

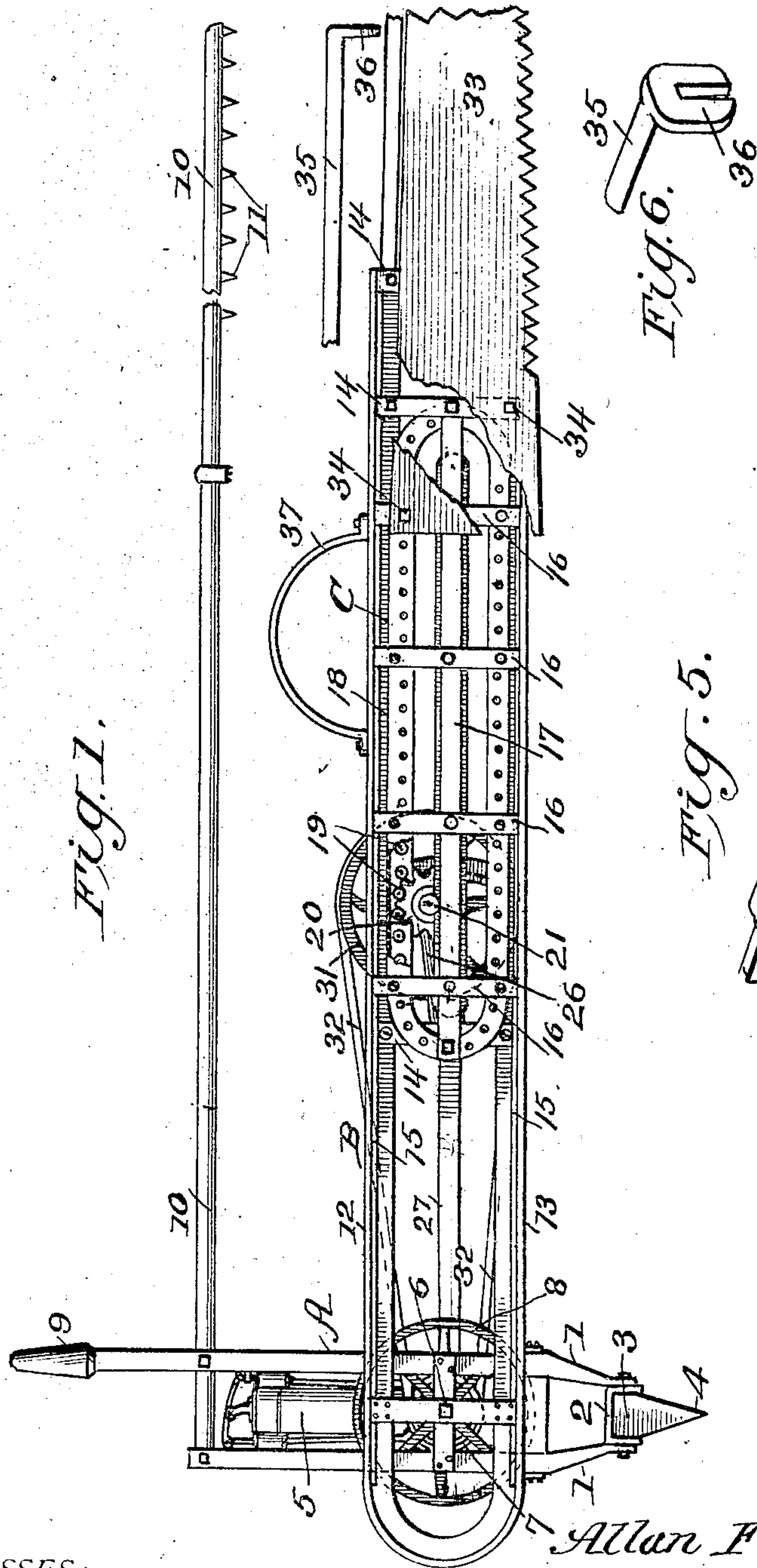
No. 879,376.

PATENTED FEB. 18, 1908.

A. FAIRCHILD.
WOOD SAWING MACHINE.

APPLICATION FILED JAN. 16, 1907.

2 SHEETS—SHEET 1.



WITNESSES:

E. J. Stewart
Herbert S. Lawson

Allan Fairchild.
INVENTOR

By *C. A. Snow & Co.*
ATTORNEYS

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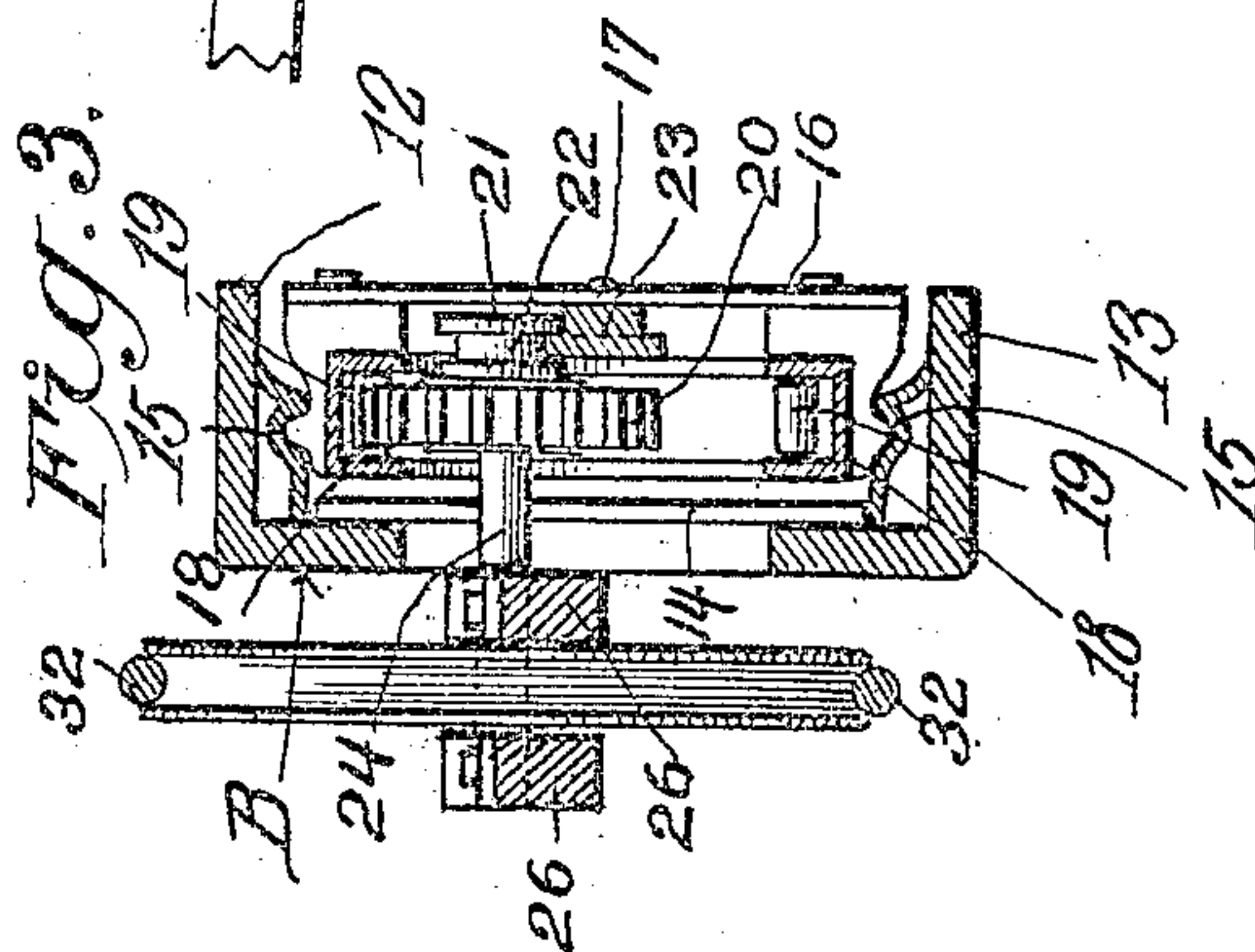
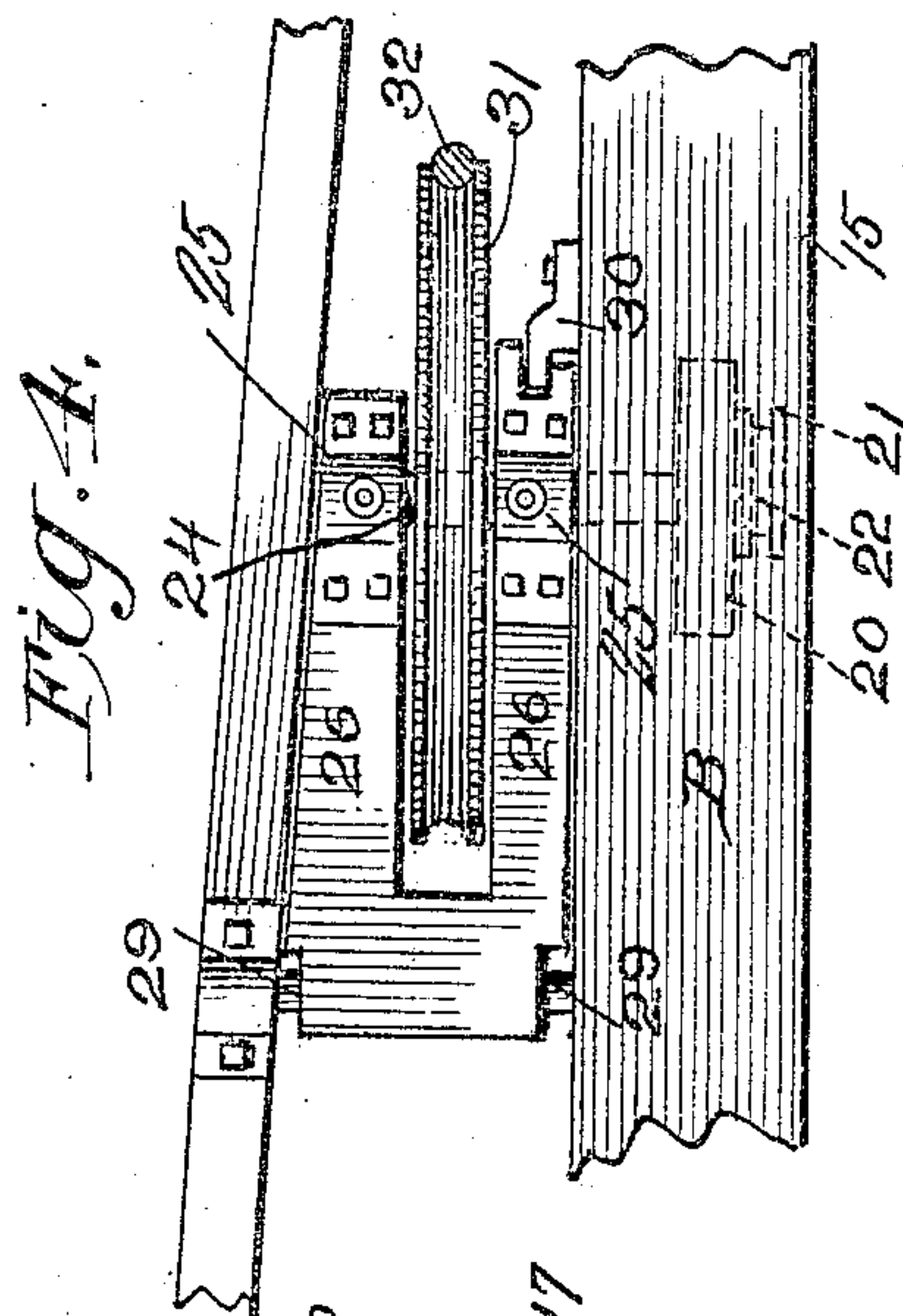
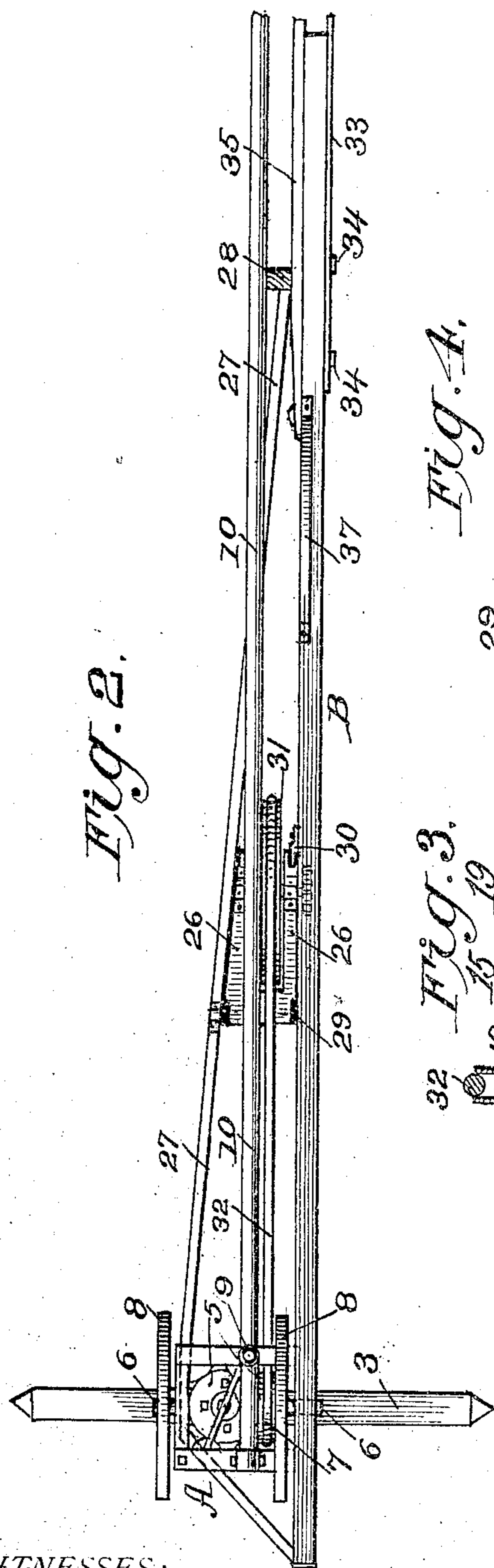
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UNITED STATES PATENT OFFICE.

ALLAN FAIRCHILD, OF HELMER, MICHIGAN.

WOOD-SAWING MACHINE.

No. 879,373.

Specification of Letters Patent.

Patented Feb. 18, 1908.

Application filed January 16, 1907. Serial No. 352,558.

To all whom it may concern:

Be it known that I, ALLAN FAIRCHILD, a citizen of the United States, residing at Helmer, in the county of Luce and State of Michigan, have invented a new and useful Wood-Sawing Machine, of which the following is a specification.

This invention relates to wood sawing machines and its object is to provide a light and durable machine of this character which can be readily transported and the blade of which is actuated by a motor constituting a part of the machine.

A still further object is to provide actuating mechanism by means of which a long stroke can be imparted to the blade without the necessity of utilizing large and cumbersome wheels and pitmen.

Another object is to provide a machine which can be moved along a stationary log or other object to be cut without the provision of an extension shaft or other similar devices.

A further object is to provide a wood sawing machine which can be effectually used on uneven ground and which can be adjusted to any desired angle in relation to the object to be cut.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a side elevation of the machine, portions thereof being broken away and the end of the saw guide being shown above the frame; Fig. 2 is a plan view of the machine, the free ends of the saw guide and holding arm being removed; Fig. 3 is a transverse section through the machine looking in the direction of the pulley carried by the frame. Fig. 4 is an enlarged plan view of a portion of the frame; Fig. 5 is a detail view of one end of the guide rail within the frame; and Fig. 6 is a detail view of one end of the saw guide.

Referring to the figures by characters of reference, A is the main frame of the machine the same having depending legs 1 connected by a yoke 2 which embraces and is pivotally mounted upon a base strip 3 having its opposite faces converging to form a bottom edge 4 adapted to bite into the ground so as to prevent the machine from slipping out of proper position. The frame A carries

a motor 5 preferably of the gasoline type and the shaft 6 of which carries a pulley 7 and one or more fly wheels 8. A handle 9 is disposed above and connected to the frame A and a holding arm 10 extends forward from the upper portion of the frame and is provided adjacent its free end with a plurality of prongs 11 adapted to engage the object to be cut.

Pivotally mounted on the shaft 6 is a guide frame B consisting of an angle iron folded upon itself to form parallel upper and lower members 12 and 13 respectively, the inwardly extending portions of these members being connected at regular intervals by cross strips 14. The outer edge of each member 12 and 13 is formed with a guide 15 and extending between these members and their guides are cross strips 16 secured to a longitudinal strip 17 the ends of which are fastened to opposite end portions of a rack C. This rack consists of a channel arm 18 shaped to form a substantially oval frame and the walls of this channel arm has a plurality of rollers 19 interposed between them and adapted to be successively engaged by the teeth of a pinion 20. A guide wheel 21 having an annular groove 22 therein rotates with this pinion and travels around a guide rail 23 which is disposed longitudinally within the rack C and is formed with or secured upon the longitudinal strip 17. The ends of the guide rail 23 are rounded and concentric with the ends of the rack C, and the wheel 21 is adapted to travel around these ends and above and below the guide rail so as to hold the pinion constantly in engagement with the rollers in the rack.

The pinion 20 and wheel 21 are secured to a shaft 24 journaled at one end in a bearing 25 carried by a frame 26 mounted to rock between guide frame B and a brace 27 which is pivoted on shaft 6 and is secured to the frame B as shown at 28. This rock frame is carried by a shaft 29 connected to frame B and brace 27 and one end of the frame 26 engages an arcuate guide 30 secured to the frame B. A pulley 31 is secured to shaft 24 and is adapted to be driven by a belt 32 extending partly around pulley 7. A saw 33 is rigidly connected to the rack C as shown at 34 and pivoted to the frame B near the saw is a guide arm 35 having a depending portion 36 at its free end adapted to ride upon and embrace the back of the saw. A handle 37 is secured upon the frame B.

In using the apparatus herein described the machine is placed at one side of the log to be cut and with the saw teeth upon the log and the prongs 11 engaging the log. The
5 base strip 3 is of course in contact with the ground and as the frame A is pivoted on this base strip the frame B and the saw can be moved to any desired angle in relation to the log. The saw guide 35 of course remains in
10 engagement with the saw until the same has entered its full width into the log whereupon the guide will remain upon the log while the saw continues the cutting operation. Motion is transmitted to the saw from the
15 motor through belt 32 and pulley 31 and the pinion 20 is therefore rotated and moves the rack C therealong. The guide 23 and the wheel 21 serve to hold the pinion and rack constantly in mesh and therefore a reciprocating motion will be imparted to the rack
20 by the gear. As said gear 20 is carried by the rock frame 26 it is free to move around the ends of the guide strip 23 and the shaft 24 and pulley 31 will of course move upward
25 and downward with the gear. As the saw cuts downward the entire frame B and the parts carried thereby will swing upon pivot shaft 6. It will be understood that the arm

10 holds the frame A in fixed relation with the log. Owing to the light weight of the machine the same can be readily moved to any desired position adjacent a log. It will be noted that long strokes of the saw can be produced with this apparatus, said strokes being only limited by the size of the rack C
35 and frame B.

What is claimed is:

A wood sawing machine comprising a base strip having converging faces and a bottom edge, a yoke embracing and pivotally connected to the base strip, a frame secured to
40 and upon the yoke, a motor carried thereby, a drive shaft extending from the motor, a guide frame pivotally mounted upon the shaft, a saw mounted to reciprocate upon
45 said frame, and mechanism upon the frame and disposed to be actuated by the shaft for reciprocating the saw.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature
50 in the presence of two witnesses.

ALLAN FAIRCHILD.

Witnesses:

JOHN TRACY,
WILLIAM C. KELLY.