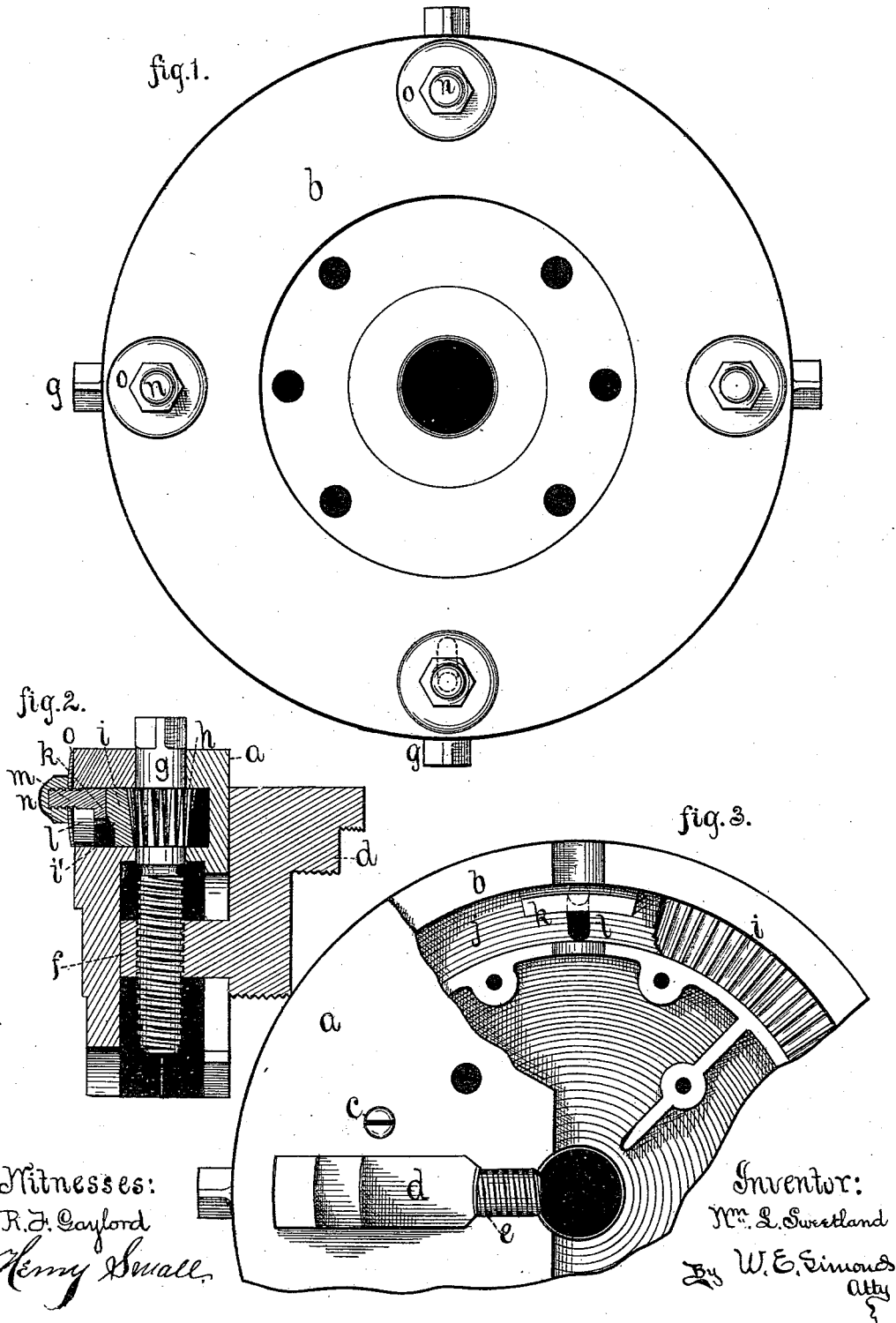


W. L. SWEETLAND.
Lathe-Chuck.

No. 211,943.

Patented Feb. 4, 1879.



Witnesses:
R. F. Cayford
Henry Small.

Inventor:
W. L. Sweetland
By W. E. Simons
Atty

UNITED STATES PATENT OFFICE.

WILLIAM L. SWEETLAND, OF WINDSOR LOCKS, CONNECTICUT.

IMPROVEMENT IN LATHE-CHUCKS.

Specification forming part of Letters Patent No. **211,943**, dated February 4, 1879; application filed December 21, 1878.

To all whom it may concern:

Be it known that I, WILLIAM L. SWEETLAND, of Windsor Locks, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements pertaining to a Lathe-Chuck, of which the following is a specification, reference being had to the accompanying drawings, where—

Figure 1 is a view of the rear face of the chuck. Fig. 2 is a view of the chuck in central cross-section. Fig. 3 is a view showing a portion of the interior face of the rearmost half of the chuck-body.

This invention is an improvement upon the chuck well known as the "Horton chuck," and its object is to give the chuck an independent as well as a universal action; and consists in the peculiar means used for attaining this end, there now being other chucks having independent as well as universal action.

The chuck-body is composed of two halves, *a* and *b*, held together by suitable screws *c*.

The letters *d* denote the jaws, (commonly four in number,) having radial motion in radial slots *e*, cut in the front half, *a*, of the chuck-body. These jaws bear on the back nuts, *f*, running on the threaded shafts *g*, which reach outside the periphery of the chuck-body, and are there squared off to afford a hold for the wrench, whereby they are turned. These shafts bear the bevel-pinions *h*, into all of which meshes the annular gear *i*, lying in an annular groove, *j*, made in the rear half, *b*, of the chuck-body. This arrangement renders the chuck universal.

So far I have but described the Horton chuck. Now as to my improvement. The back side of the annular gear is turned off so as to

have the continuous bevel *i'*, and the groove *j* is made deep enough to allow the annular gear some back-and-forth play. In this groove, and back of the annular gear, lie the cam-blocks *k*, having bevels corresponding and fitted to act in conjunction with the bevel *i'*. These beveled cam-blocks have radial play in the groove *j* when they are in the position shown in Fig. 2. They hold the annular gear *i* into mesh with the pinions *h*. When they are moved radially backward they allow the annular gear to unmesh from the pinions. The former adjustment gives the universal action and the latter the independent.

The back of the chuck-body is provided with the radial mortises *l*, and the cam-blocks are furnished on the back with the posts *m*, which run through and have play in these mortises. The rear ends of these posts *m* are threaded, and take upon them the nuts *n*, underlaid by the convex spring-washers *o*, which prevent the cam-blocks from accidental movement. The operator adjusts the cam-blocks by taking hold of the nuts *n*.

A spring can be used to hold the annular gear out of mesh with the pinions; but use indicates that it is not necessary.

I claim as my invention—

The chuck-body *a b*, jaws *d*, threaded shaft *g*, bearing pinions *h*, the annular gear *i*, provided with the continuous annular bevel *i'*, the cam-blocks *k*, provided with the posts *m*, having radial play in the mortises *l*, the nuts *n*, and the spring-washers *o*, all combined to operate substantially as shown and described.

WILLIAM L. SWEETLAND.

Witnesses:

WM. E. SIMONDS,
J. W. JOHNSON.