March 16, 1926. 1,577,346

A. H. NARROW

SLUG TRIMMER

Filed June 12, 1923 2 Sheets-Sheet 1

Fig. 1.

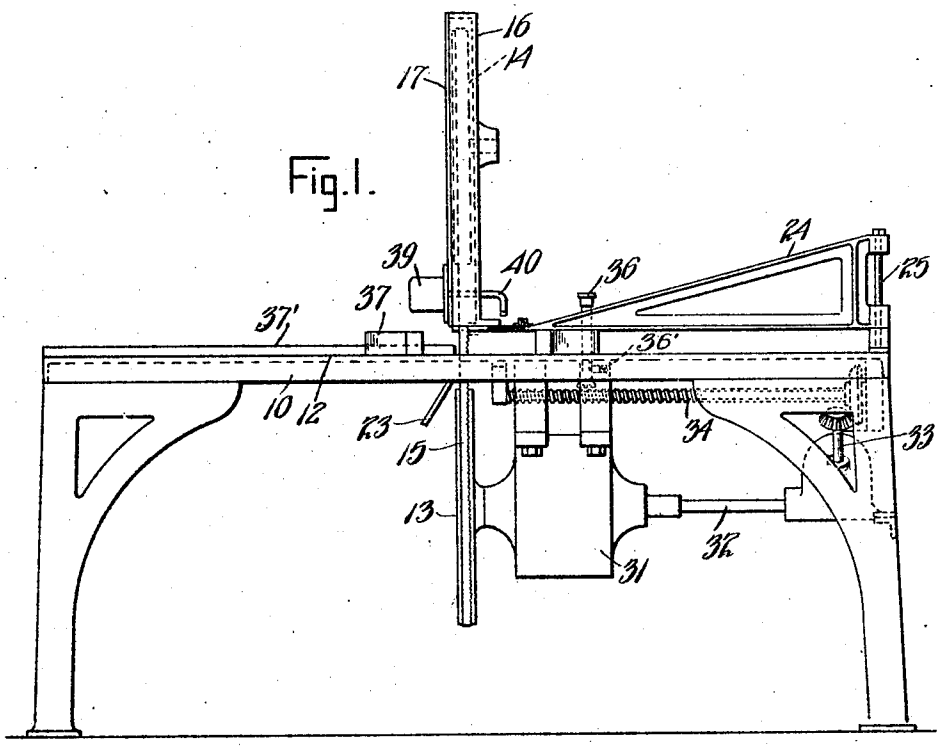
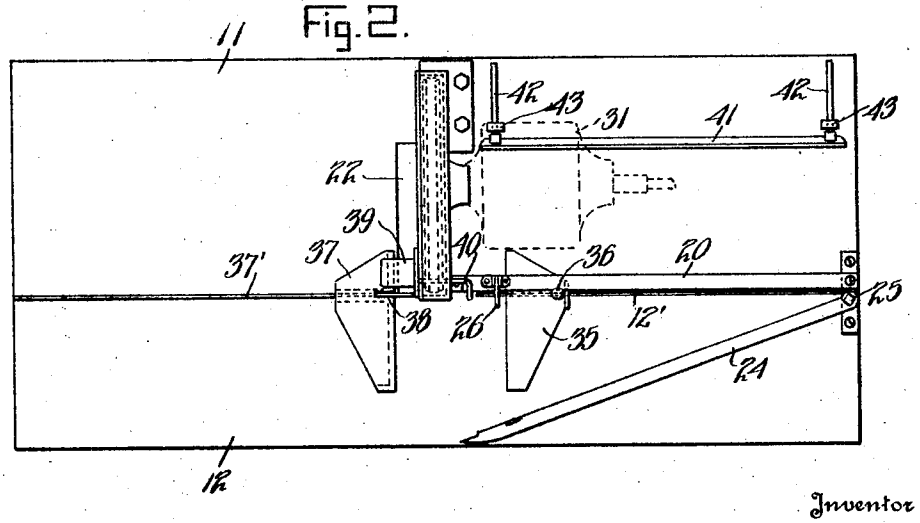


Fig. 2.



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Filed June 12, 1923 2 Sheets-Sheet 2

Fig. 3.

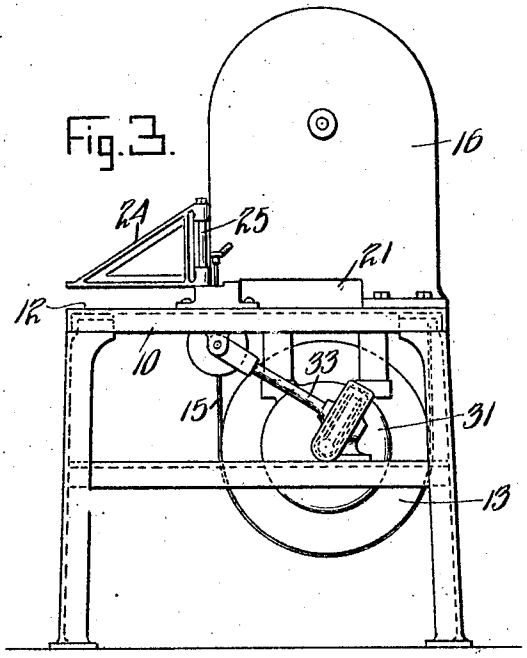


Fig. 4.

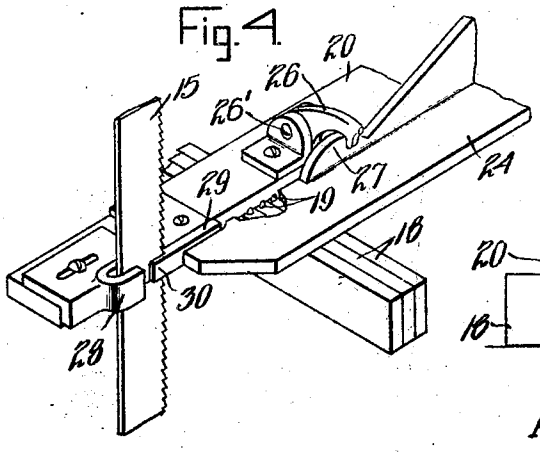
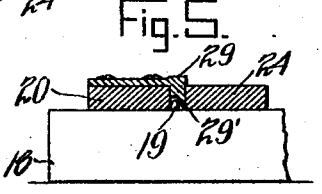


Fig. 5.



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Patented Mar. 16, 1926. 1,577,346

UNITED STATES PATENT OFFICE.

ANTON H. NARROW, OF MEMPHIS, TENNESSEE.

SLUG TRIMMER.

Application filed June 12, 1923. Serial No. 644,995.

To all whom it may concern:

Be it known that I, ANTON H. NARROW, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Slug Trimmers, of which the following is a specification.

My said invention relates to a slug trimmer for sawing off the surplus parts of linotype slugs or typebars. It is an object of the invention to enable the user to trim a number of such slugs simultaneously and accurately.

A further object of the invention is to provide means for positioning the slugs automatically with reference to the saw.

Still another object is to provide automatic stopping means to stop the machine when the slug trimming operation is completed.

Referring to the accompanying drawings, which are made a part hereof and on which similar reference characters indicate similar parts,

Figure 1 is a front elevation of my device,

Figure 2, a plan,

Figure 3, an end view taken from the right side in Figure 1, and

Figure 4, a detail showing the means for holding the slugs in position for sawing, and

Figure 5, a sectional detail of a guide shown in Figure 4.

In the drawings reference character 10 indicates a stand or table on which the machine is mounted, said table having a top comprising two sections 11 and 12 separated in part by a slot 12′ extending from one end to about the middle of the table. Pulleys 13 and 14 are mounted respectively below and above the table and a band saw 15 runs over these pulleys. Above the table is a guard 16 for the band saw having at one side a plate 17 providing access to the interior of the guard.

The slugs 18 have conical projections 19 providing "measure finding dots" as fully described in my Patent No. 1,434,308 of October 31, 1922. A bar 20 extends across the table and the slugs are located with their surplus ends which are to be cut off underneath the bar, the points 19 bearing against the front edge of the bar. The saw is so located with reference to the bar as to go between the type and the points 19 or directly through such points so as to obliterate them as the surplus ends are cut off. The guard 16 has an opening at 21 to permit the surplus ends to pass underneath it and the table top has a hole at 22 through which the ends fall after being cut off. Then they are guided by a shield 23 into any convenient or suitable receptacle under the table. A swinging arm 24 is pivotally mounted on the table by means of a pin 25 and is located so as to swing directly above the type carrying ends of the slugs and against the points 19 to force the slugs into proper position with the points resting against the bar 20. This arm is of triangular shape for greater strength and a latch 26 is provided on the table for engagement with a fin 27 near the end of the arm, this latch being pivoted at 26′ on the bar 20 and serving to hold the arm in place close to the bar 20.

The saw is provided with a guide 28 for its rear (or non-cutting) edge adjustably mounted on the bar 20 by means of a pin and slot connection. A guide 29 for the cutting edge of the saw has a projection 30 extending over the edge and a groove 29′ underneath through which the points 19 pass in series, the guide 29 serving to hold the points back against the edge of the bar 20 and to insure that they will be cut off exactly at the right point.

The pulley 13 underneath the table is driven by a motor 31 having a shaft 32 connected by worm gearing to a shaft 33 which in turn is connected by bevel gearing to a screw-threaded shaft 34. The latter shaft serves to move a clamp block 35 lengthwise of the table by means of a connection including a plunger 36. This plunger is held in place by a yieldable detent 36′ and has at its lower end teeth adapted to engage in the screw thread on the shaft 34 whereby when the plunger is depressed the shaft will move the clamping block toward the saw. Block 35 may engage the slot 12′ in the table by a fin or the like to make it travel in a straight line.

Another clamp block 37 is slidably mounted on a guiding strip 37′ rising from the table in line with said slot, the block having a slot 38 to receive the saw whereby the block may extend at both sides past the saw toward the block 35 for proper clamping engagement with slugs located between the blocks. By properly positioning the block 35 any desirable number of slugs may be held between the two clamps and the block 37 will maintain its relative distance from

the block 35 as said block is forced to the left by the rotation of the screw 34 thus preventing the slugs from toppling over or otherwise becoming disarranged.

In the use of the machine the slugs are set up on edge between the blocks 35 and 37 in such a number as may be desirable, the blocks 37 being at this time close to the saw. Thereupon the block 35 is moved up as close to the other block as possible so as to hold the slugs upright in the position shown in Figure 4. The operation of the screw 34 forces the block 35 and the slugs toward the saw and forces the block 37 away from the saw. The weight and inertia of block 37 are such that the slugs are held securely between the two blocks and this action may be reenforced whenever desirable by a brake on the block 37 acting on the fin 37′ which brake may be of any convenient form that will perform the function.

Automatic stopping means is provided for checking the operation of the machine when all of the slugs between the clamping blocks have been trimmed. This means comprises a switch or circuit breaker in a casing 39, said switch having an operating handle 40 projecting to the right from the hood 16. As the clamp moves past the saw the upper end of the plunger 36 strikes the upper end of the handle 40 and breaks the circuit after the last slug has been trimmed whereupon the motor stops and the operation of the machine is interrupted until the circuit is again closed.

If at any time it should be desired to retain the waste ends of the slugs the hole in the table can be closed by a slide. It is sometimes desirable to cut long stock not provided with measure finding dots and for this purpose I provide a rear end guide 41 adjustably held in place by rods 42 passing through guides 43, any suitable means being provided for fixing the guides in adjusted positions, the guides taking the place of projections 19.

It will be obvious to those skilled in the art that the machine of my invention may be modified in various other respects without departing from the spirit of the invention and therefore I do not limit myself to the specific mechanism shown in the drawings and described in the specification but only as indicated in the appended claims.

Having thus fully described my said invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a trimmer for slugs, a guide adapted to engage projections on the slugs, means adjacent one end of said guide for cutting off the ends of the slugs, and means for moving the slugs toward the cutting means, substantially as set forth.

2. In a trimmer for slugs having measure finding projections, a guide adapted to engage said projections, at one side, cutting means adjacent one end of said guide, means for moving the slugs toward the cutting means, and guiding means bearing against said projections at the opposite side, substantially as set forth.

3. In a trimmer for slugs having measure finding projections, a guide adapted to engage said projections, cutting means adjacent one end of said guide, means for moving the slugs toward the cutting means, a swinging guide adapted to bear against the measure finding projections at their rear side to force them against the first-named guide, and means for holding the swinging guide in the latter position, substantially as set forth.

4. In a trimmer for slugs having measure finding projections, a guide bar adapted to engage said projections, a saw alongside said guide bar, and means rigid with the guide bar providing a passage leading to the saw said passage fitting closely about the projections on the slugs, substantially as set forth.

5. In a trimmer for slugs having measure finding projections, a table, a saw on the table, guiding means adapted to contact with said projections, clamping blocks adapted to engage the front and rear members of a series of slugs to keep them in correct position and means for driving the rear block, substantially as set forth.

6. In a trimmer for slugs having measure finding projections, a table, a saw on the table, guiding means adapted to contact with said projections, clamping blocks adapted to engage with a series of slugs to keep them in correct position said clamping blocks being movable with said slugs, and one of the blocks having a slot for the saw whereby said block may straddle the saw, substantially as set forth.

7. In a trimmer for slugs having measure finding projections, a table, a saw on the table, guiding means adapted to contact with said projections, clamping blocks adapted to engage at opposite sides of a series of slugs and move with the series, one of said clamp blocks including means for stopping the operation of the saw after the last slug is cut off, substantially as set forth.

8. In a trimmer for slugs having measure finding projections, a table, a saw on the table, guiding means adapted to contact with said projections, clamping blocks adapted to engage at opposite sides of a series of slugs and movable therewith, means for moving the clamp blocks and slugs past the saw, and automatic means for stopping the saw after the last bar is cut off, substantially as set forth.

9. In a trimmer for slugs having measure finding projections, a table, a saw on the table, guiding means adapted to contact

with said projections, clamping blocks adapted to engage at opposite sides of a series of slugs and movable therewith, means for moving the clamp blocks and slugs past the saw, and automatic means for stopping the movement of the blocks after the last slug is cut off, substantially as set forth.

10. In a trimmer for slugs having measure finding projections, a table, a saw on the table, guiding means adapted to contact with said projections, clamping blocks adapted to engage at opposite sides of a series of slugs and movable therewith, a screw underneath said table, and manually operable means for connecting one of said blocks to the screw whereby rotation of the screw moves the slugs past the saw, substantially as set forth.

11. In a trimmer for slugs having measure finding projections, a table, a saw on the table, guiding means adapted to contact with said projections, clamping blocks adapted to engage at opposite sides of a series of slugs and movable therewith, a screw underneath said table, and a plunger carried by one of said blocks having means at its lower end to engage the screw, substantially as set forth.

12. In a trimmer for slugs having measure finding projections, a table, a saw on the table, guiding means adapted to contact with said projections, clamping blocks adapted to engage at opposite sides of a series of slugs and movable therewith, a screw underneath said table, a plunger carried by one of said blocks having means at its lower end to engage the screw, a motor for driving the saw and the screw, and means for breaking the motor circuit arranged to be moved by said plunger, substantially as set forth.

13. In a trimmer for slugs having measure finding projections, a table, a saw on the table, guiding means adapted to contact with said projections, clamping blocks adapted to engage at opposite sides of a series of slugs and movable therewith, a screw underneath said table, a plunger carried by one of said blocks having means at its lower end to engage the screw, a motor for driving the saw, and means arranged to be moved by said plunger to break the motor circuit, substantially as set forth.

14. In a trimmer for slugs having measure finding projections, a table, a saw on the table, guiding means adapted to contact with said projections, clamping blocks adapted to engage at opposite sides of a series of slugs and movable therewith, a screw underneath said table, a plunger carried by one of said blocks having means at its lower end to engage the screw, a motor for driving the screw, and means arranged to be moved by said plunger to break the motor circuit, substantially as set forth.

15. In a trimmer for slugs having measure finding projections, a guide bar for contact with said projections, a band saw having one run adjacent to one side of the bar, a guide for the rear edge of the saw, and a guide for the cutting edge of the saw having a groove to engage opposite sides of the projections and guide the slugs to the saw, substantially as set forth.

16. In a slug trimming machine, a table, a saw thereon, guiding means in position to coact with measure finding dots on the slugs for positioning the slugs relatively to the saw, and additional guiding means for positioning slugs not provided with measure finding dots, substantially as set forth.

17. In a machine of the character described, a table, a guide bar spaced from the table, a saw adjacent one edge of the guide bar, a second guide bar spaced from the first and adapted to contact with the rear ends of long slugs or the like, rods projecting rearwardly from the second guide bar, and guides for said rods fixed to the table, substantially as set forth.

18. In a slug sawing machine, a band saw, slug clamping means movable past the saw, and means movable with said clamping means for stopping the machine, substantially as set forth.

19. In a slug sawing machine, a driving motor, a frame, a saw mounted therein, slug-clamping means traveling relatively to the saw-frame during the sawing operation, an abutment carried by one of said relatively-movable devices, and means carried by the other adapted to strike said abutment on completion of such operation and thus break the motor-circuit, substantially as set forth.

In witness whereof, I have hereunto set my hand and seal at Memphis, Tennessee, this 5th day of June, A. D. nineteen hundred and twenty-three.

ANTON H. NARROW. [L. S.]