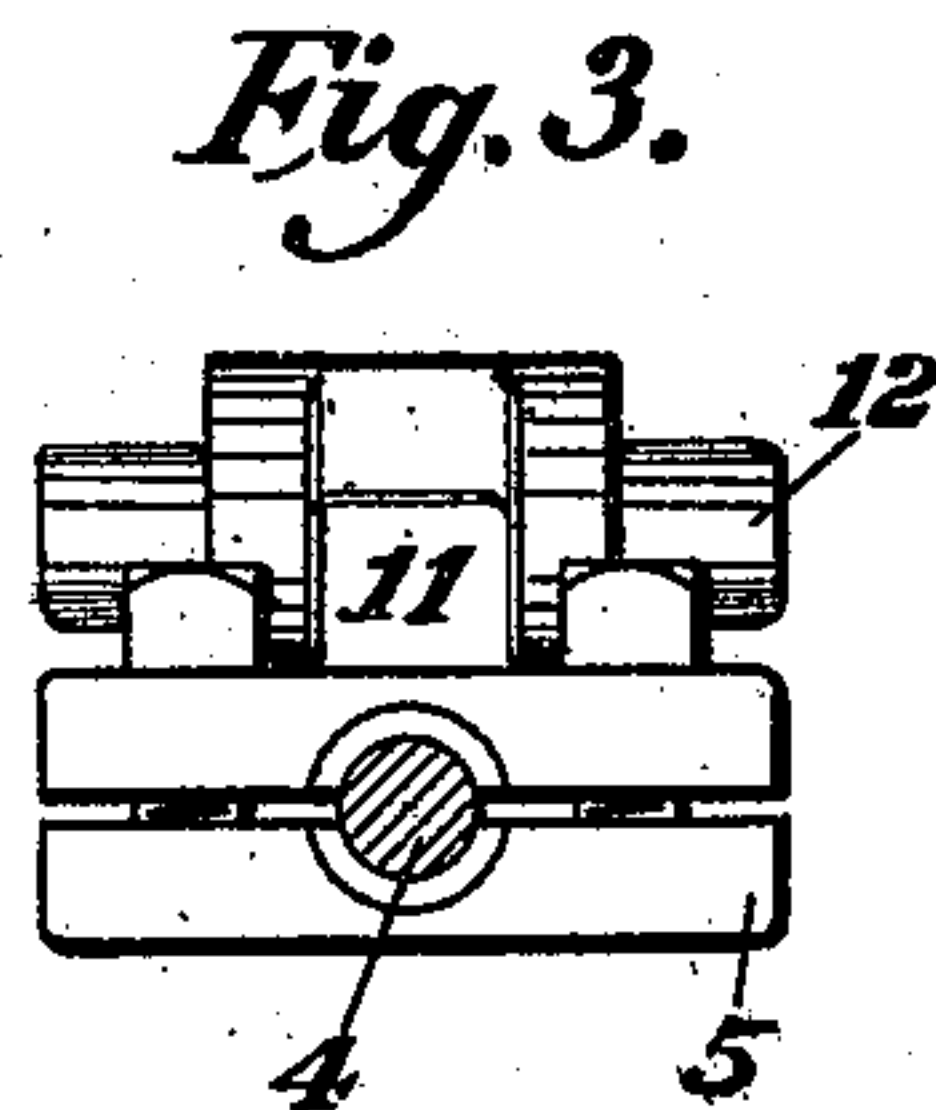
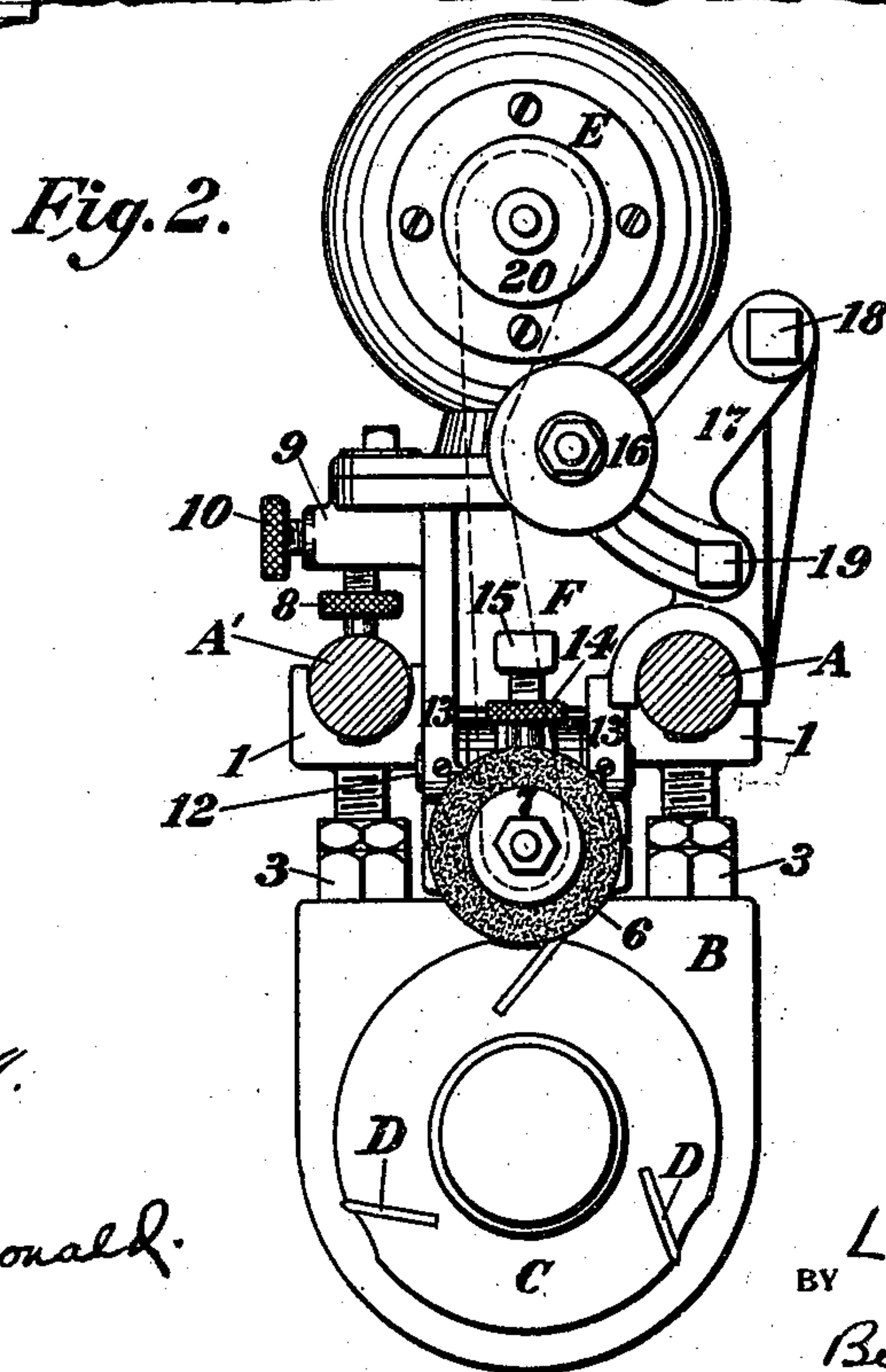
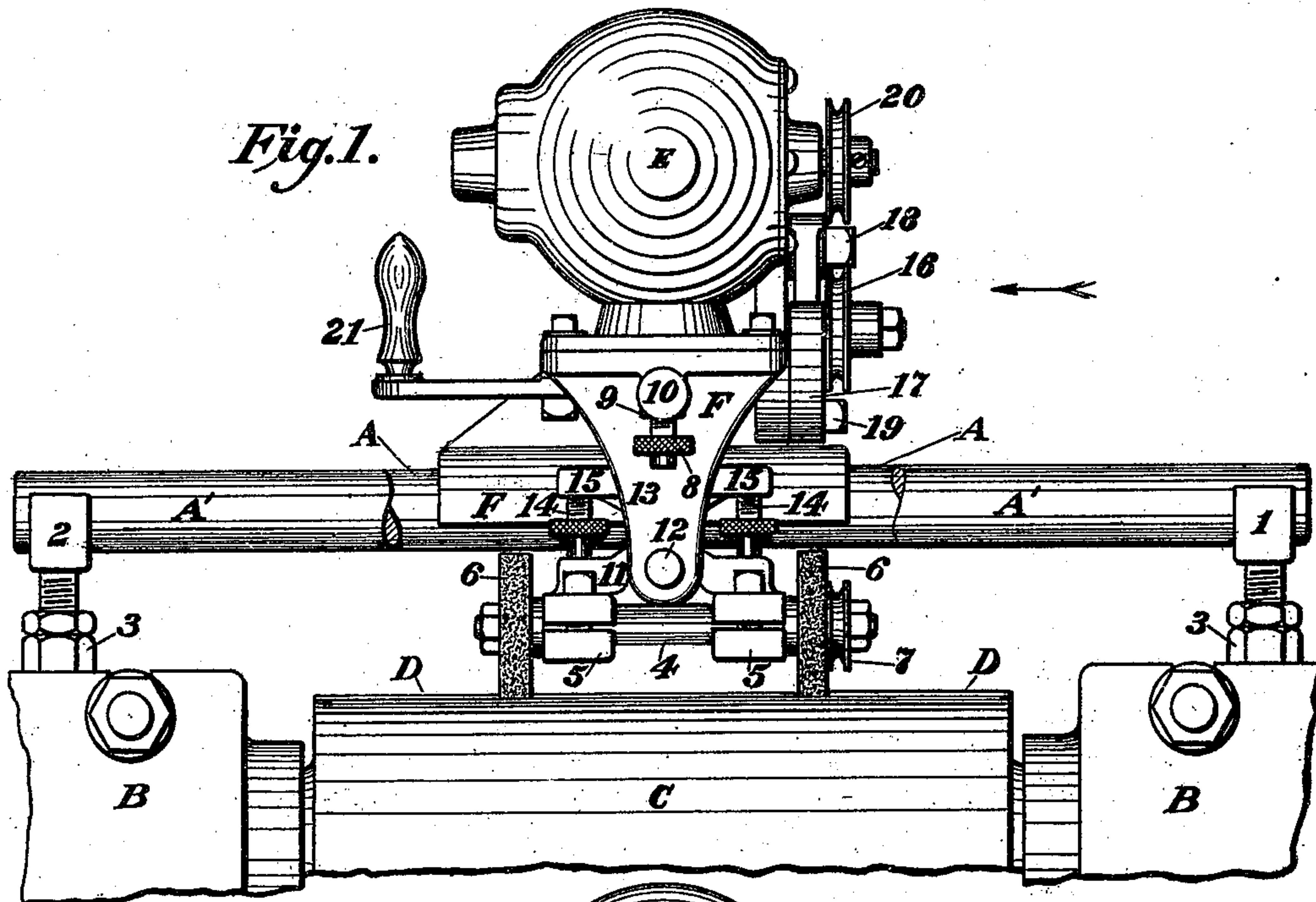


L. B. WHIPPLE.  
KNIFE GRINDING ATTACHMENT FOR PLANING MACHINES.  
APPLICATION FILED MAY 23, 1910.

983,850.

Patented Feb. 7, 1911.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

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KNIFE-GRINDING ATTACHMENT FOR PLANING-MACHINES.

983,850.

Specification of Letters Patent.

Patented Feb. 7, 1911.

Application filed May 23, 1910. Serial No. 562,910.

*To all whom it may concern:*

Be it known that I, LELAND B. WHIPPLE, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain Improvements in Knife-Grinding Attachments for Planing-Machines, of which the following is a specification.

My invention relates to an attachment for a wood surfacing machine for sharpening knives on the cutter head without removing them or the cutter head, and it consists in a saddle or carrier arranged to move on ways parallel with the cutter head, and support a grinding arbor and means of driving the same, said carrier being given a reciprocation by the operator on the ways, until the grinding is completed.

It consists further in certain details of construction for practically carrying out my invention.

In the drawings Figure 1 is a side elevation of my invention, and Fig. 2 an elevation at right angles thereto, in the direction of the arrow Fig. 1. Fig. 3 is an end elevation of the grinding arbor and yoke.

C is a cutter head carrying two or more knives D, and revolving in boxes B, in the usual manner.

A, A' are ways or tracks which I prefer to make of round steel rods, but which may be made V shaped or flat; they are supported in a position parallel with the cutter head C by means of posts 1, 2, which are adjustably secured to the cutter head boxes B B, or some adjacent part of the machine. Posts 1 and 2 are threaded at the lower end and carry nuts 3, which for convenience rest on top of the supports or boxes B, and by the turning of which the ways A A' are adjusted vertically, until they are parallel with the axis of the cutter head.

F is a saddle formed to fit upon one of the ways A, and be supported upon the other by an adjusting screw 8. In Fig. 1, one way A' is broken away to show other details, but the saddle F is extended considerably where it rests upon way A, and the screw 8 is located so as to support the opposite side of the saddle near its center upon the way A'. Screw 8 is threaded into a projection 9 on the saddle F, and a binding

screw 10 may be provided to retain it in place when adjusted. Thus the saddle F is amply supported upon the ways, and the screw 8 affords means of adjusting the saddle and the grinding wheels which are mounted upon it, to the knives to be ground, the saddle pivoting on bar A and being adjusted vertically in a plane transverse to the cutter head.

11, Figs. 1 and 3, is a yoke carrying boxes 5, at each end in which the grinding arbor 4 has bearings. Two wheels 6 are mounted on the opposite ends of this arbor in any usual way. A pulley 7 is attached to the arbor in a convenient position to receive power from a motor E, or other driving means. Yoke 11 is attached to the saddle by means of a pivot pin 12, fitted into the projections 13, secured to the saddle, and adjusting screws 14 are threaded into lugs 15 on the saddle, and their opposite ends bear against the yoke 11 about equally distant from the pivot 12. By this construction the wheels 6 can be adjusted in a vertical plane lengthwise of the cutter head to equal contact with the knives to be ground and held rigidly in working position: thus also a difference in the diameter of the wheels can be accommodated. The object of this construction of arbor and boxes and arrangement of wheels is to enable the operator to grind knives between boxes B B, which project above the periphery of the cutter head, and therefore prevent the passage of a single wheel entirely across the cutting edge of the knives. By means of the adjustable yoke 11, both wheels may come into equal contact with the knife, and as the space between the two grinding wheels is considerably less than that between the boxes B B, the travel of each wheel laps over the other, and a continuous grinding line is secured.

The motor E is not necessary to the operation of my invention, because it is feasible to use in its place a driven or motive shaft operated directly from some revolving part of the machine, and carrying the pulley 20 in a convenient position to drive the arbor 4. In this connection I provide a binder pulley 16, revolving on a stud attached to a swinging arm 17, which is pivoted at 18 to a wing on the saddle F. A



segmental slot in this swinging arm receives a clamping bolt 19. By this construction the belt connecting the pulley 20 and the arbor 4, may be kept taut as it stretches from use.

5 A handle 21 is attached to the saddle E for convenience in traveling the grinding attachment along ways A A'.

I do not wish to be confined to the exact form and arrangement of parts herein  
10 shown, as many equivalent details might be used to accomplish my object with substantially the same means; but

What I claim as my invention and desire to secure by Letters Patent is:

15 1. In a knife grinding attachment for planing machines, a slide way or ways, parallel with the cutter head axis, a saddle movable thereon, a motive or driving shaft arranged on said saddle, a grinding arbor carrying two wheels mounted under the saddle,  
20 means for transmitting motion from the motive shaft to the grinding arbor for the purposes set forth.

2. In a knife grinding attachment for  
25 planing machines, a slide way or ways, parallel with the axis of the cutter head, a saddle movable thereon a distance less than the length of the cutter head, a grinding arbor less than half as long as said cutter head  
30 mounted on said saddle, grinding wheels at opposite ends of said arbor, and means for transmitting motion thereto, whereby it is made possible by a short movement of the saddle and grinding arbor to grind the full

length of the knives without removing the  
35 cutter head from the machine.

3. In a grinding attachment for cutter heads, a slide way or ways, parallel with the cutter head, a saddle movable thereon, a grinding arbor mounted on said saddle, provision for carrying grinding wheels at the  
40 opposite ends thereof, a supporting yoke for said arbor boxes pivoted to be adjustable, whereby both grinding wheels may be brought to equal action on the knives, for  
45 the purposes set forth.

4. In a grinding attachment for cutter heads, a saddle movable on slide ways, substantially parallel to the cutter head and comprising an extended bearing on one slide  
50 way, and an adjustable bearing on the other slide way, a grinding arbor supported thereon, and means for reciprocating said saddle and arbors on said ways.

5. In a grinding attachment for cutter  
55 heads, slide ways, a saddle movable on said ways, a grinding arbor carried below and by the saddle, said arbor being adjustable toward and from the cutter head, a motive shaft mounted on said saddle, a belt for  
60 transmitting motion to said arbor, and an adjustable binder pulley on the slack strand of said belt operating substantially as set forth.

LELAND B. WHIPPLE.

Witnesses:

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