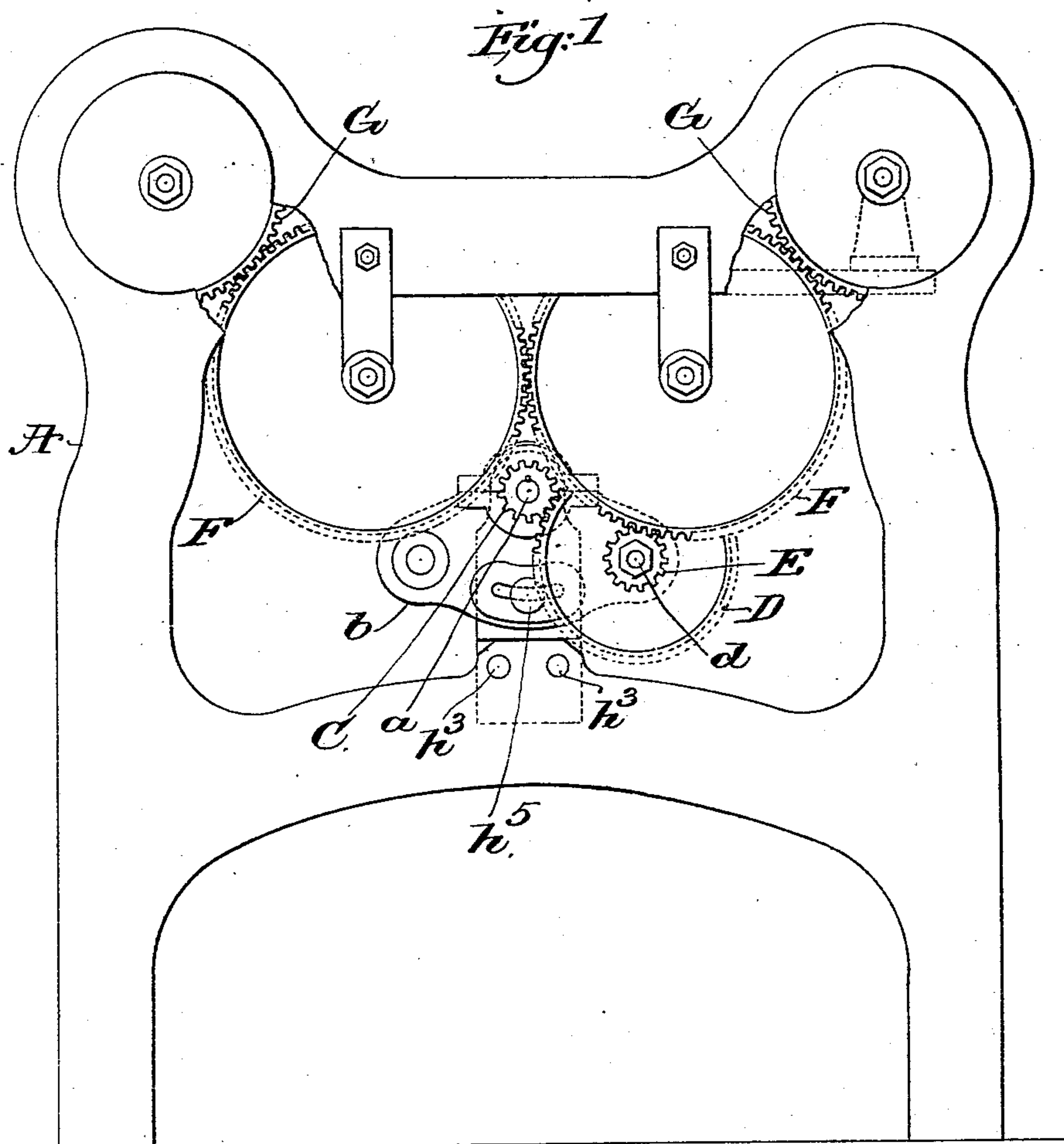
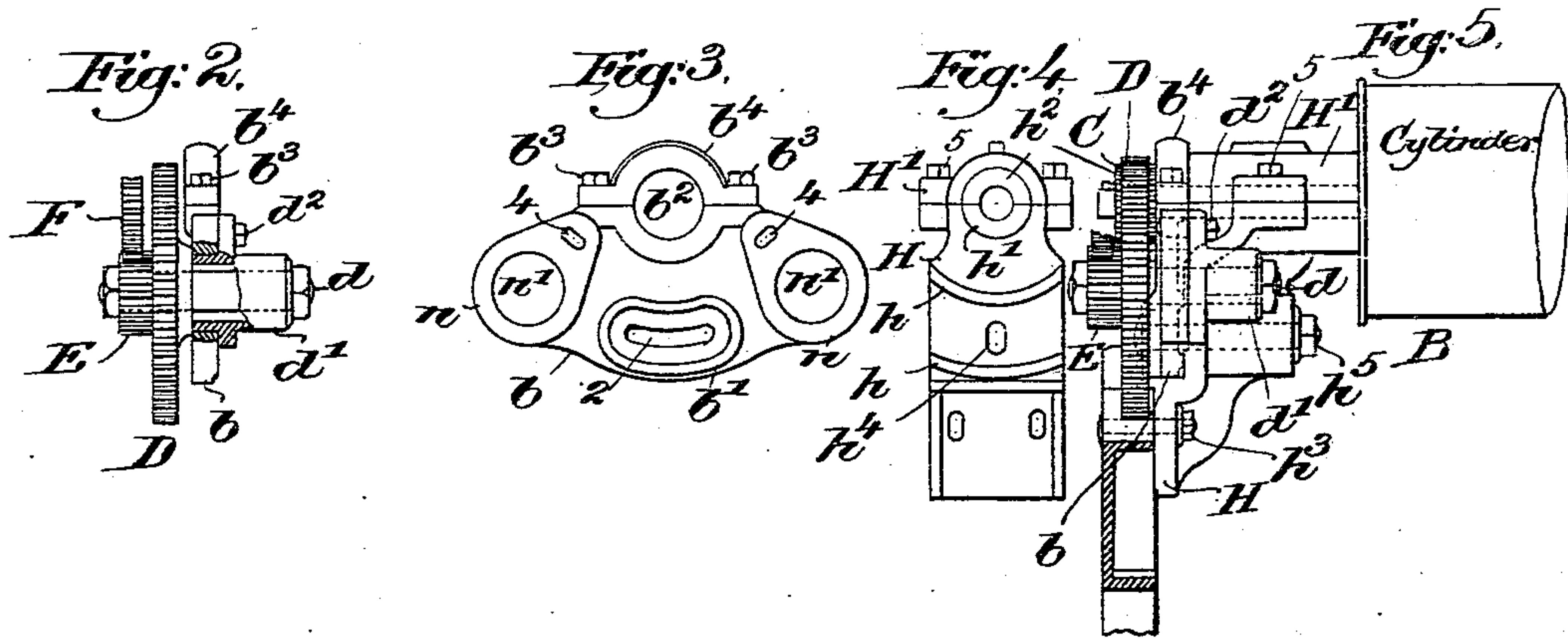


(No Model.)

J. T. MEATS & A. MASON.
SPINNING AND TWISTING MACHINE.

No. 555,323.

Patented Feb. 25, 1896.



Witnesses.

John F. C. Pencil

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UNITED STATES PATENT OFFICE.

JOHN T. MEATS AND ARTHUR MASON, OF TAUNTON, MASSACHUSETTS,
ASSIGNORS TO THE MASON MACHINE WORKS, OF SAME PLACE.

SPINNING AND TWISTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 555,323, dated February 25, 1896.

Application filed July 21, 1894. Serial No. 518,235. (No model.)

To all whom it may concern:

Be it known that we, JOHN T. MEATS and ARTHUR MASON, of Taunton, county of Bristol, State of Massachusetts, have invented an
5 Improvement in Spinning and Twisting Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

10 In spinning and twisting machines as now commonly made the crown-gear-carrying stand has been held concentric with the cylinder-shaft by means of a friction-clamp placed outside the cylinder-box, but such construction prevents any adjustment of the cylinder-
15 box caps in case the bearing becomes heated. So also said stands, fitted loosely onto a turned part of the cylinder-box, have been secured to the end casting or frame of the
20 machine by a bolt inserted through a slot in the stand concentric with the cylinder-shaft, but much fitting is required to make the parts operative, because of the difficulty in getting the stands true or square with the
25 cylinder-shaft. It has also been customary to bolt the crown-gear stand to the end casting of the machine on either side of the cylinder-box, in order that the fluted drawing-rolls may be rotated in the proper direction,
30 but with this latter construction in case of wear or when the crown or cylinder gears need to be changed, it becomes necessary to adjust the cylinder-gear with relation to the crown-gear, and also the usual change-gear,
35 with relation to the intermediate gear, and in case the gears do not intermesh properly great wear results.

In accordance with our invention we have devised a novel crown-gear-carrying stand
40 and have pivoted it on the cylinder-shaft-box stand, the construction being such as to insure at all times proper relative positions for the cylinder and crown gears, no matter at which side the center of the cylinder-shaft
45 said crown-gear is to be placed, the cap of the cylinder-shaft-box stand being free to be adjusted, in case the box heats, without removing or displacing the crown-gear-carrying stand, our invention also obviating faulty
50 alignment.

Figure 1, in end elevation, shows an ordi-

nary spinning or twisting frame with one of our improved crown-gear-carrying stands applied thereto, the usual drawing-rolls being omitted; Fig. 2, an end view of the crown-
55 gear stand with crown-gear, change-gear, and intermediate gear; Fig. 3, a side view of the crown-gear-carrying stand. Fig. 4 represents the cylinder-shaft-box stand detached. Fig. 5 shows the cylinder-shaft-box stand and
60 crown-gear-carrying stand bolted together and also part of the cylinder and the cylinder and crown gears.

The end frame A, the cylinder B, its shaft *a*, the cylinder-gear C, the crown-gear D, the
65 change-gear E, the intermediate gears F, and the front-roll gears G driven by them, are all as commonly in use.

The lower part of the cylinder-shaft-box stand H (shown separately in Fig. 4) has an
70 accurately-finished segmental surface or bed *h h* and a boss *h'*, and the cap H' of the box has a boss *h²* corresponding with the boss *h'*.

The stand H is bolted to the end frame by suitable bolts *h³*, and has a hole *h⁴* for a bolt
75 *h⁵*, which is extended through a curved slot 2 in the crown-gear-carrying stand *b*, it having at its rear side, (see Fig. 3,) where the said stand is shown separately, an accurately-finished surface or foot *b'* to fit the bed *h h*,
80 and accurately-fitted surfaces *n n*, surrounding holes *n'*.

The top of the stand *b* is shaped to leave a concave seat or bearing *b²*, to which is attached
85 by bolts *b³* a concave or segmental cap *b⁴*, so as to leave between *b²* and *b⁴* a round hole to fit the bosses *h' h²* of the cylinder-box and its cap, the stand being free to be turned about said bosses and the end of the shaft *a*
90 in the box as a center when the bolt *h⁵* is loosened sufficiently.

The cylinder-gear C is fast on the shaft *a* outside the stand *b* and engages and rotates the crown-gear D fast on a short shaft *d*, revolving in bearing *d'*, said crown-gear having
95 at one side the change-gear E, which is fixed to the crown-gear as pinions are commonly fixed to gears with which they work in train, the change-gear engaging the usual intermediate gear F, one intermediate driving the
100 other, all as usual.

The shaft *d* carrying the crown and change

gears is extended through a bearing d' , having a portion of its end next the stand so reduced as to fit the hole n' in stand b , said bearing being secured adjustably to said stand
5 by a bolt d^2 , extended through an ear of the stand and through an entering-slot 4 in the stand, the end of the bearing in contact with said stand being made to fit accurately the surface n of the stand.

10 The stand b is, it will be seen, free to be moved about the shaft a as a center when the bolt h^5 is loose, and said stand may be locked in place when the gears C and D and E and F are in proper intermesh, and the
15 strains may be kept direct, and wear may be compensated for, and yet if the cylinder-shaft becomes heated the screws 5 holding the cap H' in place may be loosened and removed without taking off or disturbing the stand b .

20 In operation it will be understood that the cylinder is rotated by a belt on suitable pulleys at its end opposite that shown in the drawings, and that the front rolls will be rotated through the gearing shown in Fig. 1,
25 the gears C and D rotating very rapidly to effect the proper rotation of the train of gears driven by them, and it is because of this high speed and consequent wear that our invention becomes of importance in insuring proper
30 intermeshing of the gears and easy adjustment, and when the stand b carrying the shaft d is adjusted the said shaft must move concentrically with relation to the shaft a , and by withdrawing the bolt d^2 the bearing d' may
35 be changed from one to the other end of the stand b , as may be required by the direction of the main driving-belt of the machine, the adjustment of the change-pinion E to engage one or the other intermediate gear insuring
40 proper direction of rotation for the front draft-roller.

The bearings d' may be cast solid on each side of the stand b , if it is desirable to cheapen the construction, by doing away with the plan-
45 ing of the surfaces n .

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a spinning or twisting machine, the
50 cylinder-shaft, its gear C, a cylinder-shaft-box stand provided with a bearing for said shaft, a laterally-extended boss h' and a segmental cap having a boss h^2 ; and a crown-gear-carrying stand having a bearing b^2 and a segmental
55 cap b^4 to fit the bosses h' , h^2 , and turn thereon about them and the cylinder-shaft as a center, combined with a crown and change gear supported by said crown-gear-carrying stand, and means to connect the said stands together and

hold them in adjusted position, substantially 60 as described.

2. In a spinning or twisting machine, a cylinder-shaft, its gear; a cylinder-shaft-box gear having a bearing provided with a laterally-extended boss h' and having at one side 65 an accurately-finished bed h , h , and a segmental cap H' provided with a segmental boss h^2 , combined with a crown-gear-carrying stand having at one side accurately-finished faces
70 b' to fit the finished bed h and having a curved bearing b^2 and segmental cap to surround the bosses h' , h^2 ; combined with a crown and change gear supported by said crown-gear-carrying stand, and means to connect said
75 stands together in adjusted position, substantially as described.

3. In a spinning or twisting machine, a crown-gear-carrying stand having a plurality of openings n' , and a segmental bearing b^2 , and cap b^4 ; and the cylinder-shaft-box stand 80 having an attached boss h' , h^2 , to form a center of motion for said crown-gear-carrying stand; combined with a bearing d' having a flange and a portion beyond to accurately fit either of said openings, and a shaft and a
85 crown-gear and a change-gear fixed thereto, the said two openings serving to receive said bearing d' according to the direction it is desired to turn the intermediate gears forming part of the roller-driving train, substantially 90 as described.

4. In a spinning and twisting machine, the cylinder-shaft, its gear C; and the cylinder-shaft-box stand having a shaft-bearing and a cap, each provided with a segmental boss, 95 the stand having also a finished bed h ; the shaft d , its attached crown and change gears, and the flanged bearing d' having a cylindrical end; the crown-gear-carrying stand having an opening n' surrounded by an accurately-finished face n , into which opening the
100 cylindrical end of the said bearing is fitted, and having a bearing b^2 , and a segmental cap b^4 to fit the bosses h' , h^2 , and an accurately-finished face b to fit the bed h ; combined with
105 devices to hold the said bearing d' in said crown-gear-carrying stand, and to connect the latter stand when turned about the bosses h' , h^2 , to the cylinder-shaft-box stand, substantially as described. 110

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOHN T. MEATS.
ARTHUR MASON.

Witnesses:

JOSEPH S. EATON,
GEO. E. BAKER.