

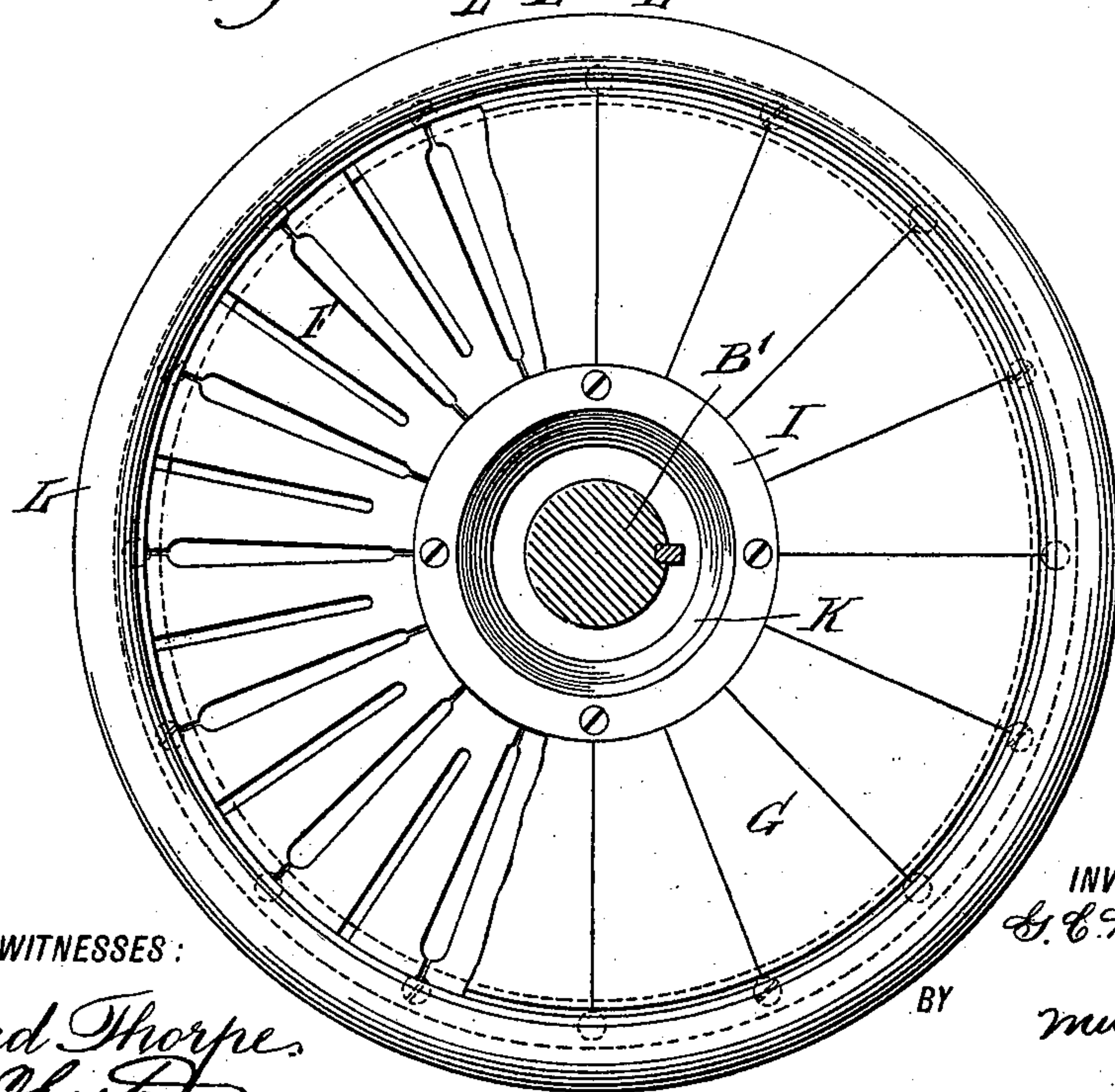
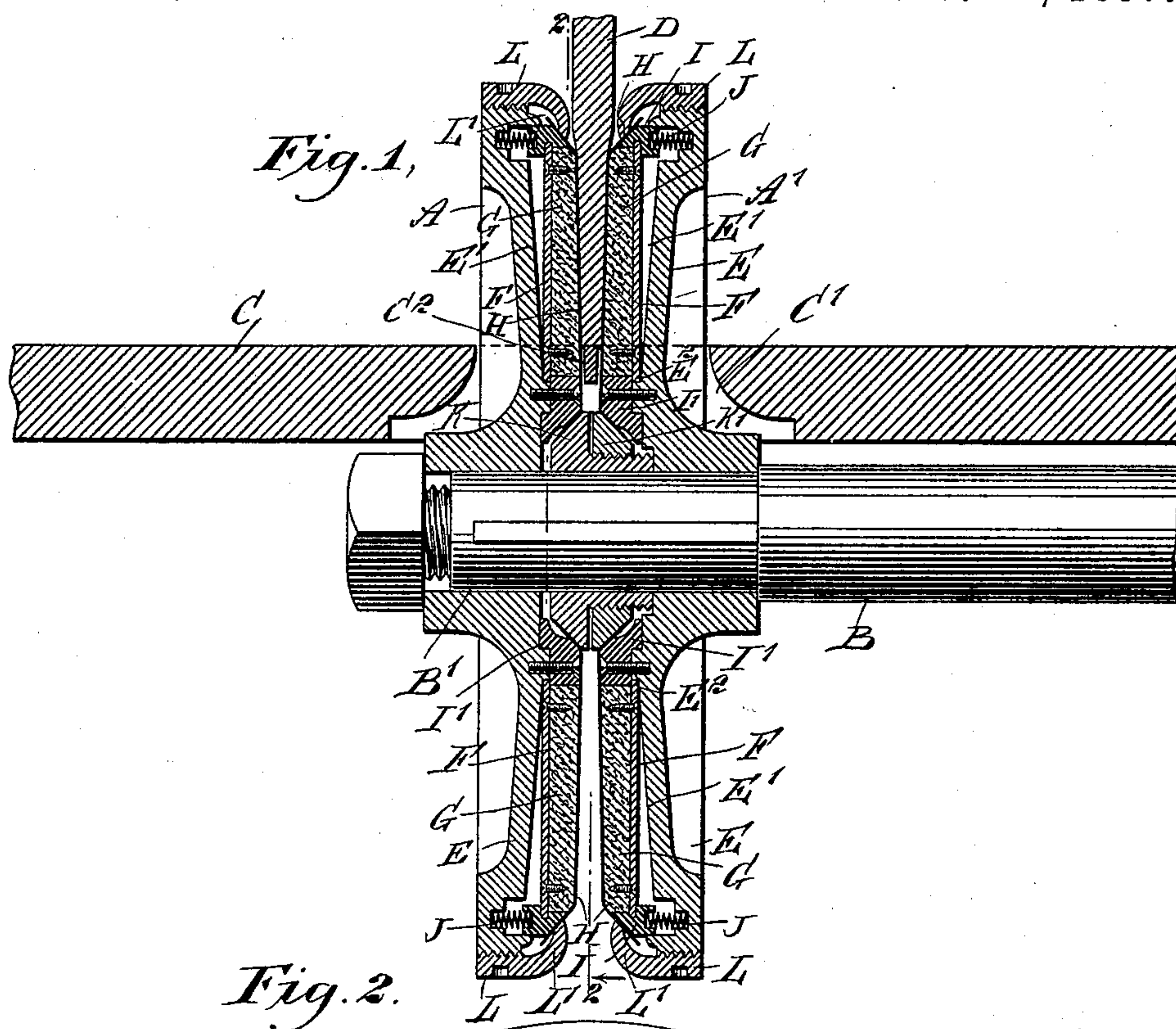
(No Model.)

2 Sheets—Sheet 1.

G. C. BONNIWELL.
SANDPAPERING MACHINE.

No. 594,320.

Patented Nov. 23, 1897.



WITNESSES:

Edward Thorpe.
Rev. J. Foster,

INVENTOR

G. C. Bonniwell

BY

mm 42

ATTORNEYS.

(No Model.)

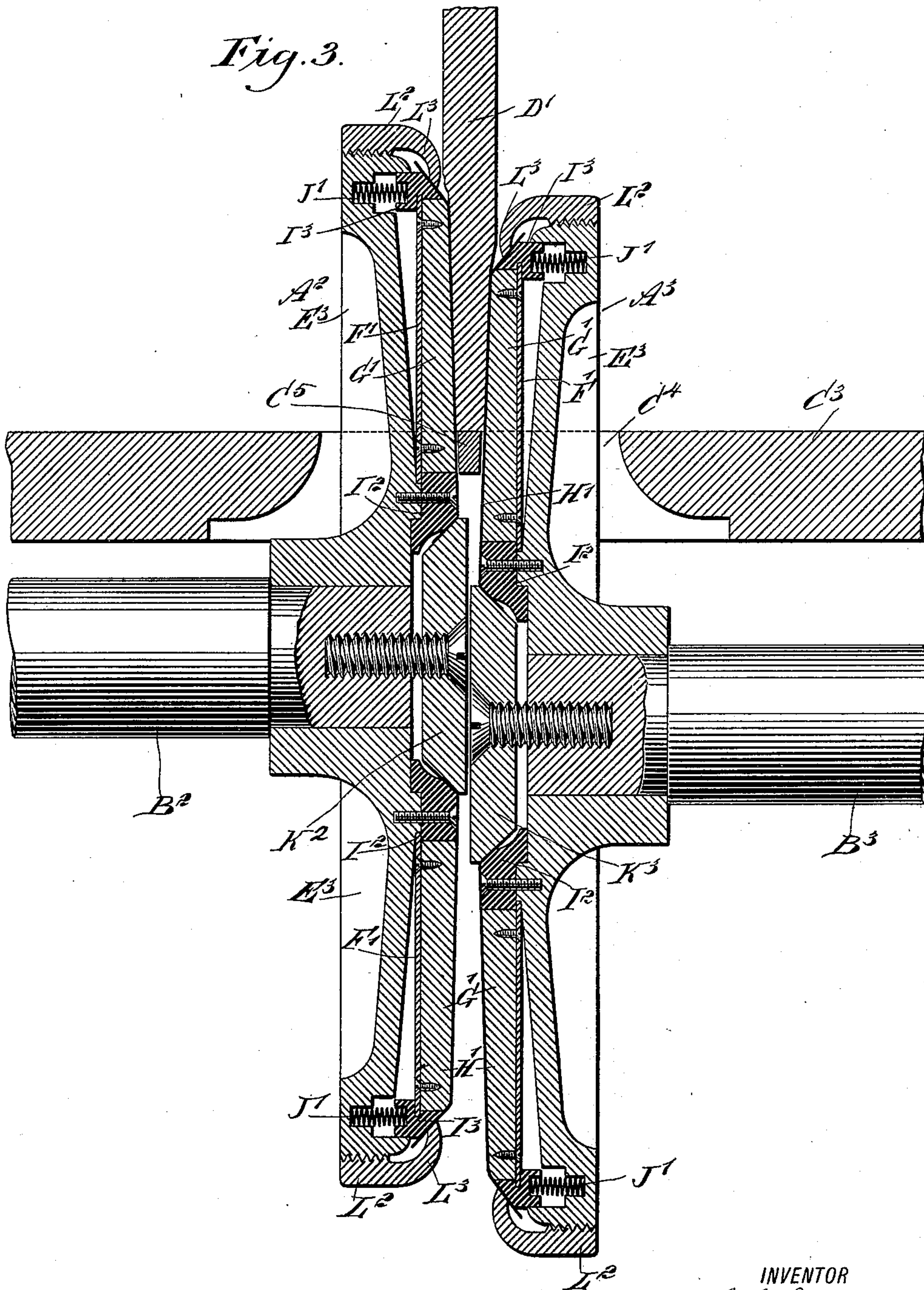
2 Sheets—Sheet 2.

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Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE C. BONNIWELL, OF HICKORY, NORTH CAROLINA.

SANDPAPERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 594,320, dated November 23, 1897.

Application filed January 30, 1897. Serial No. 621,351. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. BONNIWELL, of Hickory, in the county of Catawba and State of North Carolina, have invented a new and Improved Sandpapering-Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved sandpapering-machine which is simple and durable in construction, very effective in operation, and more especially designed for sandpapering the edges of door-panels, the machine permitting of readily fastening the paper to the disks.

The invention consists principally of abrading-disks having oppositely-arranged beveled abrading-faces.

The invention further consists of a disk having its inner and outer edges beveled and clamping devices for clamping a sheet of sandpaper upon the said beveled edges.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of the improvement. Fig. 2 is a transverse sectional view of the same on the line 2 2 of Fig. 1, and Fig. 3 is an enlarged sectional side elevation of a modified form of the improvement as arranged for panels having different raises on opposite faces.

The improved sandpapering-machine illustrated in Figs. 1 and 2 is provided with two abrading-disks A A', secured by a key or other means on the reduced end B' of a spindle B, connected with suitable machinery for imparting a rotary motion to the spindle and the disks attached thereto. The disks project through a slot C' in the table C, which carries a support C², extending between the disks to form a rest and guide for the work D, passed with opposite faces between the disks, to be sandpapered, as hereinafter more fully described.

Each of the abrading-disks A A' is provided with a back E in the form of a disk having a beveled face E' and an annular shoulder E²

for the inner edge of a disk F to rest on, the said disk F being preferably made in sections, as is plainly indicated in Fig. 2, the disk supporting on its front face a disk G, likewise made in sections and preferably of cork or similar flexible material. The face of the disk G is beveled outwardly, and over it is stretched a sheet H of sandpaper or like abrading material, the outer edge of the sheet H being passed over the beveled edge of a ring I, on which are secured the outer ends of the sections of the disk F. The ring I is pressed on by springs J, held in the disk E, so as to permit the disks F and G to yield longitudinally, the disk F bending from the shoulder E² as the fulcrum against or toward the inclined face E' of the corresponding disk E.

The inner edge of each sheet H passes over the beveled edge of a ring I', secured by bolts or other means to the disk E, as is plainly indicated in Fig. 1. The inner edge of the sandpaper for the abrading-disk A is held in place by a beveled clamping-disk K, secured on the reduced end B' of the spindle B, and the inner edge of the sandpaper H for the abrading-disk A' is held in place on the edge of the ring I' by a clamping-ring K', screwing on the threaded hub for the disk K. This clamping-ring K' is also used for adjusting the abrading-disks A A' relative to each other according to the thickness of the panels under treatment. The clamping-disk K rotates with the spindle B, but is free to slide longitudinally on the reduced end B' of the spindle, and when the clamping-ring K' is screwed on the hub of the disk K then the beveled edge of ring K' moves into engagement with the sandpaper for the disk A' and the beveled edge of the disk K is moved into contact with the said paper on the disk A, so as to securely fasten the paper on both disks. The outer edges of the sheets H for the abrading-disks A A' are clamped in place on the edges of the rings I by annular inwardly-curved flanges L', formed on rings L, screwing on the threaded disks E, so that by turning the said rings their flanges may be brought to or from the edges of the sheet to clamp or release the sheet according to the direction in which the ring is turned. It will be seen that by the arrangement described the work D can be

readily passed between the two disks A and A', so that the sheets H come in contact with the opposite faces of the work to sandpaper the latter simultaneously on both sides.

5 When it is desired to sandpaper the work D', having opposite faces provided with different raises, as illustrated in Fig. 3, then the two abrading-disks A² and A³ are secured to the reduced ends of two spindles B² and B³,
10 respectively, having their axes located in different parallel planes below a table C³, having a slot C⁴, through which project the disks A² and A³. A support C⁵ is carried by the table C³ and extends between the two abrading-
15 disks to guide the work D'. The abrading-disks are each provided with disks E³, similar to the disks E, previously mentioned, and with sectional disks F' and G', of which the disk F' is secured at its outer end in the ring
20 I³, pressed on by springs J', so as to permit the said disks to yield. The inner rings I² for the sandpaper-sheets H' are secured to the disks E³, and the sandpaper is pressed at its inner edge to the beveled edge of each of
25 the rings I² by a disk K² or K³, secured to the corresponding spindle B² or B³, respectively. The outer edges of the sandpaper-sheets H' are clamped in place on the beveled edges of the rings I³ by annular flanges L³ of the thread-
30 ed ends L².

It is evident that by the arrangement described the sandpaper-sheets H or H' can be readily applied to the disks or removed therefrom whenever worn out or torn, and the disks
35 G G' and F F' are free to yield according to any unevenness in the work to insure a proper and smooth sandpapering of the opposite faces of the work.

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

1. An abrading-wheel, comprising a disk, and a bed or support for the sandpaper secured to the inner face of the said disk, said
45 bed or support being of flexible material and yieldingly supported at its periphery, substantially as described.

2. An abrading-wheel, comprising a disk, a second disk yieldingly supported at its periphery, and a covering of flexible material on
50 said second disk, substantially as described.

3. An abrading-wheel, comprising a disk, a second disk secured to the inner portion of the first disk, a ring yieldingly supported on the first disk and to which the periphery of
55 the second disk is secured, and a covering of elastic material on the second disk and over which the paper is stretched, substantially as described.

60 4. An abrading-wheel, comprising a disk,

a second disk means for securing the same to the first disk, a ring near the periphery of the first disk and to which the periphery of the second disk is secured, a spring between the ring and the first disk, and a bed or covering for the second disk formed of elastic material, substantially as described. 65

5. A sandpapering-machine, provided with a disk for the sandpaper, and made of cork, substantially as shown and described. 70

6. A sandpapering-machine, provided with an abrading-disk having a disk for carrying the sandpaper, the inner edges of the disk resting against a shoulder, and the outer edge being pressed on by a spring, to permit the
75 disk to yield, substantially as shown and described.

7. A sandpapering-machine, provided with a disk made in sections, and a sectional covering for the said disk and made of elastic material, substantially as shown and described. 80

8. In an abrading-wheel, the combination with a disk, of a support for the paper having its inner and outer edges beveled, and yieldingly held at its periphery, a beveled
85 clamping-disk for clamping the paper upon the beveled inner edge of the support, and a ring on the periphery of the disk and provided with a flange for clamping the paper upon the outer beveled edge of the said sup-
90 port, substantially as described.

9. In an abrading-wheel, the combination with a disk, of beveled rings secured to the said disk, the outer ring being yieldingly supported, a second disk having a covering of
95 elastic material, said second disk being secured at its inner edge to the first disk by the inner beveled ring and having its outer edge secured to the outer ring, a beveled clamping-disk for the inner ring, and a ring
100 on the periphery of the first disk and provided with a flange for clamping the paper on the said outer ring, substantially as described.

10. In a sandpapering-machine, the combination with a shaft, disks mounted thereon and having their outer and inner edges beveled, and means for clamping the paper on the outer beveled edges of the said disks, of
105 a beveled disk on the shaft for clamping the paper on the inner beveled edge of one disk, said beveled disk having a threaded hub, and a second beveled disk on the hub of the first disk and serving to clamp the paper on the inner beveled edge of the other disk, sub-
115 stantially as herein shown and described.

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Witnesses:

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K. C. MENZIES.