

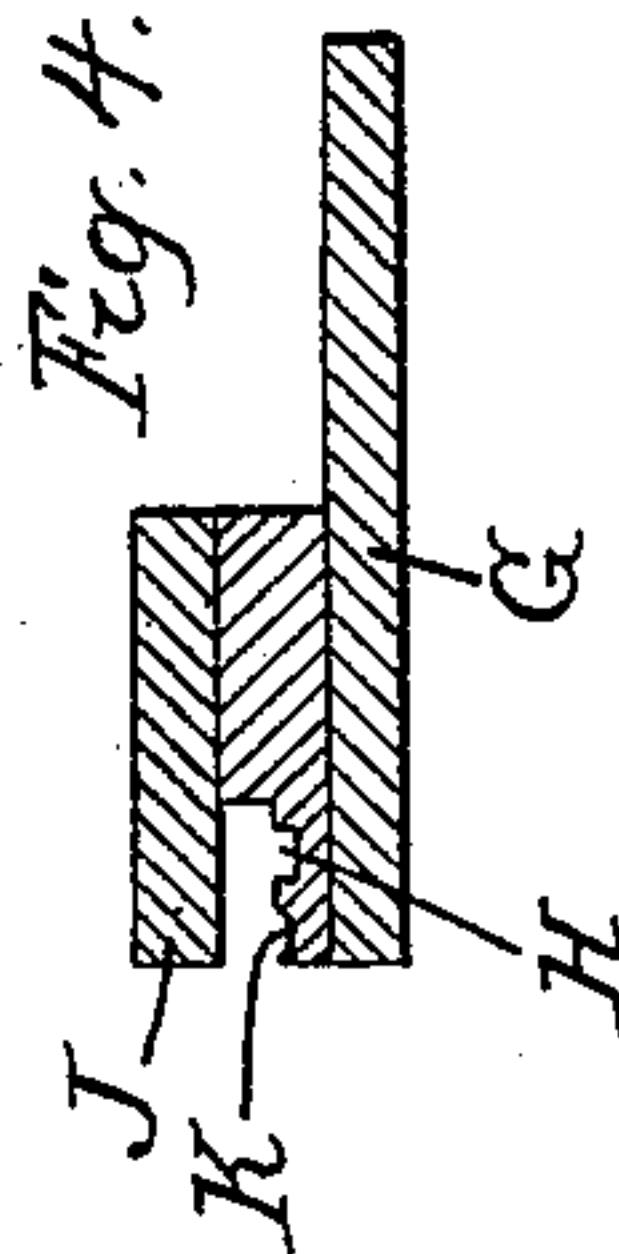
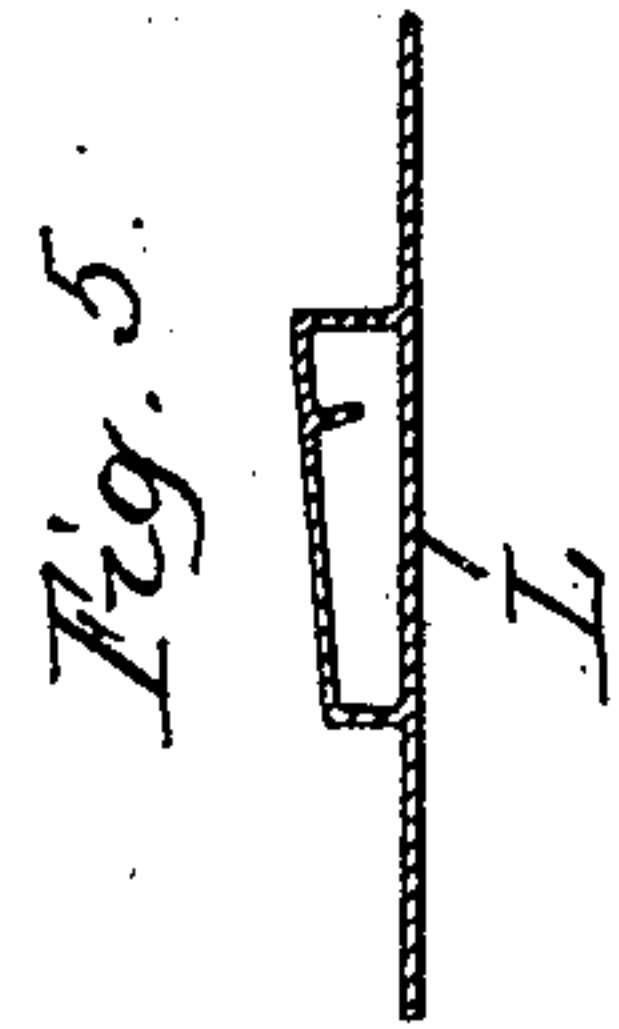
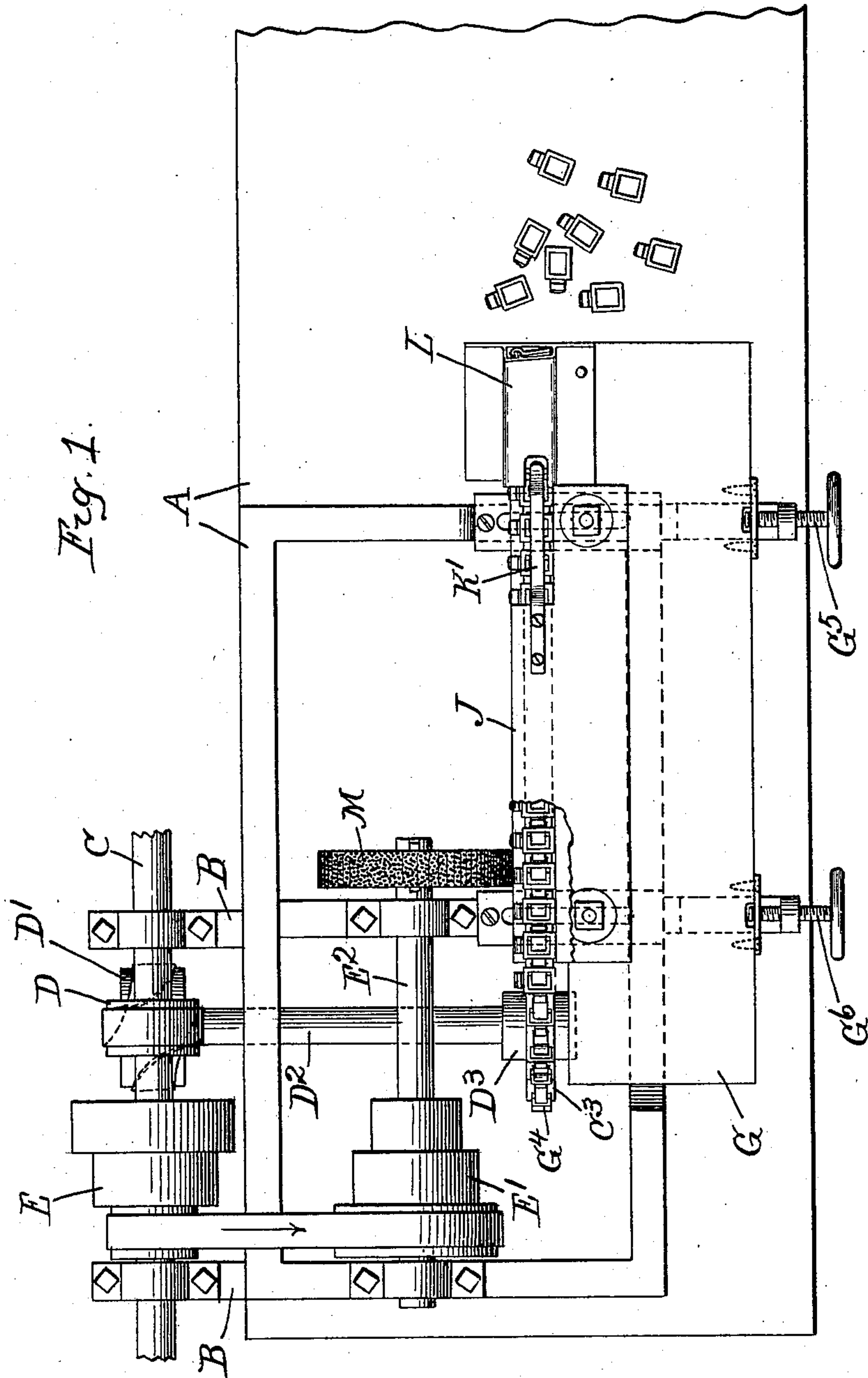
(No Model.)

2 Sheets—Sheet 1.

H. P. LUTTON.
GRINDING MACHINE.

No. 577,440.

Patented Feb. 23, 1897.



Witnesses.

E. T. Wray.

Bertha C. Sims

Inventor.
Henry P. Lutton.

by Francis W. Parker,
his Atty.

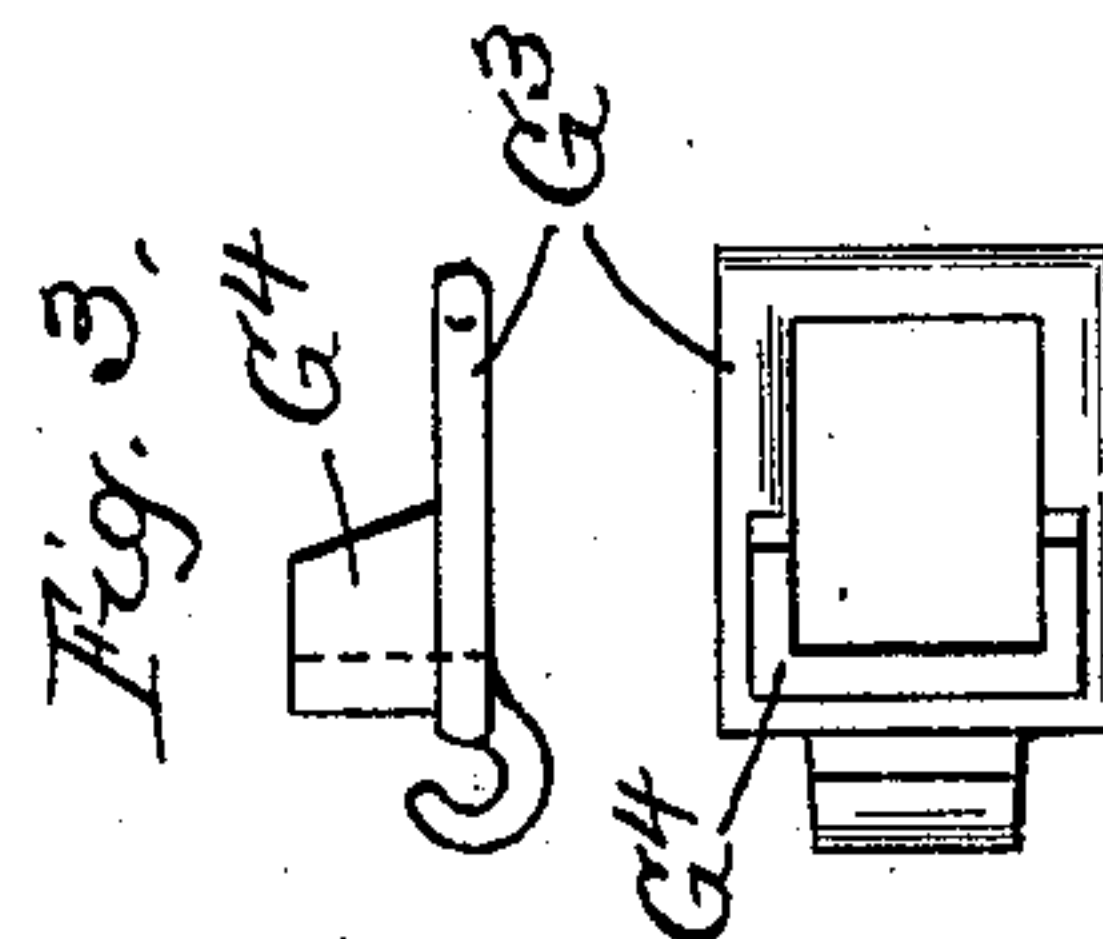
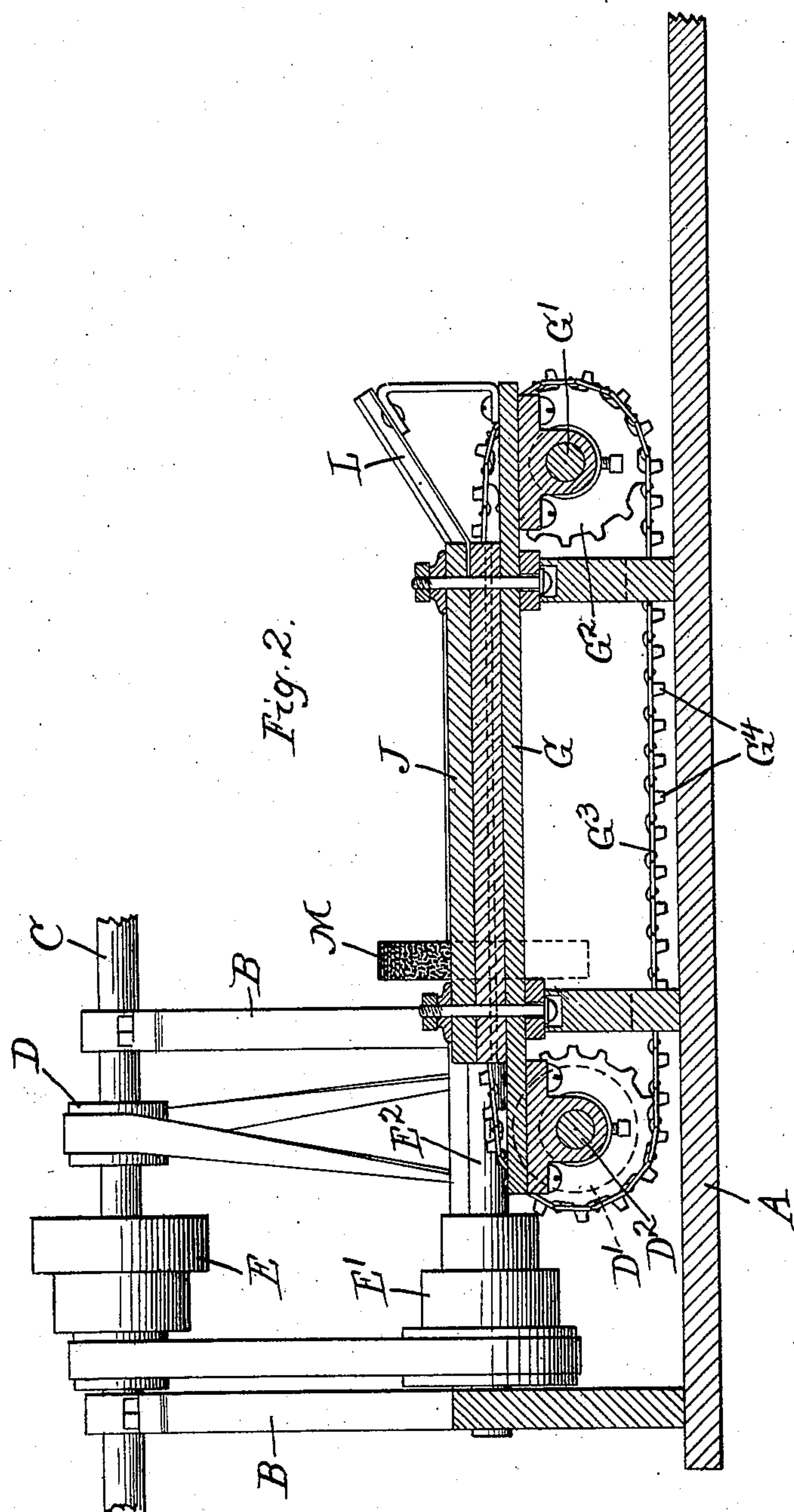
(No Model.)

2 Sheets—Sheet 2.

H. P. LUTTON.
GRINDING MACHINE.

No. 577,440.

Patented Feb. 23, 1897.



Witnesses.

E. T. Wray.

Bertha C. Lums.

Inventor.
Henry P. Lutton,
by Francis W. Parker,
his Atty.

UNITED STATES PATENT OFFICE.

HENRY P. LUTTON, OF ST. CHARLES, ILLINOIS.

GRINDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 577,440, dated February 23, 1897.

Application filed May 8, 1896. Serial No. 590,700. (No model.)

To all whom it may concern:

Be it known that I, HENRY P. LUTTON, a citizen of the United States, residing at St. Charles, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Grinding-Machines, of which the following is a specification.

My invention relates to a machine for grinding the bur or gate-piece from the interlocking end part of links used in the manufacture of link belts or sprocket-chains.

My invention is illustrated in the accompanying drawings, wherein I have shown an application of my invention, although I do not pretend to have fully exhibited every application of it or all modifications which might be made. I have shown, however, a full illustration of such a machine as I have had in practical operation.

Figure 1 is a plan view; Fig. 2, a longitudinal section. Fig. 3 is a detail of the link and lug thereon. Fig. 4 is a cross-section through the chain-channel. Fig. 5 is a cross-section through the chute.

Like parts are indicated by the same letters in all the figures.

A is the body, base, frame, or table on which the parts are mounted. On this body or associated therewith in proper relation are the standards B, which carry the counter-shaft C. On this counter-shaft are mounted the two pulleys D and E, which pulleys may either be stepped or plain, the stepped-pulley construction being used to vary the speed. The counter-shaft is driven in any desired manner. The pulley D is belted to the pulley D' on the shaft D², and the pulley E is belted to the pulley E' on the shaft E². The shaft D² is mounted in suitable bearings, one on the table and the other on the carriage G. This shaft D² also carries a sprocket-wheel D³, which is associated with the shaft in such a manner that it is driven by the shaft when the latter rotates. The carriage G has at its opposite end a short shaft G', journaled in suitable bearings in the carriage and provided with a sprocket-wheel G². G³ is a sprocket-chain which travels over the two sprocket-wheels and through the guideway on top of the carriage. This chain has the rectangular projections G⁴ G⁴ for the purpose hereinafter described. The carriage is mounted, as shown,

on the table or base, but so as to be capable of lateral motion, and its position is controlled by means of the screws G⁵ G⁶, controlled by their respective hand-wheels and adapted when properly operated to move the carriage bodily laterally on the table. On top of the table is a guideway comprising a groove H, in which the sprocket-chain travels, an overhanging upper portion J, which keeps the sprocket-chain in position, a side channel K for the end of the link, and a spring-piece K' to receive and hold the links in position as they are first received by the chain. L is an inclined chute or way which leads to the sprocket-chain and is adapted to discharge the links to be treated thereon. Its lower end discharges immediately under the upwardly-turned end of the spring.

Referring to the shaft E², it is supported in suitable bearings on cross-pieces in the table or base and carries the grinding-wheel M, which presents its grinding-surface to the side of the carriage.

As previously suggested, I do not mean here to attempt to describe every form or feature of my device, but only to set it forth in such a manner that an intelligent mechanic can make and use it and can also adapt such other convenient modifications and employ such equivalent devices and constructions as the particular necessities of the conditions under which he labors may require.

The use and operation of my invention are as follows: A quantity of links fresh from the casting process having been assembled on the table in proximity to the chute or being put in any suitable hopper or delivering-receptacle, the machine is set in operation and the links are fed in proper position by hand or otherwise into the chute. Here they pass down in a regular procession, each one pushing its predecessor forward, and the lowermost ones pass under the spring, whereby they are elastically forced down upon the upward projections, which are carried by the sprocket-chain. These projections in the case shown are shaped rectangular, but of course they would be shaped to properly fit or so as to hold in proper position the links, and their size and shape would be determined by the character of the links. The links successively fall upon these projections and are car-

ried forward by them along the guideway. At the same time the grinding-wheel is being rapidly rotated, and so as the links pass by the projecting gate portion is ground off.

5 Each link passes clear across the face of the grinding-wheel, and hence the surface of the grinding-wheel is kept smooth and is not worked into grooves and ridges. The link is held in position against the wheel while it is
10 being drawn through the guideway. The chain gradually draws the link through the guideway as it is being ground. The end bar of the link presses against the back end of the guideway. The normal distance of such
15 sprocket-chain from the grinding-wheel, to get the best results, is determined in each case by experience and is dependent on the character of the links to be treated and the metal of which they are composed, and hence the
20 adjusting devices which I have shown. I have not thought it necessary to show any elasticity in any of the parts of the carriage or chain to accommodate for the trifling inequalities in the work to be done on the suc-
25 cessive links of a given class, as the chain in my present machine seems sufficient for the purpose, and indeed the chain itself may be said to be elastic to that extent and for that purpose. It is quite obvious that if different-
30 sized links are to be treated the guideway portion must be removed and a new chain and guideway applied and the parts be then operated as before.

In the device herein illustrated I have
35 shown the chute so shaped that the links are inserted therein with the open part of the lip up. The position of the link of course depends upon the position of the gate which is to be removed. The gate on some sizes of
40 links is in such position that the link must be reversed when placed in the chute and the shape of the chute modified accordingly.

I claim—

1. In a machine for grinding the links of a

metal belt, the combination of a grinding- 45 wheel with a carriage adjustably fixed with relation to the surface of the grinding-wheel, and a conveyer device on the carriage moving across the surface of the grinding-wheel, and means thereon for receiving and carrying the 50 links to be ground across the surface of the wheel.

2. A machine for grinding the links of a metal belt, having a sprocket-chain, a driv- 55 ing-wheel, a device for supplying the links to be ground to the chain, which consists of a chute discharging upon the chain and a spring device above the chain and between which and the chain the links are received.

3. In a machine for grinding the links of a 60 metal belt, the combination of a driving counter-shaft with a frame, a driven shaft thereon, carrying the grinding-wheel, a second driven shaft thereon, a driving sprocket-wheel, a grooved guideway thereon through which the 65 links are conveyed while being ground, a carriage mounted on the frame, a second sprocket-wheel and a chain driven by the two wheels, and adjusting devices whereby the carriage and chain and sprocket-wheels are 70 moved bodily toward or away from the grinding-wheel.

4. In a machine for grinding the links of a metal belt, the combination of a relatively 75 fixed rotating grinding-wheel with a sprocket-chain traveling across the face of such grinding-wheel, suitable guides and feeding devices associated therewith and projecting lugs on the chain to receive the links and shaped so as to hold them substantially parallel to the 80 surface of the grinding-wheel, and driving mechanism for carrying the chain and links past the surface of the wheel.

H. P. LUTTON.

Witnesses:

BERTHA C. SIMS,
DONALD M. CARTER.