(No Model.)

A. A. YOUNG.

ANTI-FRICTION BLOCK.

No. 452,154. Patented May 12, 1891.

Fig. 1.

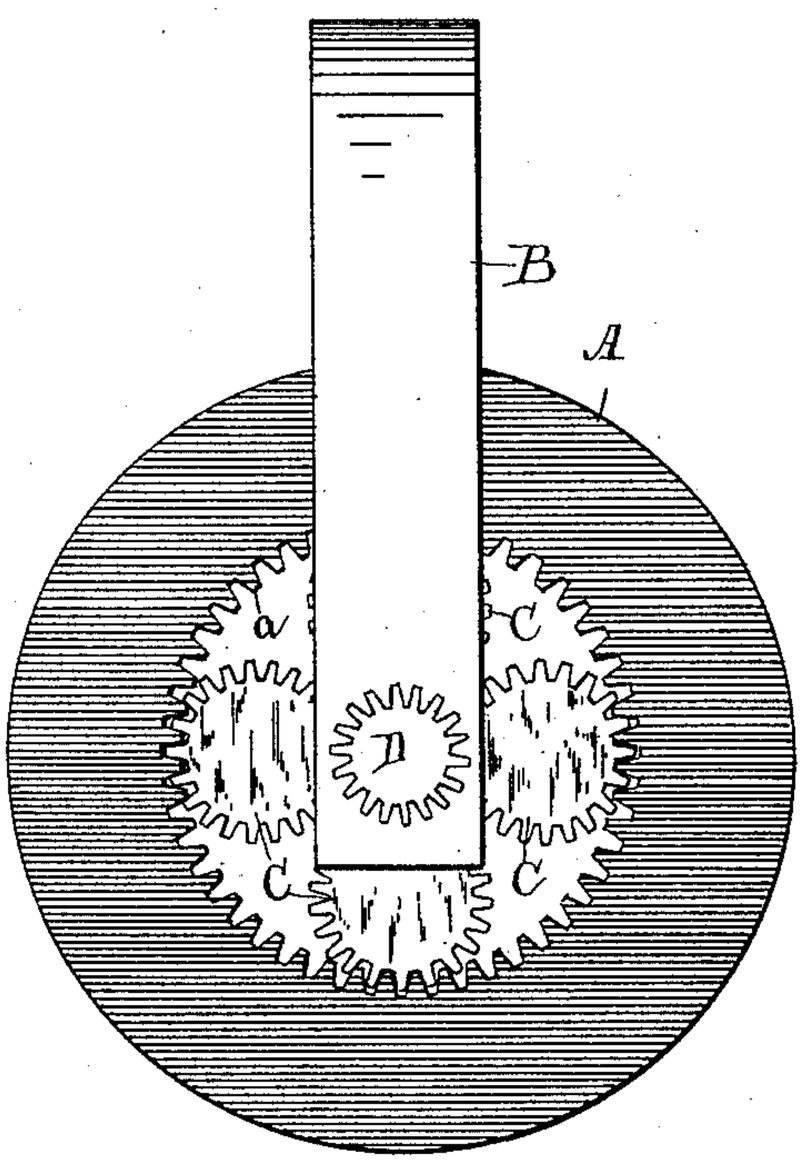
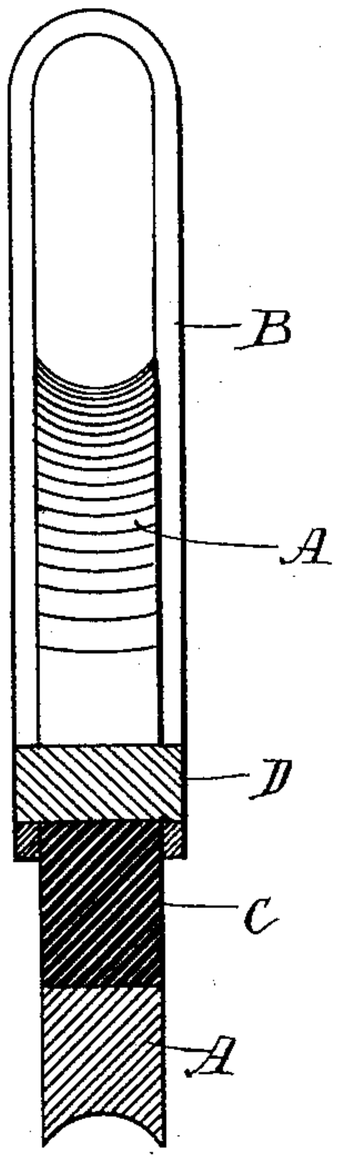


Fig. 2.



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ALONZO A. YOUNG, OF AUGUSTA, MAINE.

ANTI-FRICTION BLOCK.

SPECIFICATION forming part of Letters Patent No. 452,154, dated May 12, 1891.

Application filed October 18, 1890. Serial No. 368,540. (No model.)

To all whom it may concern:

Be it known that I, ALONZO A. YOUNG, a citizen of the United States, residing at Augusta, in the county of Kennebec and State of Maine, have invented certain new and useful Improvements in Anti-Friction Blocks; 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.

My invention relates to anti-friction blocks; and it is directed toward producing a block which shall be simple in construction and cheaply made, and in which the parts shall be so arranged as to be as little subject to wear and breakage as possible.

According to my invention I use an annular sheave with gear-teeth cut on the edge of the opening. The center pin is cut in the form of a pinion, which is held stationary and connected with the straps of the block. Between the center pinion and the geared edge of the opening are a number of independent pinions engaging the pinion and the gear-teeth of the sheave.

The strap of the block is in one piece, and the arms of said strap have openings to admit the passage of the central pinion, one of said openings at least being of sufficient size to admit the entire central pinion. By constructing my block in this manner I am enabled to use a strap in one piece and to put the block together by first introducing the outer pinions and then driving the central pinion bodily through one arm of the strap, and it is particularly in this construction of the strap that my invention resides.

In the accompanying drawings I illustrate a single block, which embodies my invention.

In the drawings, Figure 1 is a side view; and Fig. 2 is a part section and part front view, the section being taken to the center of the pinion.

B represents the strap, and A is an annular sheave having gear-teeth *a* cut on the edge of the central opening. The center pin D is in the form of a gear having gear-teeth cut in it. I prefer to have it extend full size through the strap, as here shown, although it may be formed as a separate piece with the center pin passing through it. Surrounding the center pin and between it and the edge of the opening in the sheave are a number of independent or detached pinions C, which engage the center pinion and the gear-teeth of the sheave. As here shown, I use four of these pinions; but it is evident that any convenient number may be used, according to the size of the block. The center pin is held stationary, and as the sheave revolves the pinions are carried around with it, keeping their relative positions by reason of their engagement with the center pin and the rim of the sheave. It will be observed that the friction is very slight, the pinions remain always in place, and that no bearing comes on the gear-teeth, except when they are in the line of the strain, and they are thus capable of sustaining a great weight.

One of the principal advantages of my block over other so-called "anti-friction blocks" is that it can be made of iron or steel throughout, where others have to use brass rolls and bearings on account of the rust causing them to stick. In my device no amount of rust will cause them to stick more than a very little, because the moment the sheave turns the gear-teeth free themselves, a leverage being exerted on them to force them to release each other.

I claim—

The herein-described anti-friction block, consisting of an annular sheave having an inside cut gear, a series of pinions engaging said gear, a central pinion engaging said pinions, and a strap for said block, the arms of which strap have openings for the central pinion, one at least of said openings being large enough for said central pinion to pass through, whereby said block may be readily put together, substantially as described.

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

ALONZO A. YOUNG.

Witnesses:

A. M. HUNTINGTON,

E. M. LOWELL.