

No. 629,495.

Patented July 25, 1899.

F. S. CULVER.

ROVING STOP MOTION FOR SPINNING MACHINES.

(Application filed May 4, 1899.)

(No Model.)

Fig. 1.

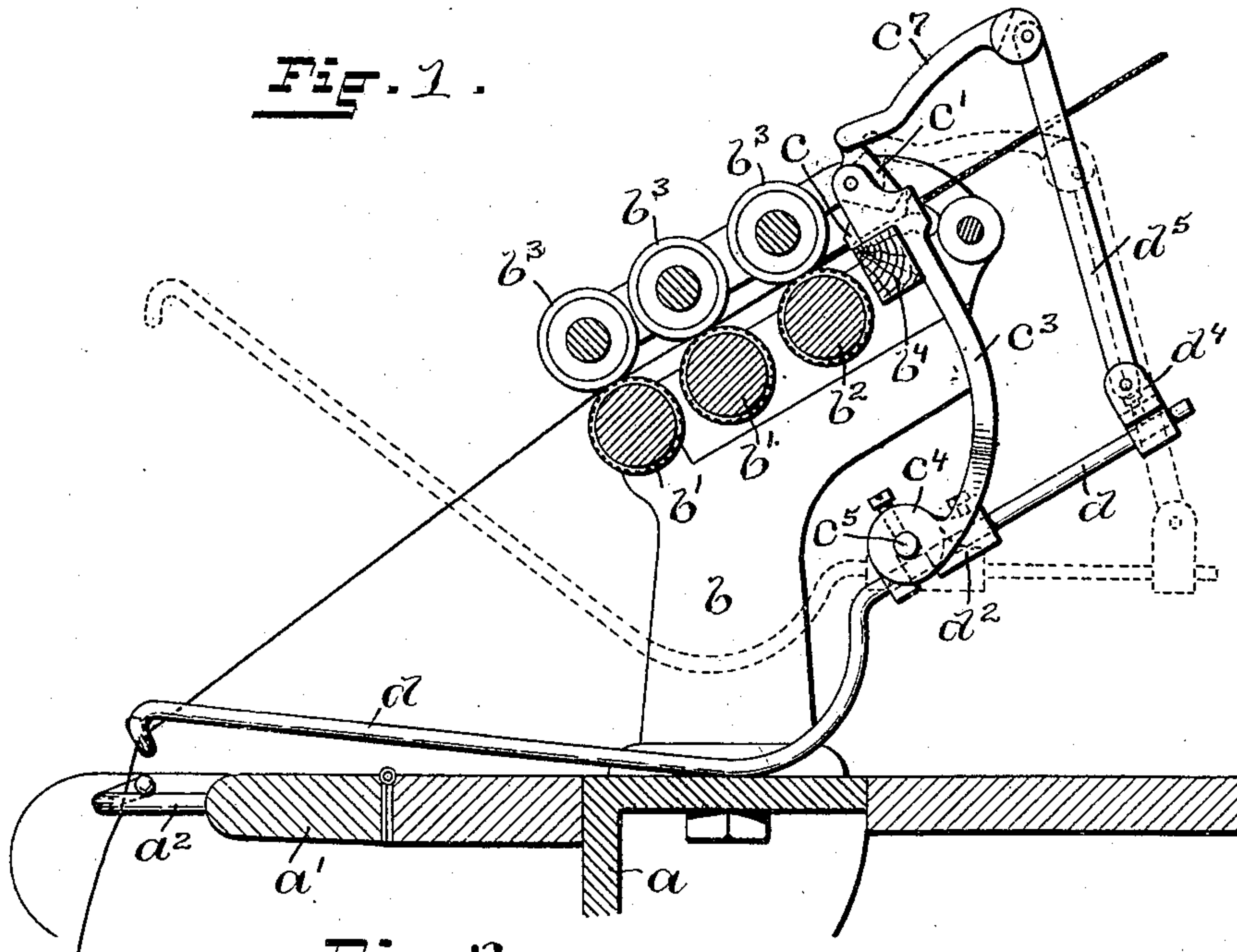


Fig. 2.

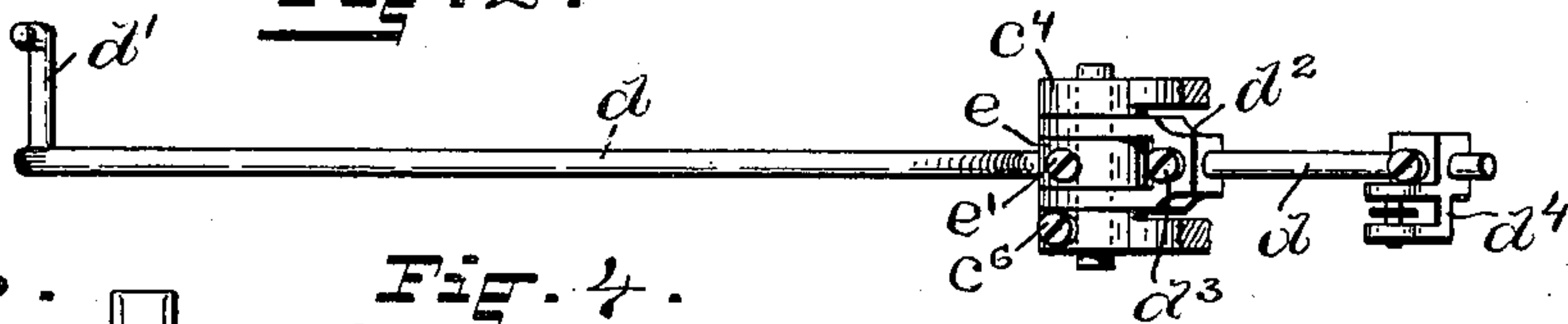


Fig. 3.

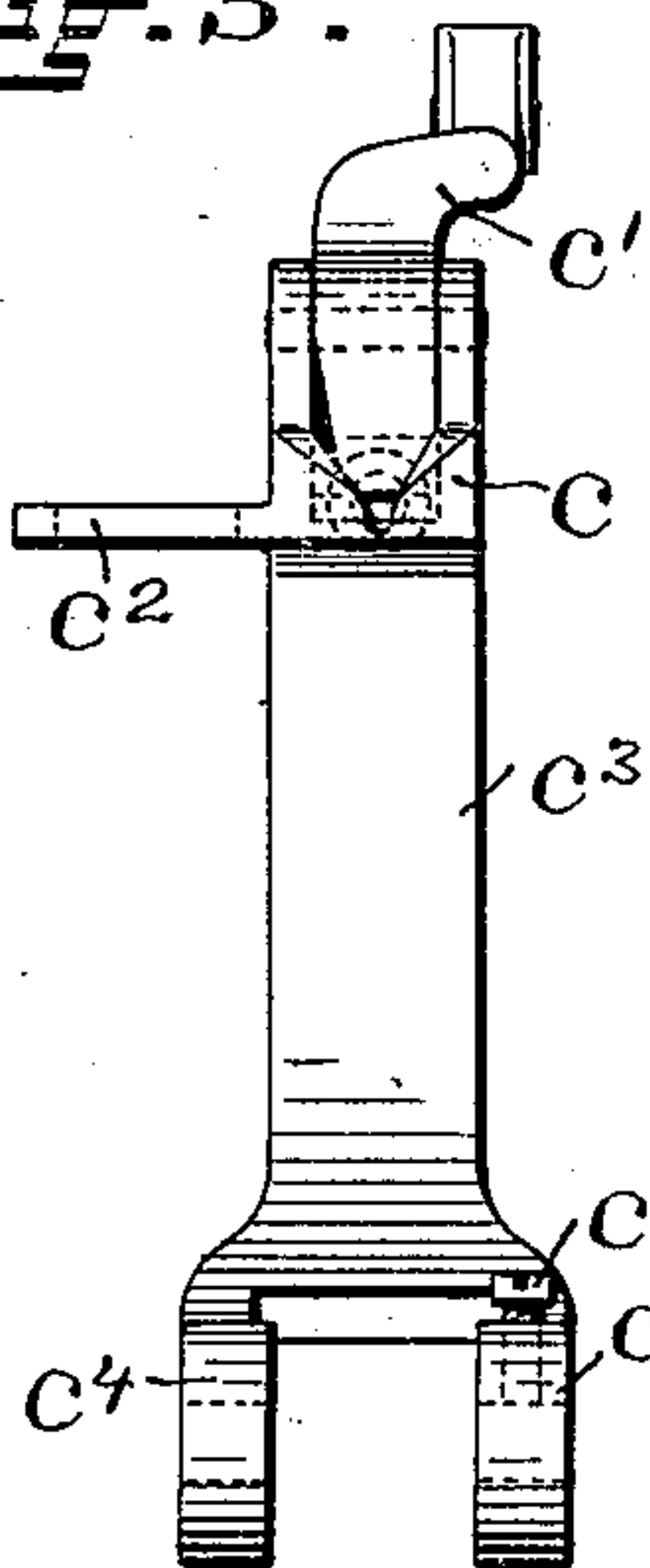


Fig. 4.

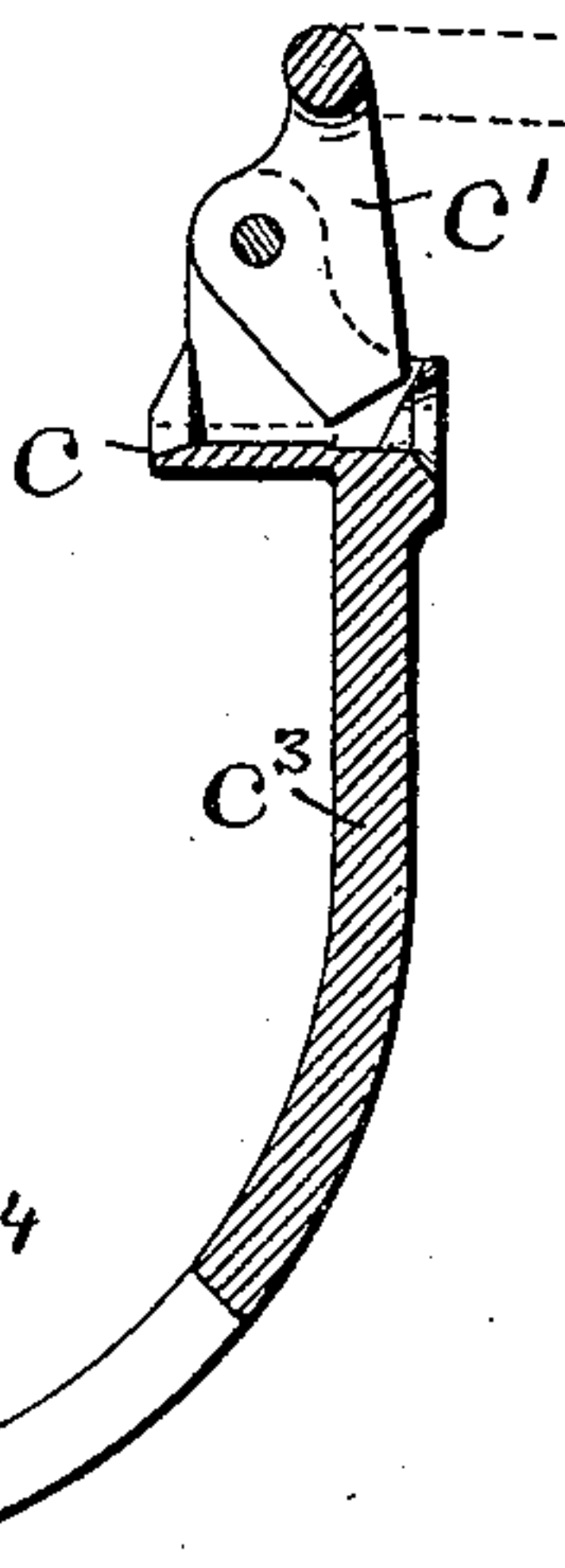


Fig. 5.

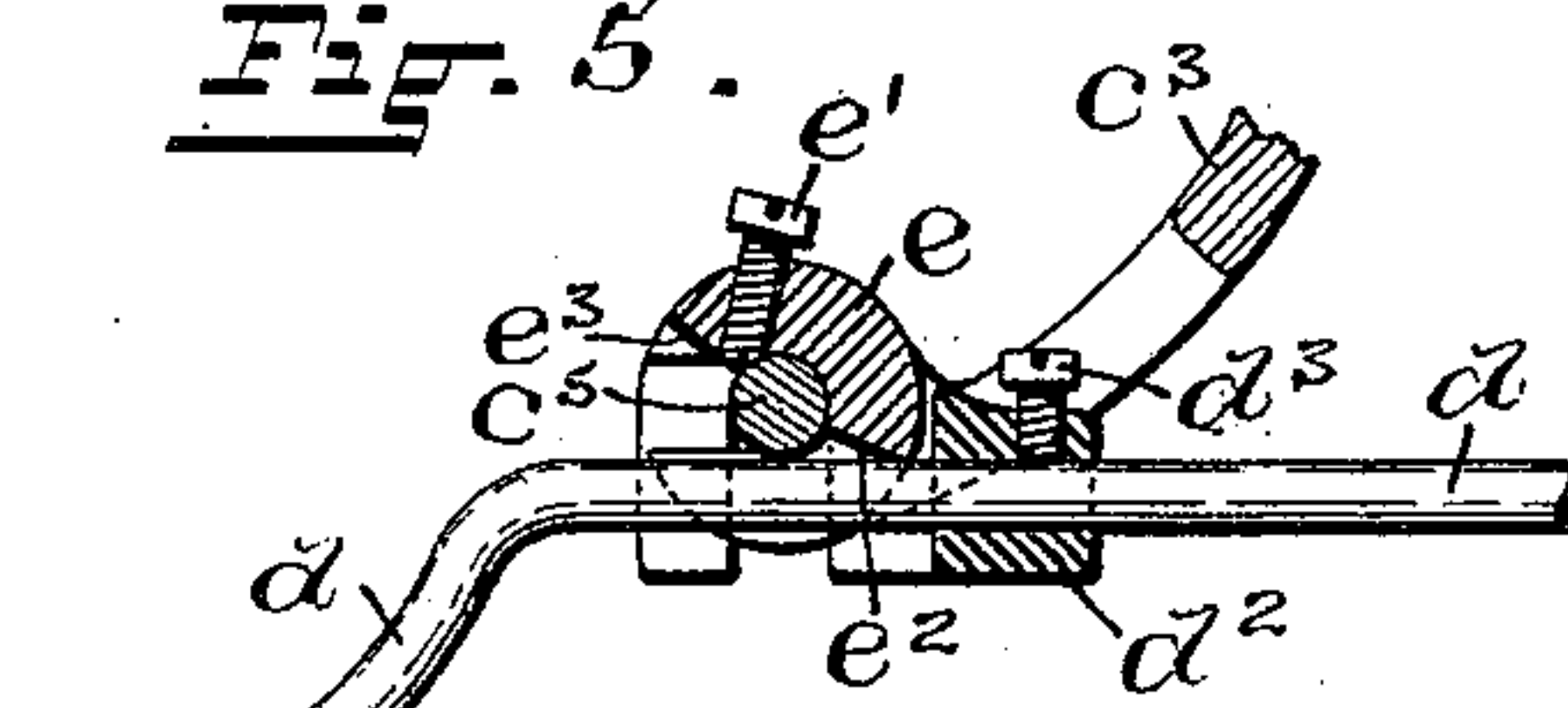
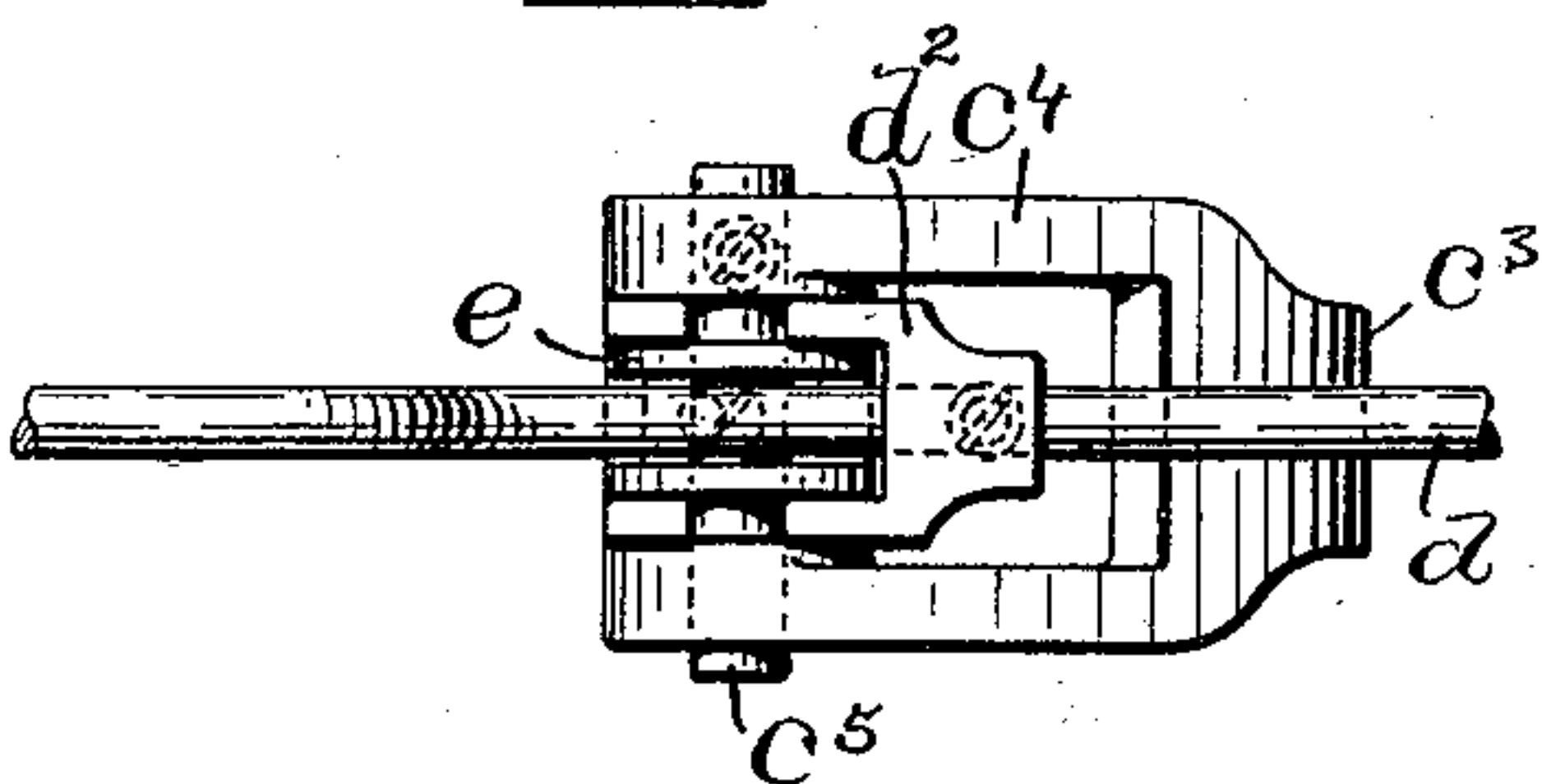


Fig. 6.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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ROVING STOP-MOTION FOR SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 629,495, dated July 25, 1899.

Application filed May 4, 1899. Serial No. 715,503. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK SLOCUM CULVER, of Taunton, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Roving Stop-Motions for Spinning-Machines; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to an improvement in devices for stopping the delivery of roving to the drawing-rolls of spinning-machines when the roving breaks.

The object of the invention is to arrest the delivery of the roving and hold the broken end in close proximity to the back rolls, so that on the release of the roving by the attendant the roving will pass through the drawing-rolls.

In spinning-machines the roving passes from the spool, usually through a guide-eye, to the drawing-rolls, where it is drawn out and thence extends through a guide-eye to the spinning-spindle. The roving is held against the drawing-rolls by the top rolls, usually covered with leather, and to prevent the local wearing of the drawing-rolls and top rolls the roving is usually passed through trumpets secured to a rod which is automatically traversed longitudinally, so as to continually change the path of the roving through the drawing-rolls. When the roving breaks, it ceases to make yarn, and unless it is arrested will be turned into waste. To secure the prompt arresting of the roving, the holding device, by which the roving is to be clamped, must coöperate with the trumpet on the traverse-rod close to the back rolls, and the clamping device must be so accurately adjusted that on the stopping of the spinning-machine or when the sliver or roving extending from the front rolls to the spindle is slack the device will not act to clamp the roving, but will promptly act when the roving breaks. To secure this accurate adjustment, I connect my improved stop-motion directly to the traverse-rod and provide the front end of the arm with a bracket, so that while the roving stop-motion moves with the traverse-rod the roving or sliver is delivered through the usual guide-eye over the center of the spindle.

The invention consists in the peculiar and novel construction of the roving stop-motion whereby the relative position between the actuating-arm, the clamping device, and the roving is always maintained.

Figure 1 is a transverse sectional view of the front of one side of a spinning-machine, showing the stop-motion in the normal position in solid lines and in the position occupied by the same when arresting the delivery of the roving in broken lines. Fig. 2 is a top view of the actuating-arm of the roving stop-motion and the pivotal support for the same. Fig. 3 is a front view of the bracket having the trumpet and roving stop-motion at its upper end and the journal-support for the actuating-arm at its lower end. Fig. 4 is a sectional view of the bracket through the center of the trumpet and the roving-clamp. Fig. 5 is a sectional view of the pivotal support for the actuating-arm, showing the adjustable stops. Fig. 6 is a view of the under side of the bracket, showing the actuating-arm pivotally supported in the same.

In the drawings, *a* indicates the front beam of the spinning-machine, *a'* the finger-board, and *a²* the pigtail forming the stationary guide-eye; *b*, the drawing-roll stand; *b'* *b'*, the drawing-rolls; *b²*, the back roll; *b³* *b³*, the top rolls; *b⁴*, the traverse-rod. The trumpet *c* has its two sides extending upward to form the pivotal support for the clamping-arm *c'*, and it has the plate *c²*, which is provided with a slotted hole, and the curved bracket *c³*, provided at its lower end with the bifurcated supports *c⁴* *c⁴*, all formed in one piece. The rod *c⁵* is secured in the supports *c⁴* *c⁴* by means of the clamp-screw *c⁶*. The actuating-arm *d*, usually formed of a piece of bent-up wire, has on its front end the bracket *d'* and is secured to the journal-block *d²* by the clamp-screw *d³*. The journal-block *d²* is journaled on the rod *c⁵* and moves within the bifurcated support *c⁴* of the bracket *c³*. The rear end of the actuating-arm *d* is provided with the hinge-block *d⁴*, adjustably secured by a clamp-screw to the actuating-arm. The clamping-arm *c'* has the rearwardly-extending lever *c⁷*, formed in one piece with the arm *c'*, and the end of the lever *c⁷* is connected with the hinge-block *d⁴* by the rod *d⁵*, pivotally secured at the opposite ends.

It is important in a roving stop-motion to control the movement of the clamping-arm c' , so that in the normal position the roving will not be frayed or injured and so that the arm will firmly clamp the roving to arrest the delivery when the roving breaks. As the clamping-arm c' is operated by the actuating-arm d , I provide the stop-block e , secure it to the rod c^5 by the clamp-screw e' , and slot the same, so that the stops e^2 and e^3 will limit the movement of the actuating-arm d in the slot by partially rotating the stop-block e . The stops e^2 and e^3 may be adjusted and the operation of the clamping-arm c' controlled.

By the use of my improved roving stop-motion the sliver extending from the front rolls to the spindle is guided in the usual manner by the pigtail a^2 , permanently located vertically over the axial center of the rotating spindle. The bracket d' bears against the sliver, which holds the actuating-arm d in the depressed position, and the pivotal support of the actuating-arm is secured to the traverse-rod b^4 , preferably by a screw extending through the elongated slot on the plate c^2 . The proper adjustment when once made is permanently maintained, thereby securing the reliable action of the clamping-arm c' to arrest the delivery of the roving and hold the same, so that when the actuating-arm is depressed the roving will be automatically delivered and may be readily pieced up with the sliver or partially-twisted yarn, connected with the bobbin or spindle. This roving stop-motion may be quickly secured to the traverse-rod in the manner described, and when secured is not liable to be affected by expansion, contraction, or the warping of any part of the spinning-machine.

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

1. In a spinning-machine, the combination with the drawing-rolls, the pigtails secured to the usual finger-boards, the traverse-rod, and the trumpet on the traverse-rod, of an arm extending downwardly from the trumpet to form the pivotal support of the actuating-arm, a clamping-arm pivotally supported on the trumpet, a lever extending rearwardly from the clamping-arm, and an actuating-arm

pivotally supported in the bracket extending from the trumpet, the rear end of the actuating-arm beyond the pivotal support connected with the rearwardly-extending lever of the clamping-arm; whereby the stop-motion is supported by and moves with the traverse-rod and the adjustment of the parts is maintained, as described.

2. In a spinning-machine, the combination with the finger-boards and the pigtails on the same, the drawing-rolls and the traverse-rod, of a bracket adapted to be secured to the traverse-rod, a trumpet in the upper part of the bracket, a clamping-arm pivotally supported on the trumpet, an actuating-arm having a laterally-extending bracket on the forward end of the arm, a journal-block pivotally supported by the bracket secured to the traverse-rod, a clamp-screw in the journal-block for securing the actuating-arm, and connections between the rear end of the actuating-arm and the lever extending rearwardly from the clamping-arm; whereby the roving stop-motion is made to move with the traverse-rod and the sliver extending from the front rolls to the spindle is supported by the laterally-extending bracket on the front end of the actuating-arm, as described.

3. A roving stop-motion consisting of the bracket c^3 , having at its upper end the trumpet c , and the clamping-arm c' pivotally connected with the trumpet, means for securing the bracket to the traverse-rod, the bifurcated support c^4 , the rod c^5 , the actuating-arm d , the laterally-extending bracket d' on the front end of the actuating-arm, the journal-block d^2 supported on the rod c^5 , means for securing the actuating-arm to the journal-block, the stop-block e , and means for adjustably securing the same to the rod c^5 , the lever c^7 connected with the clamping-arm c' , and connections between the lever c^7 and the rear part of the actuating-arm; the whole adapted to be secured to the traverse-rod of a spinning-machine, substantially as described.

In witness whereof I have hereunto set my hand.

FREDERICK SLOCUM CULVER.

Witnesses:

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