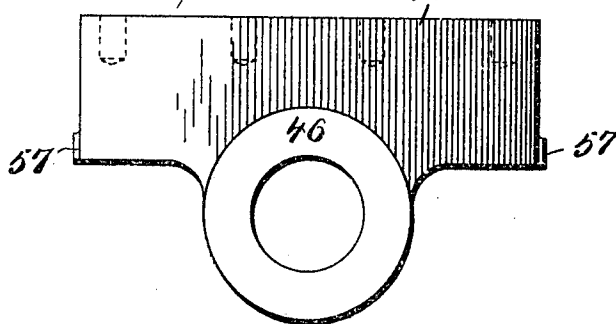
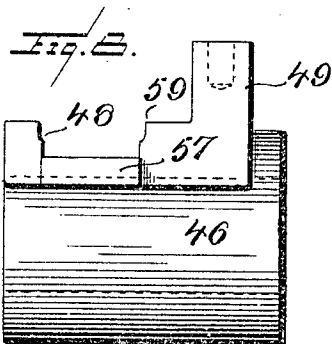
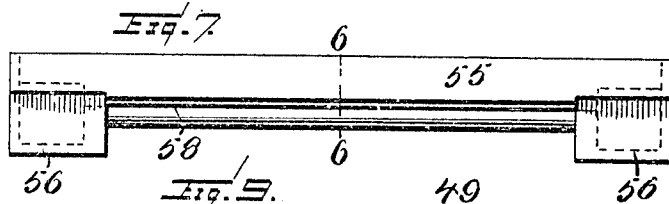
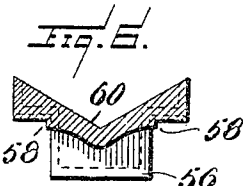
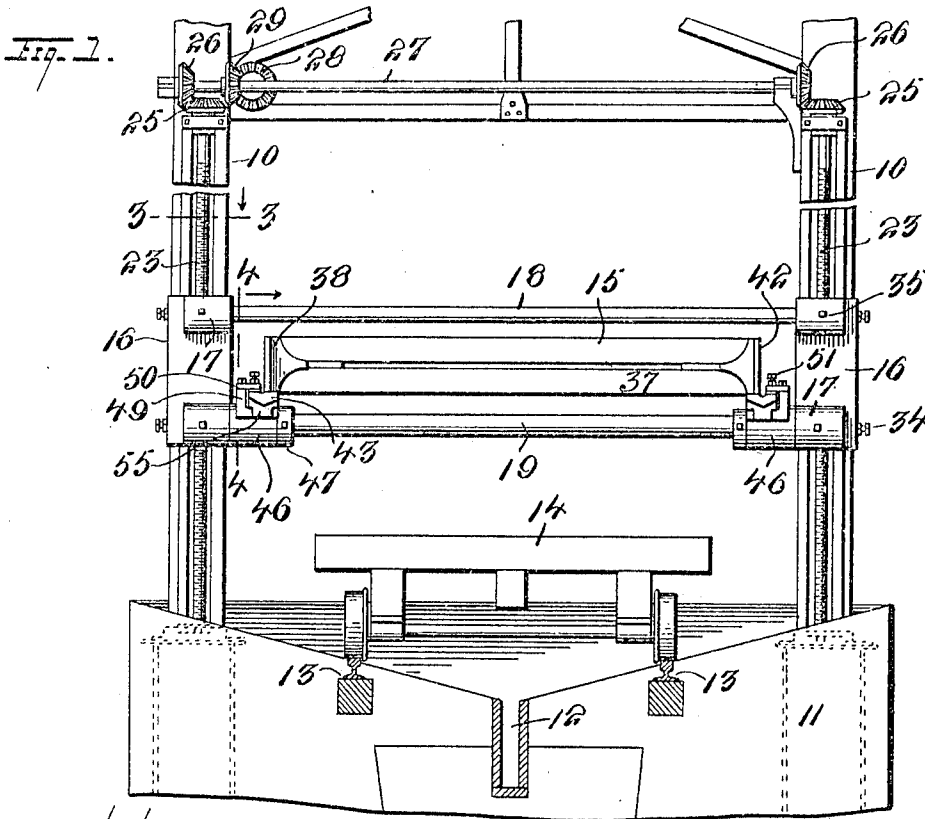


L. CRANE.
STONE SAWING MACHINE.
APPLICATION FILED MAY 17, 1909.

949,317.

Patented Feb. 15, 1910.

3 SHEETS—SHEET 1.



WITNESSES.

Wm. F. Hoyle
Alfred T. Sage

INVENTOR

Leslie Crane.

BY

E. B. Stocking

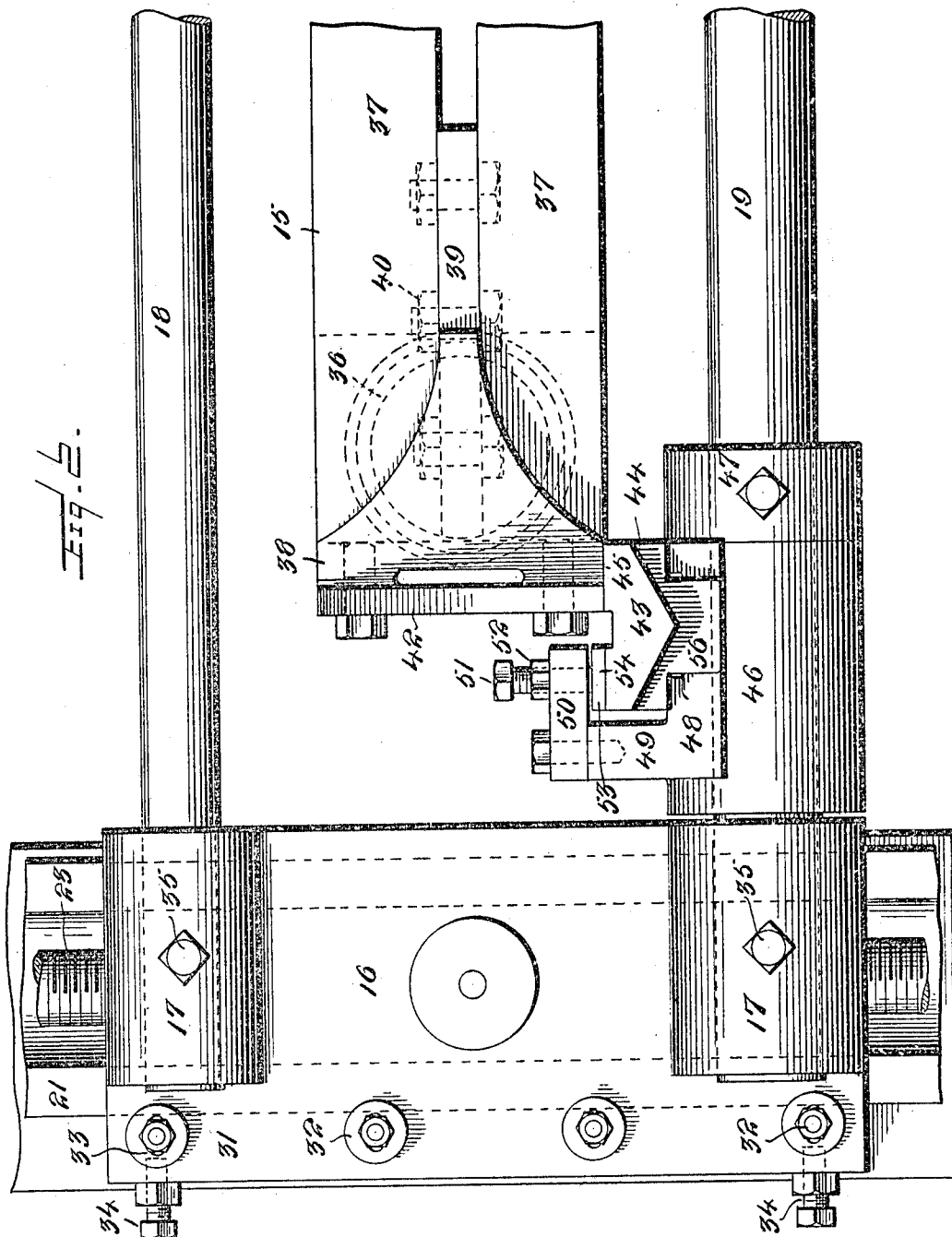
Attorney

949,317.

L. CRANE.
STONE SAWING MACHINE.
APPLICATION FILED MAY 17, 1909.

Patented Feb. 15, 1910.

3 SHEETS—SHEET 2.



WITNESSES

Wm. F. Roy & Co.
Alfred I. Sage

INVENTOR

Leslie Crane.

BY

E. J. Stocking

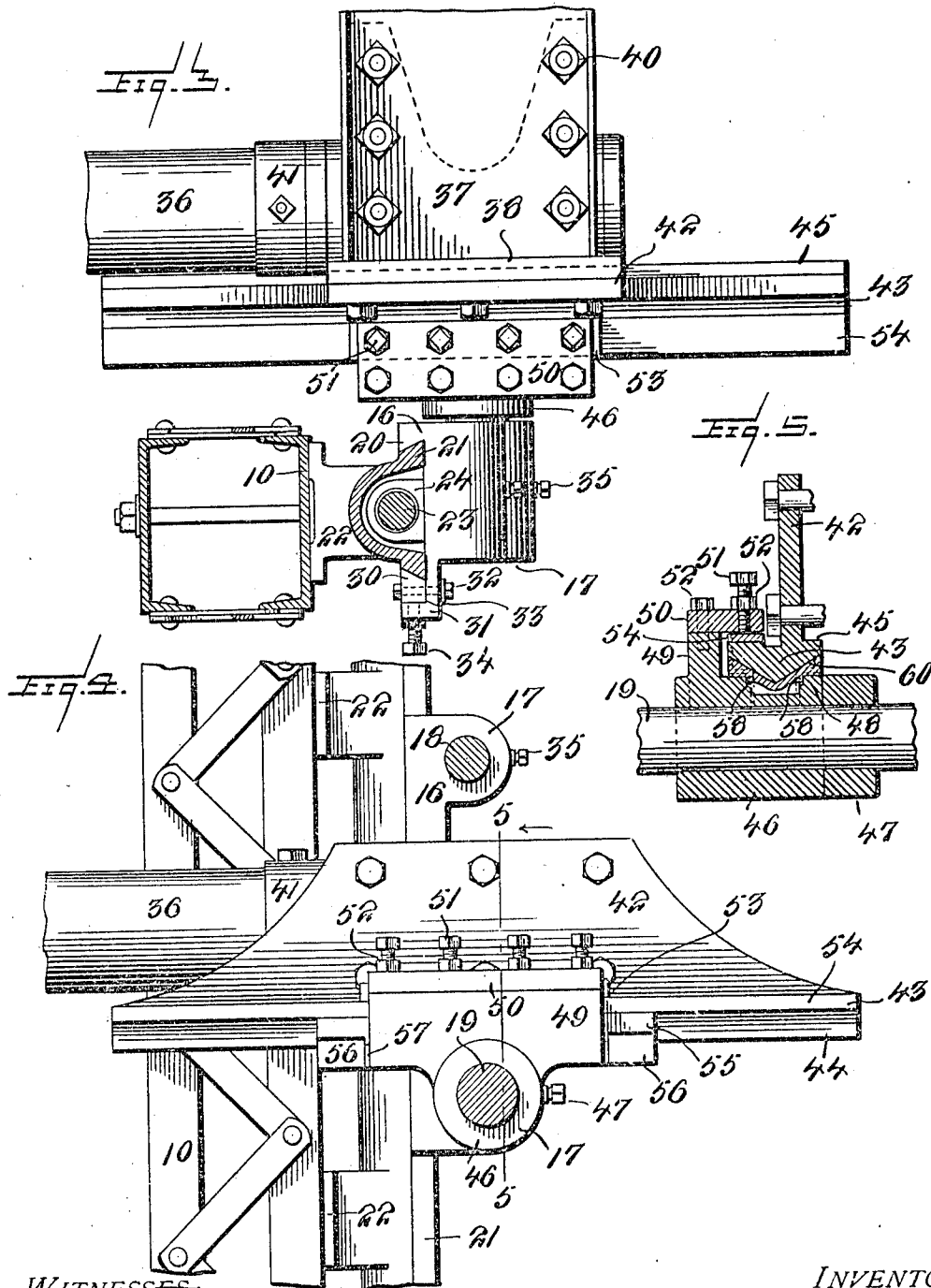
Attorney

L. CRANE.
STONE SAWING MACHINE.
APPLICATION FILED MAY 17, 1909.

Patented Feb. 15, 1910.

3 SHEETS—SHEET 3.

949,317.



WITNESSES.

W. F. H. Co.
Alfred T. Gage

INVENTOR

Leslie Crane.

BY

E. B. Stocking

Attorney

UNITED STATES PATENT OFFICE.

LESLIE CRANE, OF RUTLAND, VERMONT, ASSIGNOR OF ONE-HALF TO F. R. PATCH
MANUFACTURING COMPANY, OF RUTLAND, VERMONT.

STONE-SAWING MACHINE.

949,317.

Specification of Letters Patent.

Patented Feb. 15, 1910.

Application filed May 17, 1909. Serial No. 496,442.

To all whom it may concern:

Be it known that I, LESLIE CRANE, citizen of the United States, residing at Rutland, county of Rutland, and State of Vermont, have invented certain new and useful Improvements in Stone-Sawing Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a stone sawing machine, and particularly to the type embodying a sliding frame carrying one or more saws and adapted to be reciprocated.

The invention has for an object to provide a novel and improved construction of slide bearing for said frame and the shoes or slides used therewith so as to permit adjustment of the contacting surfaces in the movement of the frame to relieve the slide or shoe from cramping or binding at the corners of the frame and secure a proper alignment and free operation at all times.

Other and further objects and advantages of the invention will be hereinafter fully set forth and the novel features thereof defined by the appended claims.

In the drawing:—Figure 1 is an end elevation of a sawing machine showing the application of the invention; Fig. 2 is a detail end view of one of the bearings; Fig. 3 is a horizontal section on line 3—3, Fig. 1; Fig. 4 is a vertical section on line 4—4, Fig. 1; Fig. 5 is a vertical cross section on line 5—5, Fig. 4; Fig. 6 is a vertical section on line 6—6, Fig. 7; Fig. 7 is a side elevation of the shoe; Fig. 8 is an end view of the bearing; Fig. 9 is a side elevation thereof.

The numeral 10 designates the supporting standards for the machine which may be mounted in suitable foundations, for instance, as shown at 11, and any desired number of these standards may be used, they being preferably arranged at the four corners of the frame. The foundation may, if desired, be provided with any form of drain, as shown at 12, and at opposite sides thereof with tracks or rails 13 upon which the work carrier 14 is adapted to travel when placing the stone to be sawed in position beneath the sliding frame 15 or removing it from such position. This frame 15 carries the usual gang of saws adapted to operate upon the material on the carriage when the frame is reciprocated. The frame is supported by means of saddles 16 each of which is pro-

vided with bearings 17 to receive the upper sway bar 18 and the lower sway bar 19. This saddle 16 provides a long bearing upon the standards and carries both the sway bars which keeps the saddle and the entire corner of the machine in exact alinement thus preventing cramping of the parts from the weight of the bars and the frame carried thereby. For the purpose of securing this bearing the rear faces of the saddles are provided with a dove tailed recess 20 adapted to receive a cooperating guide flange 21 mounted upon the standards 10 and comprising the outer face of a supporting plate 22. Intermediate of the guides 21 a vertically disposed feed shaft 23 is pivotally mounted in the part 22 and threaded through the lugs 24 carried by the saddle 16. This feed screw may be driven in any desired manner, for instance, as shown, where a bevel gear 25 is secured at the upper end thereof and meshes with a cooperating gear 26 carried upon the cross shaft 27, this shaft being driven from any suitable source of power upon which the driving gear 28 is secured to mesh with the gear 29 of the cross shaft. For the purpose of compensating for wear and securing a proper adjustment, one side of the dove tailed bearing 20 may comprise a gib 30 mounted in an extension 31 from the saddle by means of the bolt 32 extended through an elongated aperture 33 in the extension 31 to prevent lateral displacement of the gib. This gib is adjusted into proper contact with the guide 21 by means of the set screws 34, while each of the sway bars is held against rotation in its bearing 17 upon the saddle by means of the set screw 35 mounted therein.

The frame 15 comprises the side bars and end bars 37 which may be of any desired construction and are connected at the ends or corners by means of a casting 38 which is provided with a lateral flange 39 extending between the end bars 37 and connected thereto, as shown at 40 in Fig. 2. This casing is also formed with a bearing 41 to receive the side bars 36 of the frame. The vertical faces of these corner irons 38 have secured thereto an attaching plate 42, as shown in Fig. 4, the under face of this plate being provided with the slide 43 having a contact face 44 of any desired configuration, for instance, V-shaped, as shown. This slide is extended laterally beyond the attaching

plate 42 thereof to provide a bearing 45 upon which the corner irons of the frame or body thereof may rest. For the purpose of providing a bearing for this slide bar, a slide bearing 46 is mounted upon the sway bar 19 to freely oscillate thereon and is held against longitudinal movement by means of the set collar 47. This slide bearing, as shown in Figs. 8 and 9 is provided at its upper portion with a recessed seat 48 and at one side thereof with a vertically extending flange 49 adapted to support a bearing plate 50 in which set screws 51 are adjustably mounted and held by set nuts 52 to bear upon a gib or plate 53 which contacts with the upper face 54 of the slide bar 45 so as to prevent any vertical movement thereof or raising of the frame from its ways during the reciprocatory motion thereof.

Seated upon the slide bearing 46 is a shoe or slide 55 provided at each end with depending lugs 56 which engage the end walls 57 at each end of the seat 48 in the bearing, and this prevents longitudinal movement of the shoe, while intermediate of its lugs 56 the shoe is formed with shoulders 58 adapted to contact with the side walls 59 of the seat 48 to prevent any lateral displacement of the shoe. The upper face of the shoe is formed V-shaped, as shown at 60, or of other configuration corresponding with the faces of the slide bar 43 which travels therein.

The gib 53 and the shoe 55 may be formed of brass or any other suitable wearing material and are each readily removable when it is necessary to replace them through wear or other cause. The downward pressure due to the weight of the frame and from the gib prevents any vertical movement of the shoe from contact with its bearing.

In the operation of the invention, it will be seen that the loosely mounted bearing is free to adjust itself upon the sway bar and thus relieves the shoe and slide bar carried by the saw frame from any cramping so as to effect a positive alinement. This slide bar is of greater length than the shoe and may be proportioned for that purpose to obtain the proper length of travel of the frame during the sawing action. The structure of the shoe permits its ready removal without the necessity of detaching any parts other than the bearing plate carrying the set screws for the gib which resist a vertical movement between the parts of the bearing. The structure of saddle provides a long bearing upon the guide which may be accurately adjusted to secure free operation and by carrying both sway bars prevents cramping upon the guides due to any strain in the movement of the saw frame or from the weight thereof so that an exact alinement may be maintained. It will therefore be seen that the invention presents a simple, economically constructed and very efficient

form of bearing particularly adapted for use in connection with a straight cut slide gang saw.

Having described my invention and set forth its merits, what I claim and desire to secure by Letters Patent is:—

1. In a stone sawing machine, the combination with a sliding saw frame, of a supporting shaft therefor, a bearing pivotally mounted upon said shaft and provided with a straight open slide upon its upper face extended transversely at each side of said shaft, and a cooperating slide bar secured to said frame and having a contact face to engage said straight slide throughout its length.

2. In a stone sawing machine, the combination with a sliding saw frame, of a supporting shaft therefor, a bearing pivotally mounted upon said shaft and provided with a straight slide upon its upper face, a cooperating slide bar secured to said frame to engage said straight slide, a gib disposed to contact with the upper portion of said bar, and means carried by said bearing to contact with said gib.

3. In a stone sawing machine, the combination with a sliding saw frame, of a supporting shaft therefor, a bearing pivotally mounted upon said shaft, a slide secured to said frame, and a straight elongated shoe seated upon the upper face of said bearing to receive the frame slide.

4. In a stone sawing machine, a sliding saw frame, a supporting shaft therefor, a straight slide bearing loosely mounted on said shaft, a slide secured to said frame to engage said bearing, a gib mounted to bear upon the upper surface of said slide, and an adjustable set screw carried by said slide bearing to engage said gib.

5. In a stone sawing machine, a sliding saw frame, a supporting shaft therefor, a bearing for a slide shoe loosely mounted on said shaft, a slide secured to said frame, and a slide shoe seated upon said bearing and provided with depending lugs disposed beyond the ends of said bearing.

6. In a stone sawing machine, a sliding saw frame, a supporting shaft therefor, a slide bearing having a sleeve loosely mounted upon said shaft and a seat in the upper face thereof, a shoe having a depending portion to embrace said bearing and an intermediate portion to enter said seat, and means carried by said saw frame to engage said shoe.

7. In a stone sawing machine, a sliding saw frame, a supporting shaft therefor, a slide bearing having a sleeve loosely mounted upon said shaft and a seat in the upper face thereof, a shoe having a depending portion to embrace said bearing and an intermediate portion to enter said seat, means carried by said saw frame to engage said

shoe, a laterally extending flange carried by said bearing above the frame slide, a gib disposed between said flange and frame slide, and means carried by said flange to engage said gib.

8. In a stone sawing machine, a sliding saw frame, a slide bearing having an attaching plate connected to said frame and a flange extending beneath said frame, a supporting shaft for said frame, a bearing beneath the slide mounted upon said shaft, and a shoe supported by said bearing to receive the slide of said frame.

9. In a stone sawing machine, a sliding saw frame, a slide bearing having an attaching plate connected to said frame and a flange extending beneath said frame, a supporting shaft for said frame, a bearing beneath the slide mounted upon said shaft, a shoe supported by said bearing to receive the slide of said frame, and means carried by said bearing to engage the upper surface of said slide at the outer side of said attaching plate.

10. A bearing for a sliding saw frame comprising a tubular member having at its upper portion a rectangular body provided with a recess having vertical walls, and a shoe provided at each end with depending lugs and intermediate of the lugs with longitudinally extending shoulders to engage the walls of said recess.

11. A bearing for a sliding saw frame comprising a tubular member having at its upper portion a rectangular body provided with a recess having vertical walls, a shoe having a V-shaped upper face and depending lugs at its opposite ends, and longitudinally extending shoulders upon said shoe intermediate of said lugs to engage the vertical walls of said recess.

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

LESLIE CRANE.

Witnesses:

WM. J. MCGARRY,
GEORGE C. COBB.