

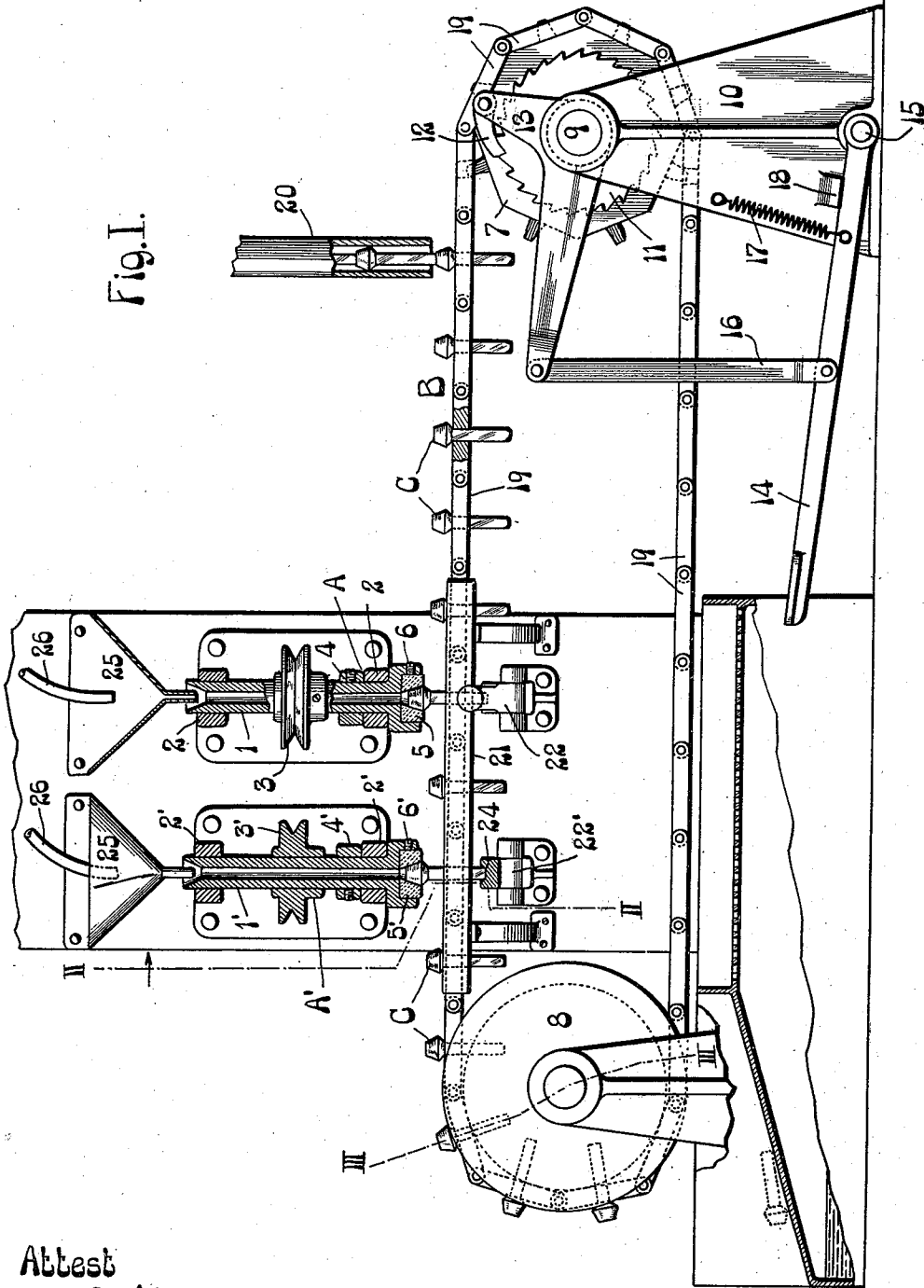
L. J. CRECELIUS.
MACHINE FOR GRINDING BOTTLE STOPPERS.
APPLICATION FILED MAY 1, 1911.

1,023,131.

Patented Apr. 16, 1912.

2 SHEETS-SHEET 1.

Fig. I.



Attest
G. J. McCauley
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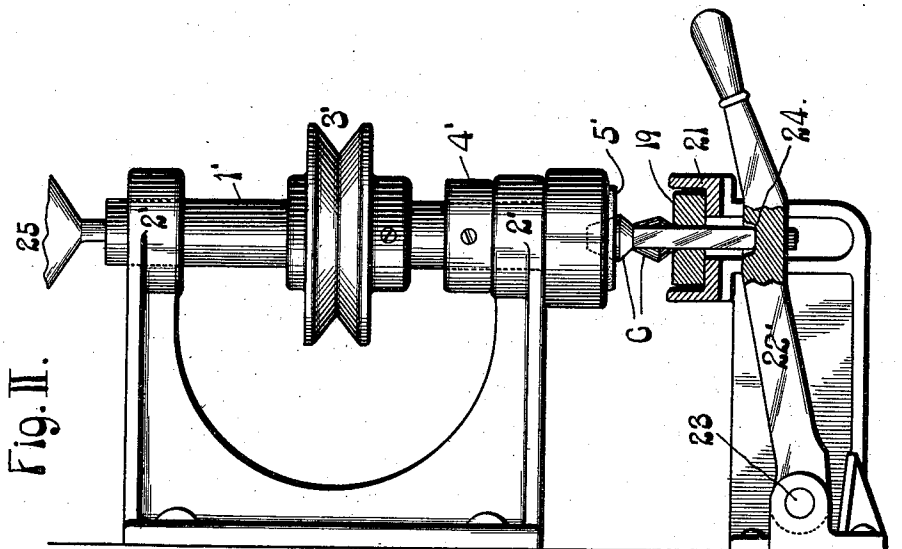
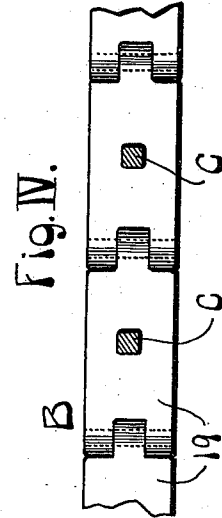
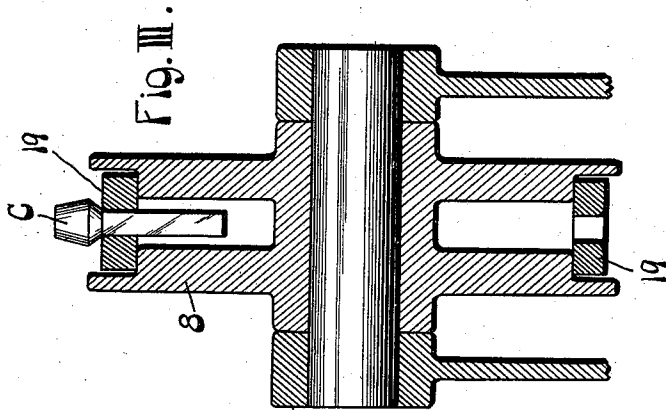
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UNITED STATES PATENT OFFICE.

LOUIS J. CRECELIUS, OF ST. LOUIS, MISSOURI, ASSIGNOR TO CHARLES A. THOMPSON,
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MACHINE FOR GRINDING BOTTLE-STOPPERS.

1,023,131.

Specification of Letters Patent.

Patented Apr. 16, 1912.

Application filed May 1, 1911. Serial No. 624,292.

To all whom it may concern:

Be it known that I, LOUIS J. CRECELIUS, a citizen of the United States of America, residing in the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Machines for Grinding Bottle-Stoppers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to a machine for grinding bottle stoppers and has for its object the production of means whereby such stoppers may be very quickly and accurately ground.

Figure I is a side elevation, partly in section, of my stopper grinding machine. Fig. II is a section taken approximately on the line II—II, Fig. I. Fig. III is a section on line III—III, Fig. I. Fig. IV is a top or plan view of a portion of a stopper carrier, the stopper carried thereby being shown in cross section.

In the accompanying drawings: A and A' designate grinding devices, each of which comprises the following parts: 1, 1' are hollow shafts rotatably mounted in bearings 2, 2', and provided with drive pulleys 3, 3'. 4, 4' are set collars secured to the shafts 1, 1', and resting on the lower bearings 2, 2'. Grinding blocks 5, 5' are seated in the lower ends of the shafts 1, 1' and secured thereto by set screws 6, 6'. Each of the grinding blocks is provided with a socket for the reception of the stoppers.

B designates a flexible stopper carrier, preferably in the form of an endless link belt supported by a drive wheel 7 and an idle wheel 8. The drive wheel 7 is secured to a shaft 9, mounted in bearings 10.

11 is a ratchet wheel, secured to the shaft 9, and adapted to be driven through the medium of a pawl 12, said pawl being pivoted to a bell-crank lever 13, loosely mounted on the shaft 9. A foot lever 14, pivoted at 15, is connected to the bell-crank lever 13 by a link 16.

17 is a lift spring tending to elevate the foot lever and normally holding said lever against a stop 18.

To prevent the stoppers from turning while they are acted on by the rotating grinding device, the links 19 of the stopper carrier are provided with non-circular apertures for the reception of the non-circular

stems or tails of stoppers C. The stoppers are delivered to the links 19 through a vertical tube 20 and fall by gravity into the apertures in the links ready to be carried into positions beneath the grinding devices A and A'. The stopper carrier B is supported and guided beneath the grinding devices by a flanged guide 21, (see Figs. I and II).

22 and 22' designate lift arms pivotally supported at 23 and extending beneath the guide 21 and in vertical alinement respectively with the grinding devices A and A'. These lift arms are provided at their upper faces with recessed seats, as seen at 24, adapted to receive the tails of the stoppers C when they are in positions beneath the grinding devices.

25 designates funnels located above the hollow shafts of the grinding devices and into which liquid, such as water, may be delivered from pipes 26 to pass therefrom through the shafts to the grinding blocks 5 and 5'.

In the practical use of my grinding machine, the stoppers to be ground fall automatically from the tube 20 into the links of the carrier B and are first conducted in lowered positions in the links to a point beneath the grinding device A. It should be noted while the machine is in operation, the grinding devices are rotated by power applied to them. As each stopper is brought by the operation of the carrier beneath the grinding device A, it is elevated through the medium of the lift arm 22 to position its head in the revolving grinding block 5 and maintained in such elevated position until such head has been ground to the desired degree by said block, which is coarser than the block 5' and grinds the head "in the rough." The grinding block 5' of the grinding device A' is a finishing block and the stoppers are conducted forwardly to be operated upon by said finishing block after they have been ground by the block 5. When the stopper has been treated to the desired degree by the grinding block 5, the lift arm 22 is lowered, thereby permitting the descent of the stopper, and the stopper carrier is operated to a degree sufficient to carry the stopper to a point beneath the grinding device A', at which point it is elevated to the grinding block 5' to be ground thereby in a manner similar to that

in which it is ground in the block 5; but, as before indicated, producing a finish to the stopper by reason of the grinding action accomplished by the second grinding block.

5 After the stoppers have been ground, they pass in the carrier over the idle wheel 8 and fall by gravity out of the links in their finished condition.

I claim:—

10 1. In a stopper grinding machine, a rotatable grinding device having a socket for the reception of the stoppers, a carrier for conducting the stoppers to said grinding device, means for forcing the stoppers into
15 said socket, and means for preventing the stoppers from rotating while they are acted on by the rotatable grinding device.

2. In a stopper grinding machine, a rotatable grinding device provided with a
20 grinding block having a socket for the reception of the stoppers, a stopper carrier adapted to be moved intermittently to conduct the stoppers to a point below said socket, and means for elevating the stopper
25 on said carrier to force them into said socket.

3. In a stopper grinding machine, a rotatable grinding device provided with a
30 grinding block having a socket for the reception of the stoppers, a stopper carrier

adapted to be moved intermittently to conduct the stoppers to a point below said socket, means for elevating the stoppers on said carrier to force them into said socket; and said stopper carrier being provided 35 with means for preventing the stoppers from rotating while they are engaged with said rotatable grinding device.

4. In a stopper grinding machine, a rotatable grinding device provided with a hollow shaft and a grinding block fitted to the lower end of said shaft, said grinding block having a socket for the reception of the stoppers, means for conducting liquid to the interior of said hollow shaft, a stopper carrier for conveying stoppers to said grinding block, and means for forcing the stoppers into said socket. 45

5. A stopper grinding device comprising a flexible endless stopper carrier provided 50 with non-circular stopper receiving openings, rotatable supports for said carrier, a grinding device above the carrier, and means for moving the stoppers into engagement with the grinding device.

LOUIS J. CRECELIUS.

In the presence of—

A. J. McCauley,

E. B. Linn.

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