2 Sheets—Sheet 1.

J. KELEHER, Jr.

Return-Gears for Braiding-Machines.

No. 198,244. Patented Dec. 18, 1877.

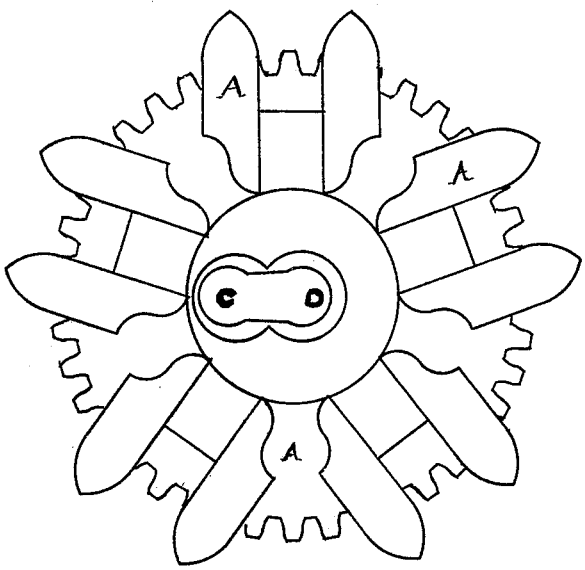


FIG. 1

FIG. 2

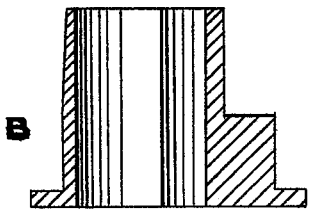
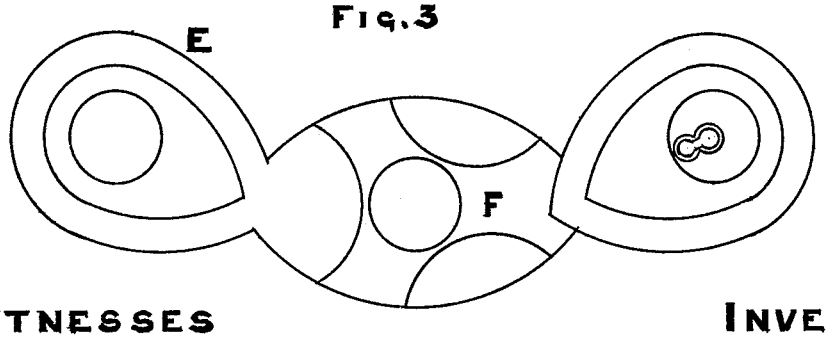


FIG. 3



WITNESSES

W. H. Ames

M. F. Mayes

INVENTOR

James Keleher Jr.
Per Chas. D. Moore
Atty.

2 Sheets—Sheet 2.

J. KELEHER, Jr.

Return-Gears for Braiding-Machines.

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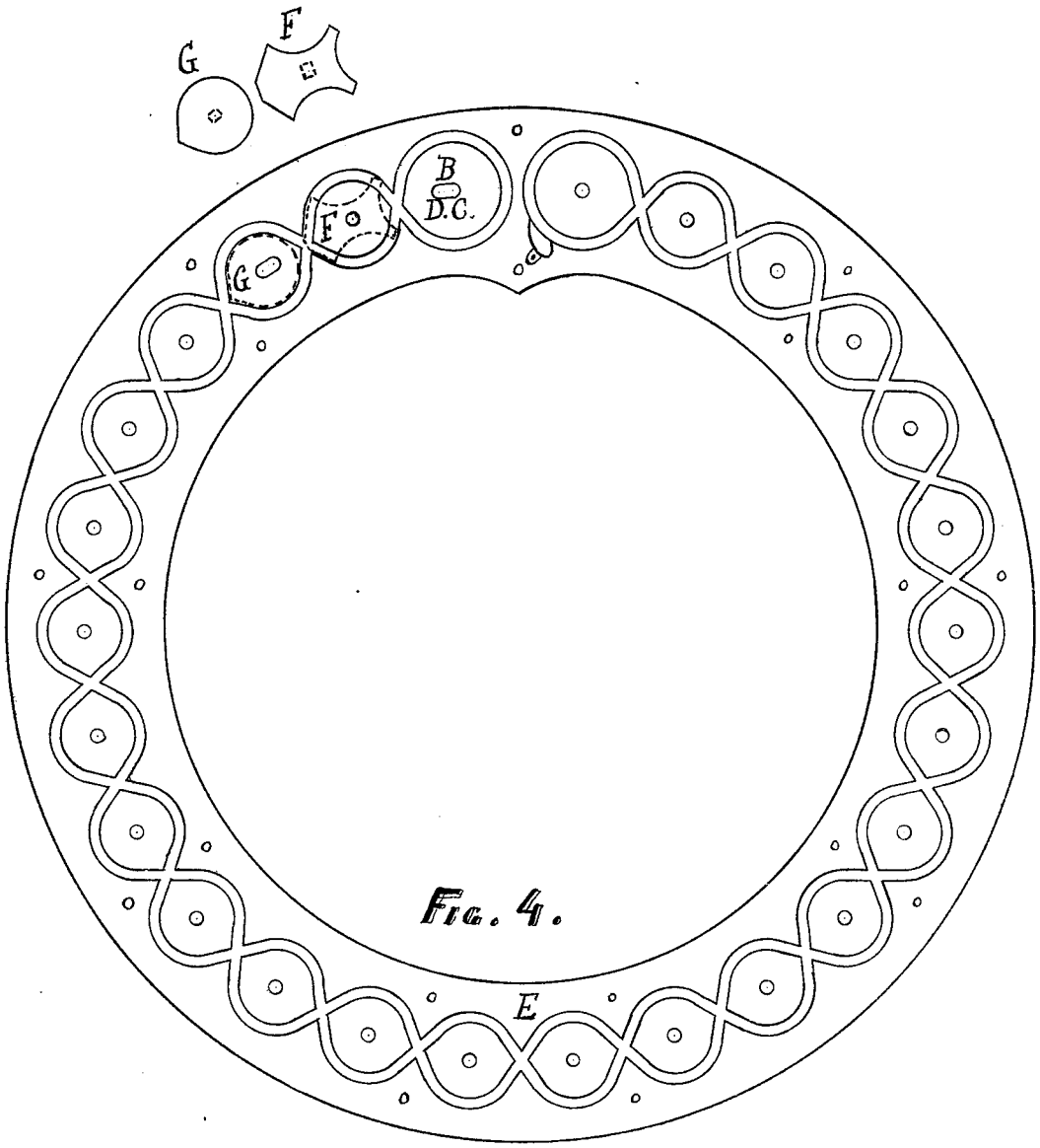

FIG. 4.

WITNESSES:

Newton P. Frye.

H. Bundy

INVENTOR:

James Keleher Jr

per

Chas. D. Mears

Atty

UNITED STATES PATENT OFFICE.

JAMES KELEHER, JR., OF LAWRENCE, MASSACHUSETTS.

IMPROVEMENT IN RETURN-GEARS FOR BRAIDING-MACHINES.

Specification forming part of Letters Patent No. **198,244**, dated December 18, 1877; application filed March 26, 1877.

To all whom it may concern:

Be it known that I, JAMES KELEHER, Jr., of Lawrence, in the county of Essex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Studs for Return-Gears of Braiding-Machines, which invention is fully and clearly described in the following specification.

In braiding-machines now commonly in use, when it is desired to make a change in braiding (to make narrow braid) it is necessary to remove a portion of the intermediate gears, so that the braid may be reduced in width, which change necessitates moving up the return-gears to the intermediates.

The return-gears, being larger in diameter than the intermediates, will not run on the same stud placed on the same center, but require the slotting or cutting of the bed-plates sufficient to move or set off the studs from the centers formerly occupied by the intermediates, and there form new centers, which will permit the use of the return-gears; but this slotting or cutting of bed-plates is accompanied with much delay, and the change after completion is far from being satisfactory by reason of the injury done the machine.

To obviate the cutting and changing of a bed-plate to admit of a return-gear being inserted therein, when changing to braid narrow braid, I construct the return-gear with a large central bearing and stud or bushing to fit the same.

The stud or bushing has its center drilled or chucked out, which is the center of the bushing and the gear-wheel which revolves about the same, and is designed to be used at the extreme end of a train of gears or when the machine is worked to its full capacity.

At the side and away from the center formed in the bushing it is slotted sufficiently to overcome the difference of the diameters of the return and intermediate gears. The object of this slot or set-off is to enable the ready change of a machine from broad to narrow work. This is done by throwing out intermediate gears and placing up the return-gear. To do this with my improved stud, it is only necessary to place the stud on the pin which formed the center of intermediate gear, the same passing through the set-off formed by slotting the stud, the guide-plate being first cut off by inserting a stop. This set-off might present the appearance of a cam; but is nothing but a simple set-off, which is proportioned to the difference in the diameters of the gears.

In the drawings, Figure 1 represents a gear with my improved stud; Fig. 2, a vertical sectional view of a stud; Fig. 3, a section of a guide-plate, showing the application of my improved stud; and Fig. 4, a full gear-plate of a braider, in which—

The letter A represents a return-gear wheel as used in a braider; (Rhode Island;) B, a stud, with its slotted center; C, a set-off within B; D, a center common to both stud and gear; E, a guide-plate; F, a piece designed to cut off the plate E.

The object of my invention is to construct a stud for return and intermediate gears of a braiding-machine, which can be used in making changes in a braider, both on a return and intermediate gear-stud, as occasion may require, without, as is now the practice, slotting or changing the bed-plate thereof.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In a braiding-machine, the combination, with the gear A, of the stud or bushing B, having slot C D, formed as described, and for the purpose set forth.

JAMES KELEHER, JR. [L. S.]

Witnesses:

NEWTON P. FRYE,

CHAS. D. MOORE.