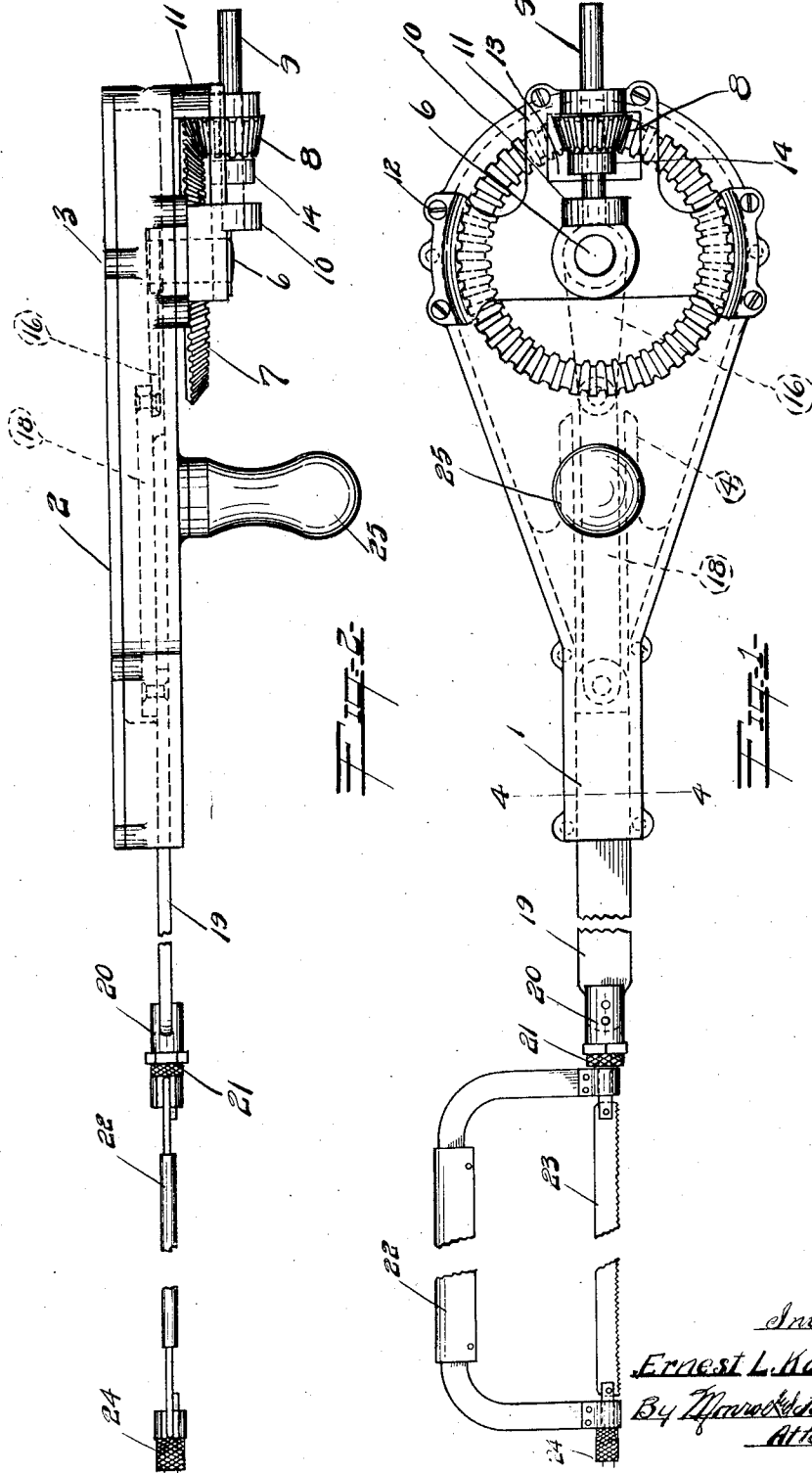


E. L. KAUNITZ.
POWER HACKSAW.
APPLICATION FILED MAR. 15, 1919.

1,362,628.

Patented Dec. 21, 1920.

2 SHEETS—SHEET 1.

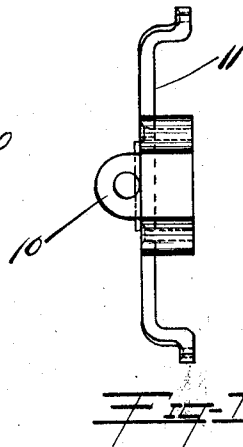
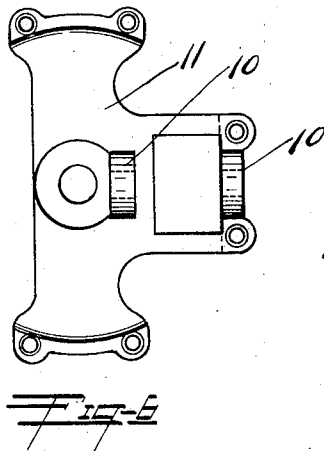
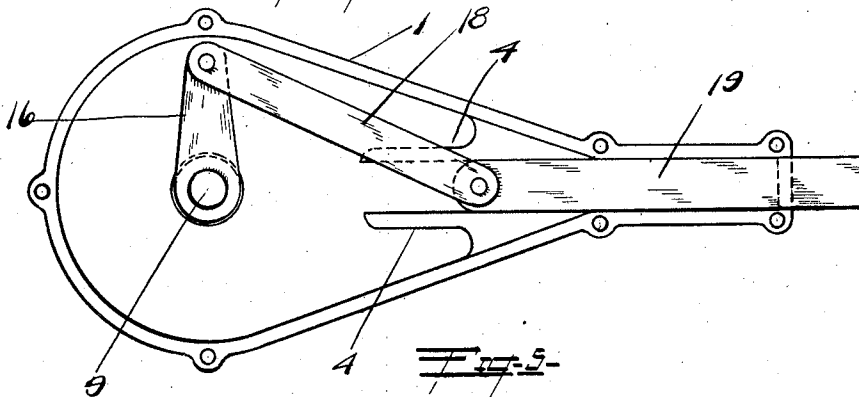
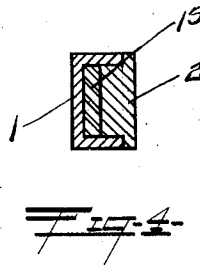
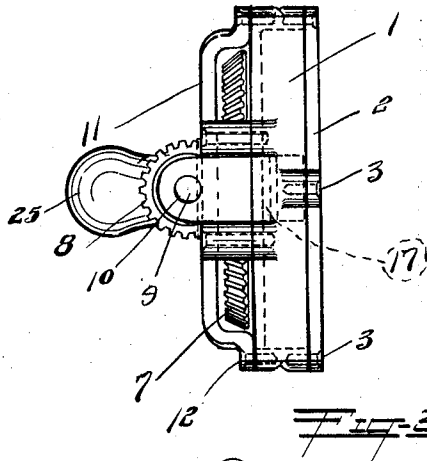


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UNITED STATES PATENT OFFICE.

ERNEST LEWIS KAUNITZ, OF BAY CITY, MICHIGAN.

POWER-HACKSAW.

1,362,628.

Specification of Letters Patent. Patented Dec. 21, 1920.

Application filed March 15, 1919. Serial No. 282,848.

To all whom it may concern:

Be it known that I, ERNEST LEWIS KAUNITZ, a citizen of the United States of America, residing at Bay City, in the county of Bay and State of Michigan, have invented certain new and useful Improvements in Power-Hacksaws, of which the following is a specification.

This invention relates to power driven hack saws and the like.

One object of the invention is to provide a hack saw having a flexible power connection shaft, which can be easily held and handled by the operator when standing on a beam in the air, in a crane, or in any other place where operating space is limited and the footing is insecure.

Another object is to design a power hack saw which is very thin, so that it can be operated in places where space is limited and it is impossible to manually operate a hack saw due to the said limited space.

A further object is to provide a hack saw which can be attached to a flexible power connection with which nearly every large shop is equipped, and which will cut beams and metal of every description very rapidly.

With the above and other objects in view, the present invention consists in the combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims, it being understood that changes may be made in the form, size, proportion and minor details within the scope of the appended claims, without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings—

Figure 1 is a side view of my improved hack saw, and

Fig. 2 is a plan view thereof.

Fig. 3 is an end view of the same, and

Fig. 4 is a section taken on the line 4—4 of Fig. 1.

Fig. 5 is a side view of the case with the cover removed, showing the reciprocating parts.

Fig. 6 is a detail of the outer bearing, and

Fig. 7 is an end view of same.

Referring now to the drawings, the numeral 1 indicates the case which can be made of any suitable material but I prefer

to construct it of aluminum in order that the entire device may be very light in weight.

The case is provided with a cover plate 2 thus inclosing the reciprocating parts and being held in position by screws 3. Cast on the inside of the case proper are the ways or guides 4 for a purpose to be presently explained, a suitable opening being provided for the shaft member 6, extending through the case and on which is secured the bevel gear member 7, meshing with a similar bevel pinion 8, said bevel pinion being set on a short shaft member 9, journaled in suitable bearings 10 cast integral with the member 11, and which is adapted to form a bearing for the outer end of the shaft member 6, as well as forming a guard for same, also having an opening 13 to allow the bevel pinion to mesh with the large bevel gear and provide space for the set collar 14 which is set on the shaft 9, all of which is secured to the case by the screws 12. This shaft member 9 extends rearwardly beyond the case for a length sufficient to allow a flexible shaft (not shown) to be connected thereto, and it will be apparent that these gears may be assembled as a unit and attached to the case by use of the screws above mentioned, said case forming the opposite bearing for the shaft member 9 which extends into the case and to which is pinned or otherwise secured the crank member 16. A brass bushing 17 is interposed between the case and the crank, the opposite end of the crank being connected to one end of a connecting rod 18 by a pin or other approved means, the other end of the connecting rod being connected in a similar manner to the piston bar 19 which operates in the ways or guides 4 and receives a reciprocating motion as the crank revolves with the shaft member 6, the cover 2 being somewhat thicker at this end and formed to fit the ways 4 and form a working surface for the reciprocating piston bar.

The piston bar 19 extends beyond the case and is secured to the member 20, one end of which is threaded to receive a similarly threaded member 21 carried by the saw frame 22. This frame is similar to the saw frames now in general use and can be shortened or lengthened to fit the different lengths of blades 23, being further tightened by means of the thumb nut 24, and it will be

evident that the blades can be turned in the frame to make a horizontal cut if desired and still maintain the saw frame in its normal upright position, the same as with the manually operated hack saws now in general use, the hack saw being held by means of the handle 25 secured to the side of the case.

By reference to the foregoing description, it will be obvious that I have perfected a simple and convenient time and labor saving hack saw, which is very light in weight, and which is very thin to enable it to be operated in very limited space.

I claim:

1. A device for operating a hack saw comprising a casing having shallow walls and provided with a longitudinally extending way opening through one end of the casing, a bar mounted to slide in said way and equipped with means for attachment to the frame of a hack saw, a cover closing the side of the casing and closing said way to retain the bar therein, a shaft journaled in the casing and the cover and having a crank portion, a link between the crank portion of the shaft and said bar, a handle projecting from the closed side of the casing, a beveled gear wheel mounted on the shaft at the handle side of the casing, a drive shaft adapted for connection with a source of power, and a pinion mounted on the drive shaft and meshing with said gear wheel for turning the crank shaft and reciprocating said bar.

2. A power-driven hack saw including a case, a cover therefor, driven means in said case, a saw connected to said means, a shaft journaled transversely through said case, means connecting said shaft and driven means, a bearing member removably secured to the outside of the case and having a bearing receiving the outer end of said shaft, other bearings on said member arranged angularly to said first-named bearing, a second shaft journaled in said bearings and adapted to be flexibly connected to a power source, and interengaging elements on said shafts

for causing the rotation of the first shaft when the second is driven.

3. A power-driven hack saw including a case, a cover therefor, driven means within the case and extending through to the exterior thereof, a saw element actuated by said driven means, a shaft adapted to drive said driven means and journaled transversely through said case, a bearing member secured to said case and supporting the outer end of said shaft, a second shaft journaled in said bearing member and adapted to be coupled to a source of power whereby the same may be rotated, and means on the shafts for transmitting rotation from one to the other when said second shaft is put into operation from said power source.

4. A power-driven hack saw comprising a thin flat case of light material, a cover therefor, driven means in said case, a saw connected to said driven means, a shaft journaled through said case, a connection between said shaft and driven means, a bearing member removably held on the exterior of the case and supporting the outer end of said shaft, a second shaft journaled in said bearing member, interengaging elements on said shafts, and a handle on the case.

5. A power-driven hack saw comprising a thin flat case of light material, a thin flat cover therefor of similar material, a handle whereby the case may be supported in the hand, a saw, means supported for movement in the case and connected to actuate said saw, a shaft passing through said case, means whereby the shaft may operate said first-named means, a bearing member, means whereby the bearing member may be removably secured to the case, said member supporting the outer end of said shaft, a second shaft also journaled in said member and arranged angularly to the first-mentioned shaft, and bevel gears on the shafts arranged in mesh.

In testimony whereof I affix my signature.
ERNEST LEWIS KAUNITZ.