Dec. 19, 1933. C. L. MOHR 1,940,178

SLUG SAWING MACHINE

Filed March 4, 1931 3 Sheets-Sheet 1

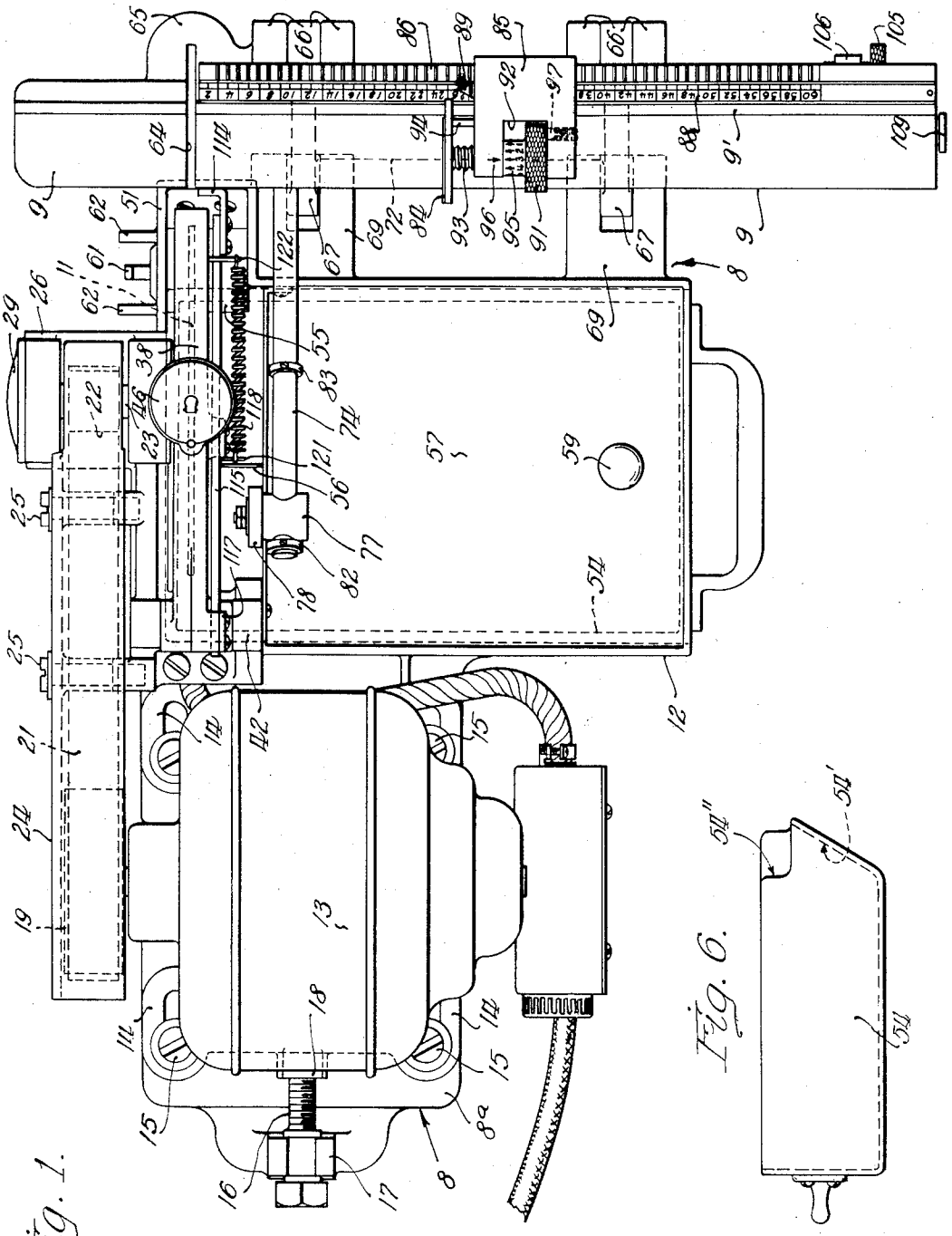


Fig. 1.

Fig. 6.

Inventor
Charles L. Mohr.
By Broun, Jackson, Boettcher & Dienner
Attys

Dec. 19, 1933. C. L. MOHR 1,940,178

SLUG SAWING MACHINE

Filed March 4, 1931 3 Sheets-Sheet 2

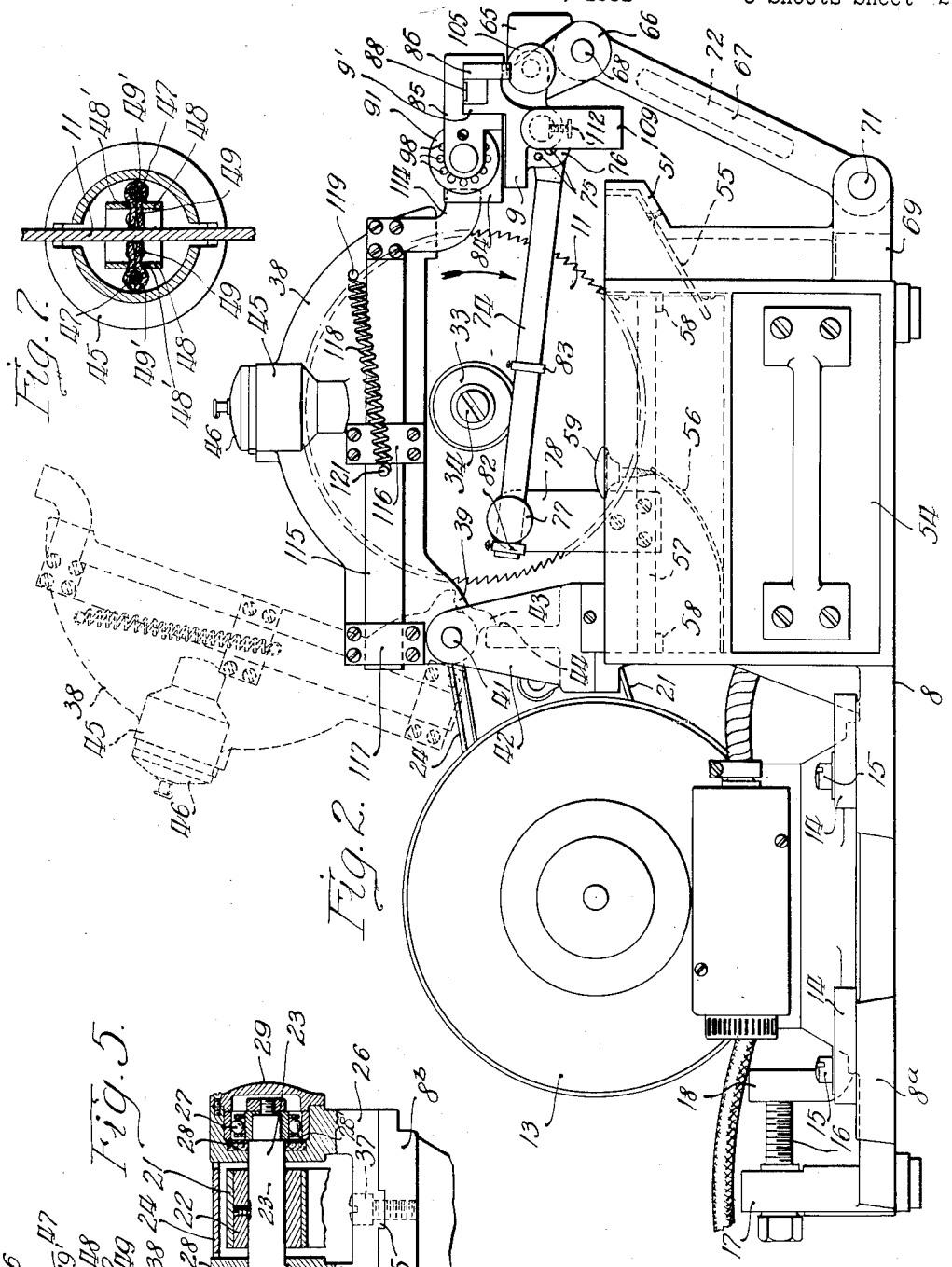


Fig. 1.

Fig. 2.

Fig. 5.

Inventor:
Charles L. Mohr.

By Brown, Jackson, Boettcher & Dienner
Attys

Dec. 19, 1933. C. L. MOHR 1,940,178

SLUG SAWING MACHINE

Filed March 4, 1931 3 Sheets-Sheet 3

Fig. 3.

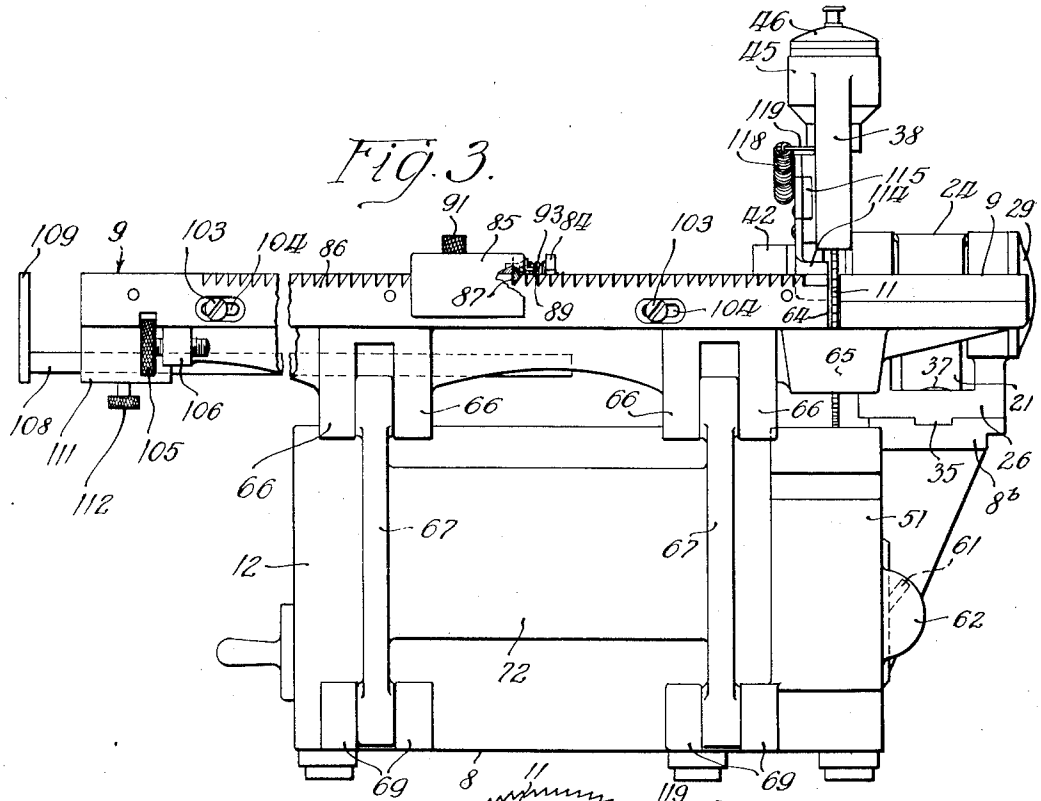
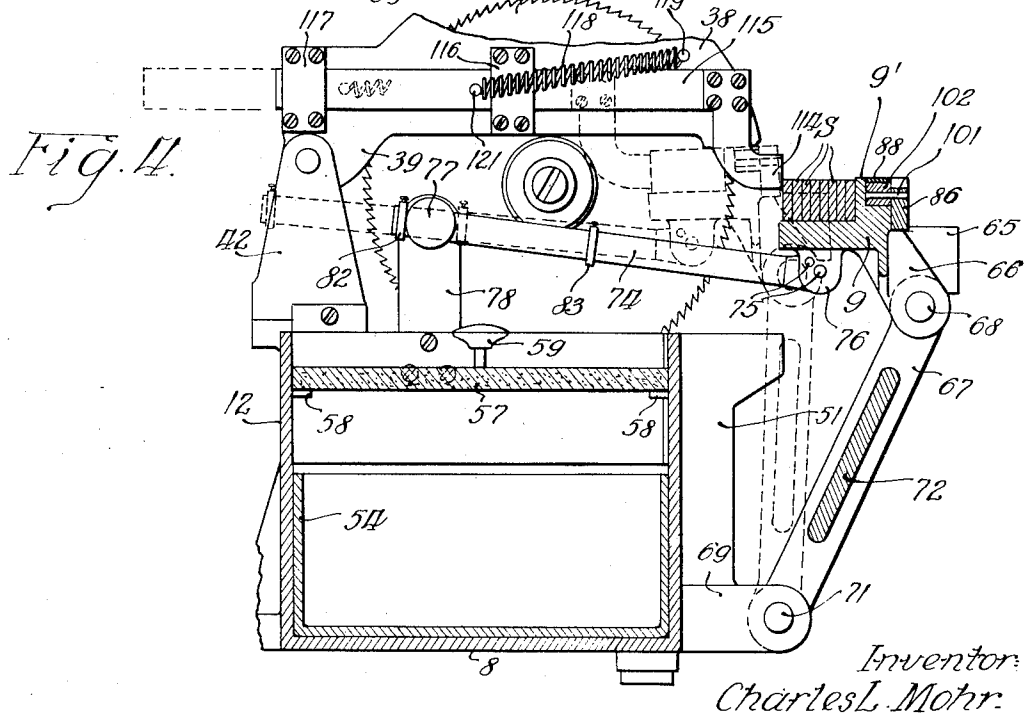


Fig. 4.



Inventor:
Charles L. Mohr.

By Brown, Jackson, Boettcher & Dienner
Attys.

Patented Dec. 19, 1933 1,940,178

UNITED STATES PATENT OFFICE

1,940,178

SLUG SAWING MACHINE

Charles L. Mohr, Wilmette, Ill., assignor to Mohr Lino-Saw Company, Chicago, Ill., a corporation of Illinois

Application March 4, 1931. Serial No. 520,009

13 Claims. (Cl. 29—69)

The present invention relates to slug sawing machines, such as are employed for sawing linotype slugs.

Regarding the machine in its entirety, the general object of the invention is to provide an improved slug sawing machine which is small, compact and comparatively light in weight so that it has the advantage of being readily portable, thereby enabling it to be set on any table, bench or other supporting surface handy to the operators and without taking up any large amount of space.

A further object of the invention is to provide an improved support for holding the slugs and carrying them into engagement with the rotary cutting saw.

This work holding support is characterized by an oscillatory mounting so that its movement is in the nature of a pivotal sliding motion toward and from the saw. Such mounting avoids the necessity of a stationary work surface and of long guide surfaces for the movable work holding support, thereby enabling the machine to be made smaller and more compact, and at a lower manufacturing cost. In this regard, another feature of the invention is the provision of simplified guide means for controlling the angle of the work holding support in its pivotal movement so that there will be no possibility of the slugs falling off the support and so that the slugs will be presented to the edge of the saw at the most efficient cutting angle.

Another object of the invention is to provide an improved gauge means mounted on the work holder, functioning as an adjustable end stop against which the ends of the slugs are placed for gauging the lengths of the finished slugs. One feature of this gauge means is that it can be instantly shifted to different pica settings without the necessity of making screw threaded or other comparatively slow adjustments. Another feature of this gauge means is the ability to make micrometer or point adjustments without disturbing the fixed setting of the scale relatively to which pica adjustments are made.

Other objects of the invention are to provide an improved construction of spring pressed guard which has the two fold utility of reducing the possibility of the operator getting his fingers in the path of the saw, and also of exerting resilient clamping pressure against the slugs during the cutting operation; to provide improved means for lubricating the cutting edge and sides of the rotary saw; to provide an improved mounting for the saw spindle, and to otherwise improve upon the construction of these machines in general.

Referring to the accompanying drawings wherein I have shown a preferred embodiment of my invention:

Figure 1 is a plan view of the machine;

Figure 2 is a side elevation thereof;

Figure 3 is a fragmentary elevational view of the front of the machine;

Figure 4 is a vertical sectional view transversely through the work holder and showing the latter in its two extreme positions;

Figure 5 is a vertical sectional view through the cutting saw for the purpose of illustrating the lubricating means therefor and the saw spindle mounting;

Figure 6 is a side elevational view of the cuttings drawer removed from the machine; and

Figure 7 is a horizontal sectional view through the saw lubricating means, taken on the plane of the line 7—7 of Figure 5.

The frame of the machine is in the form of a base casting 8 on which all of the operating parts are mounted. Viewing the machine from the front (from the right in Figure 1) the oscillatory work holder 9 is mounted at the front of this base frame; directly behind the work holder is the rotary saw 11, with the saw cuttings compartment 12 alongside thereof; and directly behind this saw and cuttings compartment is the electric motor 13. The motor is mounted on a rearward extension 8^a of the main frame casting 8 and has slotted feet 14 secured to the base portion 8^a by clamping screws 15, whereby the motor may be shifted fore and aft on the base for adjusting the tension of its driving belt. Such shifting is effected by a screw 16 having rotatable support in a bearing standard 17 extending upwardly from the main base casting, the forward end of said screw threading into a lug 18 projecting from the base of the motor 13. The pulley 19 on the motor shaft transmits power through a belt 21 to a pulley 22 mounted on the spindle 23 of the rotary saw 11. A guard 24 extends over the pulleys and belt, being removably secured to the main frame by screws 25.

Referring to Figure 5, a bracket extension 8^b projects laterally from the main frame and supports a yoke shaped bearing member 26 in which the saw spindle 23 is mounted.

The upwardly extending arms of said member are recessed for mounting ball bearings 27 in which the spindle 23 is journalled. At the inner ends of both bearings 27 are disposed lubricant retaining rings such as the felt and fiber

washers 28 and 28' respectively for preventing lubricant in the bearing recesses from working inwardly along the spindle and for preventing dust and lead chips from getting into the bearings. The fiber washers are adjacent to the bearings to prevent the felt washers from being squeezed into the bearings. The outer end of the right hand bearing recess is closed by a cap 29 removably secured to the outer side of the yoke arm. An internally grooved lubricant retaining ring 31 is mounted between the outer side of the other yoke arm and a flange 32 projecting radially from the spindle. The saw 11 is clamped against the side of the flange 32 by a cap 33 which is removably secured to the end of the spindle 23 by a screw 34. The removal of the screw 34 permits the saw 11 to be quickly dismounted from the spindle when substituting saws for sharpening. The yoke shaped bearing member 26 is formed with a rib 35 fitting down into a correspondingly shaped groove in the bracket extension 8^b for holding the bearing member in proper alignment, the latter being removably secured to the bracket extension by one or more screws 37. The removal of these screws permits the saw and the entire bearing assembly to be removed as a unit from the machine.

Referring to Figure 2 it will be seen that an arcuate shield or guard 38 extends over the upper edge and side portions of the rotary saw. At its rear end this shield is formed with a boss portion 39 pivotally mounted on a pin 41 which extends through the two side portions of a yoke shaped bracket portion 42.

Normally the shield 38 occupies the lower position illustrated in full lines in Figure 2 so as to embrace the upper peripheral portion and sides of the rotary saw, but such shield can be revolved upwardly approximately to the position illustrated in dotted lines so as to afford access to the saw for removing or examining the same. When the shield is swung down to its normal position the engagement of the lug 43, carried by the hub portion 39 of the shield, against a stationary shoulder 44, on the mounting bracket 42, holds the shield in proper spaced relation from the edge of the saw.

Formed in the upper portion of the shield or guard 38 is a lubricant receptacle 45 provided with means for lubricating the sides of the saw adjacent to the toothed periphery thereof. Mounted in said receptacle is a suitable oil cup or fitting 46 containing a quantity of waste 47 for retaining the oil. Extending downwardly from the oil cup 46 on opposite sides of the saw are two arms 48 having vertically extending slots 48' therein, see Figure 7. Carried by these arms are pads or rubbing members 49 composed of felt, leather or other absorbent material. In making each of these pads a strip of such material is folded and inserted up into the slot 48' with the two edges of the strip in position to wipe against the side of the saw, and with the loop 49' of the folded material disposed on the outer side of the arm 48. A hank of the waste material 47 is threaded down from the oil cup through the loop 49', this waste material thereby serving as a feeding wick for conducting the lubricant to each wiping pad 49.

These pads press resiliently against opposite sides of the saw in proximity to the toothed edge thereof and continuously apply the lubricant in the rotation of the saw and also wipe metallic particles from the sides of the saw, thus retaining the latter bright and smooth. It will be observed from Figure 5 that the saw is of tapering cross section i. e., it is of greatest sectional thickness at the toothed edge, diminishing in sectional thickness from the edge toward the central portion of the saw where the latter has a flat hub portion. Such taper provides a relief or clearance space between the sides of the saw and the sides of the saw slot in the linotype slugs. I have found that the operation of the machine is greatly improved by this use of a saw of tapering cross section, and by lubricating the sides of the saw continuously during the cutting operation. Vibration is greatly reduced, there is practically no tendency for the slug to be shaken or to jump off the work holder, and a clean, smooth edge cut is obtained.

The front cutting edge of the saw rotates downwardly, thereby resulting in the saw cuttings being projected downwardly. The compartment 12 is formed with a forwardly projecting chute or trough 51 extending under this portion of the saw, as best shown in Figures 1 and 2. Said compartment receives a sliding drawer 54 which is removable from the left hand side of the machine and which extends back under the saw. A deflecting plate 55, indicated in dotted lines in Figure 2, slopes downwardly from the chute or trough 51 and deflects the cuttings into said drawer.

Another deflecting plate, illustrated in dotted lines at 56, inclines upwardly from the rear portion of the compartment substantially in the plane of the saw for assisting in deflecting the cuttings into the drawer 54.

As shown in Figure 6, the backwall 54' of the drawer, which lies substantially in the plane of discharge of the cuttings, is sloped downwardly and forwardly to function as a deflecting surface for projecting the cuttings up to the front end of the drawer. Thus the drawer fills progressively and uniformly from the front to the back instead of having the cuttings pile up only at the back end of the drawer. The adjacent corner of the drawer may be notched out as indicated at 54'' to facilitate entrance of the cuttings into the drawer.

The top of the compartment above the drawer is closed by a lid 57 resting on inwardly projecting flanges 58, this lid having a suitable handle 59 for permitting the lid to be removed if it should be desired to remove portions of slugs in the drawer or to examine the contents thereof.

As shown in Figures 1 and 3, the control switch for the motor 13 is mounted in or on the side of the cuttings chute 51, with the switch operating lever 61 projecting laterally therefrom. Two protecting ribs 62 project from the side of the chute on each side of the switch lever.

The work holder 9 consists of a long, transversely extending bar which is of right angle cross section, as shown in Figure 4, to form a rack or shelf, having a back wall 9', for supporting the linotype slugs indicated at S. In the plane of the rotary saw this work holding bar is provided with a saw slot 64, Figure 1, extending entirely through the width of the bar, such portion of the bar having a heavy rib or extension portion 65 arching around the slot 64. Referring to Figure 3, two pairs of spaced lugs or ears 66 extend forwardly and downwardly from the work holder at spaced points

along its length for engaging over the upper ends of link bars 67 which are pivotally mounted between these pairs of spaced lugs on transverse pivot pins 68. Similar pairs of lugs or ears 69 project forwardly from the bottom of the base casting 8, and the lower ends of the link bars 67 are pivoted between these pairs of lugs on transverse pivot pins 71.

The two link bars 67 are integrally united by a transverse web or cross bar portion 72, so that the two links swing as a rigid H-shaped unit.

The swinging movement of the work holder 9 on the link members 67 is guided by a rod 74 which is operatively connected between the work holder and the frame so as to govern the angular position of the work holder with reference to the links 67. The foreward end of said guide rod is rigidly secured to the work holder by pins 75 passing through said rod and through a lug 76 projecting downwardly from the work holder. The rear end of said guide rod has free sliding movement through an apertured swivel block 77 which is mounted on a bracket 78 secured to the end of the cuttings compartment 12. The swivel member 77 is pivotally mounted on the bracket 78 for swiveling oscillation about a horizontal axis. When the work holder is in the normal position illustrated in full lines in Figure 4 the guide rod 74 supports the holder in the upright position illustrated, and when the work holder is swung toward the saw in the cutting operation this guide rod retains the work holder in approximately the same angular relation to the horizontal, substantially as indicated by the dotted line position in Figure 4.

Two stop collars 82 and 83 are adjustably secured by set screws to the guide rod 74 for limiting the movement of the work holder in each direction. The stop collar 82 is set on the rod so that it engages the swivel boss 77 when the work holder is in the proper normal or retracted position. The other stop collar 83 is so set on the guide rod that it strikes the front side of the swivel boss 77 when the work holder has been swung back through the required range of movement for cutting all of the slugs mounted on the holder.

The desired length of the finished slugs is determined by the setting given an end stop or gauge plate 84 carried by a gauge block 85 mounted on the work holder. Said block is held in its different adjusted positions by a toothed rack bar 86 extending along the front edge of the work holder. As shown in Figure 2, the body of the block has an inverted U-shaped channel extending therethrough which is adapted to fit down over and embrace the upper edge of the work holder and the rack bar 86. Referring to Figure 3, a tooth 87 extends down from the top of this inverted channel portion for engaging in the teeth of the rack bar. When it is desired to change the gauge setting of the block 85 it is merely lifted from the rack bar, moved endwise thereof, and dropped into engagement with another tooth of the rack bar at the desired setting.

It will be noted from Figure 3 that the left hand side of each tooth of the rack bar is sloped to facilitate dropping the detent tooth 87 into these rack bar teeth, and that the right hand edge of each of these teeth forms a substantially vertical shoulder for locking the gauge block against pressure of the slugs to the left. All of the pica adjustments are thus made by raising, shifting and dropping the gauge block 85, which can be performed almost instantly. The gauge settings given the block 85 are indicated on a numbered gauge strip 88 extending along the rear edge of the rack bar 86 and having numbered divisions corresponding to each tooth of the rack bar. An index pointer 89 on the gauge block 85 cooperates with this gauge strip.

The micrometer or point adjustments are effected by shifting the stop plate 84 relatively to the gauge block 85. Such is performed by rotating a knurled nut 91 which is carried by the gauge block. The portion of the block extending inwardly over the shelf portion of the work holder is notched out to form a recess 92 for receiving this knurled nut. The stop plate 84 is mounted on a screw 93 which has free sliding movement in aligned guide apertures in the gauge block, and which threads through the knurled nut 91.

A pin 94 carried by the stop plate 84 has guided mounting in a hole in the gauge block 85 for preventing the stop plate from tilting or rotating as the nut 91 is revolved in moving the stop plate forwardly or backwardly relatively to the gauge block. Numbered scale markings or like indicia 95 are provided on the hub portion of the nut 91 for cooperating with a stationary index marker 96 on the mounting block for indicating the point setting of the stop plate relatively to the gauge block. The different point settings of the nut 91 are retained and also indicated by the snapping of a spring pressed plunger 97, disposed in a bore in the block, into depressions 98 (Figure 2) in the end of the nut 91. It will be observed that these point adjustments can also be made quickly and without disturbing the normal position of the rack bar 86 and pica scale 88 relatively to the work holder.

As a result of changing the rotary saw 11, and possibly for other reasons, it sometimes happens that the rack bar 86 and pica scale 88 will get out of proper adjustment relatively to the cutting plane of the saw. To permit convenient resetting of the rack bar and scale relatively to the saw, the bar and scale are made shiftable as a unit with respect to the work holder.

Referring to Figure 4, it will be seen that the rack bar is disposed against the front face of the work holder 9 and has its rear side secured by pins 101 to a bar 102 mounted in a notched out recess in the front edge of the work holder. The gauge strip 88 is secured directly to the top of the bar 102 and hence the rack bar and gauge strip are movable as a unit relatively to the work holder. Referring to Figure 3, this unit is secured in any calibrated setting on the work holder by screws 103 extending through elongated slots 104 in the rack bar and threading into the work holder. Loosening these screws enables the rack bar and gauge scale to be shifted lengthwise of the work holder. To facilitate the making of these fine calibrating adjustments of the rack bar, an adjusting screw 105 may, if desired, be operatively connected between the rack bar and work holder.

This screw has its threaded shank screwing through a threaded lug 106 projecting from the work holder, and has its knurled head extending up into a slot in the bottom edge of the rack bar 86, as best shown in Figures 2 and 3. It

will be understood that after the clamping screws 103 are loosened, rotation of the knurled screw 105 will be operative to shift the rack bar through minute adjustments relatively to the work holder for restoring the rack bar to its proper calibrated setting relatively to the cutting plane of the saw.

In some instances it may be desirable to cut exceptionally long slugs, and in order to provide an end stop for these slugs I mount a sliding extension bar 108 in the left hand end of the work holder and provide an end stop 109 thereon. This extension rod slides in a guide boss 111 projecting downwardly from the bottom of the work holder, and a set screw 112 screws into this guide boss and is adapted to clamp the extension bar 108 in any adjusted position. Any suitable scale indicia may be marked on the bar 108 for cooperating with the end of the work holder or any stationary index marker thereon for indicating the different settings of the extensible end stop 109. In Figure 2 this end stop 109 is shown as having been revolved down to a position below the work holder. It will be understood that the gauge block 86 is removed when the extensible end stop 109 is used.

When the work holder is pushed back in a cutting operation those portions of the slugs in immediate proximity to the cutting plane of the saw are first engaged by a spring pressed finger member 114 which serves both as a spring pressed detent or gripping device for properly holding the slugs during the sawing operation, and also as a guard for preventing the operator from accidentally getting his fingers into the cutting plane of the saw.

Said spring pressed finger preferably consists of a depending stamping suitably secured to a sliding supporting bar 115, with the lower end of the stamping bent at right angles to the plane of the saw and extending over into close proximity to the side of the saw (Figure 1) directly below the arcuate shield or guard 38. The supporting bar 115 can slide fore and aft in clips or guide straps 116 and 117 secured at spaced points on the saw shield 38. A tension spring 118 is extended between a pin 119 on the saw shield and a pin 121 on the supporting bar 115, this spring normally urging the finger 114 forwardly. The engagement of the pin 121 against the back edge of the guide strap 116 determines the foremost position of the finger 114. In the backward oscillation of the work holder the slugs S engage the finger 114 considerably in advance of engaging the saw and hence the finger is exerting considerable spring pressure against the sides of the slugs by the time the slugs are engaged by the saw. This spring pressure assists materially in holding the slugs against vibration on the work holder. Attention is directed to the fact that said spring pressed finger exerts a pressure tending to force the slugs back against the flange 9', and also exerts a pressure for forcing the slugs down against the bottom of the work holder.

This downward pressure follows from the slight upward movement of the work holder. Referring to Figure 4, the finger first contacts with the upper portion of the first slug, as illustrated in full lines, and then with continued backward movement of the work holder the latter in rising slightly results in the finger sliding downwardly across the side surface of the slug, as indicated in dotted lines, so that the finger exerts a downward pressure on the slugs. This backward and downward pressure on the slugs, together with the downward direction of cut of the saw makes it impossible for the slugs to vibrate or to jump out of the work holder. As shown by the dotted line position in Figure 4, the spring pressed finger remains in pressure engagement with the slugs during the entire sawing operation, moving backwardly along the side of the saw in close proximity thereto, and during this entire movement of the work holder the finger also functions as a guard barrier for preventing the operator from sliding his hand along the slugs and into the saw. Inasmuch as said finger is carried by the saw shield 38 it will be swung up with the shield when the latter is raised.

The operation in general will be understood from the preceding description, but certain structural and operating advantages may be emphasized.

After the operator has placed the slugs on the work holder, with the end stop 84 set at the proper adjustment, he holds the slugs pressed back against the back wall 9' of the work holder with a light pressure and swings the work holder rearwardly. The oscillatory link mounting of the work holder permits the latter to be stroked back in a sawing operation with practically no effort, the guide rod 74 meanwhile retaining the work holder at approximately the same angle to the horizontal, so that it oscillates with a substantially parallel swinging motion. Such prevents the slugs from falling off the shelf portion of the work holder previous to and during the cutting operation. This oscillatory guided motion of the work holder also insures that the depth of cut will always be the same at top and bottom of the slug. Such is of considerable importance in cutting out initial letters, swash characters and the like where the slug is not cut entirely through. If in notching a piece out of such a slug the depth of cut is not the same at the top and bottom of the cut the resulting side surface of the notched out portion will be sloped, and consequently in attempting to lock up this slug in a frame along with other slugs this sloping side surface will cause the slugs to buckle. The present pivotal guided motion of the work holder is such as to insure that the depth of cut will be the same at the top and bottom of the slug irrespective of the depth of cut, i. e., the chord of the arcuate saw cut will always be parallel to the side surface of the slug.

The grouping and arrangement of the cuttings compartment 12 alongside the rotary saw, and the arrangement of the electric motor 13 directly behind the cuttings compartment and saw, also make for a compact construction particularly suited to bench use.

In the preceding description I have, for brevity of expression, referred to the present machine as being intended for the sawing of linotype slugs, and in the following claims I have, for the same reason, referred to this particular utility. It will be understood, however, that the usefulness of the device is not limited to the cutting of linotype slugs but includes Ludlow and Intertype slugs, single type, Elrod make-up material, Monotype make-up material and furniture, wood and foundry make-up material and furniture, Stevenson furniture, etc. Moreover, by the use of angle blocks, miter cuts can be made in any of the above, and swash characters and initial letters can be undercut and cut out. In short,

the machine has universal utility as a general composing room saw.

While I have described what I regard to be the preferred embodiment of my invention, nevertheless it will be understood that such embodiment is largely exemplary and that numerous modifications and rearrangements may be made therein without departing from the essence of the invention.

I claim:

1. In a machine for sawing linotype slugs, the combination of a frame, a rotary power driven saw mounted thereon, a work holder for carrying the linotype slugs into engagement with the saw, link means pivotally supporting said work holder on said frame whereby said holder is movable toward and away from the cutting edge of the saw during the cutting operation, a guide rod extending between said work holder and said frame, a first member for connecting one portion of said rod with said work holder, and a second member for connecting another portion of said rod with said frame, one of said members having pivotal movement and supporting said rod for endwise sliding movement relative thereto.

2. In a machine for sawing linotype slugs, the combination of a frame, a rotary power driven saw mounted thereon, a work holder for carrying the linotype slugs into engagement with the saw, supporting link means movable in a direction substantially parallel to the plane of the saw and pivotally connected with said work holder and with said frame, a guide rod extending between said work holder and said frame, and for sliding movement with respect thereto and to said frame and for pivotal movement directly therewith but relative to said frame.

3. In a machine for sawing linotype slugs, the combination of a frame, a rotary power driven saw mounted thereon, a work holder for carrying the linotype slugs into engagement with the saw, a supporting link pivotally connected at its upper end with said work holder and pivotally connected at its lower end with said frame for permitting oscillatory swinging movement of said work holder into the path of the saw during operation, a guide rod projecting as a rigid extension from said work holder, and a swivel member pivotally mounted on said frame, said guide rod having sliding support in said swivel member.

4. In a machine for sawing linotype slugs, the combination of a frame, a rotary power driven saw mounted thereon, a reciprocable work holder pivotally supported on said frame for carrying the linotype slugs upwardly and forwardly into engagement with the saw, and a reciprocable spring pressed holding member arranged and mounted to engage the upper portions of said slugs when said work holder is in inoperative position and spaced vertically with respect to said pivotal support of said work holder so that the bottom edge of said holding member clears the work holder when the latter is in operative sawing position, said holding member being adapted to resiliently hold said slugs in operative position upon said work holder throughout the forward and upward travel of the latter during the sawing operation.

5. In a machine for sawing linotype slugs, the combination of a frame, a rotary power driven saw mounted thereon, a work holder for carrying the linotype slugs into engagement with said saw, link means pivotally supporting said work holder on said frame for permitting oscillatory swinging movement of said work holder into and out of operative position relatively to the saw during the sawing operation, and a spring pressed finger disposed in a position to be engaged by the slugs on the work holder as the slugs are being moved towards the saw, said finger comprising a generally flat member disposed substantially in a plane parallel to the plane of said saw and in close proximity to the side of the saw to function as a guard therefor.

6. In a machine for sawing linotype slugs, the combination of a frame, a rotary power driven saw mounted thereon, a work holder movably mounted on said frame for carrying the linotype slugs into engagement with the saw, a guard normally extending over the upper portion of said saw, said guard being pivotally supported on said frame to permit the guard to swing vertically away from said saw and substantially in the plane thereof, and a spring pressed finger adapted to be engaged by the slugs as they are moved by said work holder into cutting engagement with the saw and to hold said slugs in operative position upon said movable work holder, said finger being mounted on said guard and swingable vertically therewith.

7. In a machine for sawing type slugs, make-up material and the like, the combination of a frame, a rotary power driven saw mounted thereon, a work holder for carrying the type slugs into engagement with the saw, means pivotally connecting said work holder with said frame, and guide means fixedly connected with and controlling the pivotal movement of said work holder whereby during the cutting operation the cut in the slug is of substantially the same depth at top and bottom of the slug, said guide means comprising a rod fixedly connected with said work holder and movable directly therewith, and swivel means for guiding the movement of the rod whereby the axis of the latter is at all times disposed to intersect a predetermined point fixed with respect to said frame.

8. In a machine for sawing type slugs, make-up material and the like, the combination of a frame, a rotary power driven saw mounted thereon, a work holder pivotally supported on said frame and movable into mutually parallel positions for carrying the type slugs forwardly and upwardly into engagement with the saw, and a resilient holding member supported by said frame for translatory movement only with respect thereto and having one end thereof resiliently abutting said slugs to exert a backward pressure thereon to hold the same against one portion of the work holder, said work holder cooperating during its forward and upward movement with said resilient member whereby said one end of the latter urges said slugs downwardly against another portion of said work holder.

9. In a machine for sawing type slugs, make-up material and the like, the combination of a frame, a rotary power driven saw mounted thereon, a reciprocable work holder having a rear wall and a base for carrying the type slugs vertically and horizontally into engagement with the saw, and a horizontally movable holding member for abutting the slugs and adapted to retain the same in operative position against the rear wall of the work holder, said work holder cooperating during its vertical and horizontal movement with said holding member whereby the latter frictionally urges said slugs against the base of the work holder.

10. In a machine for sawing linotype slugs, the

combination of a frame, a rotary power driven saw mounted thereon, a work holder for carrying the linotype slugs into engagement with the saw, link means pivotally supporting said work holder on said frame whereby said holder is movable toward and away from the cutting edge of the saw during the cutting operation, a guide rod extending between said work holder and said frame, a first means for connecting one portion of said rod with said work holder, and a second means for connecting said rod with said frame, said rod being supported by one of the aforesaid means for sliding movement relative thereto, and said one means having rotatable movement about an axis substantially coincident with the longitudinal axis of said rod.

11. In a machine for sawing linotype slugs, the combination of a frame, a rotary power driven saw mounted thereon, a work holder for carrying the linotype slugs into engagement with the saw, link means pivotally supporting said work holder on said frame whereby said holder is movable toward and away from the cutting edge of the saw during the cutting operation, a guide rod extending between said work holder and said frame, means for securing one portion of said rod to said work holder, and rod guiding means rotatably mounted on said frame for supporting another portion of said rod for slidable and pivotal movement with respect to said frame, said rod intersecting said rod guiding means substantially at the axis about which said means rotates.

12. In a machine for sawing linotype slugs, the combination of a frame, a rotary power driven saw mounted thereon, a work holder for carrying the linotype slugs into engagement with the saw, link means pivotally supporting said work holder on said frame whereby said holder is movable toward and away from the cutting edge of the saw during the cutting operation, a guide rod extending between said work holder and said frame, means for securing one portion of said rod to said work holder, rod guiding means rotatably mounted on said frame for supporting another portion of said rod for slidable and pivotal movement with respect to said frame, said rod intersecting said rod guiding means substantially at an axis about which said means rotates, and adjustable stop members connecting with said rod to limit the sliding movement thereof with respect to the frame.

13. In a machine for sawing type slugs, make-up material and the like, the combination of a frame, a saw mounted thereon, a work holder for carrying the type slugs into engagement with said saw, means for movably supporting said work holder upon said frame and to advance the vertical forward surface of the slugs vertically and forwardly toward the saw into successive positions substantially parallel to the chord of the cutting section of said saw in contact with said slugs, and a resilient holding member supported upon said frame for free horizontal movement only and cooperating with said work holder to maintain the slugs in operative position thereon, said resilient holding member comprising a spring pressed bar and a finger connected therewith and having one end thereof disposed in a vertical plane substantially parallel to the surface of said slugs to frictionally engage said surface whereby the slugs are urged rearwardly against the work holder at all times and urged downwardly against the work holder during the vertical movement of said work holder as the latter is being advanced relative to the frame.

CHARLES L. MOHR.

CERTIFICATE OF CORRECTION.

Patent No. 1,940,178. December 19, 1933.

CHARLES L. MOHR.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 5, line 34, claim 2, after "and" second occurrence, insert the words rotatable means supporting said guide rod; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 23rd day of January, A. D. 1934.

F. M. Hopkins

(Seal) Acting Commissioner of Patents.