May 22, 1934. M. R. HATCH 1,959,865

GIBBING AND TYING MEANS FOR PRESS FRAMES

Filed July 25, 1932 3 Sheets-Sheet 1

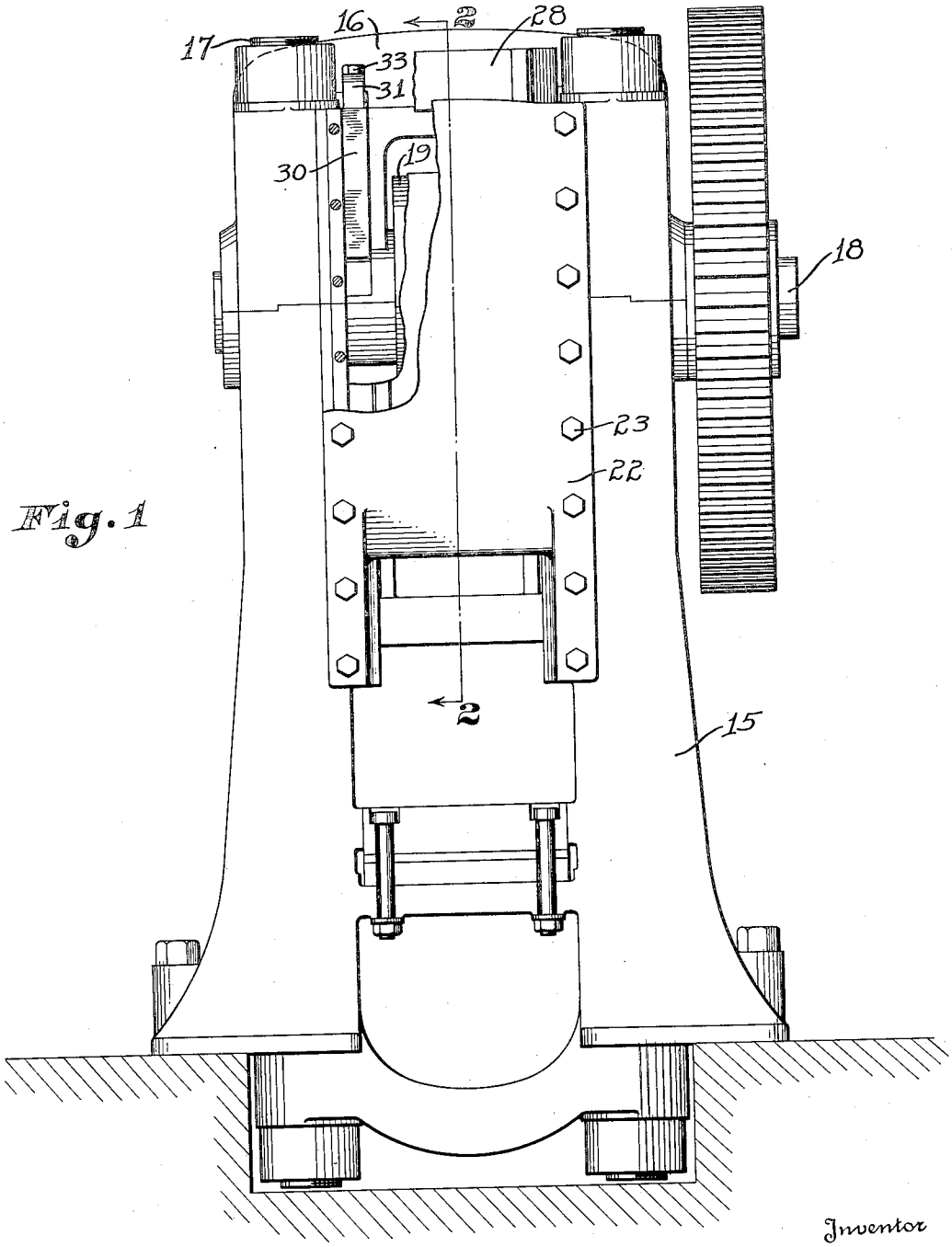



Fig. 1

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GIBBING AND TYING MEANS FOR PRESS FRAMES

Filed July 25, 1932 3 Sheets-Sheet 2

Fig. 2

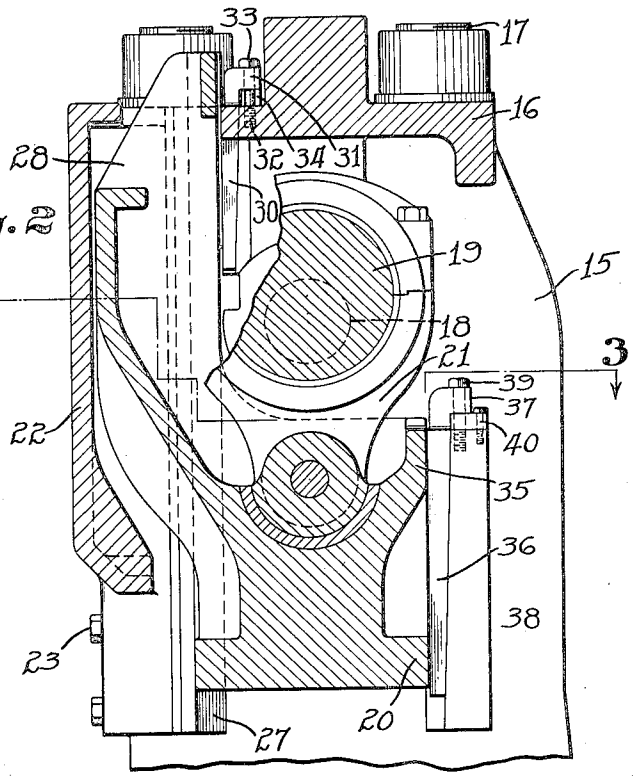
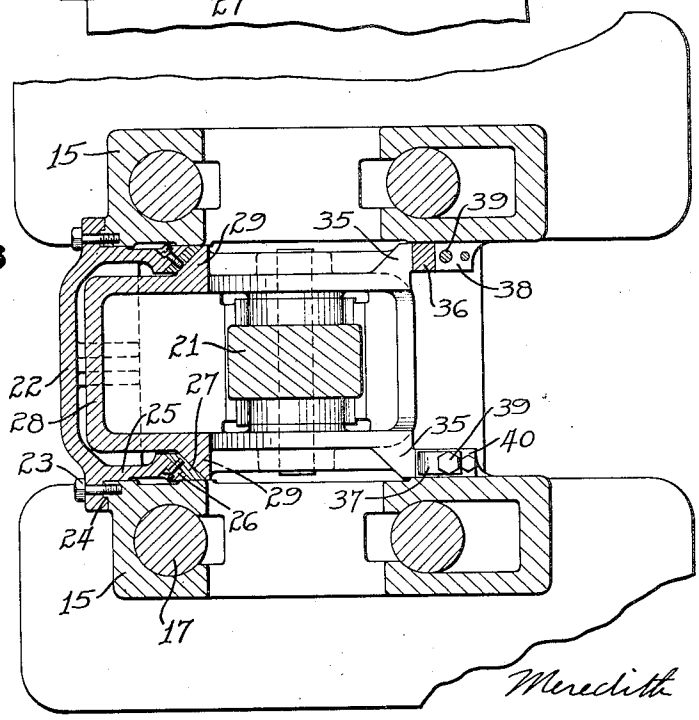



Fig. 3




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GIBBING AND TYING MEANS FOR PRESS FRAMES

Filed July 25, 1932 3 Sheets-Sheet 3

Fig. 4

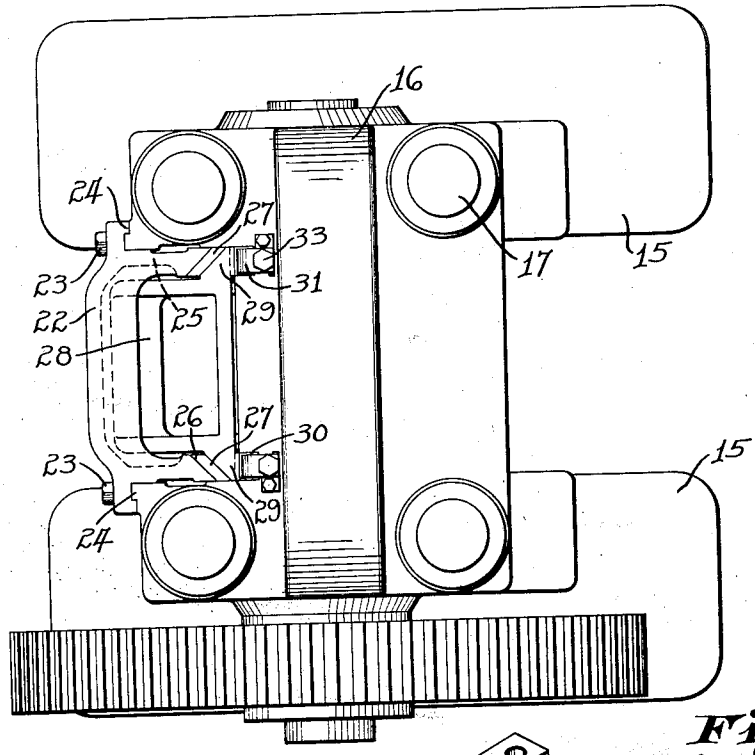



Fig. 5

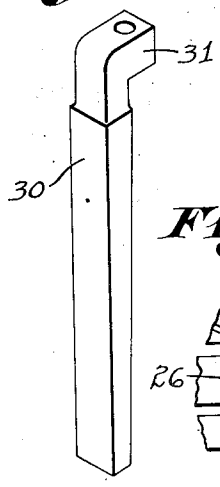



Fig. 6

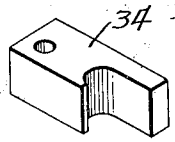



Fig. 7

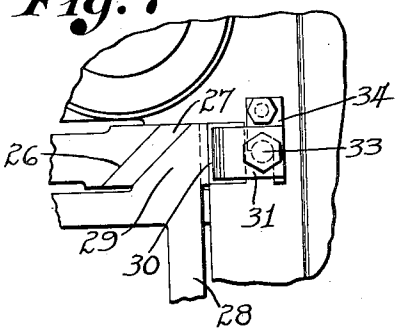



Fig. 8

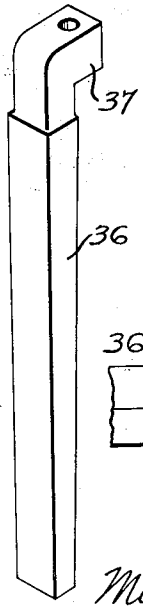



Fig. 9

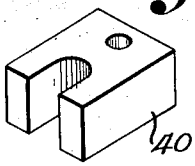
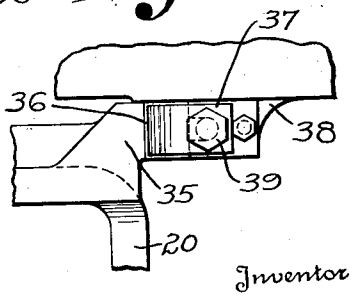



Fig. 10




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# UNITED STATES PATENT OFFICE

1,959,865

## GIBBING AND TYING MEANS FOR PRESS FRAMES

Meredith R. Hatch, Toledo, Ohio, assignor to The Toledo Machine & Tool Company, Toledo, Ohio, a corporation of Ohio

Application July 25, 1932, Serial No. 624,632

7 Claims. (Cl. 308—3)

This invention relates to frames for power presses and particularly to the gibbing and the tying means which connects the sides of the frame and guides the slide in its reciprocatory movement.

The object of the invention is to provide a new and improved construction whereby the several parts of the frame are held rigid and the slide accurately guided. The relation between the frame and the gibbing, and the arrangement of the slideway are simplified, and the adjustment of the gibbing to provide an accurate guide for the slide is facilitated.

The invention in its preferred form will be more specifically described with reference to the accompanying drawings, in which:

Fig. 1 is a front elevation of a press constructed according to the invention, parts being broken away to show the interior construction;

Fig. 2 is a section taken substantially on the line 2—2 of Fig. 1;

Fig. 3 is a section taken on the line 3—3 of Fig. 2;

Fig. 4 is a plan view of the press with a part of the slideway shown in section;

Fig. 5 is a perspective view of one of the tapered gibs used for guiding the upper part of the slide.

Fig. 6 is a perspective view of a spacing block adapted to be used in connection with the gib shown in Fig. 5;

Fig. 7 is an enlarged detail view of one corner of the slide associated with the gibbing illustrated in Figs. 5 and 6;

Fig. 8 is a perspective view of one of the tapered gibs used in guiding the lower part of the slide;

Fig. 9 is a perspective view of a spacing block adapted to be used in connection with the gib shown in Fig. 8;

Fig. 10 is an enlarged detail view of one corner of the slide associated with the gibbing shown in Figs. 8 and 9.

As illustrated in the drawings, the invention is associated with a power press having a frame with uprights 15 connected at the top by a crown 16, and held rigidly in assembled relation by tie rods 17. The power shaft 18 is journaled in the uprights 15 and is provided with an eccentric 19 which reciprocates the slide 20 through the medium of a suitable connection 21 as the shaft rotates.

The uprights 15 are connected at the front side of the machine by a front gib 22 which is rigidly secured by numerous machine screws 23. The gib 22 extends from the lower end of the slideway to a point above the center line of the crankshaft and is dished outwardly to provide space for the slide. In order to insure the utmost rigidity, a tongue and groove joint 24 is preferably provided between the front gib and the sides of the frame. The sides 25 of this gib extend inwardly within the uprights 15 and terminate in straight vertical seats 26 to which finished bronze wearing strips 27 are secured.

The slide 20 has at its front side an upward extension 28 disposed within the gib 22 and extending above the crankshaft and is formed with straight guide flanges 29 adapted to move up and down in contact with the wear strips 27. Behind each flange 29, a tapered bronze finished gib 30 is mounted by means of a head 31 which is secured by means of a machine screw 33 to a seat 32 formed on the crown 16, a suitable spacing block 34 being inserted beneath the head 31 to properly fix the position of the gib. It will be noted that the strips 27 extend the entire length of the slideway and are inclined at an angle of substantially 45° to the faces of the slide, so that by a proper adjustment of the gibs 30, and of similar gibs at the lower end of the slide, an accurate take-up for the guideway is insured without any additional lateral adjustment.

Opposed to the lower ends of the strips 27, on the opposite side of the slide, there are a pair of tapered bronze finished gibs 36 similar to the gibs 30 and each provided with a head 37 which is secured to a seat 38 projecting from the crown 16, by means of a machine screw 39, a suitable spacing block 40 being interposed to accurately fix the position of the gib.

From the foregoing description, it will be seen that the bronze facing strips 27 provide straight bearing surfaces for one side of the slide throughout its length, including the extension 28. The tapered gibs 36 and 30 provide opposed bearing surfaces for the opposite side of the slide and the extension 28 respectively. Since the faces of the strips 27 are disposed in planes which are inclined rearwardly and outwardly at angles of substantially 45° to the face of the slide, it is necessary to use the tapered gibs only on one side of the slide in order to insure an accurate take-up for the slideway.

It is, of course, understood that the invention is not limited to the specific structure herein shown and described, but includes all such modifications as may fall within the scope of the appended claims.

What I claim is:—

1. In a power press frame having a slideway, the combination with a frame having spaced uprights, of a gib connecting said uprights at one

side of the slideway and having a continuous interlocking connection with the frame from top to bottom of the slideway and the gib, and other gibs at the opposite side of the slide and opposed to the first mentioned gib, said gibs being provided with wearing surfaces between which the slide is guided.

2. In a power press frame having a slideway, the combination with a frame having spaced uprights, of a gib connecting said uprights at one side of the slideway and having wearing strips extending from top to bottom of the slideway, tapered gibs insertable in opposed relation to the first mentioned gib to provide surfaces between which the slide is guided, and seats on the frame to which said tapered gibs are secured.

3. In a power press frame having a slideway, the combination with a frame having spaced uprights, of a gib connecting said uprights at one side of the slideway and having bearing surfaces disposed in vertical planes at the corners of the slideway at oblique angles to said side, and tapered gibs insertable in opposed relation to the first mentioned gib and having bearing surfaces which cooperate with the bearing surfaces of the first mentioned gib to constitute a guideway for the slide.

4. In a power press frame having a slideway, the combination with a frame having spaced uprights, of a gib connecting said uprights at one side of the slideway, a plurality of tapered gibs, means for securing each of the tapered gibs in predetermined relation to the first mentioned gib, the first mentioned gib having bearing surfaces disposed in vertical planes at the corners of the slideway at oblique angles to the side of the slideway between them, whereby fitting of the tapered gibs alone will fit the slideway to the slide.

5. In a power press, the combination with a built-up frame having spaced uprights and a slide reciprocable between said uprights, said slide having an upward extension at one side, of a gib connecting said uprights and having wearing strips extending continuously from top to bottom of the slideway adjacent said extension, gibs opposed to the lower portions of said wearing strips and cooperating therewith to provide guides for the slide, and gibs opposed to the upper portions of said wearing strips and cooperating therewith to provide guides for said extension.

6. In a power press, the combination with a built-up frame having spaced uprights and a slide reciprocable between said uprights, said slide having an upward extension at one side, of a gib connecting said uprights and having bearing surfaces disposed in vertical planes at oblique angles to said side, gibs opposed to the lower portions of said bearing surfaces and cooperating therewith to provide guides for the slide, and gibs opposed to the upper portions of said bearing surfaces to form guides, said extension being formed with ribs engaging the last mentioned guides.

7. In a power press, the combination with a built-up frame having spaced uprights and a slide reciprocable between said uprights, said slide having an upward extension at one side, of a gib connecting said uprights in front of the slide, gibs behind the slide in opposed relation to the lower portion of the front gib, said front gib having rearwardly and outwardly inclined bearing surfaces at the front corners of the slideway, whereby fitting of the rear gibs alone will fit the slideway to the slide.

MEREDITH R. HATCH.