

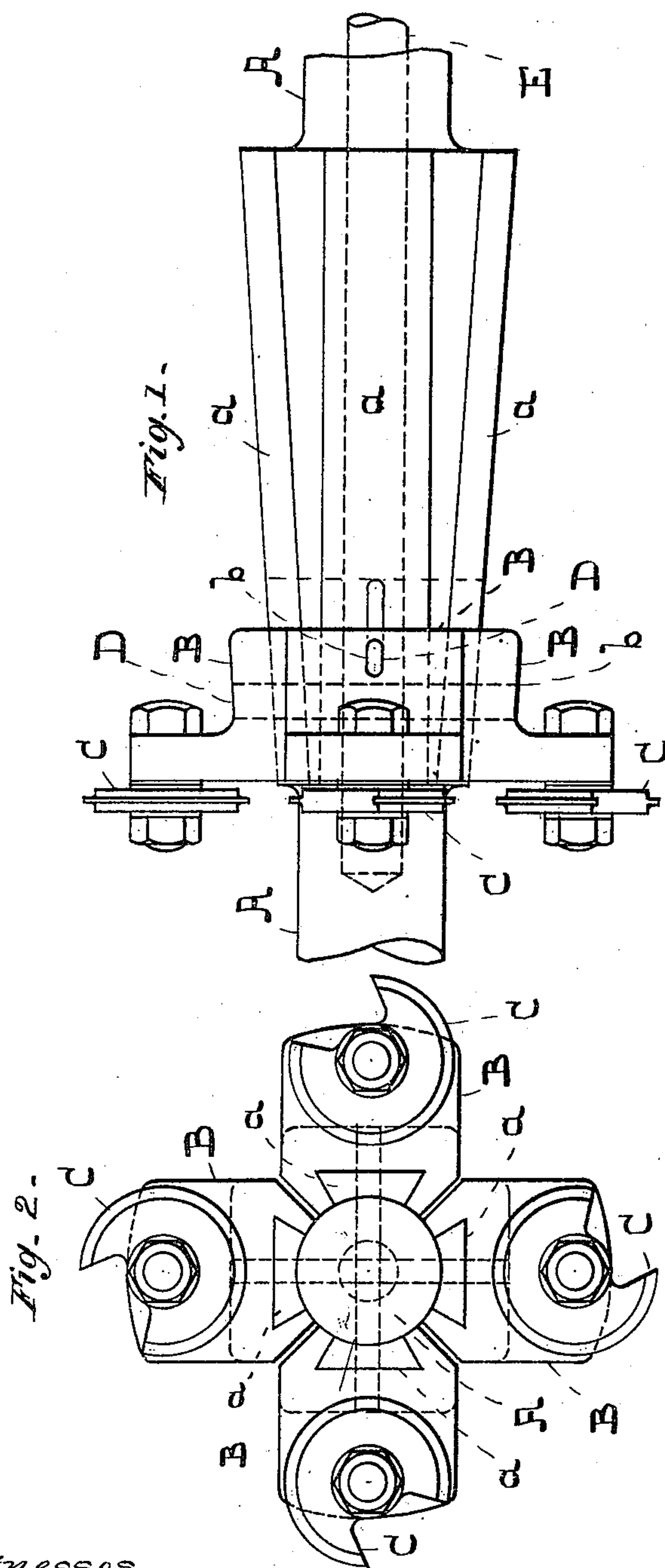
No. 666,230.

Patented Jan. 15, 1901.

G. JOHNSON, JR.
EXPANSIBLE CUTTER HEAD.

(Application filed May 22, 1900.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

GREENLEAF JOHNSON, JR., OF BALTIMORE, MARYLAND.

EXPANSIBLE CUTTER-HEAD.

SPECIFICATION forming part of Letters Patent No. 666,230, dated January 15, 1901.

Application filed May 22, 1900. Serial No. 17,511. (No model.)

To all whom it may concern:

Be it known that I, GREENLEAF JOHNSON, Jr., of the city of Baltimore, in the State of Maryland, have invented certain Improve-
5 ments in Expansible Cutter-Heads for Wood-Planing Machines, of which the following is a specification.

This invention relates to a tapered shaft of peculiar construction and a cutter-head in
10 detached sections adapted to be moved longitudinally of the tapered shaft, whereby the knives of the head are collectively carried farther from or nearer to the axis of the shaft, thereby increasing or diminishing the
15 depth of cut of the knives without altering the position of the shaft or arbor with reference to the board or plank upon which the knives operate, as hereinafter more fully described.

In the further description of the said invention which follows reference is made to
20 the accompanying drawings, forming a part hereof, and in which—

Figure 1 is an exterior side view of the improved expansible cutter-head and a portion
25 of its arbor. Fig. 2 is an end view of the same.

Referring now to the drawings, A is the shaft or arbor of a wood-planing machine, which is supported in suitable bearings and
30 provided with a driving-pulley, which are not shown in the drawings, as they embody no part of the present invention and need no description and illustration herein.

On the arbor A are formed a series, preferably four, of projections *a*, which are dove-
35 tailed, as seen from the end, and parallel in width, as seen from the top. These projections have a height above or beyond the arbor proper which is greater at one end than
40 at the other, so as to produce inclined or beveled surfaces. (See Fig. 1.)

B B are blocks adapted to slide longitudinally of the dovetailed projections *a*, the blocks having grooves in which the said pro-
45 jections fit closely. Each block B has a cutter or knife C of any appropriate character,

and the blocks, with their knives, form a complete cutter-head.

To effect the adjustment of the blocks collectively longitudinally of the projections, so
50 as to expand and contract the head, the arbor is bored axially and provided with two transverse slots *b* at a right angle one with the other, the said slots extending from the bore to the face of the projections *a*. 55

In the bore of the arbor is placed a stem E, which is provided with two keys D, which extend laterally through the slots *b* into the blocks B.

In order that the keys may cross each other
60 without interfering, they are separated, as shown in Fig. 1.

To expand or contract the effective size of the cutter-head, the stem E is moved longitudinally of the arbor. The means for mov-
65 ing the stem to effect the result described may be of any suitable character and they form no part of the present invention.

I claim as my invention—

1. In combination with an arbor having
70 projections thereon which are inclined with reference to the axis of the arbor, blocks carrying cutters or knives adapted to slide on the said projections and to be moved collectively longitudinally thereof, combined with
75 means to effect such longitudinal movement of the said blocks substantially as, and for the purpose specified.

2. In combination with an arbor having radially-extending projections which are dove-
80 tailed as seen from either end, and inclined with reference to the axis of the arbor, blocks carrying cutters or knives adapted to slide longitudinally of the said inclined projec-
85 tions, and means substantially as described, whereby the said blocks are moved collectively, substantially as, and for the purpose specified.

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Witnesses:

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