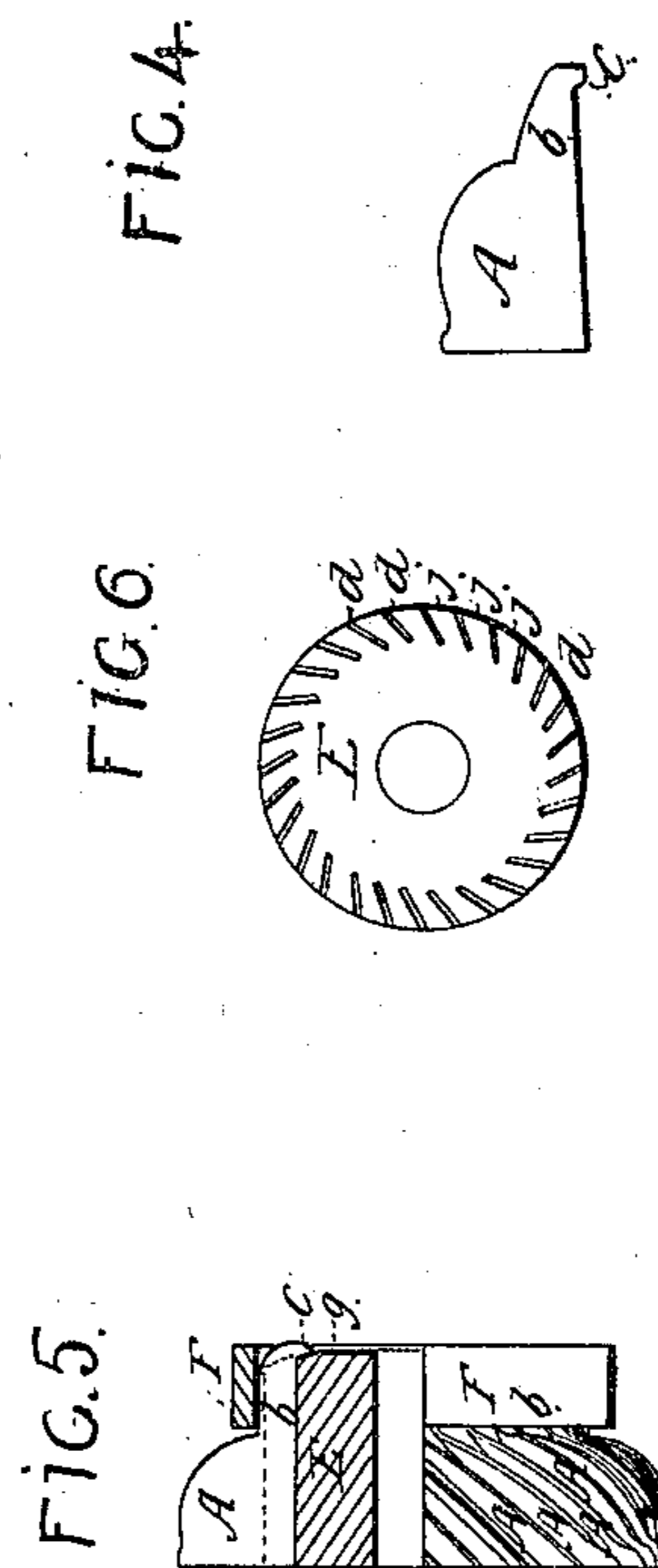
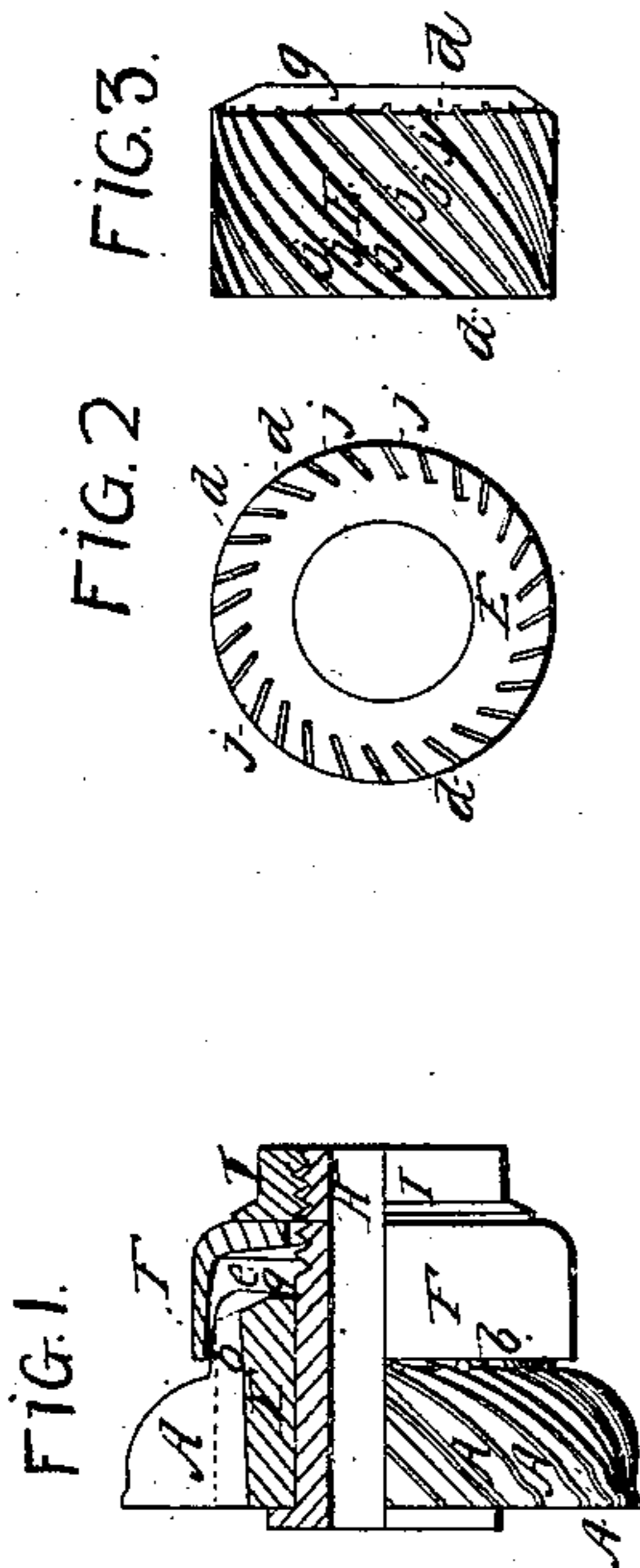


G. JACKSON & G. CAMPBELL.
KNITTING MACHINE BUR.

No. 39,347.

Patented July 28, 1863.



Witnesses:

Edw. D. Myers
John W. Tinsing

Inventors:

George Jackson
George Campbell

UNITED STATES PATENT OFFICE.

GEORGE JACKSON AND GEORGE CAMPBELL, OF COHOES, NEW YORK.

IMPROVEMENT IN KNITTING-MACHINE BURRS.

Specification forming part of Letters Patent No. 39,317, dated July 28, 1863.

To all whom it may concern:

Be it known that we, GEORGE JACKSON and GEORGE CAMPBELL, each of the village of Cohoes, in the county of Albany and State of New York, have jointly invented certain new and useful Improvements in Burrs for Knitting-Machines, of which the following embraces a full and exact description, reference being had to the annexed drawings, in which—

Figure 1 is a half-section and half side view of a knitting-burr embodying the whole principle of our said invention, and Figs. 2 and 3 are end and side views of the slotted hub in that burr. Fig. 4 is a side view of one of the blades in the same burr, and Fig. 5 is a half-side view and half-section of a modification of our knitting-burr having a series of such blades held in an obliquely-slotted hub, like that shown in Fig. 6, but without the screw and nut, the ring F being in this example shown as secured to the hub by friction only. It may also be fastened to the hub by a key or pin, or other usual mechanical means.

The same letters refer to like parts in all the figures.

One part of our invention consists in making the blades A for knitting-burrs with a tapered shank, *b*, Fig. 4, on one end of the blade, and with a projection, *c*, on the inner edge of the end portion of the said shank, so that a series of the blades will be secured in the slots *d*, Figs. 2, 3, and 6, of a suitable hub, E, and thus form a knitting-burr by means of a suitable ring, F, Figs. 1 and 5, pressed on tight around the shanks of the blades in the hub, the projections *c* on the shanks being placed against the end *g* of the hub, substantially as indicated in Figs. 1 and 5. Consequently, by furnishing such improved blades A, we enable the manufacturer to make knitting-burrs by simply putting our said blades in the slots *d* of such hubs E as are commonly used in burrs having blades soldered fast in the hubs, and then just driving or otherwise fixing, but not twisting or turning, a ring, F, tight on around the tapered shanks *b* in the hub; and burrs thus made can have their old or worn-out blades freely

changed for new ones upon simply pressing or taking the ring F off from around the shanks of the blades.

In the knitting-burrs shown in the drawings the blades A are secured in the obliquely-slotted hub E by a ring, F, just driven on tightly around the shanks *b* of the blades; but a part of our invention consists in combining with the slotted hub E the series of blades A therein, the surrounding ring F, and a device whereby the said ring F can be pressed onto the shanks *b* of the blades, and also retained thereon with any desired or requisite force, but without any need of turning or twisting the ring, and be readily released on the shanks of the blades whenever the latter require to be changed. Thus, in the burr shown by Fig. 1, the ring F is pressed and retained on the shanks of the blades A in the hub E by means of a screw, H, on an extended part of the hub or socket of the burr, and a nut, I, arranged to work on the said screw H and bear against the ring F; but we contemplate using other known or equivalent pressing and holding devices in place of the said screw and nut.

We are aware that it is not new to secure the blades of knitting-burrs in slotted hubs by means of detachable parts, which, when removed, leave the blades free to be taken out of the hub, knitting-burrs of that description being shown in United States Letters Patent No. 35,565, dated June 10, 1862, wherein the removable blades were held stationary in an obliquely-slotted hub by means of two disks engaged with and clamped against the two opposite ends of the blades, so as to press the latter flatwise against the oblique leaves *j* of the hub, and thereby tend to break the blades when the latter were very hard and brittle, and to bend or twist off the oblique leaves *j*, Figs. 2 and 3, into which the hub is cut when those parts were very thin; but those defects are obviated by our invention, for the surrounding ring F presses the blades mainly edgewise against the bottoms of the slots *d* in the hub—that is, toward the axis of the burr, instead of flatwise against the oblique hub-leaves *j*, between the blades.

What we claim as new and of our invention, and desire to secure by Letters Patent, is—

1. A knitting-burr blade, A, having a tapered shank, *b*, provided with a projection, *c*, so that a series of the blades can be secured in a slotted hub, E, by means of a ring, F, on one side only of the burr, and surrounding the shanks, substantially as herein described.

2. A knitting-burr having a series of blades, A, provided with tapered shanks *b* and pro-

jections *c* thereon, and fastened in a slotted hub, E, by a ring, F, on one side only of the burr, and surrounding the shanks and secured thereon by a tightening and holding device, H-I, substantially as herein set forth.

GEORGE JACKSON.
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Witnesses:

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