

F. S. CULVER & L. J. MORIN.

SPINNING MACHINE.

APPLICATION FILED MAY 14, 1909.

967,333.

Patented Aug. 16, 1910.

Fig. 1.

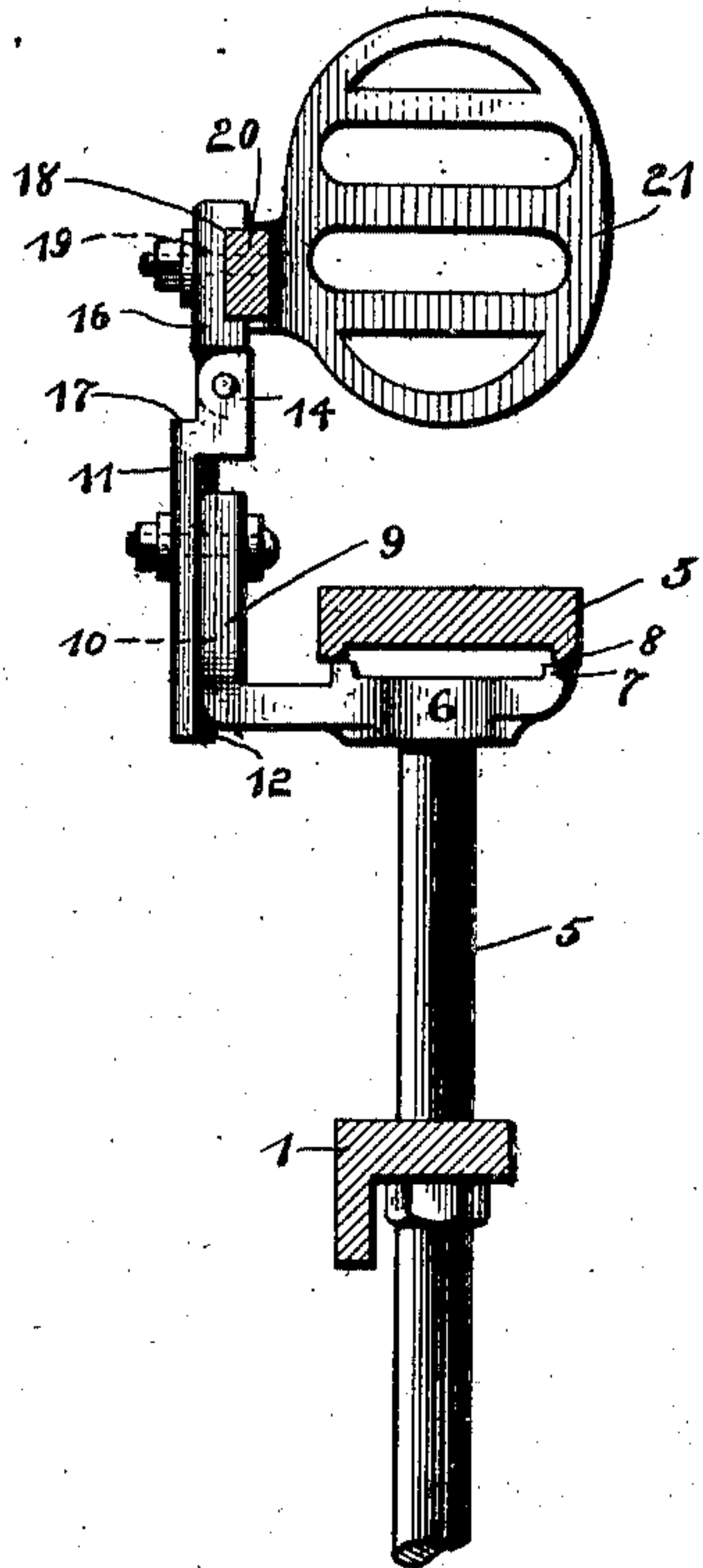


Fig. 2.

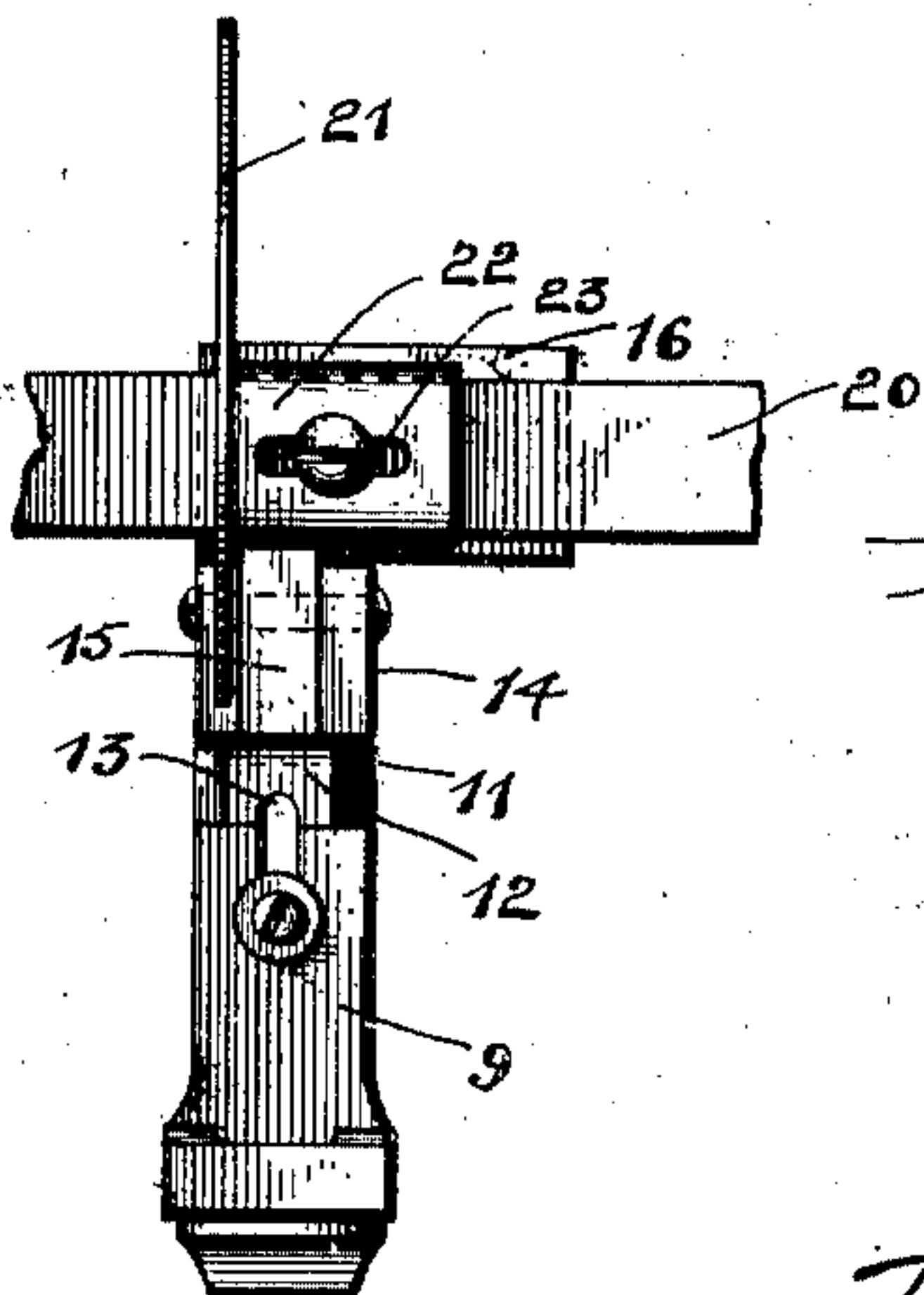
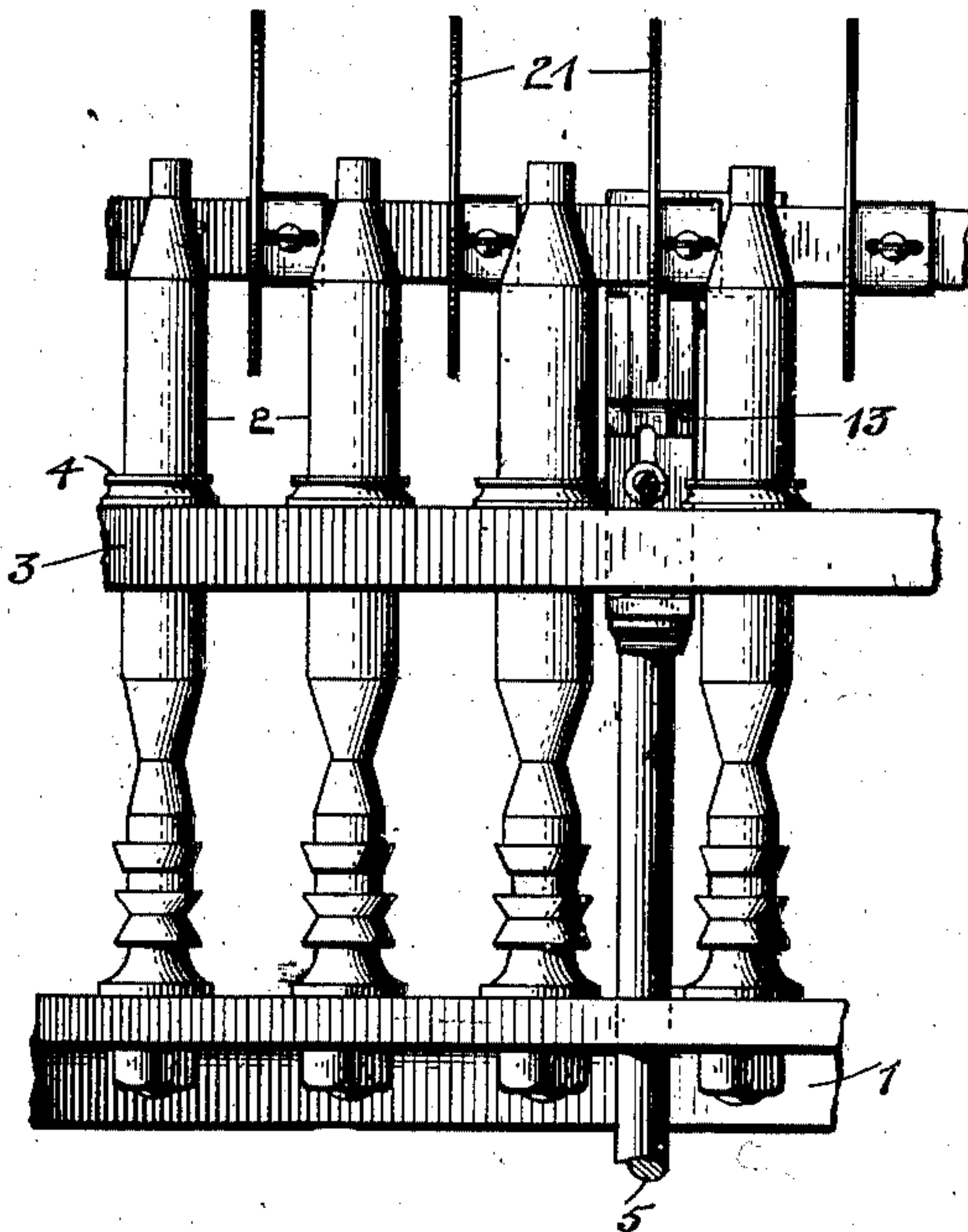


Fig. 3.

Witnesses

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FREDERICK S. CULVER AND LEON J. MORIN, OF TAUNTON, MASSACHUSETTS.

SPINNING-MACHINE.

967,333.

Specification of Letters Patent.

Patented Aug. 16, 1910.

Application filed May 14, 1909. Serial No. 496,068.

To all whom it may concern:

Be it known that we, FREDERICK S. CULVER and LEON J. MORIN, citizens of the United States, residing at Taunton, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Spinning-Machines, of which the following is a specification.

This invention relates to spinning machine appliances and has to do more particularly with the means for separating the yarn threads as they proceed from the several bobbins.

The object of this invention is to improve generally the construction of separator mechanism for ring spinning machines.

Heretofore, in mechanisms of this character, the separators or separator-plates have been carried and moved by rods independent of the lifter rods for the ring rail.

It is the purpose of this invention to provide a series of separators supported and operated jointly with the ring rail by the lifter rods thereof, thereby dispensing with a variety of mechanism with a consequent saving of work, wear and expense.

With this and other objects in view, which will hereinafter appear, our improved mechanism will now be fully set forth and described, reference being had to the accompanying drawings, which form a part of this specification, and in which,

Figure 1 is a side elevation of our improved separator plate with its carrying mechanism, and showing its relation to the ring rail of the machine. Fig. 2 is a front elevation of a portion of the spinning machine showing the bobbins with the separators located therebetween. Fig. 3 is a detail of the separator mechanism.

Referring now more particularly to said drawings, in which numerals indicate like parts throughout, 1 is the usual spindle rail supporting thereon the spindles upon which the bobbins 2 are mounted.

3 is the ring rail, which has the peculiar mounting as hereinafter set forth, and which carries the thread rings 4.

5 indicates the lifting rod, which is connected at its lower end to the lifting mechanism (not shown) and which supports and actuates the said ring rail 3. At its upper end said lifting rod 5 is formed or provided with a horizontal member or foot 6. As is understood by those familiar with the art, there is usually a plurality of the lifter rods

5 and the ring rail is supported horizontally across said rods. It will be understood then, that each rod 5 is provided with one of said feet 6. A description of one, however, will suffice to clearly disclose the construction of all. The upper surface of said foot 6 is provided with two or more projections or teats 7, which are so disposed as to receive the downturned flanges 8 formed on the ring rail 3, to hold said rail from lateral movement. Said foot 6 is rearwardly projected and provided at its rear end with an upstanding lug or finger 9. Said finger 9 is vertically slotted from its top substantially its entire length, and has formed on its rear face a correspondingly vertical groove 10, wider than said slot and running the entire length of said finger. Said slot and groove 10 form a socket or slideway and fastening means for a vertical bracket 11, said bracket being formed with a corresponding ridge or rib 12 which slides in said groove 10 and is also slotted at 13. Said slot registers with the slot in finger 9 and a nut and bolt are projected there-through to adjustably secure said parts 9 and 11.

At its upper end, bracket 11 is formed with two parallel, forwardly extended lugs 14, between which is hinged the leaf 15 of a supporting member 16, said lugs 14 and leaf 15 being horizontally and registeringly bored to receive a pin therethrough. The lower end of said supporting member 16 is made long enough to abut against the body of bracket 11 when said member is vertical to maintain it in that relation. A shoulder 17 is formed behind said lugs 14 to limit the backward swing of member 16 to a quarter turn. It is evident that by this construction, the member 16, with its attached mechanism may be swung out of proximity to the bobbins 2, when it is desired for renewal, repairs or adjustment.

The supporting member 16 is preferably formed as a horizontally disposed bar having a longitudinal groove-way 18, and being correspondingly slotted, as at 19. In said groove-way 18 is carried a horizontal separator carrying rod 20, which is secured to member 16 by bolts entered through said rod and engaging said horizontal slot 19. By this fastening means, said rod is rendered horizontally adjustable across the machine. Said separator carrying rod is pierced at suitable intervals to receive the fastening

bolts of the separator plates 21. Said plates are of the usual substantially oval grid formation, and are provided at their rear edges with offset projections or tangs 22, which
 5 are or may be formed integral therewith, and have their upper and lower edges projected rearwardly to form flanges which overlie or inclose said rod 20. Said tangs 22 are slotted as at 23, to render said separators 21 adjustable individually between
 10 their respective bobbins. It is desirable, where the rod 20 and a separator plate 21 are coincidentally located over a supporting member 16, as occurs in Fig. 1, that a
 15 single bolt be used to secure all these members together.

From the above, it is obvious that the separator plates are permanently and conveniently carried by the lifter rods, and that
 20 in the operation of the machine, and the consequent movements of the lifter rods, the separator plates will also be reciprocally moved, thereby efficiently and thoroughly keeping the yarns entirely separated and
 25 preventing breakage. Also, in our construction, the lifter rod movement is utilized to move the separator plate mechanism, thereby eliminating the usual, independent mechanism connected to the driving parts oper-
 30 ated for this purpose. Furthermore, we have constructed a battery of separators, which are in every way adjustable, either individually or collectively, with relation to the bobbins.

35 Having thus described our invention, we claim as new and desire to secure by Letters Patent:—

1. A separator mechanism for spinning machines, comprising in combination with
 40 the lifter rods, feet carried by said rods having upstanding grooved portions, vertically adjustable brackets mounted on said feet slidable in said grooved portions, and a separator carrying rod hinged to said brackets.
 45 etc.

2. A separator mechanism for spinning machines, comprising in combination with
 1 the lifter rods, feet carried by said rods having upstanding grooved portions, vertically
 50 adjustable brackets mounted on said feet in

said grooved portions, and a separator carrying rod hinged to said brackets, said separator carrying rod being horizontally adjustable with relation to said brackets.

3. A separator mechanism for spinning machines, comprising in combination with
 55 the lifter rods, feet carried by said rods having grooved bracket supports, vertically adjustable brackets mounted on said grooved bracket supports, a separator carrying rod
 60 hinged to said brackets, said separator carrying rod being horizontally adjustable with relation to said brackets, and separators carried by said rod and being adjustable thereon.
 65

4. A separator mechanism for spinning machines, comprising in combination with
 the lifter rods, feet carried by said rods, and having upstanding fingers thereon, brackets
 70 mounted for vertical adjustment on said fingers, rod supporting members hinged to said brackets, a rod carried by said supporting members and adapted for horizontal adjustment thereon, and a plurality of separator plates carried by said rod for inde-
 75 pendent adjustment.

5. A separator mechanism for spinning machines, comprising in combination with
 the lifter rods, feet carried by said rods, and adapted for vertical reciprocal movement
 80 therewith, means formed on said feet to engage a ring rail, fingers formed behind said rail engaging means, brackets mounted on said fingers for vertical adjustment, rod-
 85 supporting members hinged to said brackets and adapted to swing backwardly from vertical to horizontal position, a rod secured to said supporting members and adapted for horizontal adjustment thereon, and separator plates secured to said rod and adapted
 90 for independent adjustment.

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

FREDERICK S. CULVER.
 LEON J. MORIN.

Witnesses:

HENRY S. CULVER,
 JAMES F. LYNCH.