

(No Model.)

T. BRIGGS.
MACHINERY OR APPARATUS FOR SPINNING AND DOUBLING
YARN OR THREAD.
No. 257,284. Patented May 2, 1882.

FIG:1.

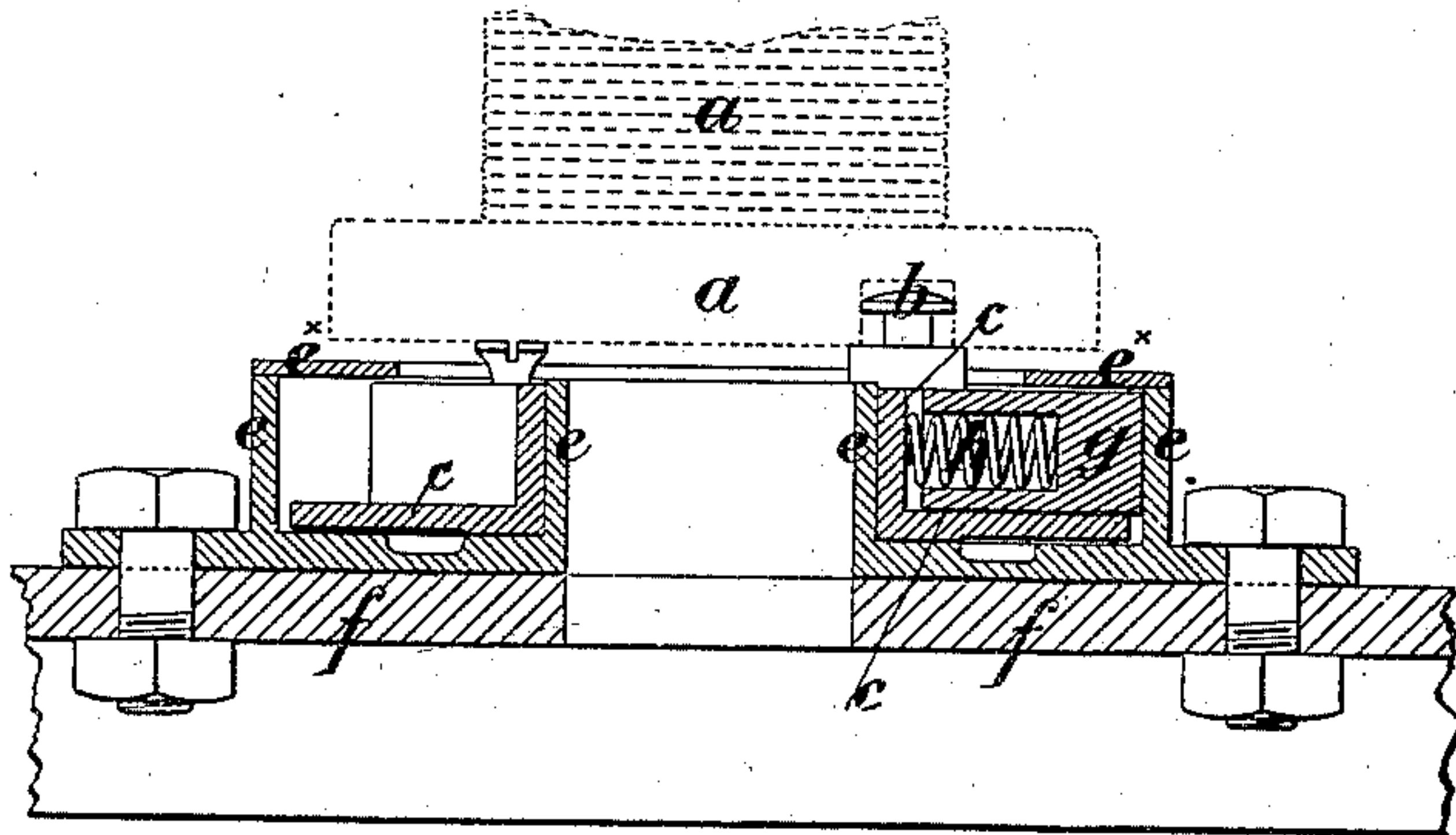


FIG:2.

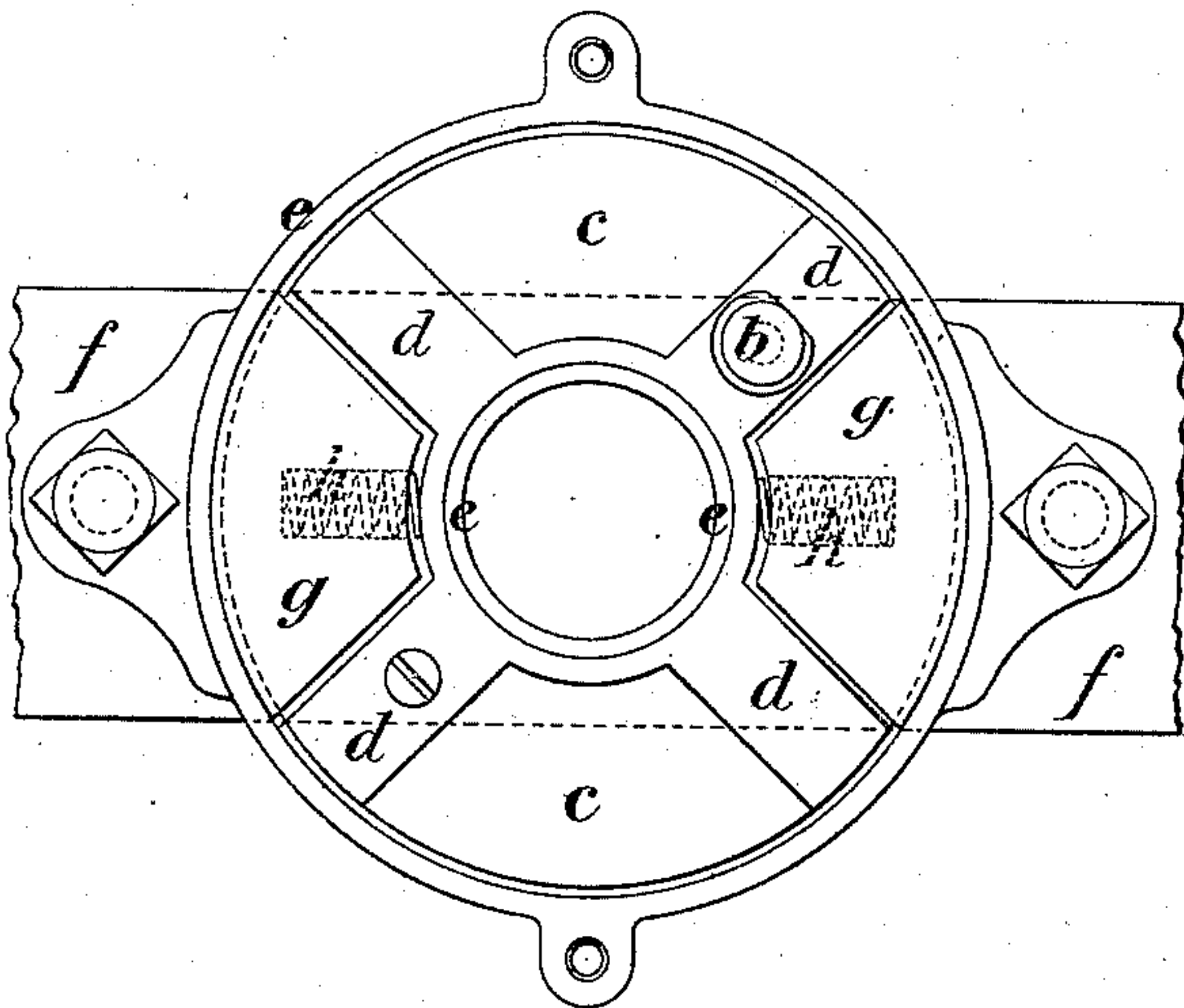


FIG:3.

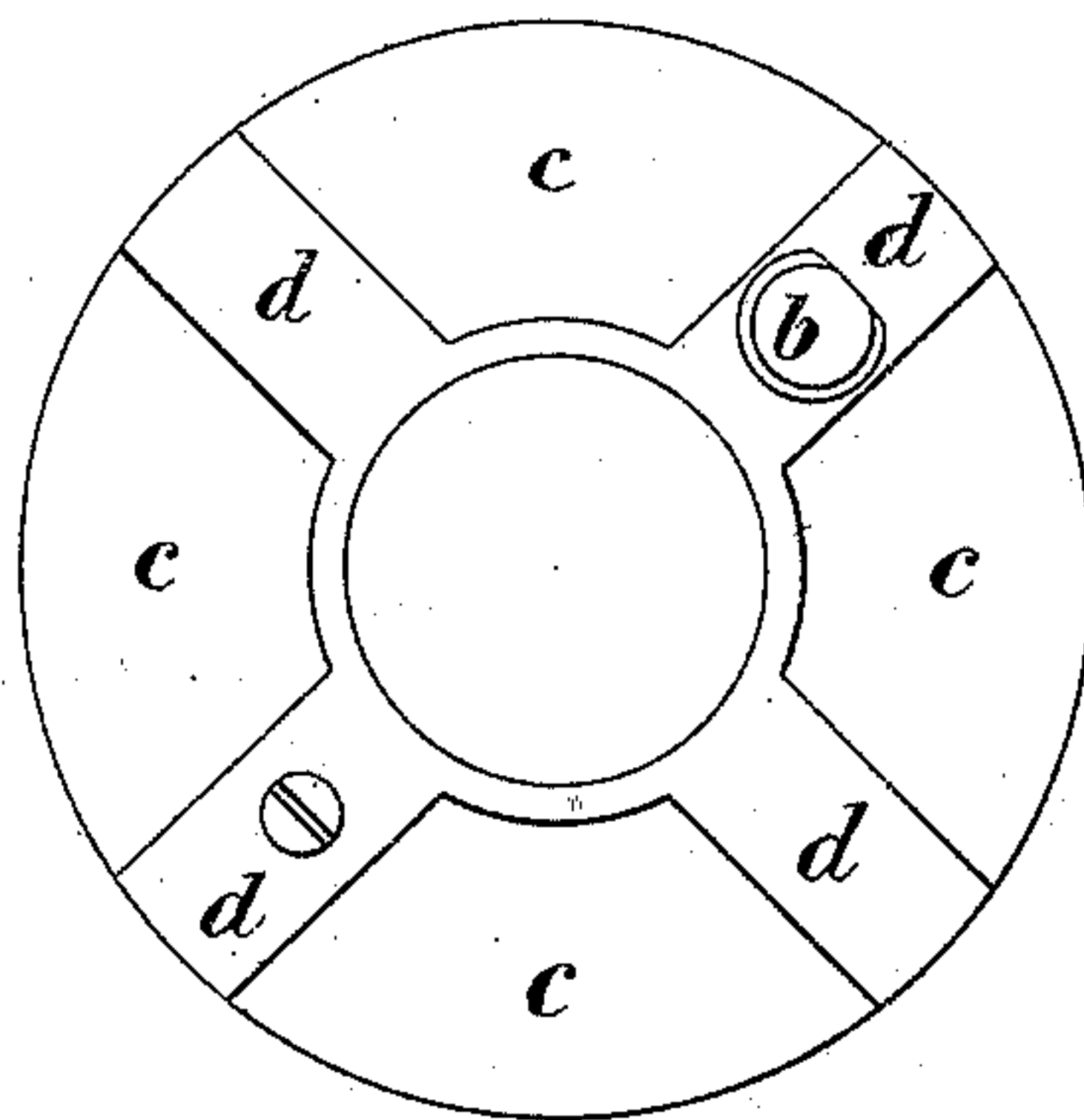


FIG:4.

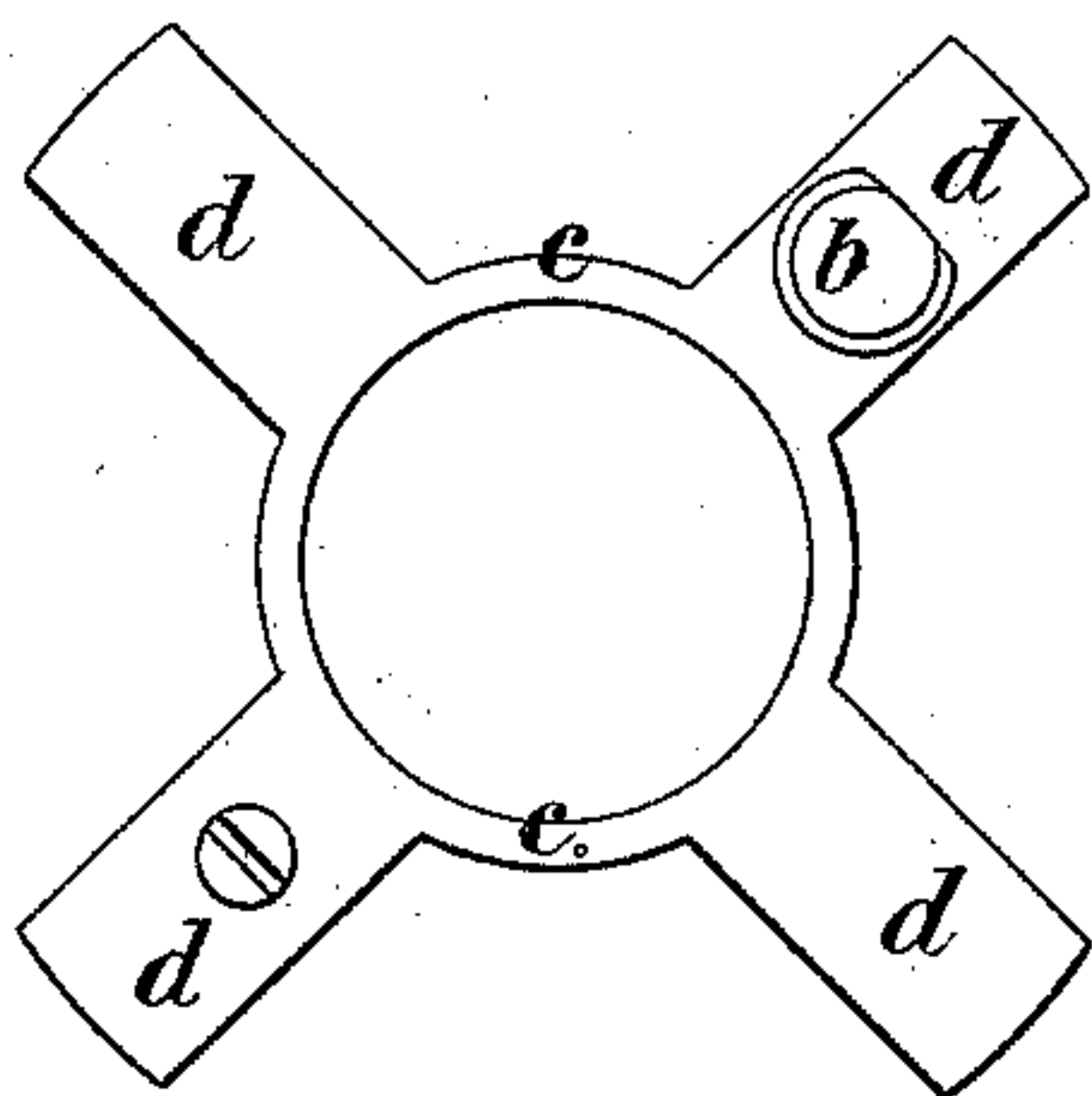
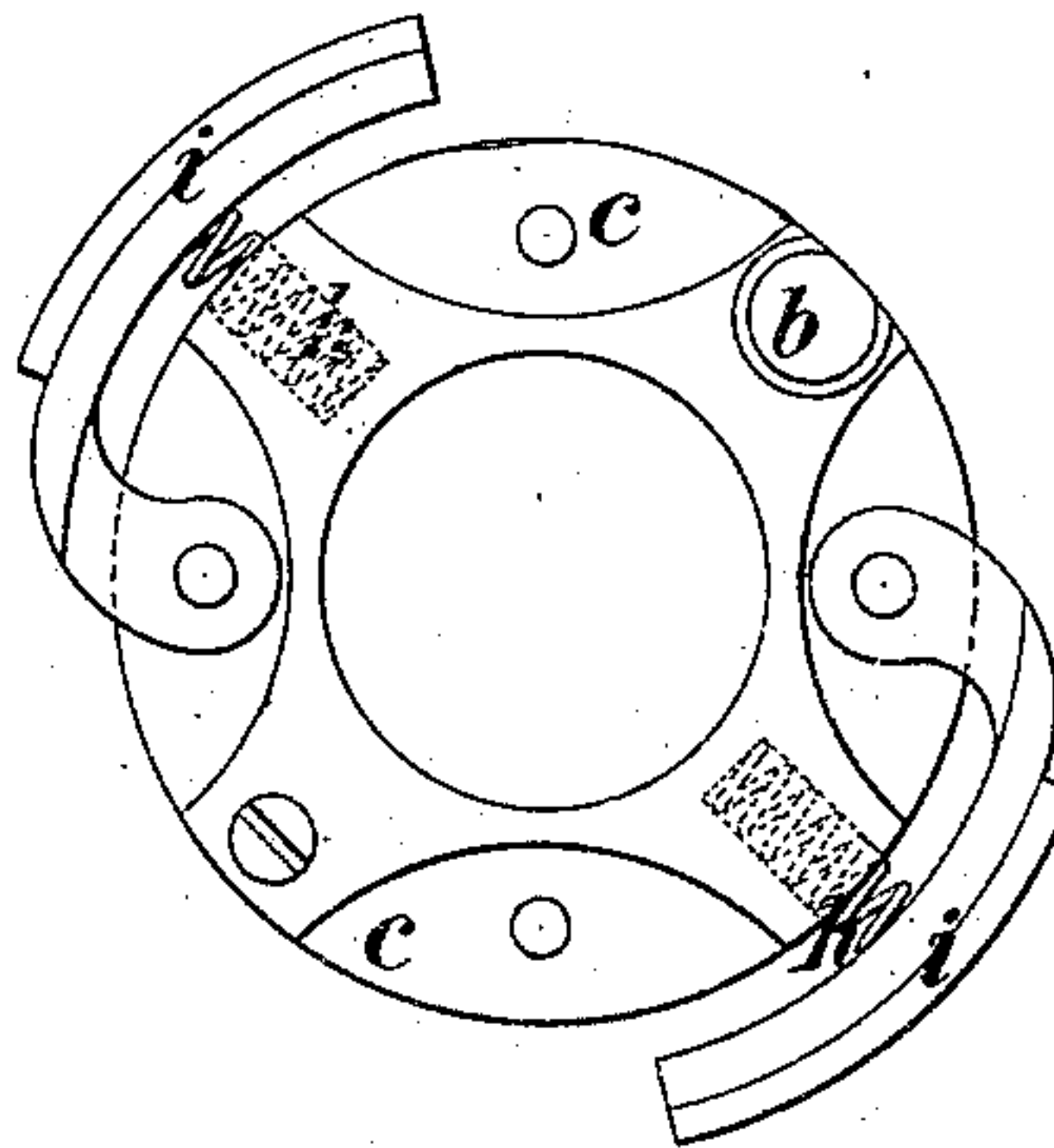


FIG:5.



Witnesses.

David S. Williams
James F. Tobin

Inventor.

Thomas Briggs
by his Attorneys
Howson and Jones

UNITED STATES PATENT OFFICE.

THOMAS BRIGGS, OF MANCHESTER, COUNTY OF LANCASTER, ENGLAND.

MACHINERY OR APPARATUS FOR SPINNING AND DOUBLING YARN OR THREAD.

SPECIFICATION forming part of Letters Patent No. 257,284, dated May 2, 1882.

Application filed November 17, 1881. (No model.)

To all whom it may concern:

Be it known that I, THOMAS BRIGGS, a subject of the Queen of Great Britain, and residing at Manchester, in the county of Lancaster, England, have invented Improvements in Machinery or Apparatus for Spinning and Doubling Yarns or Threads, of which the following is a specification.

This invention is designed principally to be applied to machinery or apparatus used for spinning and doubling twines or cords made from hemp, jute, or other similar materials; but it may also be applied to machinery or apparatus employed for spinning and doubling finer yarns or threads made from cotton, wool, flax, and other fibrous substances.

The improvements consist principally in a peculiar construction of automatic centrifugal drag motion to be applied to the taking-up bobbin, whereby the amount of drag on the bobbin is caused to increase as the diameter of the bobbin increases, and hence the tension on the yarn or strand is rendered more uniform and the occurrence of snarls, knots, or breakages is greatly diminished.

Such being the nature and object of my said invention, I will now proceed to describe more in detail the manner in which the same is to be or may be performed or carried into practical effect; and in order that the same may be clearly understood I have hereunto annexed a sheet of drawings illustrative thereof, and have marked the same with figures and letters of reference corresponding with those in the following explanation thereof.

Figure 1 in the annexed drawings is a vertical section, and Fig. 2 a plan view, of my improved apparatus with the cover removed; Fig. 3, a plan view of the rotating disk detached; Figs. 4 and 5, detached views of modifications of this device.

The taking-up bobbin, the lower portion only of which is shown, as represented by the dotted lines *a a* at Fig. 1, is connected by means of a small stud or other suitable projection, *b b*, with a revolving disk, *c c*, upon the upper side of which are cast four radial arms, *d d*, forming a cross. (See detached view, Fig. 3.) This is fitted into and revolves within a dish or circular box, *e e*, secured to the traverse-rail *f f* of the machine, and fitted with a cover, *e^x e^x*. In the spaces between the radial arms *d d* of the cross are placed, so as to fit loosely, two or more weights, *g g*, their outer edges being formed so as to fit the inner circumference of

the rim of the dish or box *e e*, above mentioned. It will be evident that as the bobbin *a a* revolves in winding on the yarn the centrifugal force will cause the weights *g g* to slide outward and bear with greater or less force against the interior of the rim of the dish or box *e e*, which will cause a drag upon the bobbin *a a*, which drag will be greater or less according to the speed at which the bobbin revolves, and as this speed necessarily increases with the increasing diameter of the bobbin the drag will increase in a similar ratio, and thus the tension upon the yarn will be kept uniform, or nearly so, throughout, and the result will be increased uniformity and less breakages.

In order to insure a certain amount of drag at starting, and before the centrifugal force has come into play, the weights *g g* may be provided with springs *h h*, which have a constant tendency to press them outward against the rim of the dish or box *e e*.

It will be evident that this automatic centrifugal drag may be applied with equal advantage to the letting-off bobbin to give the necessary tension to the yarn, strand, or cord.

I may here observe that I do not confine myself to four radial arms, as a greater or less number may be employed, if preferred, and also that in some cases the revolving disk may be dispensed with and a boss merely provided with radial arms be substituted, as shown at Fig. 4, in which case the weights *g g* will rest on the bottom of the dish or box *e e*, and will merely be carried round by the radial arms; or the friction-weight may be fitted in a slot of the radial arms; or in place of loose weights I sometimes attach small levers *i i* to the disk *c c*, as shown at Fig. 5, and the said weights or levers may be faced with leather or other suitable material, if increased friction be required.

I claim—

The combination of the rail of a spinning or doubling machine and a box carried thereby with a disk or boss therein adapted to be connected to the bobbin, and carrying centrifugal friction devices bearing against the wall of said box as the bobbin is rotated, all substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

Witnesses: THOS. BRIGGS.
CHARLES DAVIES,
JNO. HUGHES.