

F. C. LEETHEM.  
 PRINTER'S HOOK.  
 APPLICATION FILED JUNE 5, 1908.

920,354.

Patented May 4, 1909.

Fig. 1

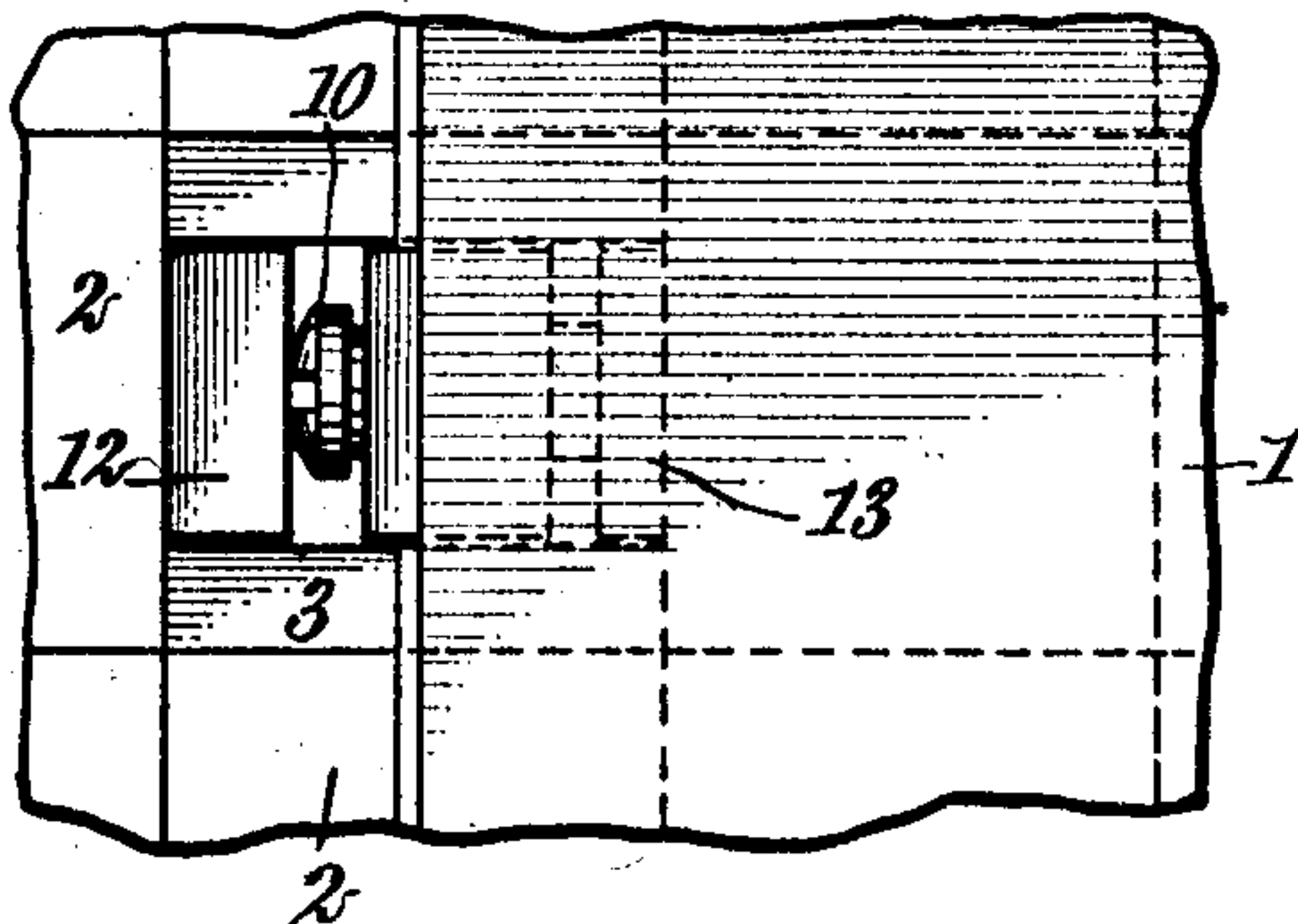


Fig. 2

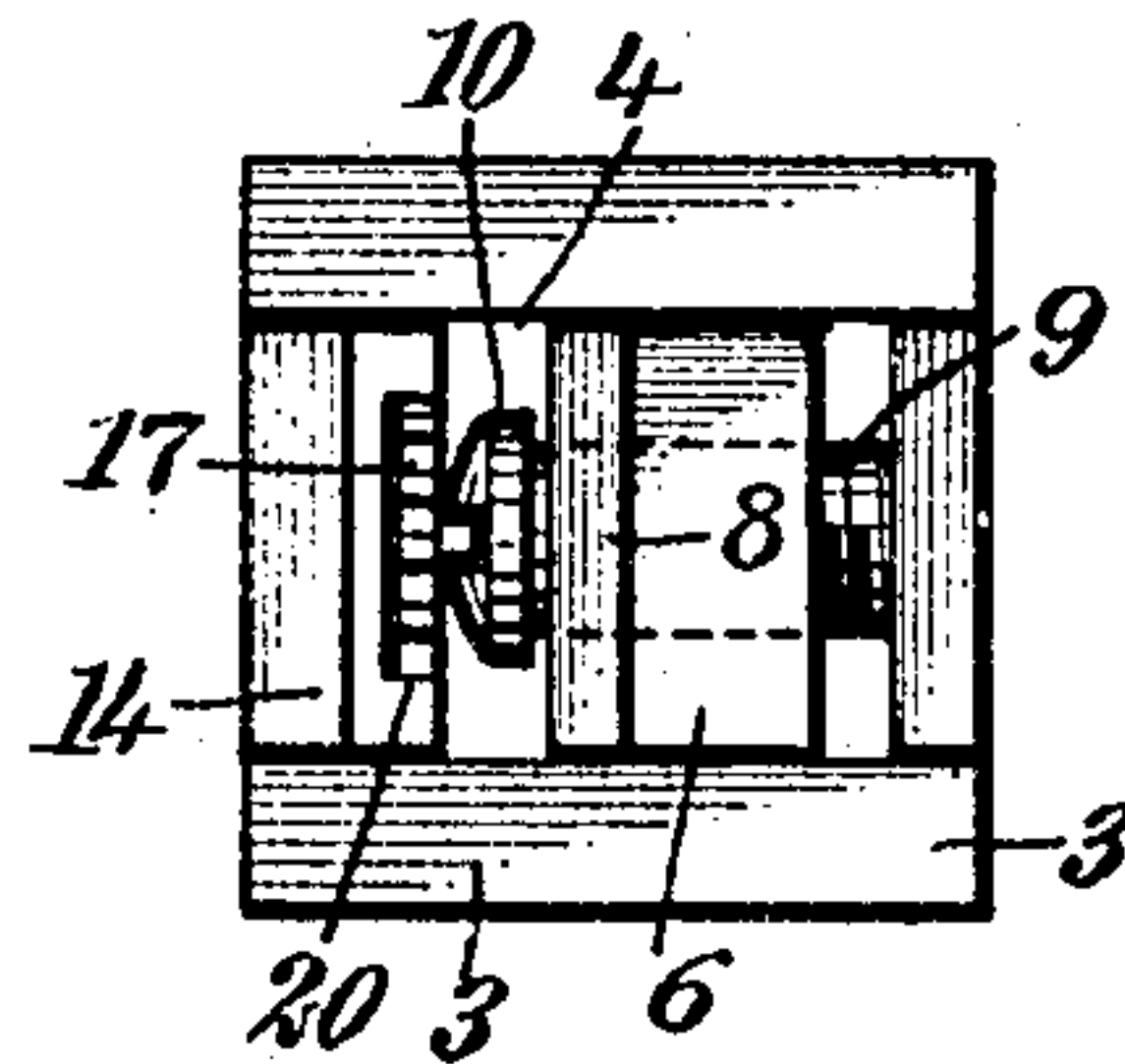


Fig. 3

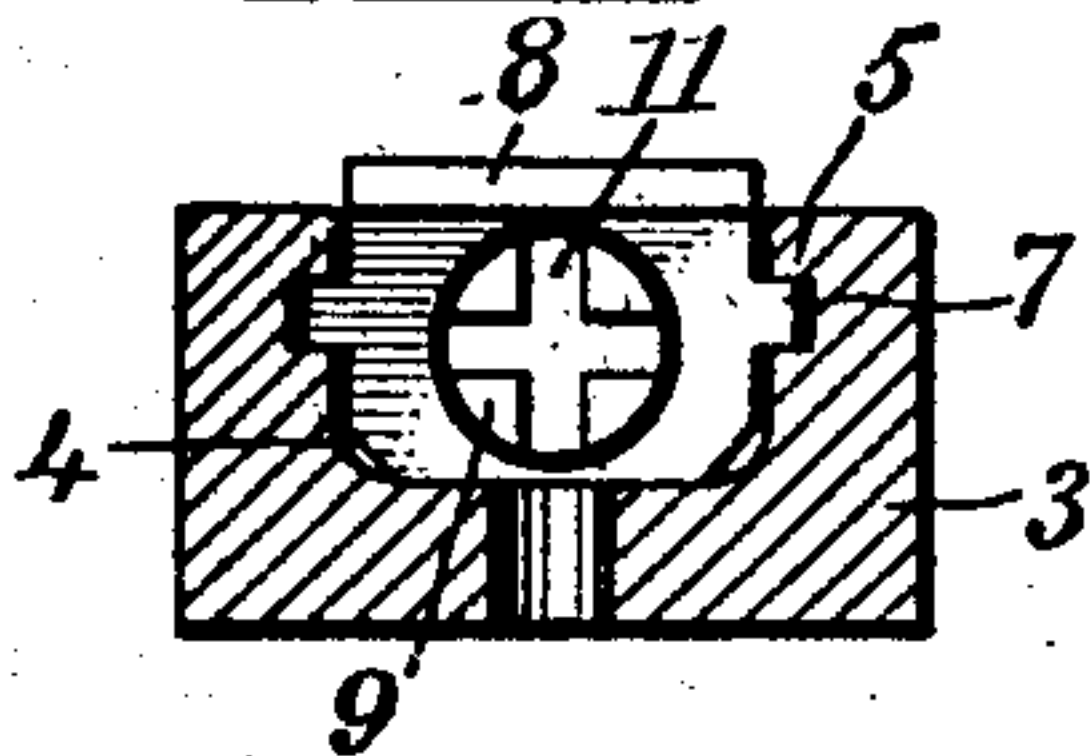


Fig. 4

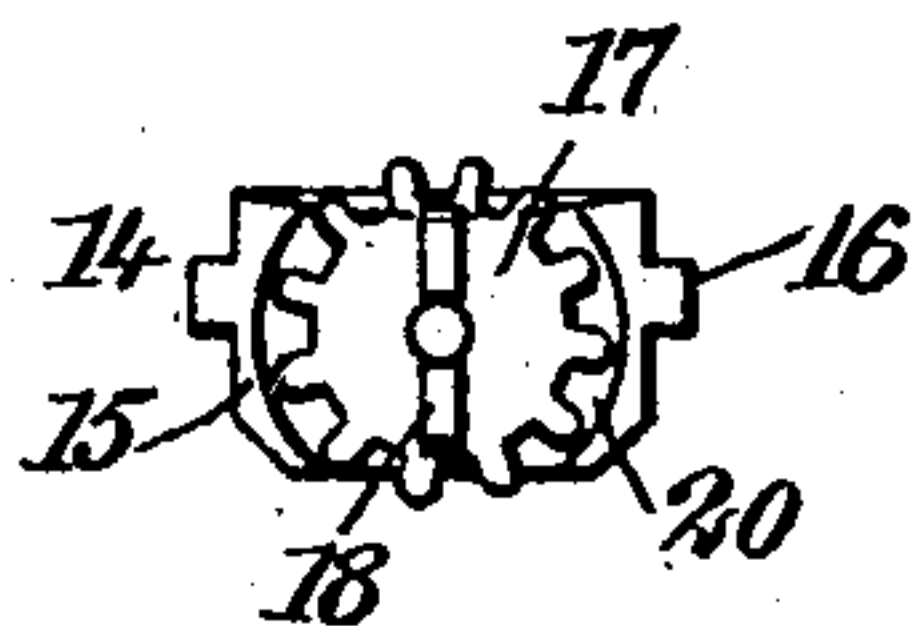


Fig. 5

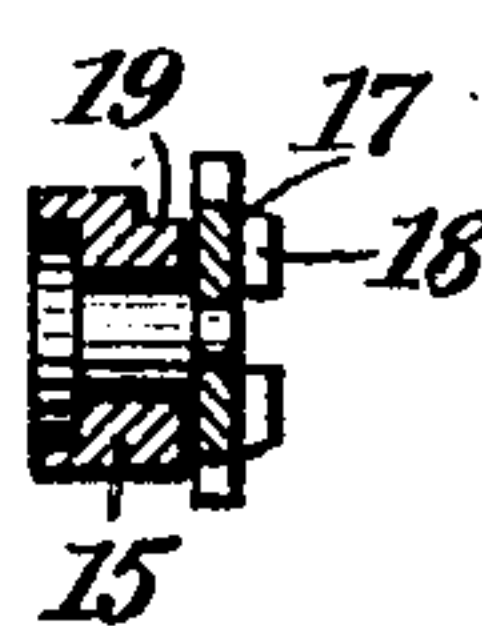


Fig. 6

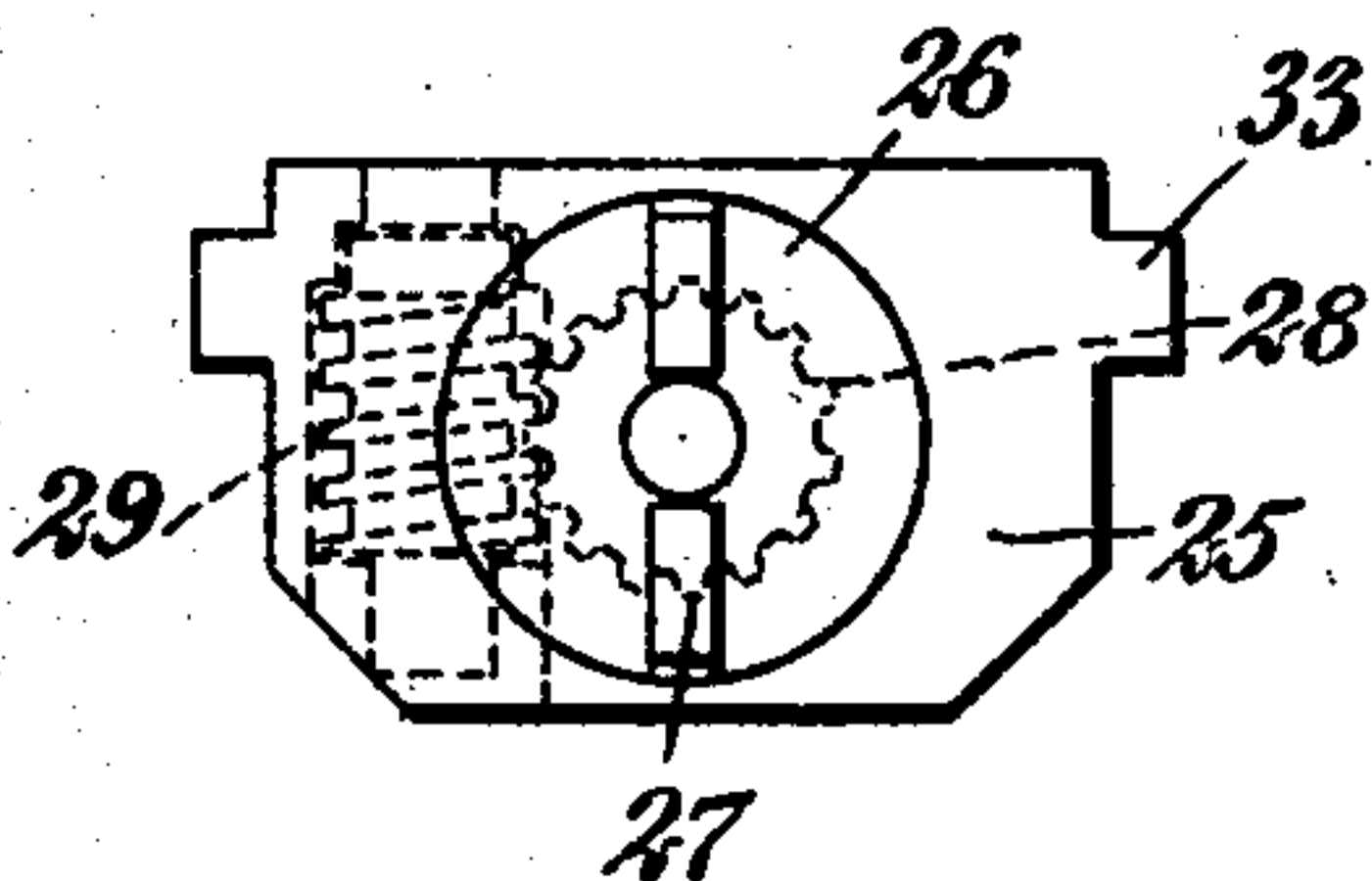


Fig. 7

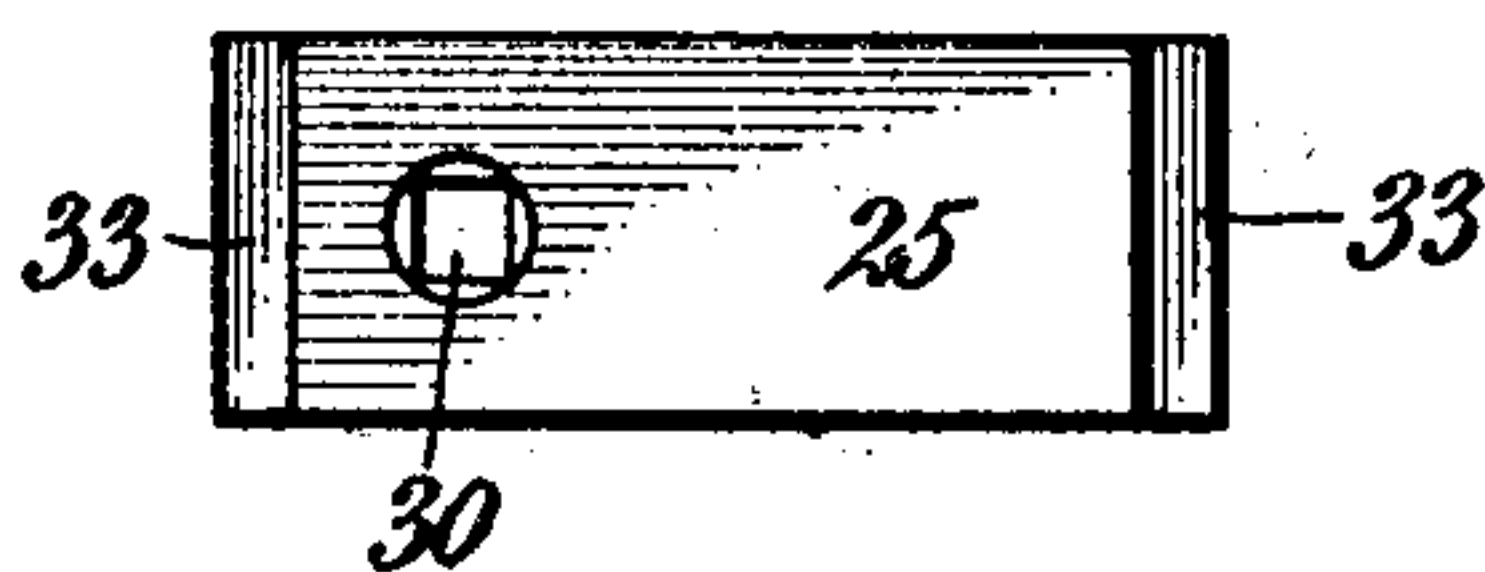


Fig. 8

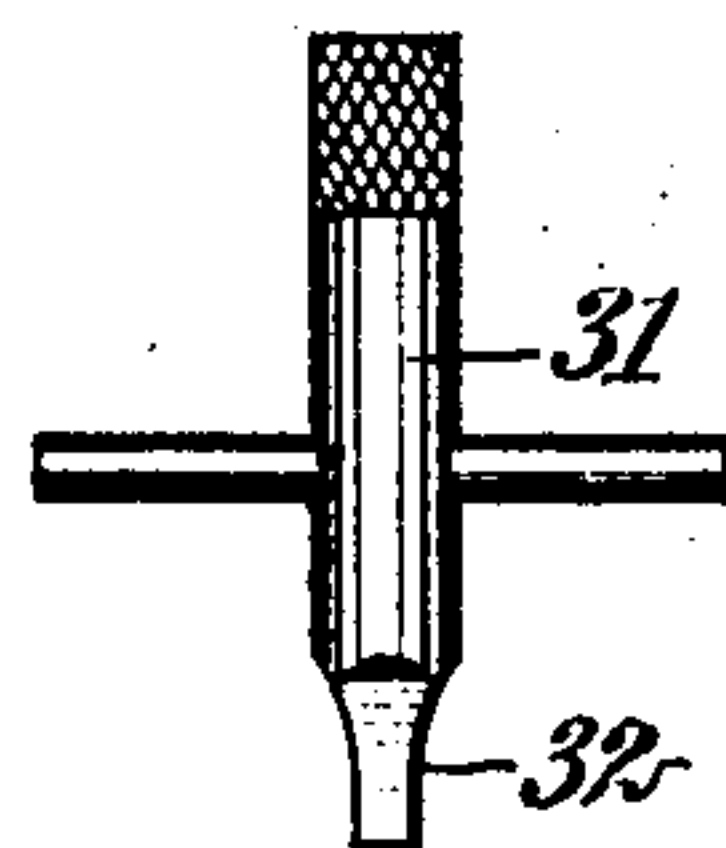
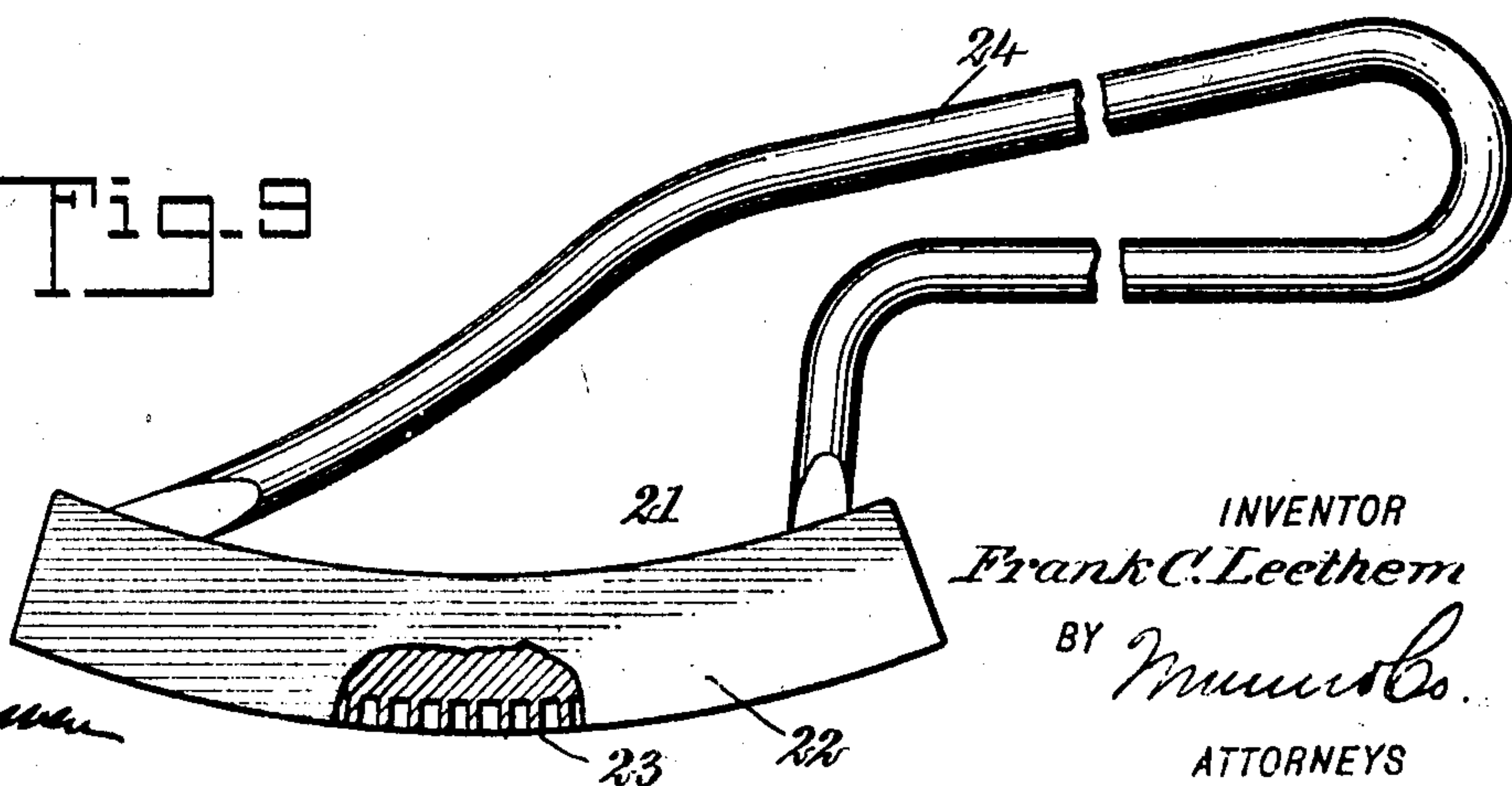


Fig. 9



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# UNITED STATES PATENT OFFICE.

FRANK C. LEETHEM, OF MIDDLETOWN, NEW YORK.

## PRINTER'S HOOK.

No. 920,354.

Specification of Letters Patent.

Patented May 4, 1909.

Application filed June 5, 1908. Serial No. 436,863.

*To all whom it may concern:*

Be it known that I, FRANK C. LEETHEM, a citizen of the United States, and a resident of Middletown, in the county of Orange and State of New York, have invented a new and Improved Printer's Hook, of which the following is a full, clear, and exact description.

This invention relates to printers' hooks such as used by printers for retaining printing plates in press beds and printing forms.

The object of the invention is to produce an adjustable printing hook which can be adjusted by an ordinary pin wrench, or by other interchangeable means. From this arrangement a printer purchasing the hooks may select the particular means desired for adjusting the hooks, but if at any time he desires to adjust the hooks in a different manner, or by different means, this may be done.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan showing a portion of a press bed and a portion of a plate thereupon, and illustrating the manner in which the adjusting hook operates to secure the plate; Fig. 2 is a plan of a block and hook, and illustrating the manner in which the hook is adjustably mounted in the block; Fig. 3 is a vertical cross section through the block, and showing the adjusting hook and the head of the adjusting screw; Fig. 4 is an elevation of the face of a drive slug which goes into the block behind the hook and which engages the head of the screw for adjusting the same; Fig. 5 is a vertical section through the drive slug shown in Fig. 4; Fig. 6 is an elevation showing upon an enlarged scale, a second form of drive slug which may be used to adjust the hook; Fig. 7 is a plan of the drive slug shown in Fig. 6; Fig. 8 is an elevation of the wrench which is used to operate the drive slug; and Fig. 9 is a side elevation of a bow which is used for adjusting the screw when used with the drive slug shown in Figs. 2, 4 and 5.

Referring more particularly to the parts, 1 represents a portion of a printing plate which is laid upon a press bed, and the body of which is composed of blocks 2. Certain of these blocks, such as a block 3, are special

blocks formed each with a channel 4 passing completely through the block to its opposite side faces. The block is of square form, as shown. The form of the channel 4 is indicated most clearly in Fig. 3. It is formed with under-cut grooves 5 at its sides. In the channel there is mounted a sliding hook 6 which is formed at its side edges with tongues 7 which are received in the grooves 5, as indicated in Fig. 3. The body of this hook 6 has the form of a block, the upper face of which is flush with the upper face of the block 3. The hook 8 proper projects above the face of the block so as to engage the edge of the printing plate, as will be readily understood. This hook 8 is threaded so as to receive an adjusting screw 9 which passes completely through the same, as shown in Fig. 2. This screw has a slightly rounded head 10, which is provided with cuts 11 at right angles to each other. When it is desired to adjust the hook 6 by an ordinary pin wrench, I place a plain slug 12 behind the head of the screw, as indicated in Fig. 1, and a similar plain slug 13 at the forward end of the screw. The block is cut to the pica system and measures eight ems at its edges. The slugs 12 and 13 are also cut to even picas in thickness, and the length of the screw is such that when the slugs are placed in position, the length of the channel will be filled. The adjusting screw 9 may then be adjusted by inserting the end of the pin wrench in the ends of the cuts 11 so as to rotate the screw, as will be readily understood.

Instead of using the plain slug 12, I employ when desired, a drive slug 14, as illustrated in Figs. 2, 4, and 5. This slug has a body 15 with side tongues 16 which are received in the grooves 5, as will be understood. On the face of the body 15 which comes adjacent to the head of the screw, I provide a gear wheel or pinion 17, and this pinion is rotatably mounted in the slug. Its outer face is provided with diametrically oppositely disposed radial ribs 18 which are adapted to engage in the cuts 11 of the screw head. The upper face of the body 15 is formed with a shallow dished recess 19, at the side of the upper edge of the gear wheel 17. As indicated, the gear wheel projects slightly above the upper face of the slug. The gear wheel is received in a shallow pocket or recess 20 which is formed on the face of the slug, as shown. The over-all dimension of the slug 14 is the same as the width of the



plain slug 12, that is, when this slug is substituted for the former, the parts within the channel completely fill its length, as will be readily understood. When a slug is substituted in this manner, the ribs or tongues 18 are brought into the cuts 11 so that when the gear wheel is rotated, the screw also will be rotated.

In order to rotate the gear wheel, I provide a bow 21, the construction of which is very clearly shown in Fig. 9. The body of this bow is of arcuate form, with side plates or fends 22 between which transverse teeth 23 are formed, as shown. The bow is provided with a suitable handle 24 by means of which it may be held. In applying the bow, it is held in a plane at right angles to the axis of the screw, and its teeth 23 are engaged with the upwardly projecting teeth of the gear wheel 17, the lower edge of the bow being received in the recess or dish 19. The bow is then drawn laterally with respect to the screw, and slightly rotated, so that it maintains an engagement with the gear wheel. In this way the screw may be rotated in either direction so as to lock up or unlock the plate, with which the hook 8 may engage. Instead of using this form of drive slug, I may use the form of drive slug shown in Figs. 6 and 7. In this case the body 25 of the slug is provided with a countersunk wheel 26 on the face which comes adjacent to the screw, and this wheel is formed with radial ribs 27 which engage the cuts in the screw head, as will be readily understood. Rigid with the wheel 26, I provide a worm wheel 28 mounted within the slug, and this worm wheel meshes with a worm 29 mounted in the slug. The upper end of this worm 29 is formed into a square socket 30 which is adapted to be rotated by means of a wrench or pin 31, shown in Fig. 8. This pin has a square tip 32, which is received in the socket, as will be readily understood. The body 25 of this drive slug is provided with side tongues 33 which are received in the grooves 5. In this way, by providing different kinds of backing slugs behind the adjusting screws, the hook may be adjusted by different means.

Special attention is called to the means for interlocking the wheel of the drive slug with the head of the screw.

Having thus described my invention, I claim as new and desire to secure by Letters Patent,—

1. A printer's block having a guide channel therein, a hook sliding in said channel and having an adjusting screw with a head adapted to be rotated by a pin wrench, and a drive slug adapted to be received in said channel, and having a rotatable member in-

terlocking with said screw to rotate the same.

2. A printer's block having a channel formed therein, a hook sliding in said channel and having an adjusting screw disposed longitudinally within the said channel, the said adjusting screw having cuts in the head thereof adapting said screw to be adjusted by a pin wrench, a drive slug received in said channel behind said screw, and a wheel on the face of said slug having ribs engaging said cuts.

3. A printer's block having a channel formed therein, a hook sliding in said channel and having an adjusting screw disposed longitudinally within the said channel, the said adjusting screw having cuts in the head thereof adapting said screw to be adjusted by a pin wrench, a drive slug received in said channel upon said screw, a wheel on the face of said slug having ribs engaging said cuts, and means for rotating said wheel.

4. A printer's block having a channel therein, a hook sliding in said channel and having an adjusting screw disposed longitudinally of said channel, said adjusting screw having cuts in the head thereof, a drive slug received in said channel adjacent to the head of said screw, a gear wheel rotatably mounted on the face of said slug adjacent to said screw and having ribs engaging said cuts to rotate said screw, said gear wheel being arranged to project at its upper edge above said slug.

5. A printer's block having a channel therein, a hook sliding in said channel, an adjusting screw adapted to advance said hook and having cuts in the head thereof, a removable drive slug adapted to be placed in said block, having a gear wheel on the face thereof adjacent to said screw, said gear wheel having ribs engaging said cuts, the upper faces of said slug having a depression adjacent to said gear wheel.

6. A printer's block having a guide channel therein, a hook sliding in said channel and having an adjusting screw with a head adapted to be rotated by a pin wrench, a slug received in said channel engaging the head of said screw and having its outer face flush with the side face of said block at one end of said channel, and a second slug disposed in the other end of said channel and having its face flush with the side face of said block at the other end of said channel.

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

FRANK C. LEETHEM.

Witnesses:

F. D. AMMEN,  
JOHN P. DAVIS.