

No. 704,726.

Patented July 15, 1902.

A. C. WITZEL.

SPINDLE ATTACHMENT FOR LATHES OR OTHER TOOLS.

(Application filed Feb. 24, 1902.)

(No Model.)

FIG. 1.

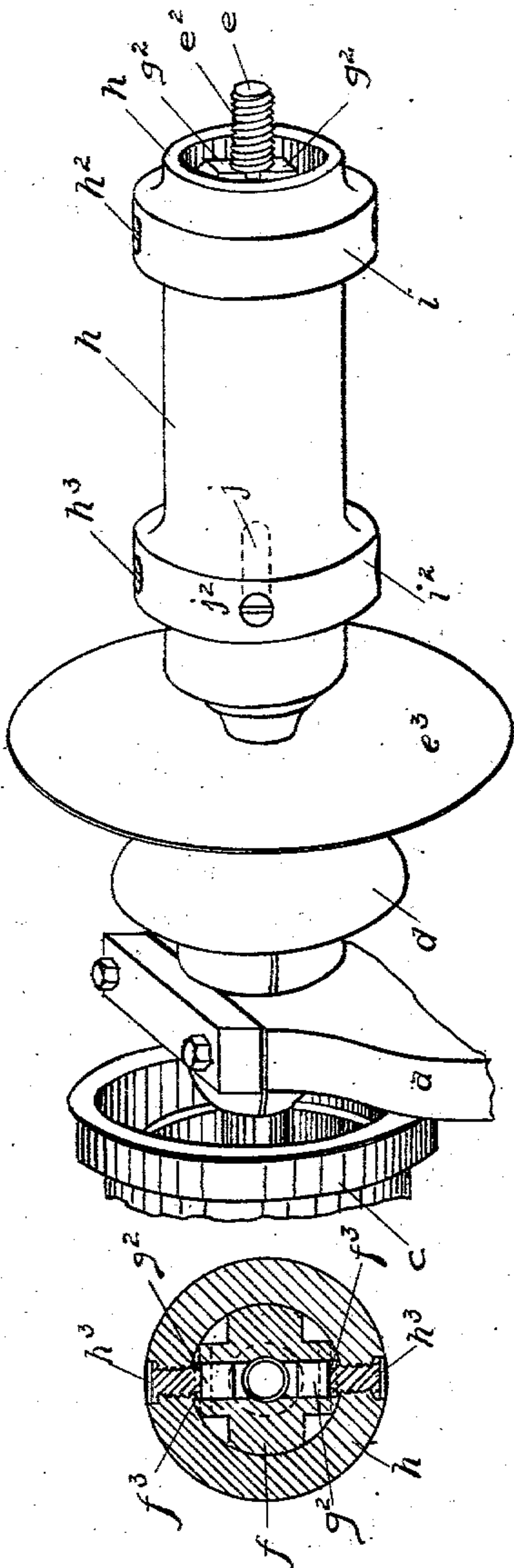


FIG. 4.

FIG. 3.

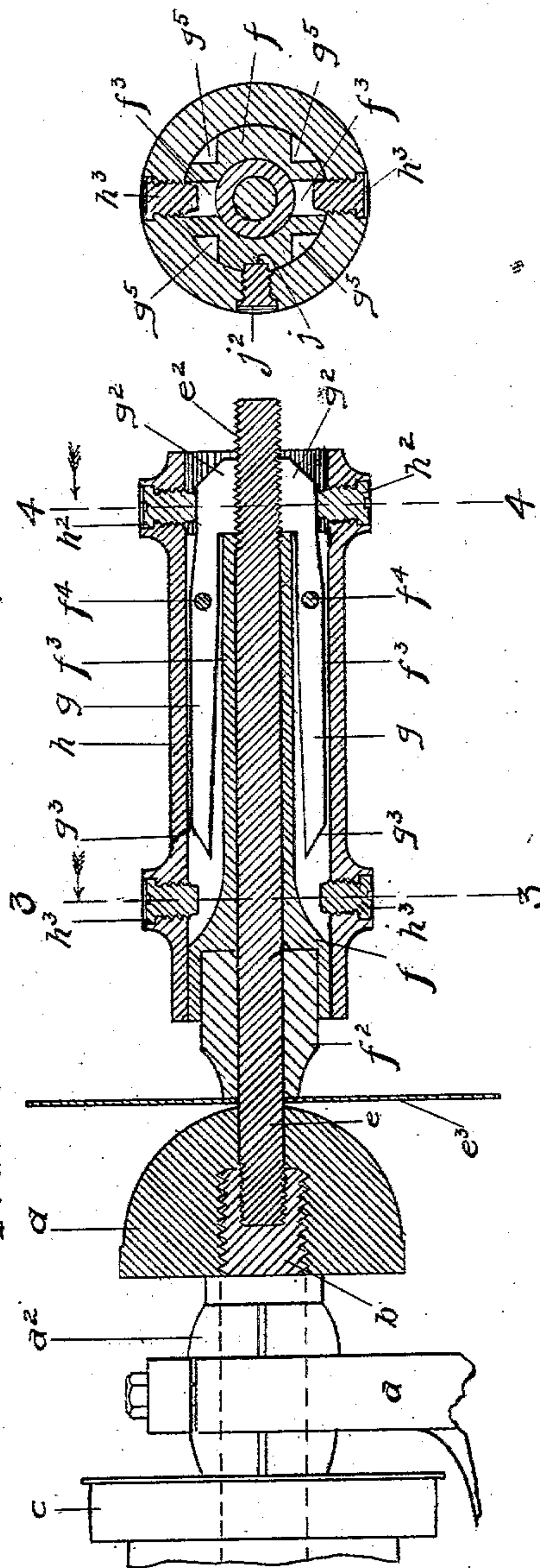


FIG. 2.

WITNESSES

F. A. Stewart
J. F. Allen

INVENTOR

Andrew C. Witzel

BY

Edgar S. Allen

ATTORNEYS

UNITED STATES PATENT OFFICE.

ANDREW C. WITZEL, OF NEW YORK, N. Y.

SPINDLE ATTACHMENT FOR LATHES OR OTHER TOOLS.

SPECIFICATION forming part of Letters Patent No. 704,726, dated July 15, 1902.

Application filed February 24, 1902. Serial No. 95,163. (No model.)

To all whom it may concern:

Be it known that I, ANDREW C. WITZEL, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Spindle Attachments for Lathes or other Tools, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide an improved longitudinally-movable spindle attachment for use in connection with the spindle of a spinning-lathe and in connection with other rapidly-revolving spindles, a further object being to provide an improved work-holder adapted to be mounted on the spindle of a spinning-lathe and to automatically move longitudinally thereof, so as to hold the work or sheet of material to be spun; and with these and other objects in view the invention consists of a device of the class specified constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by the same reference characters in each of the views, and in which—

Figure 1 is a perspective view of a spinning-lathe provided with my improvement; Fig. 2, a longitudinal section thereof; Fig. 3, a transverse section on the line 3 3 of Fig. 2, and Fig. 4 a similar section on the line 4 4 of Fig. 2.

In the drawings forming part of this specification I have shown at *a* the support or head-stock of a spinning-lathe, in which is mounted a bearing *a*², through which is passed a shaft *b*, provided at its outer end with a pulley *c*, by means of which in practice the shaft is driven.

The end of the shaft *b* opposite the pulley *c* is screw-threaded, and in practice the form *d* is screwed onto said shaft, and passing through this form and screwed into the shaft *b* is a lathe-spindle *e*, the outer end of which is screw-threaded, as shown at *e*². I have also shown at *e*³ a sheet of brass to be spun over the form *d*, and in practice I provide a tool or instrument of the class herein specified

which constitutes the subject of this invention and which consists of a central core-piece *f*, provided at one end with a block *f*², and the spindle *e* passes loosely through the core-piece *f* and the block *f*² and is free to turn therein. The core-piece *f* of my attachment is provided at the opposite sides with a longitudinal groove *f*³, and pivoted therein near their outer ends, as shown at *f*⁴, are pawl-levers *g*, the outer ends of which are each provided with a segmental nut *g*², these segmental nuts being half-nuts in form and constituting in the operation of the device as hereinafter described a complete nut.

The outer ends of the segmental nuts *g*² are beveled, as clearly shown in Fig. 2, and the inner ends of the pawl-levers *g* are correspondingly beveled, as shown at *g*³, and said core-piece is also preferably grooved longitudinally at four different points, as shown at *g*⁵ in Fig. 3, the object of this construction being simply to reduce the weight of the device.

Mounted on the core-piece *f* is a sleeve *h*, which is provided near its outer end and in the opposite sides thereof with set-screws *h*², and similar set-screws *h*³ are mounted in the opposite sides thereof near the inner end, and the movement of the sleeve *h* longitudinally of the core-piece *f* operates the pawl-levers *g* and causes the nuts *g*² to engage the thread of the spindle *e* at *e*² when said sleeve is moved in one direction and also causes said nuts to disengage said spindle or the thread thereof when said sleeve is moved in the opposite direction.

The sleeve *h* is provided with enlarged collars or rims *i* and *i*², through which the set-screws *h*² and *h*³ are passed, and said sleeve may be moved longitudinally of the core-piece *f* by any suitable instrument or may be moved by hand; but in practice when the device is in operation it is advisable to move said sleeve by means of a tool or instrument.

The operation will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following statement thereof. It will be understood that the sheet *e*³ of metal to be spun over the form *d* is placed on the spindle *e* in the usual manner, and the block *f*², which is secured in the end of my improved attach-

ment, presses on said sheet and holds it in position and the sheet e^3 is spun over the form d in the usual manner. By moving the sleeve h outwardly the screws h^3 will strike the inner ends of the pawl-levers g and at the same time the screws h^3 will slide over the nuts g^2 and the said nuts move outwardly by reason of the fact that the inner ends of said levers are forced inwardly, and the entire attachment may be moved longitudinally of the spindle, as will be readily understood, and when said sleeve is moved inwardly this operation will be reversed and the nuts g^2 will be forced into engagement with the thread e^2 on the spindle e . This operation may be performed while the spindle is revolved, and the connection of the attachment with the spindle or its disconnection or removal therefrom may thus be accomplished without stopping the spindle, and the substitution of one sheet e^3 for another may thus be quickly and easily accomplished whenever desired. It is also necessary to provide means to limit the movement of the sleeve h on the core-piece f , and in the construction herein shown and described I form in one side of the core-piece f a short longitudinal groove j , and passed through said sleeve is a screw j^2 , the inner end of which fits in said groove, and the length of said groove regulates the movement of the sleeve h longitudinally of the core-piece f . It will also be understood that the revolution of the spindle forces the attachment against the sheet e^3 and holds it securely in this position, and this attachment may be applied

to any kind of a revolving spindle having a screw-thread at the outer end thereof.

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

1. An attachment for a revolving spindle provided with a screw-thread, said attachment consisting of a central longitudinal core-piece, a sleeve movable longitudinally thereon and levers connected with said core-piece and operated by said sleeve and provided with segmental nuts adapted to engage the thread of said spindle, substantially as shown and described.

2. An attachment for a rotatable spindle provided with a screw-thread at its outer end, comprising a central core-piece through which the spindle passes and provided with longitudinal grooves in the opposite sides thereof, pawl-levers pivoted in said grooves and provided at their outer ends with segmental nuts adapted to engage the thread of the spindle and a sleeve mounted on said core-piece and longitudinally movable thereon and adapted to engage said levers, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 20th day of February, 1902.

ANDREW C. WITZEL.

Witnesses:

F. A. STEWART,
F. F. TELLER.