

J. F. WEBENDORFER.
FINISHING MACHINE.
APPLICATION FILED JULY 12, 1909.

1,057,190.

Patented Mar. 25, 1913.

2 SHEETS-SHEET 1.

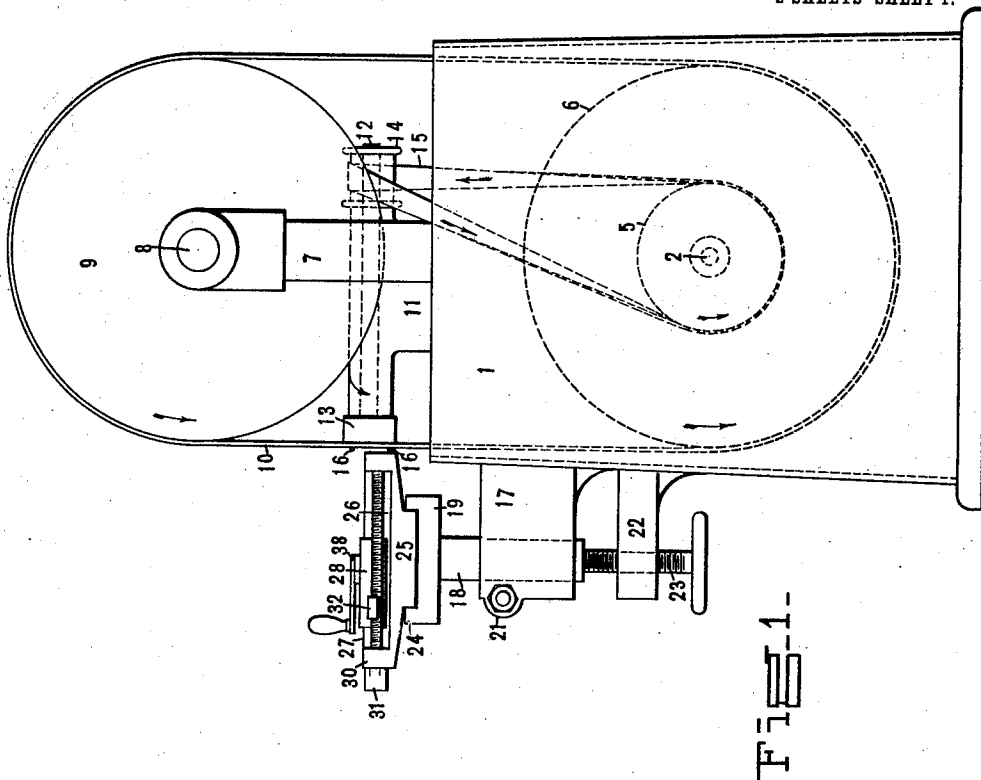


Fig. 1-

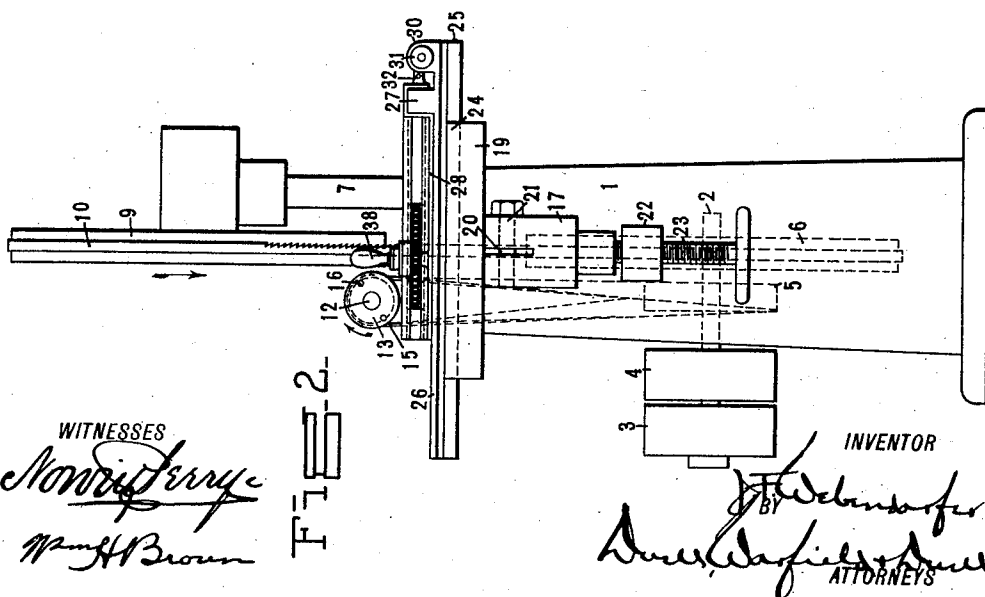


Fig. 2-

WITNESSES
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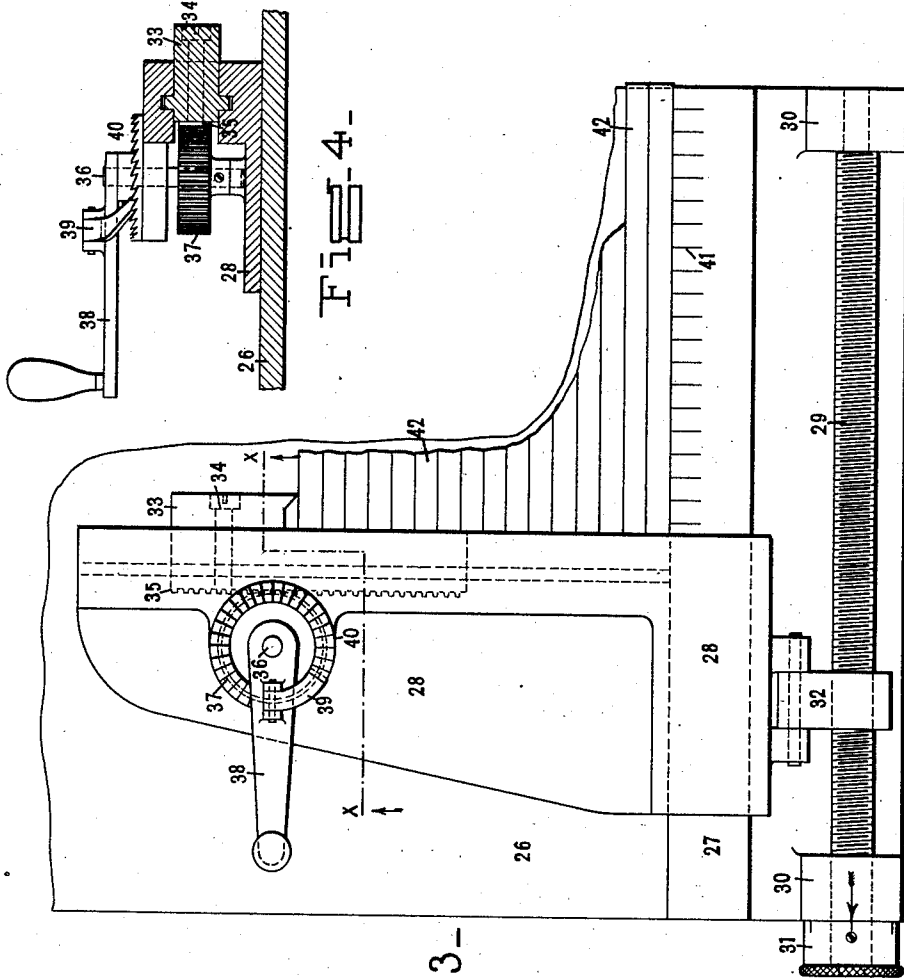
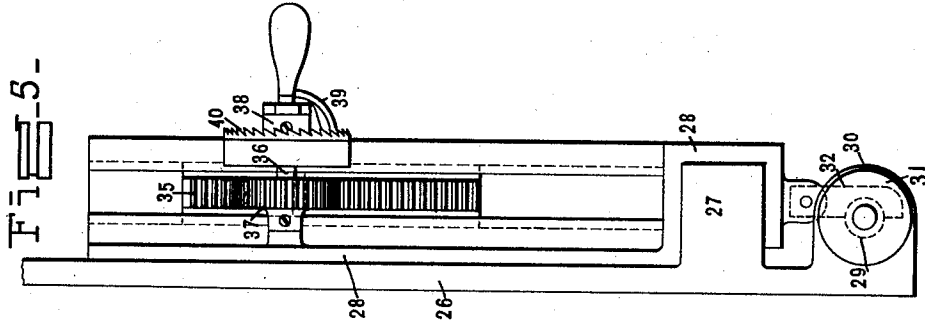
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Fig-3-

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UNITED STATES PATENT OFFICE.

JOHN F. WEBENDORFER, OF DOVER, NEW HAMPSHIRE.

FINISHING-MACHINE.

1,057,190.

Specification of Letters Patent.

Patented Mar. 25, 1913.

Application filed July 12, 1909. Serial No. 507,096.

To all whom it may concern:

Be it known that I, JOHN F. WEBENDORFER, a citizen of the United States, residing at Dover, in the county of Strafford and State of New Hampshire, have invented certain new and useful Improvements in Finishing-Machines, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to finishing machinery and with regard to the more specific features thereof to machinery for sawing and trimming linotype slugs and the like.

One of the objects thereof is to provide simple and efficient means for first sawing off the ends of a plurality of alined slugs.

Another object is to provide in a machine of this nature practical and efficient means for trimming the ends of such slugs.

Another object is to provide a simple and compact device of the nature last described whereby the trimming means may be rendered inoperative without interfering with the operation of the saw.

A further object is to provide means whereby the setting up and adjustment of the work in machinery of the above general type is facilitated and the parts accurately maintained in position.

Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the construction hereinafter set forth, and the scope of the application of which will be indicated in the following claims.

In the accompanying drawings, in which is illustrated one of the preferred embodiments of this invention, Figure 1 is a front elevation, showing the work-table in operative position with reference to the trimmer-head; Fig. 2 is a side elevation, showing the work-table lowered out of operative position with reference to the trimmer-head; Fig. 3 is a plan view of the table adjustments, part of the table being broken away; Fig. 4 is a cross-section on line $x-x$ of Fig.

3; and Fig. 5 is a side elevation of the work-table, showing adjustments thereon.

Similar reference characters refer to similar parts throughout the drawing and specification.

Referring to the drawings, 1 represents the frame of the machine having journaled thereon a shaft 2 upon which are mounted tight and loose pulleys 3 and 4. Positioned at 5 is a pulley to be referred to hereafter, and 6 is a drive pulley for the saw. A support 7 extends above the frame 1 and has journaled therein a shaft 8 upon which is mounted a pulley 9. A band-saw passes over the pulleys 6 and 9 and is driven in the direction indicated by the arrows.

Mounted at 11 is a bearing for a trimmer-head shaft 12 having a trimmer-head 13 secured thereto at one end and 14 is a pulley secured to the other end of this shaft. A belt 15 connects the pulley 14 with the pulley 5, mentioned above, and is arranged to drive the shaft 12 in the direction indicated by the arrow in Fig. 1. Cutting tools 16 are fitted in the trimmer-head and are adjusted to project beyond the outer surface of the saw 10.

At 17 is an extension of the frame provided with a rectangular opening within which the post 18 of the bed or table support 19 has a sliding fit. The extension 17 is partially split, as shown at 20 in Fig. 2, in order that the post 18 may be clamped in any desired position by tightening the bolt 21. Beneath the extension 17 is another extension 22 having a hole therethrough, threaded to receive a screw 23 which engages the post 18 of the table support 19 to enable the latter to be raised or lowered.

The table support 19 is provided on its upper part with guides 24 adapted to fit the slide 25 of a work-table 26. These guides are arranged so as to allow the table 26 to slide back and forth across the face of the trimmer-head 13. The work-table is here shown as adapted to be fed by hand, but it is obvious that it might be fed automatically by means of a screw or in any other usual manner if desired.

The table 26 is provided near its front edge with a transversely extending guide 27.

A clamping member 28 fits over the guide 27 and is adapted to slide thereon toward the band-saw 10. A screw 29 is journaled in the lugs 30, 30, formed on the table 26, and is provided with a knurled head 31.

32 is a half nut pivotally mounted on the clamping member 28 and designed to mesh with the screw 29.

33 is a clamping jaw slidably mounted in suitable ways formed in the clamping member 28. Secured to the jaw 33, by means of a machine-screw 34, is a rack 35. A short shaft 36 is rotatably mounted on said clamping member 28 and carries a pinion 37 adapted to mesh with the rack 35. At the outer end of the shaft 36 is provided a handle 38, and on the handle is pivotally mounted a pawl 39, arranged to engage with notches 40 provided on the surface of the clamping member 28. These notches are set so that the handle may be freely turned in one direction, but is prevented by the engagement of the pawl with said notches from rotation in the other direction. The guide member 27 has marked thereon a scale 41 graduated in any desired manner. The feed-screw 29 has a pitch which bears a definite relation to the graduations on said guide member; for example, the guide member may be calibrated into divisions of a sixth of an inch. Then, if the feed-screw has a pitch of twelve threads to the inch, it will require two revolutions of the feed-screw to move the clamping member over one space on the graduated scale. The periphery of the knurled head 31 is also divided into any desired number of parts, say, for example, into six parts, thus providing a micrometer adjustment for the clamping member. If it is desired to move the clamping member a fraction of a division of the graduated scale 41, this may be accomplished by turning the feed-screw 29 through part of a revolution or until the proper division mark on the head 31 registers with a mark on the lug 30.

The operation of the above described embodiment of this invention is as follows: When it is desired to trim linotype slugs, a plurality of these slugs 42 in Fig. 3 are set up on the table resting against the guiding member 27 and the clamping member 28. These two members are arranged perpendicularly to each other so that the slugs, when set up, will take a position perpendicular to the line of travel of the table. The clamping member 28 is fed toward the saw 10 or trimmer 13 by means of the feed-screw 29 to any desired position. The handle 38 is then turned to bring the jaw 33 into close contact with the outside slug, thus pressing the group of slugs tightly against the guide member 27 and holding them in fixed relation to the table. The locking pawl 39, by its engagement with the notches

40, prevents the clamping jaw 33 from moving away from the work. Now, if the driving belt, not shown, is shoved over onto the tight pulley 3, the saw 10 begins to travel around the pulleys 6 and 9 and the trimmer-head 13 to rotate in the directions indicated by the arrows. The slugs as they come in contact with the saw have their projecting ends cut off and the latter fall down out of the way. Then, as the table is fed toward the trimmer-head 13, the cutters in said head trim the ends of the slugs, and, when finished, they are of the required length as determined by the position of the clamping member 28.

In case it is desired to cut other materials than the composition of which linotype slugs are made, blocks of wood for instance, the table may be lowered so that the trimmer-head 13 cannot operate on the blocks. This is necessary as with wood the ends of the blocks will not drop off clean as sawed, so that it is sometimes necessary to first finish the sawing operation and then raise the table into position to trim the blocks.

From the foregoing, it will be seen that there is provided a machine well adapted to attain the objects heretofore set forth, and one which is compact and simple in construction.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

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

1. In an apparatus of the character described, a band-saw, a trimmer-head mounted rearwardly of said saw, and a work-table operatively associated with said band saw and vertically adjustable to bring it into differently operative relations to said trimmer head or out of operative relation thereto.

2. In apparatus of the character described, in combination, a band-saw, a trimmer-head, and a work-table adapted to be lowered to a position inoperative with reference to said trimmer-head and operative with reference to said saw.

3. In apparatus of the character described, in combination, a band-saw, a rotary trimmer-head, and a vertically adjustable table adapted to be moved into and out of operative position relative to said trimmer-head, said table being at all times in operative vertical adjustment relative to said saw.

4. In an apparatus of the character de-

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scribed, in combination, a cutting tool, a work table provided with a guide, a slide on said guide, a clamping member mounted on said slide adapted to coast with the guide, and automatic locking means adapted to lock the clamping member in a given adjustment.

5. In an apparatus of the character described, in combination, a cutting tool, a work table, a slide on said table, a clamping jaw slidably mounted on said slide, a rack and pinion adapted to reciprocate said jaw, and a ratchet and locking pawl adapted to hold said jaw in a given position.

6. In an apparatus of the character described, in combination, a band-saw, an independent cutting tool, and a work-table operatively associated with said band-saw and vertically adjustable to bring it into differently operative relations with said independent cutting tool or out of operative relation thereto.

7. In an apparatus of the character described, in combination, a band-saw, an independent cutting tool, a work-table, and means whereby the table may be moved to different operative positions longitudinally of said saw.

8. In an apparatus of the character described, in combination, a band saw adapted to cut in a vertical plane, a rotary trimming tool independently mounted relative to said saw with its cutting plane disposed to trim the cut face of material operated upon by said band saw, a work table support provided with a fixed guideway, and a work ta-

ble having means to hold the work and movable along said guideway whereby the face operated upon by the saw will be in position to be operated upon by the trimming tool.

9. In an apparatus of the character described, in combination, a band saw, a trimmer head, a work table adapted to move toward and from said saw and head, a threaded shaft rotatably mounted on said table, clamping members between which the work is held, one of said members engaging said threaded shaft and one of said members comprising a movable jaw, a rack thereon, a pinion engaging said rack, a lever fast to said pinion, a fixed ratchet, and a pawl on the lever adapted to engage said ratchet.

10. In an apparatus of the character described, in combination, a band saw, a trimmer head, a work table adapted to move toward and from said saw and head, a clamping device comprising a guide for the work, a clamping member movable in line with the guide, means carried by the member adapted to cooperate with the guide to clamp the work therebetween, and means adapted to move the work table to a position out of operative relation with said trimmer head while preserving operative relation to said saw.

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

JOHN F. WEBENDORFER.

Witnesses:

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M. A. ROGERS.