

No. 701,831.

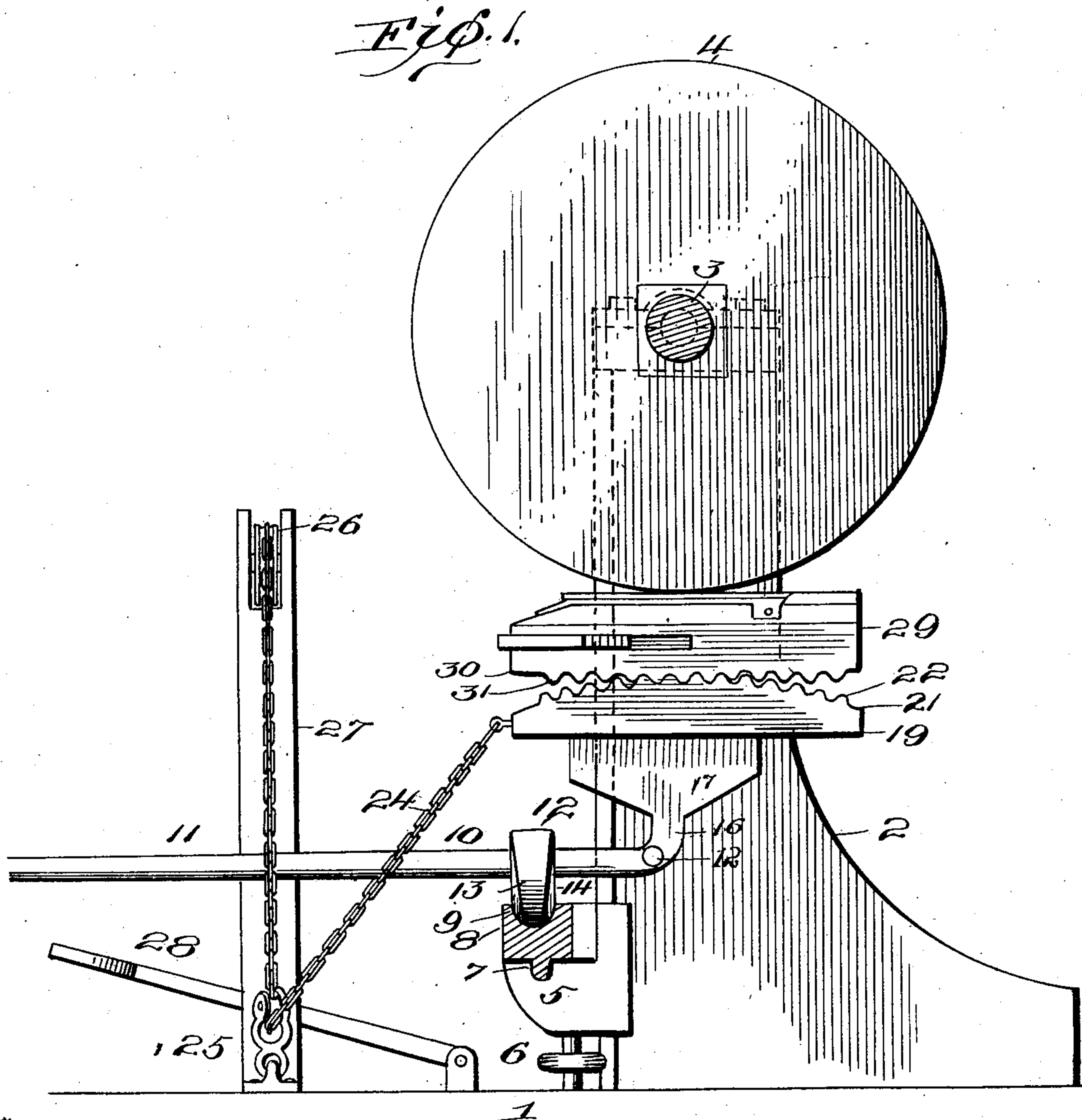
Patented June 10, 1902.

H. BELTZ.
MACHINE FOR GRINDING TROWELS.

(Application filed Dec. 31, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
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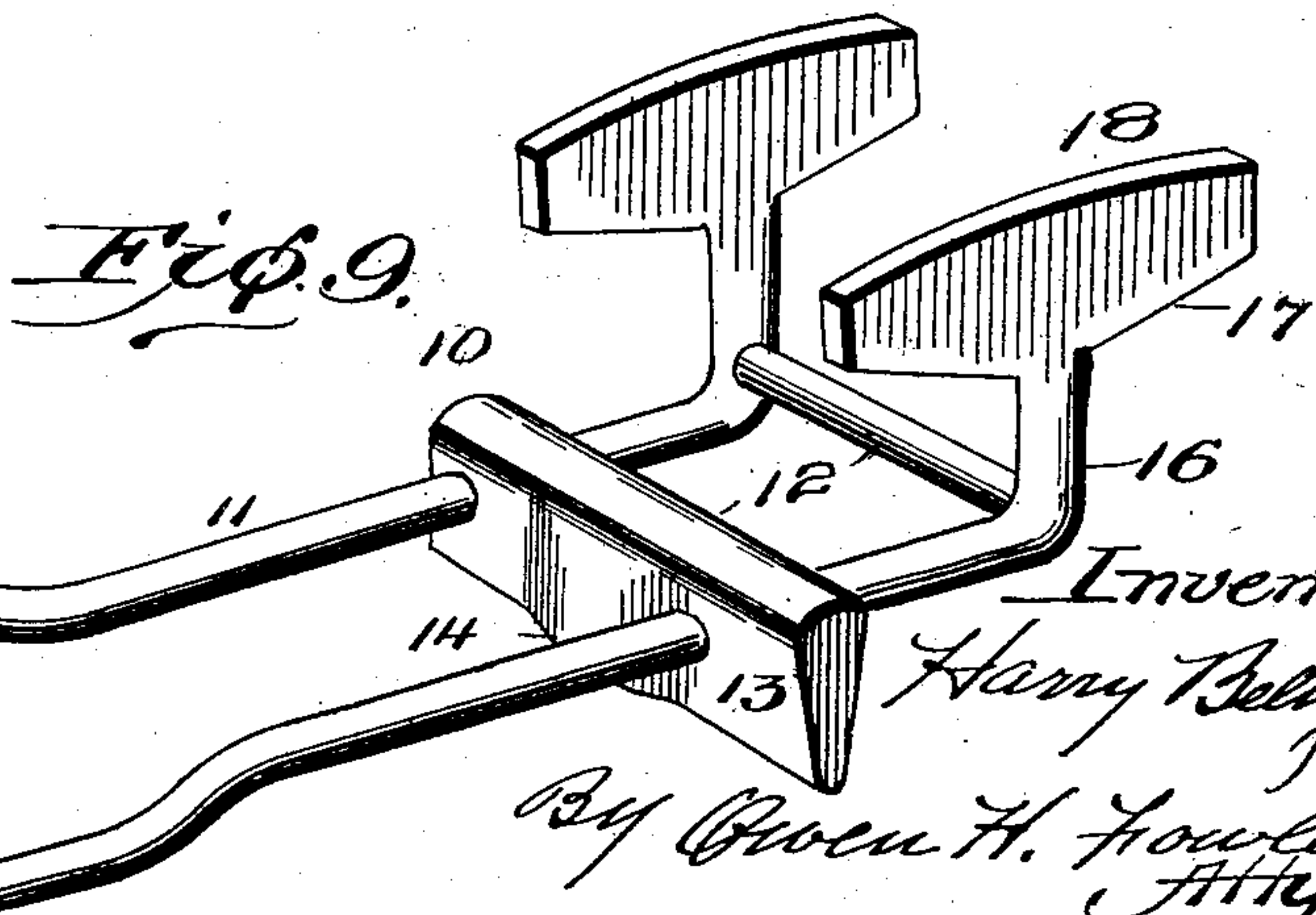
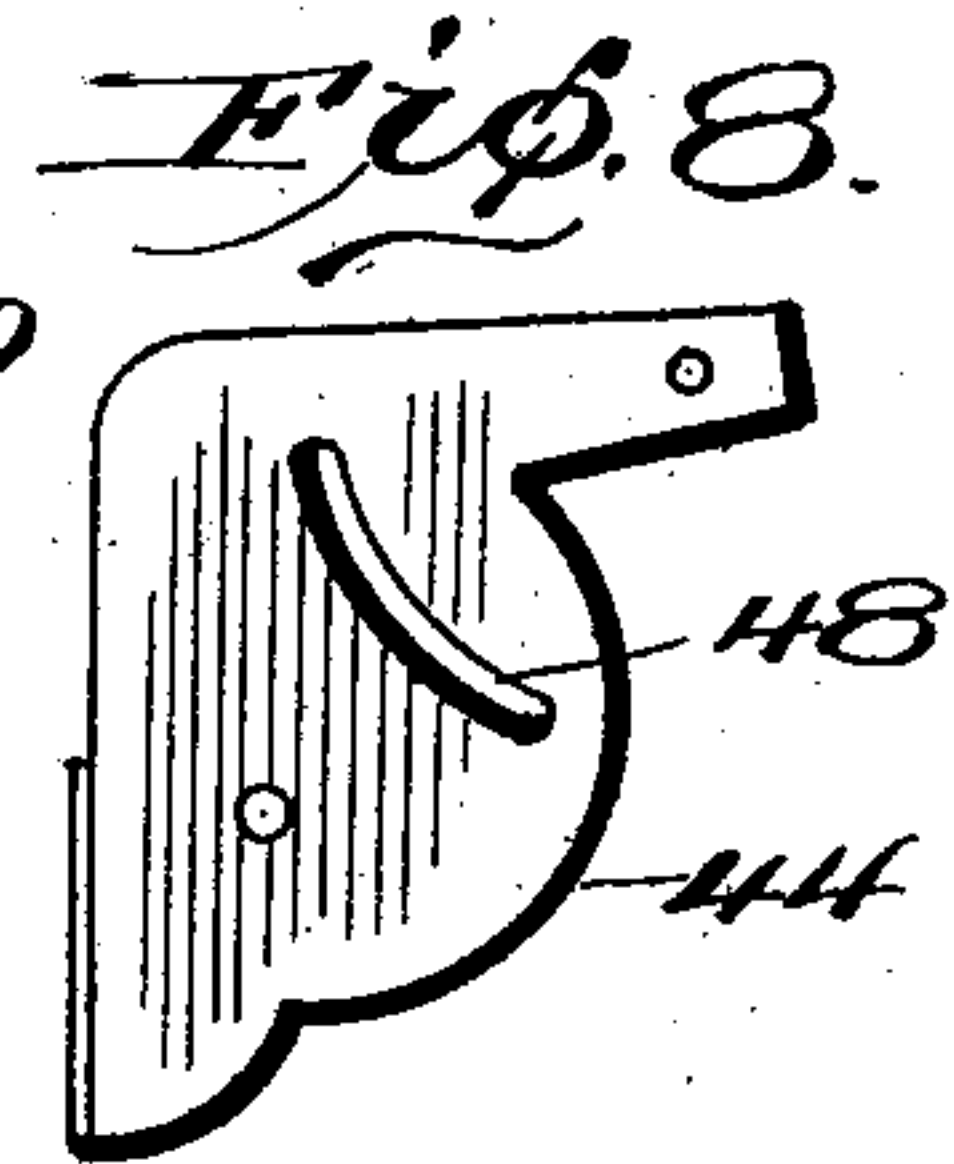
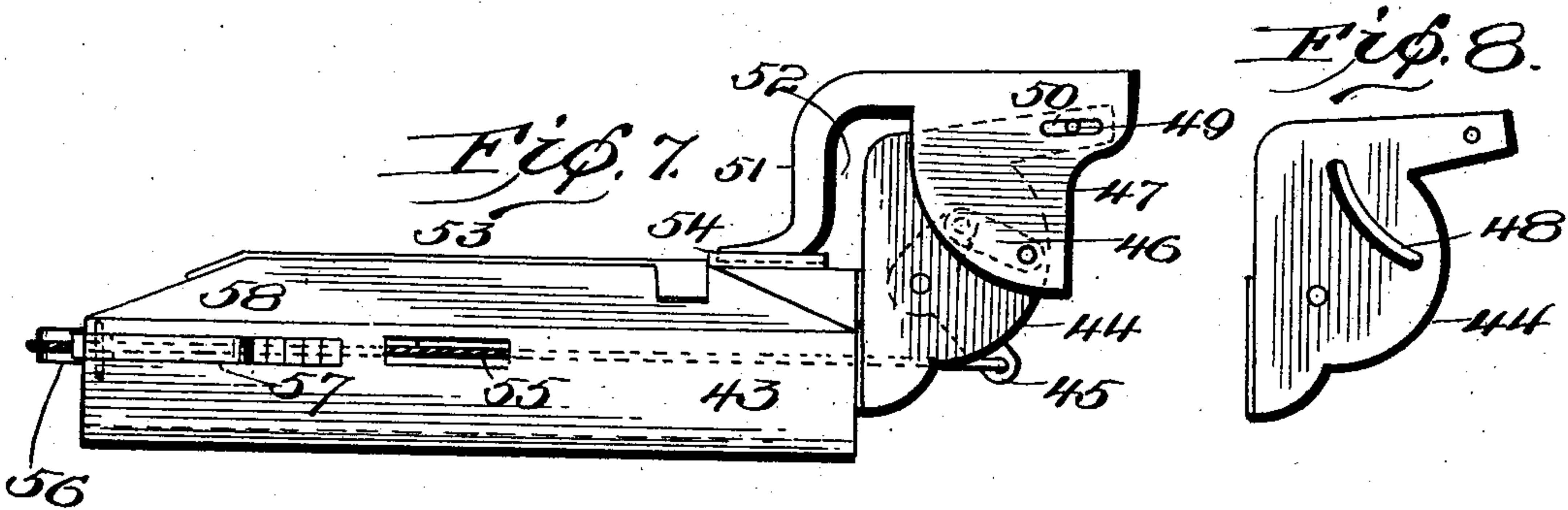
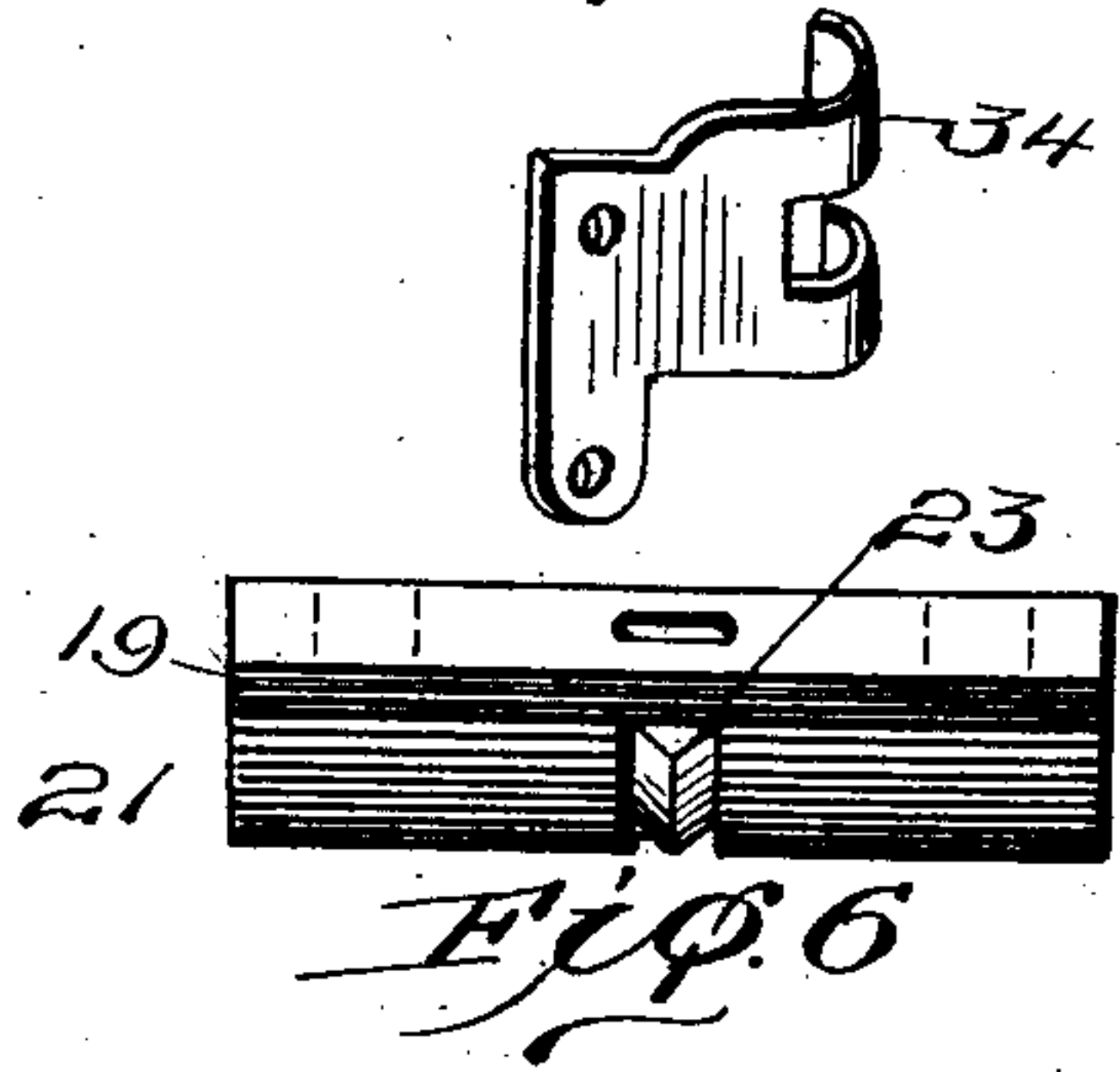
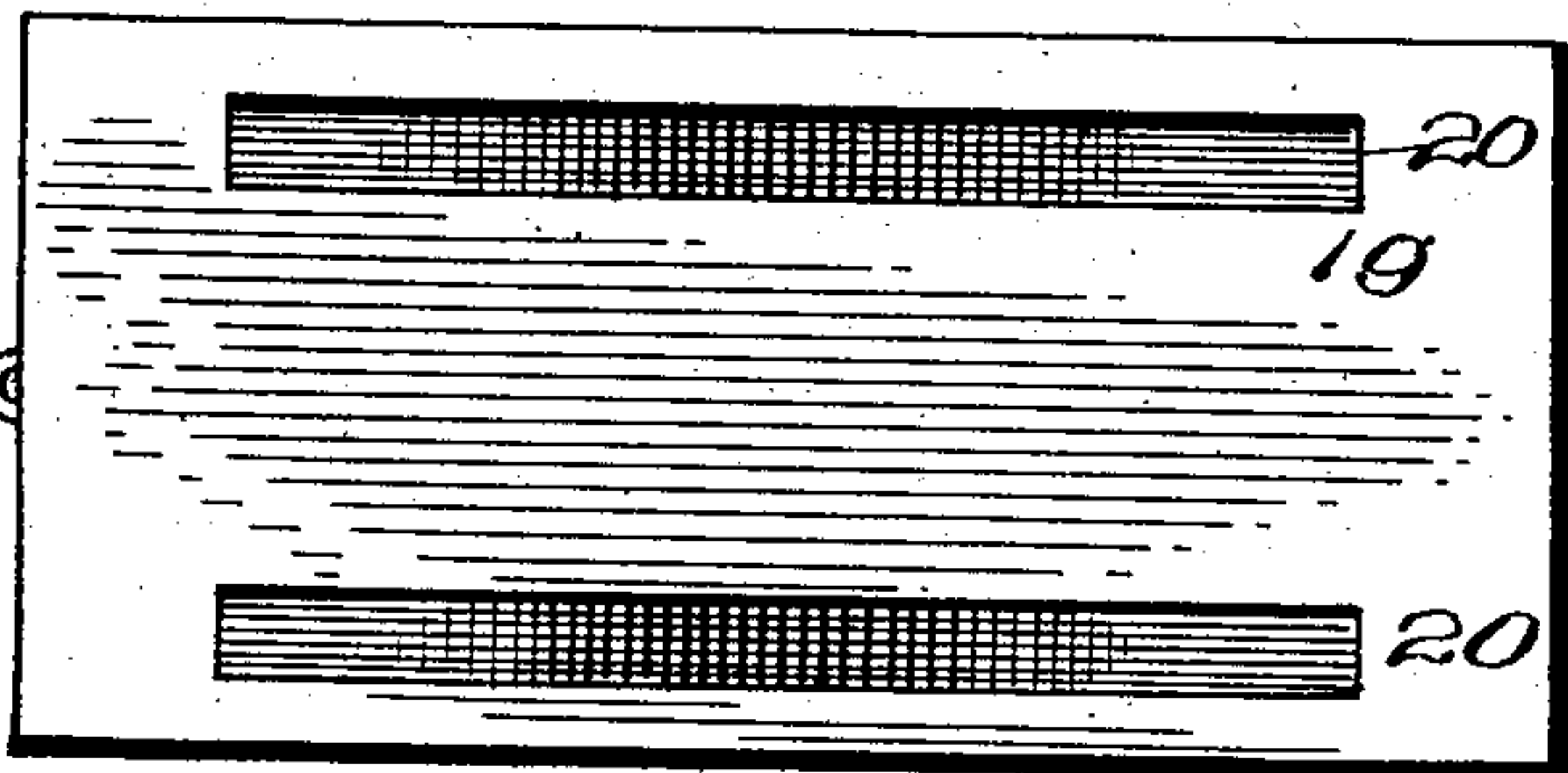
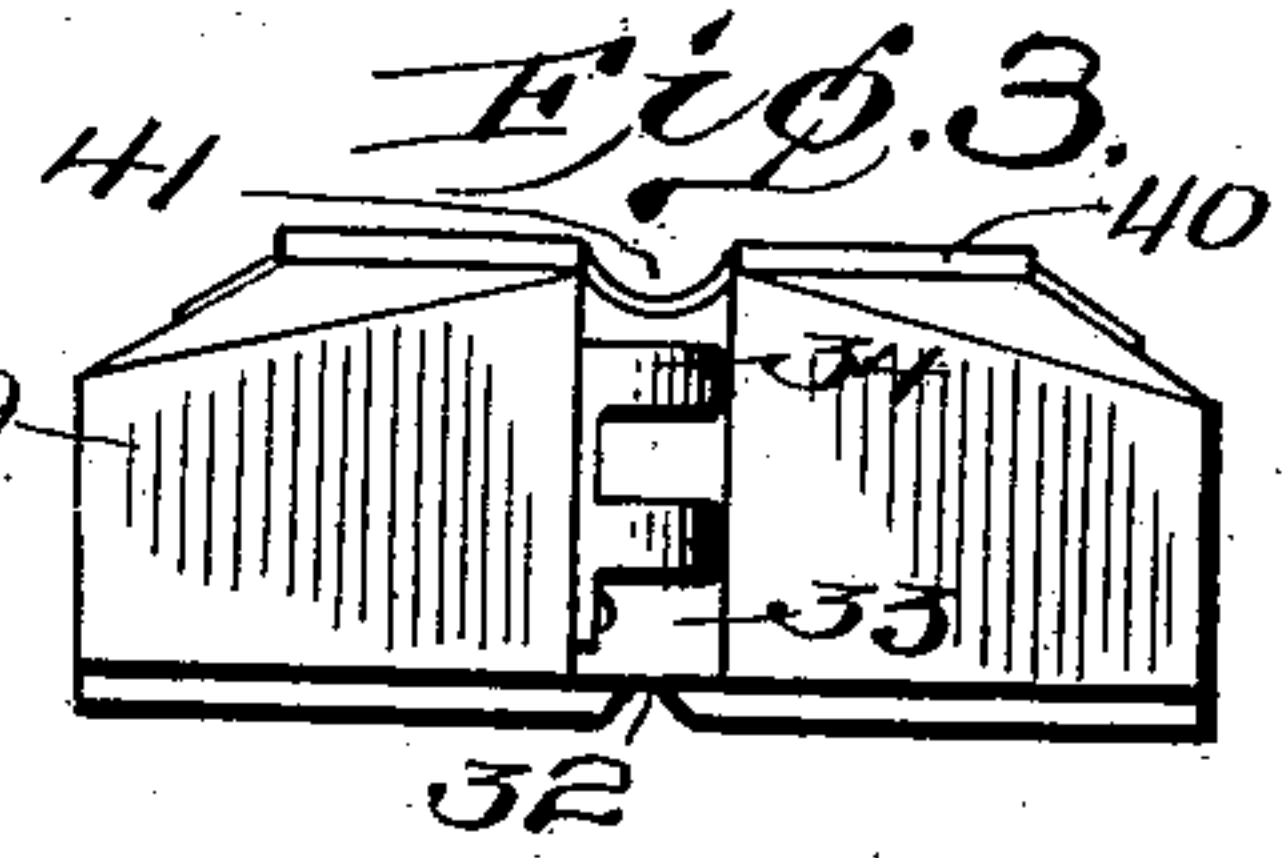
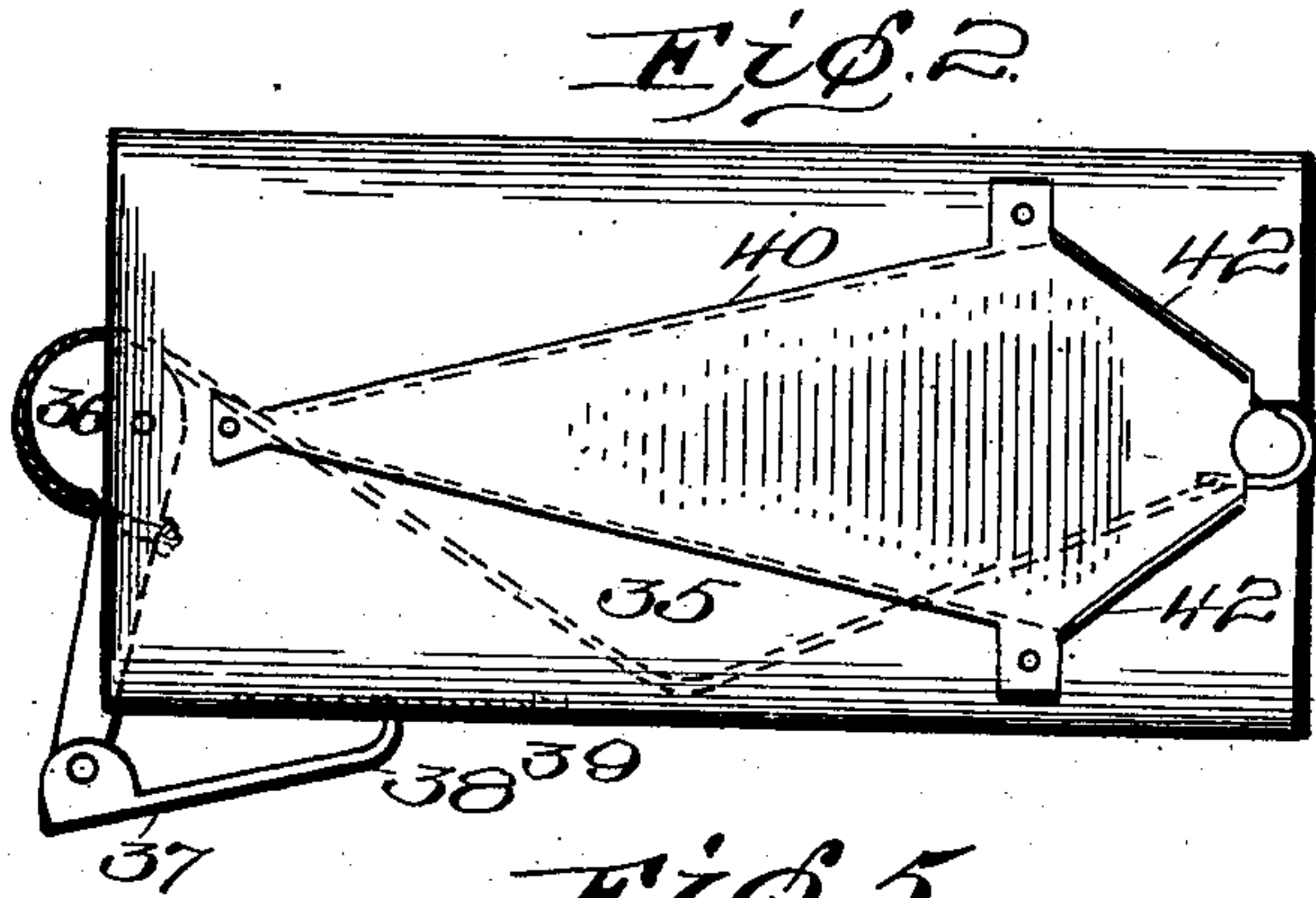
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MACHINE FOR GRINDING TROWELS.

(Application filed Dec. 31, 1901.)

(No Model.)

2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

HARRY BELTZ, OF FRANKFORD, PENNSYLVANIA.

MACHINE FOR GRINDING TROWELS.

SPECIFICATION forming part of Letters Patent No. 701,831, dated June 10, 1902.

Application filed December 31, 1901. Serial No. 87,911. (No model.)

To all whom it may concern:

Be it known that I, HARRY BELTZ, a citizen of the United States of America, residing at Frankford, Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Grinding Trowels, of which the following is a specification.

This invention relates to machines for grinding smooth surfaces, and more particularly to machines for grinding the faces and backs of trowels.

The object of my invention is to provide a machine for grinding trowels preparatory to the polishing thereof and to so construct the same that the trowel is taken in the rough state as produced by the rolls or rolling-machine and is ground with a smooth, flat, or tapering surface, as may be desired.

Another object of my invention is to provide a machine for grinding trowels wherein the trowel is locked in a suitable support held in contact with the grinding-wheel by an adjustable rocking carriage adapted to be controlled by the operator.

With these objects in view and such others as may hereinafter appear my invention consists in the particular construction of the various parts and in the novel manner of combination and arrangement of said parts, all of which will be fully described, and specifically pointed out in the appended claims, which are intended to accord in their terms, spirit, and meaning with the prior state of the art and the existing law.

In the drawings forming a part of this specification, Figure 1 is a side elevation having one of the uprights partly broken away, so as to better illustrate the rocking carriage and trowel-support. Fig. 2 is a top plan view illustrating the block for supporting the trowel when grinding the back, showing the clamping mechanism partly in dotted lines and the trowel in position in dotted lines. Fig. 3 is a rear view of the same, the trowel being omitted. Fig. 4 is a detail perspective of the clamp illustrated in Fig. 2. Fig. 5 is a bottom plan view of the trowel-block support. Fig. 6 is a front elevation of the same. Fig. 7 is a side elevation of the block for supporting the trowel when grinding the face thereof. Fig. 8 is a detail view of the slotted

bracket. Fig. 9 is a detail perspective of the rocking carriage on an enlarged scale.

Referring by numerals to the drawings, 1 indicates the floor or base, upon which are mounted two oppositely-disposed uprights 2, having journaled in the top thereof a shaft 3, carrying a grindstone 4, which may be driven by any suitable gearing. Mounted upon the uprights are two sliding supports 5, vertically adjustable by set-screws 6 and provided with grooves 7, adapted to receive and support a horizontal bar 8, having a groove 9 therein extending its entire length, which receives the rocking carriage 10, consisting of two arms 11, braced together by horizontal braces 12, one of which is provided with a tongue 13, having an enlarged portion 14, adapted to engage the groove 9 and to act as a fulcrum and support for the arms, the free ends of which are curved, as plainly shown at 15, the other ends being curved up, as shown at 16, and provided with oppositely-disposed supports 17, which are formed thereupon with curved faces 18. Mounted upon the supports 17 is a block 19, having slots 20 in the bottom thereof, adapted to fit snugly over the curved faces 18. The block is provided with a curved face 21, which is corrugated, as shown at 22, and is further provided with a central rib 23, the object of which will be hereinafter explained. Secured to this block is a chain or rope 24, which is passed through a pulley 25, secured to the base or floor, and up through a second pulley 26, secured in the top of an upright 27, mounted upon the floor, thence down to a foot-lever 28, pivoted to the floor, by means of which the block is moved forward.

The block 19 is adapted to support a block 29, having a curved face 30, which is corrugated, as shown at 31, and centrally grooved at 32. This corrugation and groove are adapted to engage the corrugation and groove upon the curved face of the block 19. The block 29 is provided with a groove 33 in one end thereof, in which is pivotally secured a clamping-lever 34, connected to a wire 35. This wire passes at an angle through the block to the opposite end, where it is connected to a cam-shaped lever 36, the free end of which is provided with a pivoted arm 37, having a curved end 38, adapted to engage a ratchet 39 upon

the side of the block. This block is further provided with a plate 40, secured to the top thereof, having a depression 41, adapted to receive the rib upon the face of the trowel, and flanges 42 at right angles thereto, adapted to engage the edges at the heel portion. This form of block is employed when grinding the back of the trowel.

When it is desired to grind the face of a trowel, a block 43 is employed. This block is substantially the same as block 29. The corrugation and groove upon its curved face are the same, so, also, is its manner of engagement with the block 19. However, it differs in the respect that the trowel clamping or locking device consists of two similar arms 44, secured to one end thereof, pivoted between which is an L-shaped lever 45, pivoted to one end of which is an arm 46. This arm is pivoted to the sides of a casing 47 through the slots 48. The casing is further supported by a pin 49, extending through the arms 44 and engaging the slots 50 in the sides of the casing. This casing is further provided with a curved clamping-arm 51, having a groove 52 therein to engage the shank of the trowel when it is clamped down upon the plate 53, secured upon the top of the block, the plate 53 having flange 54 adapted to engage the edges at the heel of the trowel. The L-shaped lever is connected to a wire 55, which passes at an angle through the block and is connected to a cam-shaped lever 56, the free end of which is provided with a pivoted arm 57, the end of which is curved so as to engage the ratchet 58 upon the side of the block, and thereby securely lock the trowel in position.

I deem the foregoing explanation sufficiently plain that the invention will be readily understood by all conversant in such matters, and I desire to distinctively state that I do not limit myself to the exact details herein shown and described, since obvious minor changes may be made without sacrificing any of the advantages of my invention.

Having thus described the various features of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for grinding trowels, a trowel-block, a clamping-lever pivoted in one end thereof, a wire connected to the lever, the said wire passing through the said block at an angle, a cam-shaped lever pivoted in

the block and connected to the wire, a pivoted arm upon the cam-shaped lever, a hook upon the said arm, a ratchet upon the side of the block adapted to engage the said hook, a plate upon the top of the block, the said plate having a depression and flanges, the bottom of the block having a central groove and corrugations substantially as shown and described.

2. In a machine for grinding trowels, a trowel-block, a clamping-lever pivoted in one end of the said block, a cam-shaped lever pivoted in the other end, a wire passing through the block at an angle, the said wire connecting the two levers, an arm pivoted to the cam-shaped lever, a hook upon the free end of the said arm, a ratchet upon the side of the block adapted to engage the said hook, a plate upon the top of the block, a depression and flanges upon said plate, the bottom of the block being curved, a central groove and corrugations upon the curved portion of the block, substantially as shown and described.

3. A machine for grinding trowels, in combination with a grindstone, an adjustable horizontal bar, a groove in said bar, a rocking carriage mounted in said groove, the said carriage consisting of similar curved handles, braces connecting the said handles, a tongue upon one of the said braces, an enlarged portion upon the said tongue, curved faces formed upon the said handles, a block having slots in the bottom thereof engaging the curved faces upon the handles, the said block connected by a chain to and operated by a foot-lever, the top of the block being curved, a central rib and corrugations upon the curved portions, a trowel-block adapted to rest upon the first-mentioned block, substantially as shown and described.

4. A machine for grinding trowels, in combination with a grindstone, an adjustable horizontal bar, a groove in said bar, a rocking carriage mounted in said groove, a sliding block mounted upon said carriage, a foot-lever connected to and controlling said block, a trowel-block mounted upon the first-mentioned block, substantially as shown and for the purpose set forth.

HARRY BELTZ.

Witnesses:

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JACOB BECK.