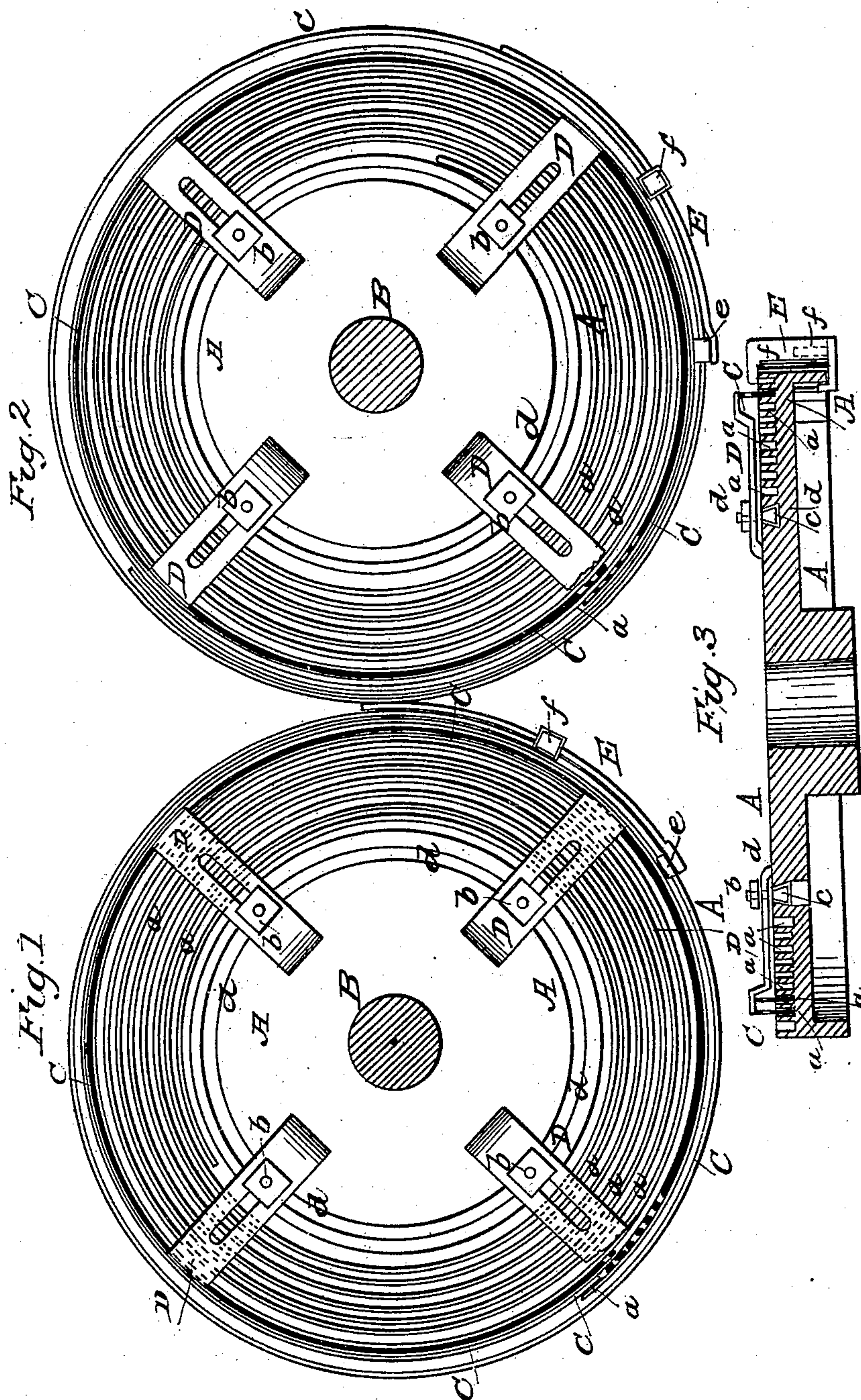


W. M. GALUSHA.

Adjustable Scroll Index for Gear Cutting Machine.

No. 76,741.

Patented April 14, 1868.



Witnesses
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WILLIAM M. GALUSHA, OF ARLINGTON, VERMONT, ASSIGNOR TO HIMSELF
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Letters Patent No. 76,741, dated April 14, 1868.

IMPROVEMENT IN ADJUSTABLE SCROLL-INDEX FOR GEAR-CUTTING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM M. GALUSHA, of Arlington, in the county of Bennington, and State of Vermont, have invented a new and improved Adjustable Scroll-Index for Gear-Cutting Machinery; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figures 1 and 2 represent face views of my improved scroll-index, showing the parts in different positions. Figure 3 is a vertical central section of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new index for gear-engines, and for engine-lathes on which gears are cut; and its object is to produce a cheap, simple, and durable index, which can be easily understood and managed.

The invention consists in the use of a disk, in the face of which a spiral groove is cut, in which groove one or more perforated plates are arranged, so that they can be moved freely in the grooves.

The holes through the plates are equally far from each other, and the scroll is so arranged that, although the plate is not held in a circle, the distance between every adjoining two holes will comprise an equal number of degrees of a circle described around the centre of the disk, as there are between any one pair of holes of the same plate.

By moving the plate in its scroll-groove, the number of holes which complete a circle can be varied at will, and thus any desired division of the circle can be obtained by this very simple device.

The invention also consists in the use of an index-strip, which can be adjusted at will.

A, in the drawing, represents a disk made of metal, or other suitable material, and intended to be mounted on a suitable shaft, B.

In the face of the disk is arranged a spiral groove, *a*, in which a perforated plate, C, is set.

The said plate is fastened in any desired portion of the groove by means of clamps, D D, which are slotted, and fastened, by means of bolts, *b*, to the disk.

The bolts *b* have dove-tailed heads, *c*, fitted into a dove-tail circular groove, *d*, as shown.

The bolts are thus movable on the disk and the clamps on the bolts, and the clamps can, therefore, be adjusted to the plate, whether the same is nearer to or further from the centre of the disk, and the clamps can also be adjusted so as to hold the ends of the plate always fast.

E is an index-plate sliding on the periphery of the disk, and having one stop, *e*, which is stationary on it, while the other stop, *f*, can be moved on it, the whole index-plate being movable on the disk, for which object the stops *e* and *f* lap around the edges of the disk, as shown in fig. 3.

The movable stop *f* can be fastened to the index-plate E, in any suitable position, by means of a screw, which is shown by dotted lines in fig. 3.

The operation is as follows:

The plate C is perforated with a suitable number of holes, all equally far apart.

In the scroll-groove the plate can be moved, so that its ends overlap more or less, whereby less or more holes will be in the circle formed by the plate.

Suppose there are ninety-one holes in the plate C.

Then, when the plate is in the position indicated in fig. 1, that is, when the end-holes are in line, the circle or the not perfect circle, described by the plate C, will be divided into ninety parts.

The nearer the portion of the plate C is to the centre of the disk, the smaller will, owing to the greater bend, become the distance between two adjoining holes in the plate, but the shorter will, at the same time, be the radii for measuring the distance, and it has been found that, if the scroll is constructed correctly, the distance between every two adjoining holes of the plate C will comprise an equal number of degrees of the disk.

If, therefore, ninety holes form this division, the distance between every two holes will, if the scroll is accurately made, be exactly four degrees.

The stop *f* can be set on the index-plate *E*, so as to make the distance between the two stops equal to that between any suitable number of holes in the plate *C*.

The operation is then equal to that of an ordinary gear-cutting device.

A pin is put into that hole between the stops *e f*, which is nearest to one stop, and then the index is moved until the other stop strikes against the pin, and then the latter is moved again to the first stop, and so forth.

If the circle is to be divided into eighty-nine equal parts, the plate *C* is loosened, and is moved in the groove towards the centre, until two pair of holes, on the opposite ends of the plates, are in line, as is clearly shown in fig. 2, and thus any one desired subdivision of the disk can be obtained with facility, and by very simple means.

If the groove becomes too small to allow the bending of the plate *C*, another plate fitted to the smaller part of the groove can be used.

Instead of the scroll-groove, any other suitable scroll-track can be employed.

I claim as new, and desire to secure by Letters Patent—

1. An index for gear-cutting and other spacing-machines, consisting of the perforated or marked plate *C*, moving on a scroll-track, which is provided on the face of the disk, substantially as herein shown and described.

2. The slotted clamps *D D*, when fitted to bolts, *b b*, which move in a groove, *d*, as set forth, in combination with the plate *C*, as specified.

3. The index-plate *E*, when provided with the fixed stop *e*, and with the movable stop *f*, and when combined with the disk *A* and scroll-plate *C*, all made and operating substantially as herein shown and described.

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Witnesses:

HIRAM HYDE,
ISAAC T. HYDE.