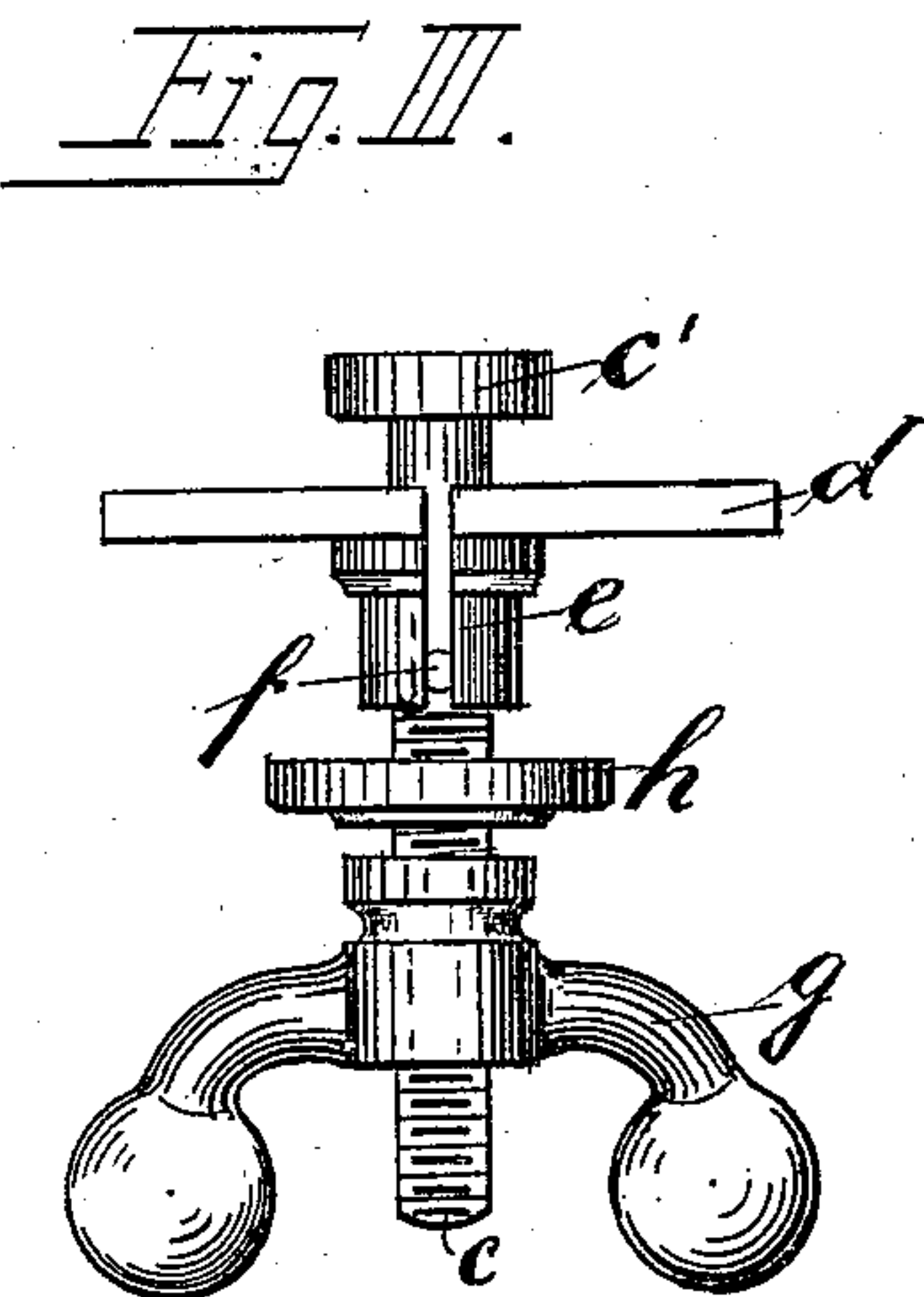
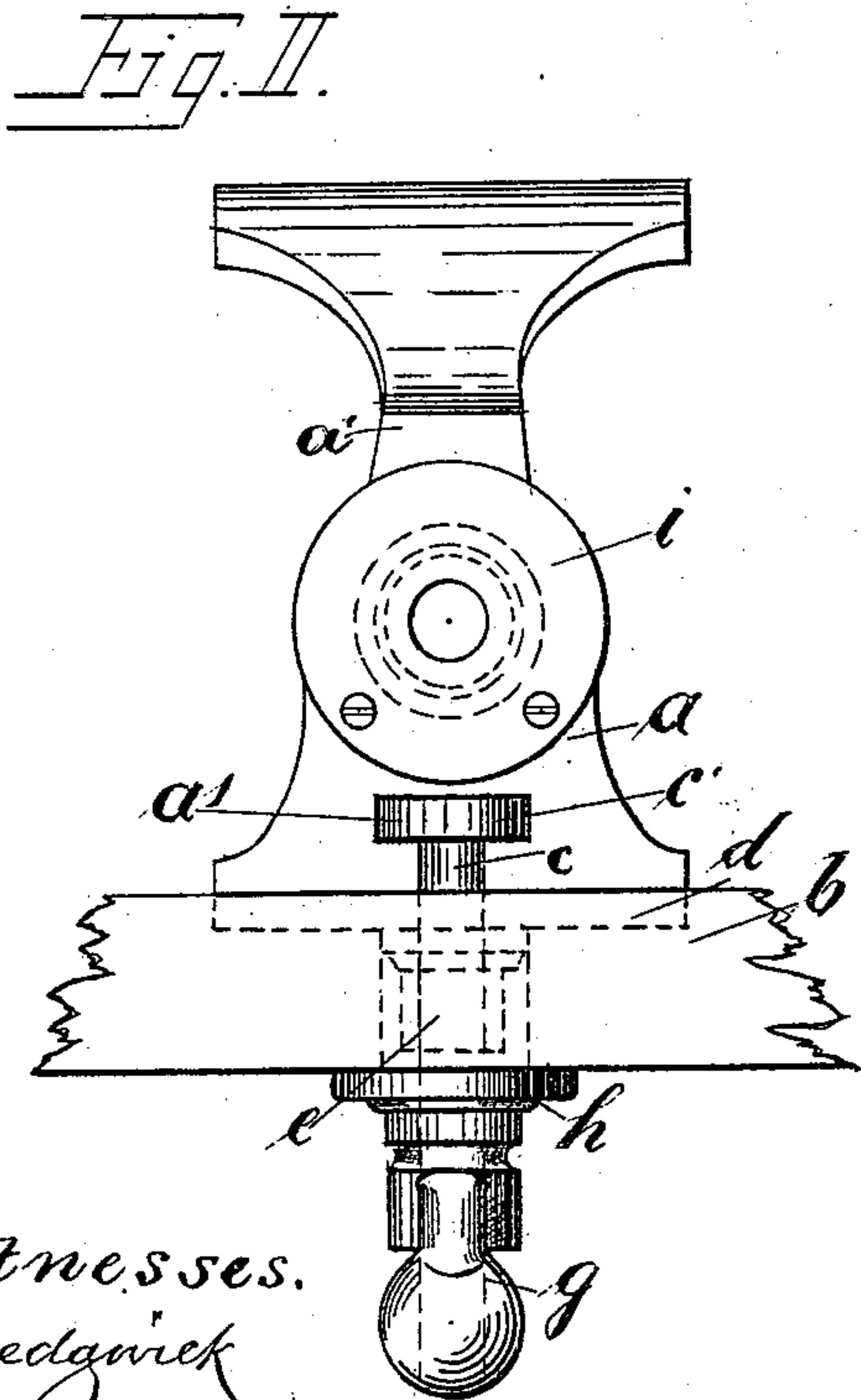
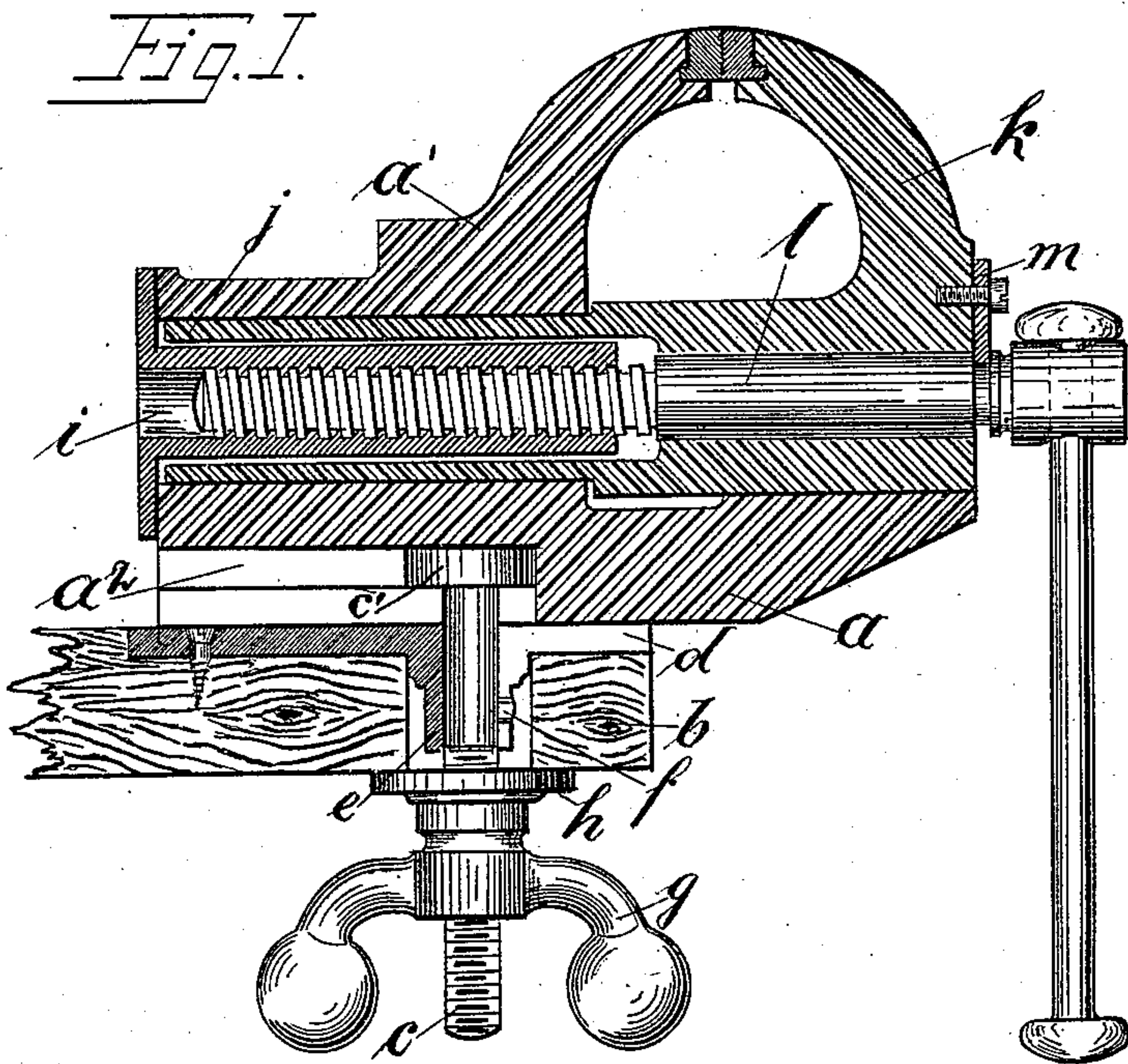


(No Model.)

J. SCHWENDEMANN.  
PARALLEL VISE.

No. 491,817.

Patented Feb. 14, 1893.



Witnesses.  
C. Sedgwick  
E. M. Clark

Inventor.  
J. Schwendemann  
by Munn & Co.  
Attorneys.



# UNITED STATES PATENT OFFICE.

JOSEPH SCHWENDEMANN, OF REUTLINGEN, GERMANY.

## PARALLEL VISE.

SPECIFICATION forming part of Letters Patent No. 491,817, dated February 14, 1893.

Application filed April 30, 1892. Serial No. 431,375. (No model.) Patented in Germany October 23, 1890, No. 57,106, and in England October 31, 1891, No. 1,107.

*To all whom it may concern:*

Be it known that I, JOSEPH SCHWENDEMANN, of Reutlingen, Württemberg, Germany, have invented new and useful Improvements in Parallel Vises, (for which I have obtained Letters Patent in Germany, No. 57,106, October 23, 1890, and in Great Britain, No. 1,107, October 31, 1891,) of which the following is a full, clear, and exact description.

10 The object of the invention is to provide certain new and useful improvements in parallel vises, whereby the position of the vise can be conveniently changed relative to the work bench on which it is applied, and by  
15 which the vise can be fastened in place after the desired adjustment is made.

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

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

25 Figure I is a sectional side elevation of the improvement; Fig. II is a rear elevation of the same; and Fig. III is a front view of the fastening device.

The vise proper is provided with a suitable  
30 base *a* carrying the fixed jaw *a'* of the usual construction, the under side of the said base being formed with a longitudinally extending slot *a''*, engaged by the head *c'* and part of the shank of a bolt *c*, extending downward and  
35 passing through a hub *e*, formed or secured on a plate *d*, let into the top of the work bench *b*, and secured thereto by suitable screws or other means. From the bolt *c* projects a pin  
40 *f*, engaging a vertically arranged slot formed in the hub *e* and part of the plate *d*, as will be readily understood by reference to the drawings. On the threaded end of the bolt *c* screws a winged nut *g*, abutting on a washer  
45 *h*, engaging the under side of the work bench *b*, so that when the winged nut *g* is screwed up, the washer *h* in conjunction with the head *c'* clamps the base *a* of the vise in position on top of the work bench. The hub *e* projects downward into a suitable aperture formed in  
50 the work bench *b*. Now it will be seen that by loosening the winged nut *g*, the vise can

be moved forward or backward or turned, the plate *d* being the center or the part on which the vise slides. Thus the vise may be moved farther inward or outward from the front edge  
55 of the work bench, or set at an angle thereto as desired. When the proper adjustment has been made, the winged nut *g* is screwed up so as to clamp the vise in place as before explained.

The base *a* supports a nut *i*, extending longitudinally through the base, the rear end of the said nut being formed with a flange secured by screws or other means to the base, so as to hold the nut in position. The spindle  
65 *l*, mounted to turn in the movable jaw *k*, engages the front of the nut *i* so that when the spindle is turned the movable jaw moves inward or outward toward the fixed jaw *a'* of the vise. From the movable jaw *k* extends  
70 rearward a sleeve *j* fitting into a recess formed in the base *a*, the said sleeve being concentric to the nut *i* and engaging the same so that the said sleeve has a double bearing, that is, on the nut internally and on the base *a* externally.

A semi-circular plate *m*, is secured to the front end of the movable jaw *k* and engages an annular groove formed on the spindle  
80 *l*, near the handle end thereof, so that the spindle turns in the movable jaw *k* without sliding out of the same, as will be readily understood by reference to Fig. I.

It will be seen that by turning the handle of the spindle *l*, the threaded end of the latter  
85 will screw in the fixed nut *i*, so that the movable jaw *k* moves inward or outward, being guided on the base *a* and by the sleeve *j* as before explained.

The pin *f* on the bolt *c* previously mentioned  
90 prevents the said bolt from turning when screwing up or loosening the winged nut *g*.

It will be seen that the nut and the threaded end of the spindle can be conveniently oiled from the rear end of the nut *i*, and at the same  
95 time the moving parts are protected from dust, &c., by being inclosed in the sleeve *j*. Furthermore, the threads of the spindle *l* are also protected by the sleeve *j*, so that they are not accidentally damaged or otherwise injured  
100 by articles dropping through the jaws into the threads of the spindle.

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

5 The combination with a vise having a slot  
 $a^2$  in its base, of the screw  $c$  having a pin  $f$   
and a head  $c'$  in said slot and on which the  
base may turn and slide, the plate  $d$  having  
a depending slotted hub  $e$  through which said

screw projects with its pin in the hub slot, the  
washer  $h$ , and the nut  $g$  on the lower end of 10  
the screw, substantially as set forth.

JOSEPH SCHWENDEMANN.

Witnesses:

PAUL FISCHER,

PAUL BRINKMANN.