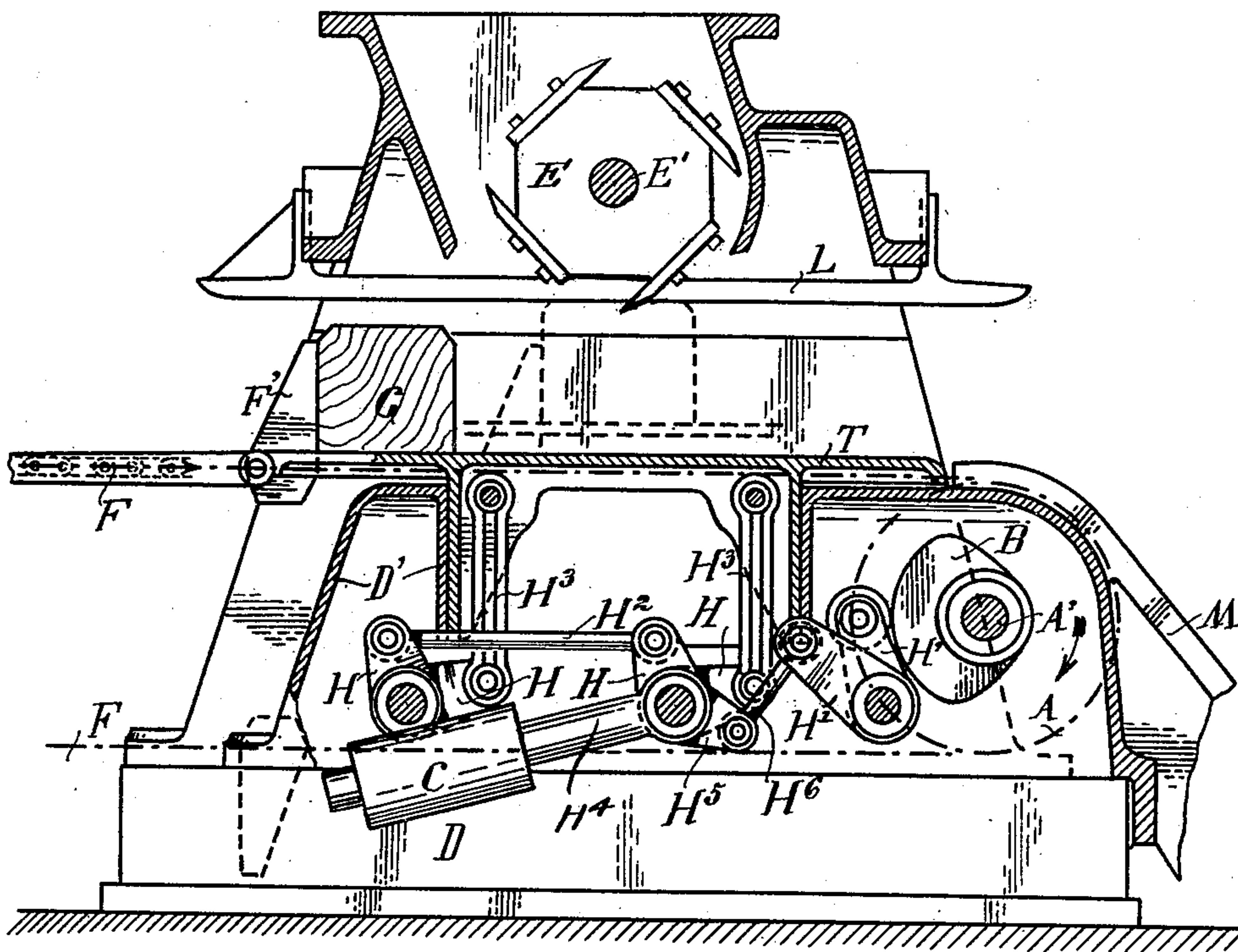


F. ALTENSTEIN.
MACHINE FOR GROOVING RAILWAY SLEEPERS.
APPLICATION FILED JAN. 11, 1911.

999,623.

Patented Aug. 1, 1911.
2 SHEETS—SHEET 1.

Fig. 1.



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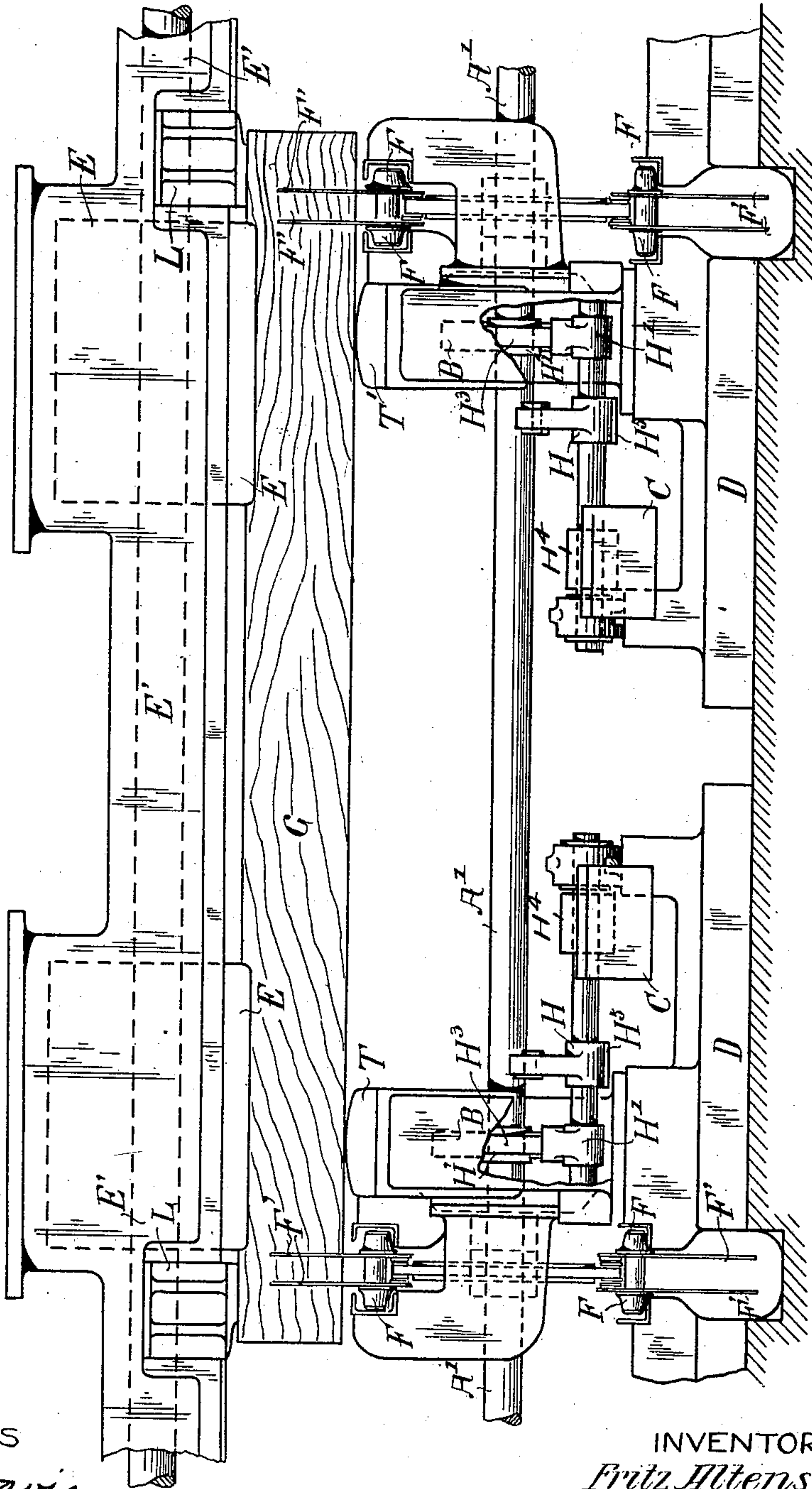
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2 SHEETS—SHEET 2.

Fig. 2.



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MACHINE FOR GROOVING RAILWAY-SLEEPERS.

999,623.

Specification of Letters Patent.

Patented Aug. 1, 1911.

Application filed January 11, 1911. Serial No. 601,960.

To all whom it may concern:

Be it known that I, FRITZ ALTENSTEIN, a subject of the Emperor of Austria-Hungary, residing at Budapest, Kingdom of Hungary, have invented certain new and useful Improvements in Machines for Grooving Railway-Sleepers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to machines for grooving railway sleepers that is to say for cutting into the upper surface of the sleeper or tie transverse grooves designed to receive the tie plate and this invention relates more particularly to that class of such machines in which the tables supporting the ends of the blank during working are first positively forced downward into their lowermost position in which the blank is pushed upon them, whereupon each of the tables is raised by weights or springs for bringing the blank into the proper position relatively to the cutters. The blank under operation is then drawn along the said tables so that the transverse grooves are cut into its upper surface, whereupon it is discharged from the machine with the grooves cut into it in proper position and depth irrespective of the varying thickness, curvature or warping of the blank. In such machines the blank is fed to the tables and along the same by a pair of endless chains running at both sides of the machine and provided with arms or projections engaging the ends of the sleeper and driven by a suitable chain wheel. Heretofore in such machines the positive lowering of the said tables was effected by arms provided on the said feed chains and engaging with suitable gearing connected to the tables. This necessitates a complicated and expensive construction of the feed chains and besides notably increases the strain coming upon the same. According to this invention these inconveniences are removed by causing the tables to be positively lowered into their lowermost position by means of a cam revolved by the chain drum shaft and engaging with suitable link and lever gearing actuating the table.

In the accompanying drawing a machine embodying this invention is shown in Figure

1 in vertical longitudinal section and in Fig. 2 in vertical transverse section.

A is the chain drum mounted on a shaft A' journaled in the frame D of the machine.

F is the feed chain suitably guided in the frame and provided with arms F' adapted to engage the ends of the blanks G in the usual manner. The chain drum is driven in any suitable manner.

T T' are the tables for supporting the blanks while they are being operated upon. These tables are adapted to move up and down vertically in guides D' of the frame. The tables are supported by links H³ H³ each connected to one arm of a bell crank lever H journaled in the frame, the other arms of such bell crank levers are connected to each other by a link H². On the shaft of one of the said bell crank levers is mounted a weighted arm H⁴ and another arm H⁵ connected by a link H⁶ to one arm of a lever H' likewise journaled in the frame of the machine and acted upon by a cam B on the shaft A' of the chain drum.

The arms F' are so distributed on the feed chains F and the cam B is so shaped that when the arms F' approach the tables T T' the said cam forces the table into its lowermost position through the medium of the link and lever gearing above described and the arms F' engaging the ends of the blank G push the same smoothly on the tables, as shown in full lines in the drawing. The chain drum continues to revolve and the arms F' push the blank along the tables until it is below the cutters E, when the cam B permits the arm H' to turn and the weighted arm H⁴ of the lever H H⁵ being thus released drops and causes the tables together with the blank upon them to be raised into the position indicated in dotted lines. The upward movement of the tables and the blank carried by it is limited by guides L in the frame. When so raised the blank comes under the action of the revolving cutters E on the shaft E' journaled in the frame and driven in any suitable manner. The relative position of the cutters E and the upper surface of the blank is only determined by the guides L irrespective of the thickness of the blank and of its curvature, and therefore the depth of the groove produced by the cutters E will be the same

whatever blanks are worked. The length of the arms F' is of course such that they are in engagement with the blank even in its raised position. The blank is thus drawn
5 over the tables and under the cutters E by the chains F, and grooves of the desired depth are cut into its upper surface. This being done the tables T T' are again lowered by the cam B and as the chains continue to
10 move, the blank is moved onto inclined guides M on the frame whereby it is disengaged from the arms F' and is automatically discharged.

Claim.

15 In a machine for grooving railway sleepers the combination of a frame, cutter heads journaled in such frame, tables adapted to

reciprocate vertically in such frame opposite the said cutter heads, feed chains guided horizontally in the said frame and provided with
20 projecting arms, a chain drum engaging with such feed chains positive means for lowering the said table, such means comprising a cam adapted to be actuated by the said chain drum and a link and lever gearing
25 adapted to be controlled by such cam and means for raising the said table, substantially as and for the purpose described.

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

FRITZ ALTENSTEIN.

Witnesses:

HUGH KEMENY,
LEWELL ALAJO.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
