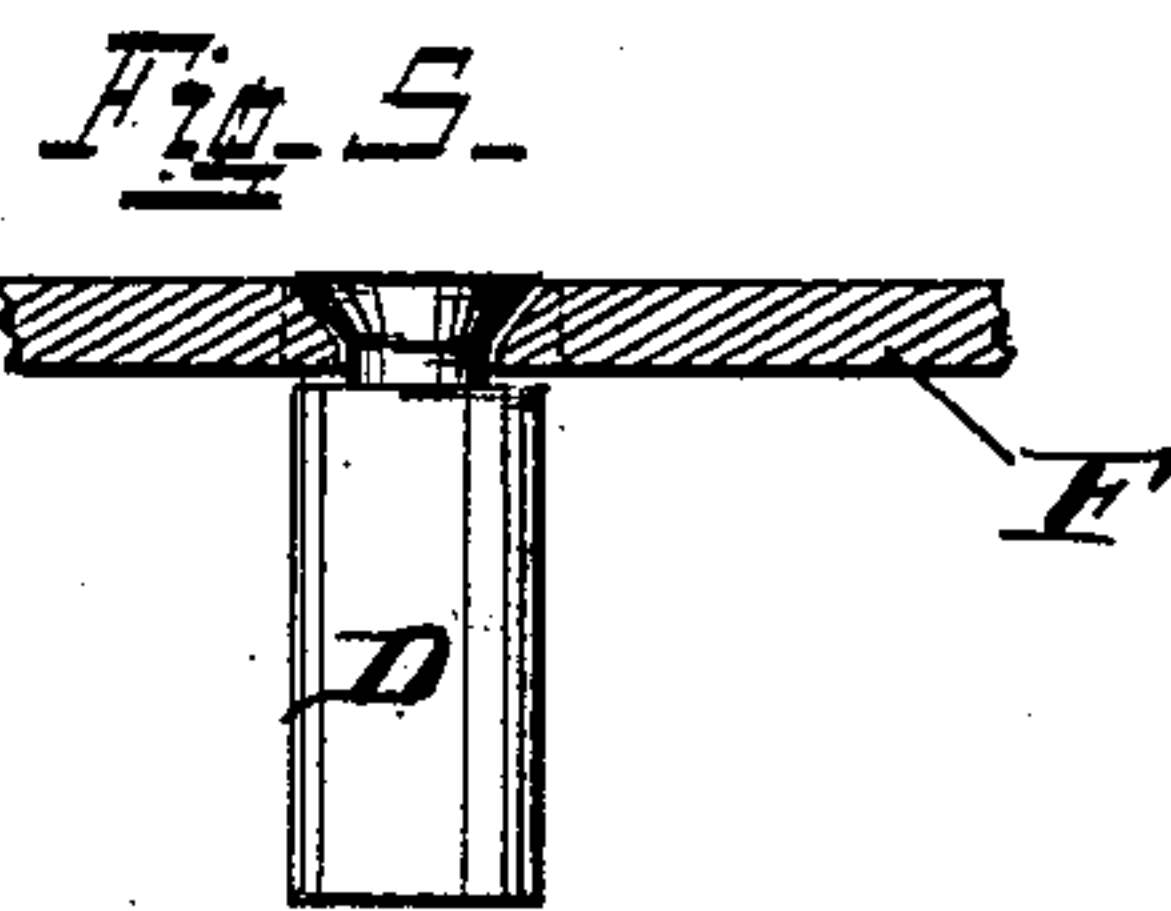
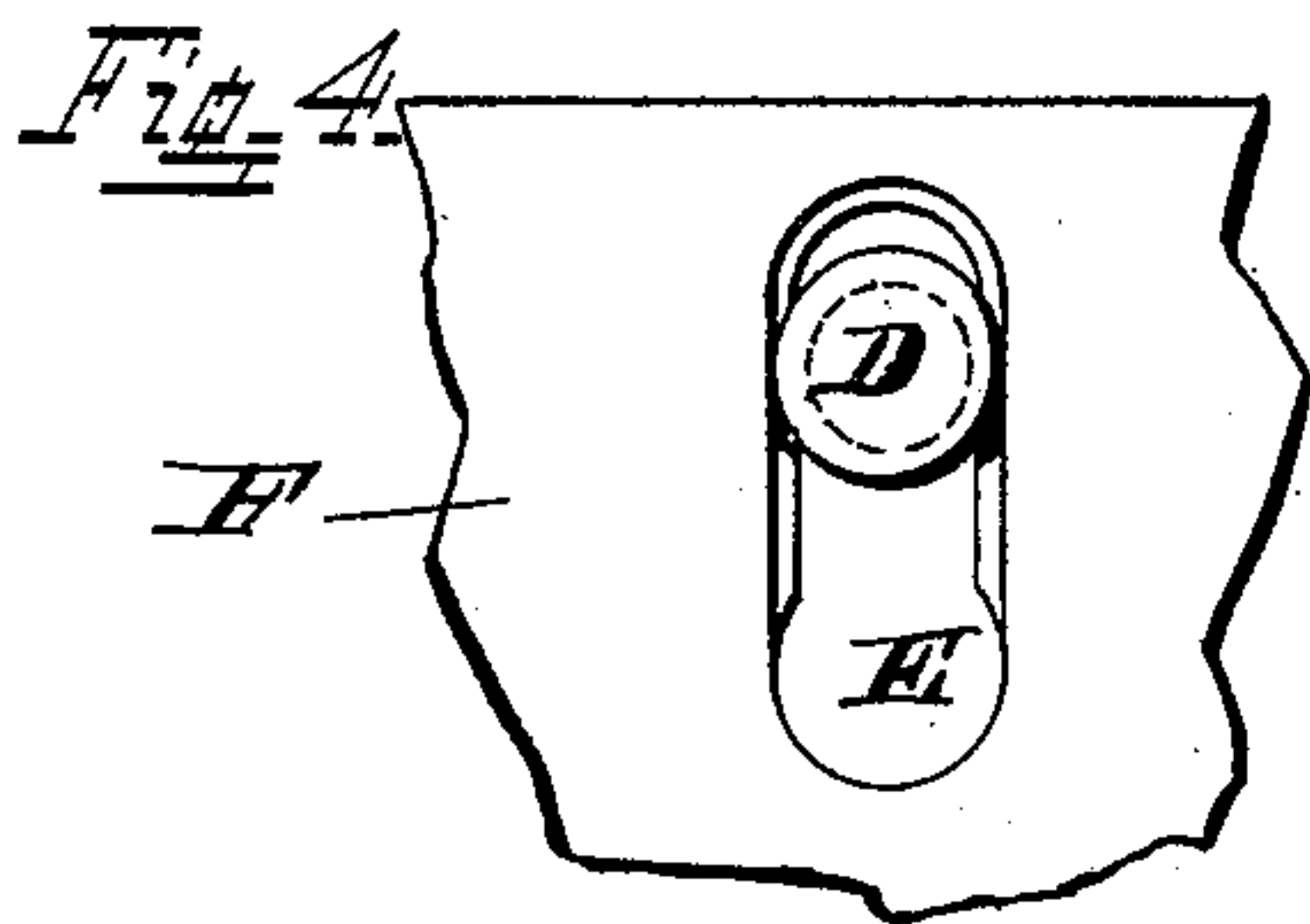
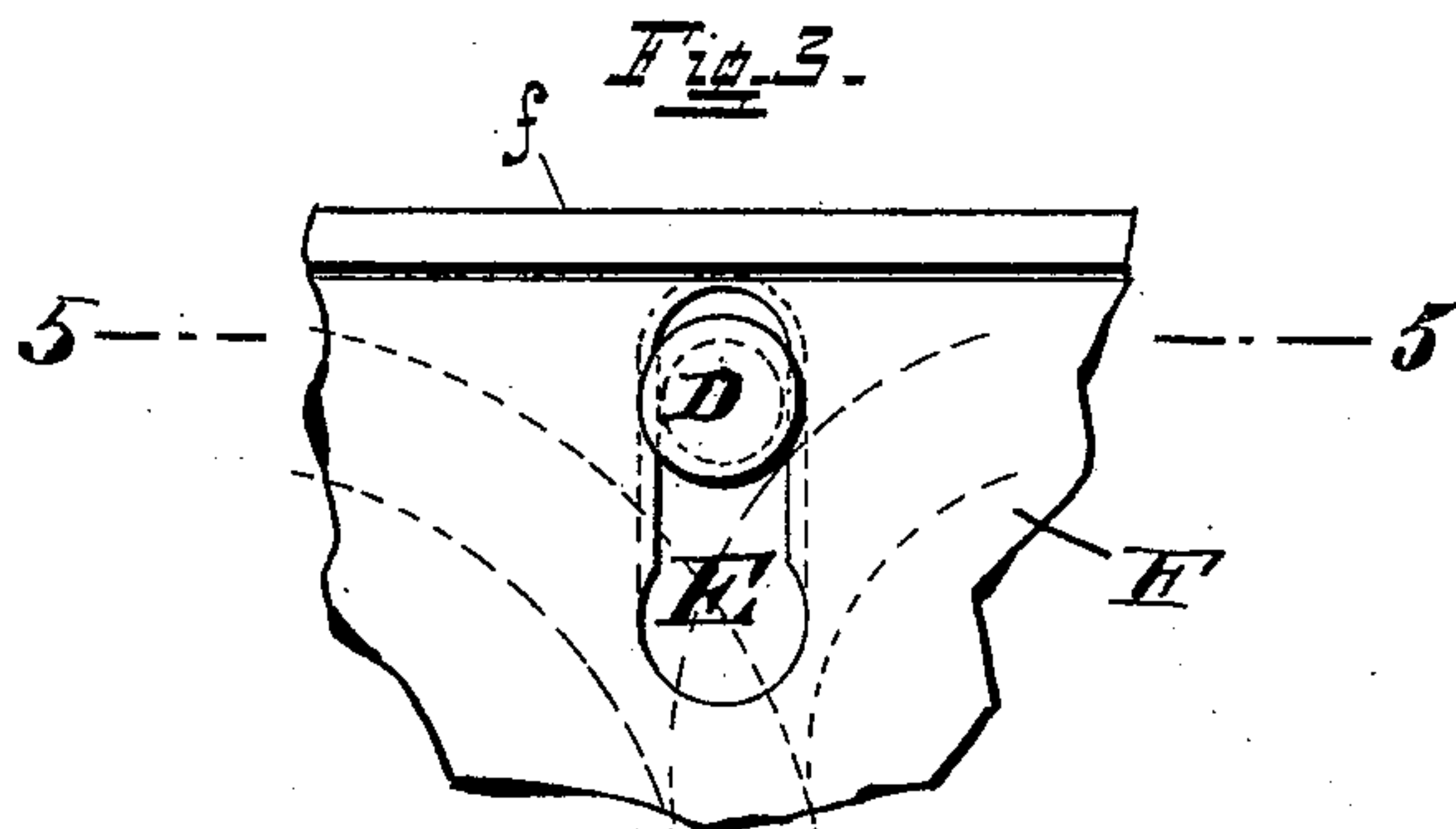
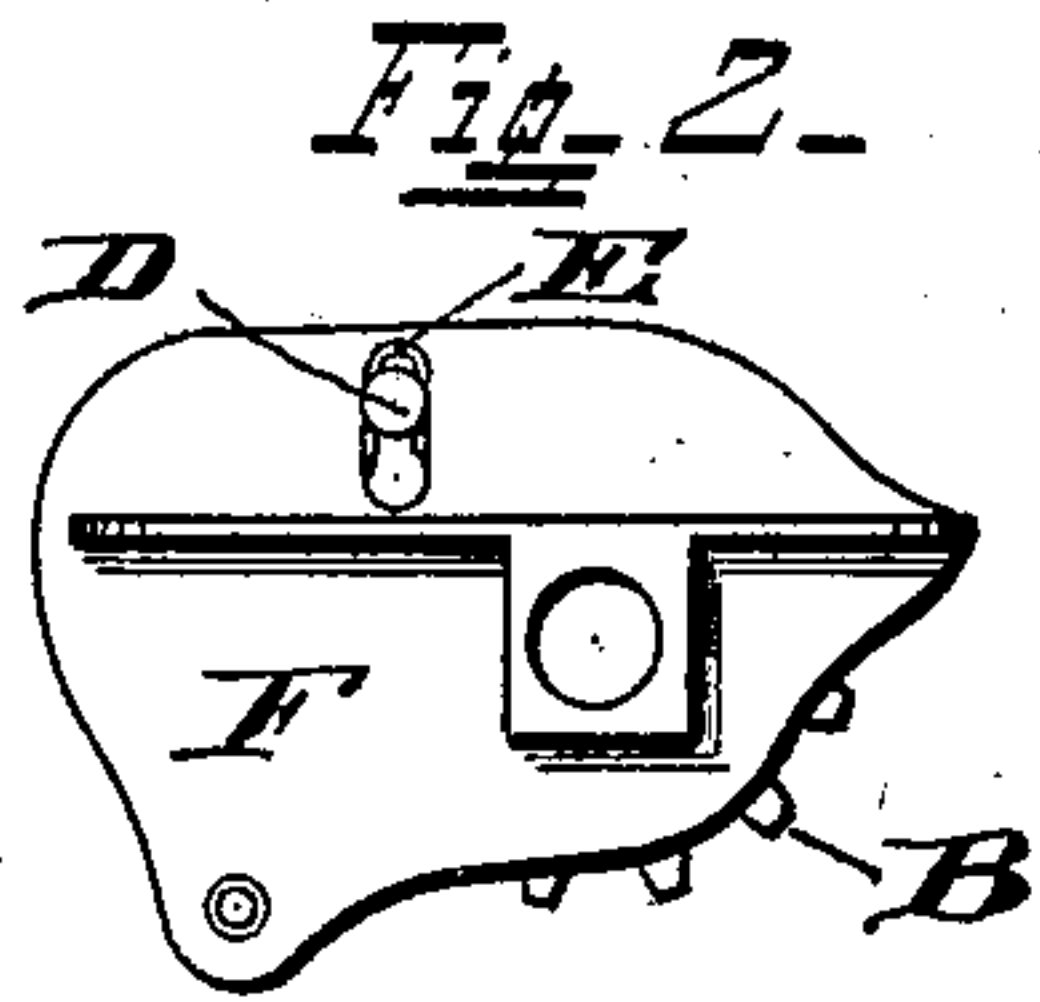
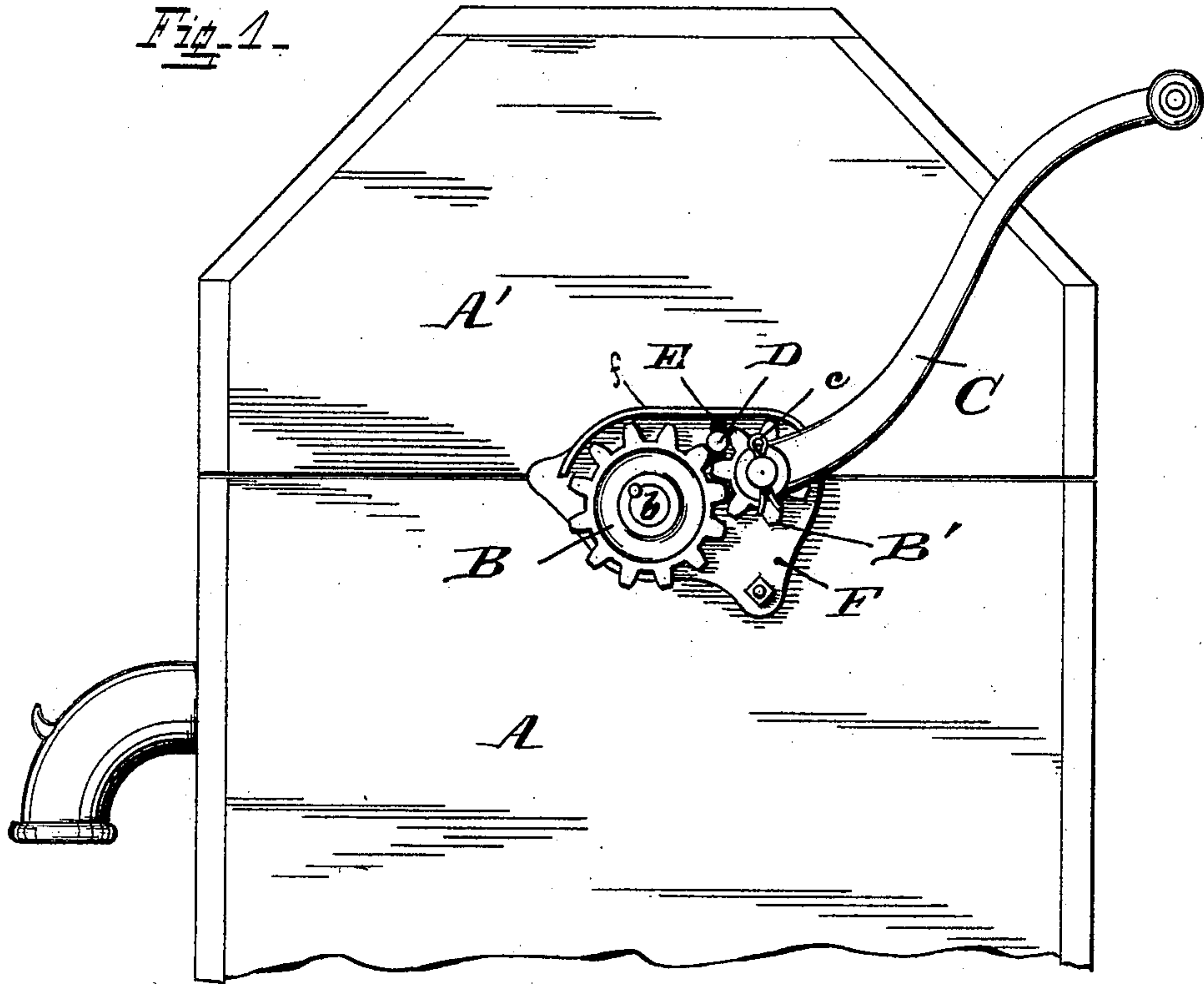


(No Model.)

L. A. BRIGEL.
GEAR RATCHET.

No. 390,646.

Patented Oct. 9, 1888.



Attest
Carl Spengel
Frank O. Loveland,

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UNITED STATES PATENT OFFICE.

LEO A. BRIGEL, OF CINCINNATI, OHIO.

GEAR-RATCHET.

SPECIFICATION forming part of Letters Patent No. 390,646, dated October 9, 1888.

Application filed June 14, 1888. Serial No. 277,068. (No model.)

To all whom it may concern:

Be it known that I, LEO A. BRIGEL, a citizen of the United States, residing at Cincinnati, county of Hamilton, and State of Ohio, have invented a new and useful Improvement in Gear-Ratchets, of which the following is a specification.

The object of my invention is to provide an economical noiseless ratchet for automatically dogging gearing, especially to prevent a reverse motion when a machine is doing work and suddenly stopped—for example, in bucket-pumps, elevators, &c.

Referring to the drawings, Figure 1 is a front view of a bucket-pump provided with my improved ratchet. Fig. 2 is a rear view of the plate which supports the gearing. Fig. 3 is a front view of a part of the plate, showing slot. Fig. 4 is a rear view of same. Fig. 5 is a sectional view on line 5 5 in Fig. 3.

A represents a wooden frame of a bucket-pump, having a cap, A'; B, a cog-wheel on the end of a shaft, b, which propels a bucket-chain inside the frame A.

B' is a cog-wheel meshing with cog-wheel B, and connected with a crank, C, for actuating the gearing.

D is a pin fastened in a slot, E, in the cast-iron plate F, which is preferably provided with an overhanging flange, f, which serves as a shield, so as to roll or slide freely up and down in this slot. The inner edge of slot E is beveled to correspond with the head of the pin D, as shown in Figs. 4 and 5, so as to leave the rear surface of the plate smooth and prevent wearing when the cap A' is in place. The slot E is preferably directly over the point of tangency of the pitch-circles of the gearing.

In the operation of the pump the pin is lifted by the rising cogs of the wheels B B' and rolls back over the cogs, so as to be continually falling between the cogs as fast as they disengage, so that whenever the machine is stopped this roller, falling between the cogs, prevents their meshing in the opposite direction—that is, turning backward. The pin—which I prefer to make of steel to prevent wearing—may be removed, when desired, by taking out the crank-pin c and removing cog-wheel B', the lower portion of the slot E being enlarged to allow the head of the pin to pass through it. The pin ordinarily resting on the cogs of the wheels B B' is held above this enlarged portion of the slot and prevented from falling out. By this arrangement the noise usually attending a ratchet is almost entirely done away with. While I have described my invention as applied to bucket-pumps, I do not wish to confine my invention to this class alone. It is equally applicable to other gearing.

I claim—

1. In combination with a pair of gear-wheels, a slotted plate and a pin adapted to roll or slide in the slot and to automatically dog the gearing, substantially as and for the purpose specified.

2. The combination of a pair of gear-wheels, mounted upon fixed bearings, with plate F, provided with slot E and a pin, D, substantially as and for the purpose specified.

LEO A. BRIGEL.

Witnesses:

FRANK D. LOVELAND,
AUGUST F. HERBSLEB.