To all whom it may concern:

Be it known that I, HERMANN HONEGGER, a citizen of the Republic of Switzerland, residing at Wetzikon, Switzerland, have invented new and useful Improvements in Spinning and Twisting Spindle Bearings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

In spinning and twisting spindle bearings it is known to have the whorl, integrally connected with the spindle, and rotatable on balls on the outer portion of the fixed bearing-box. In this kind of constructions the number of revolutions is not allowed to exceed a determined limit, otherwise disadvantageous oscillations will occur.

For the purpose of preventing oscillations in a construction having sliding-bearings, the bearing-box is mounted in the bearing casing with room for play and held in the bearing frame by a spring. In the latter construction however, the requirement of power and lubricant is too considerable, and the number of revolutions has to be reduced, this being disadvantageous.

The object of the present invention is a construction which unites the two above mentioned characteristics, thus annulling the single disadvantage of both known constructions with the result that with but little requirement of power and lubricant, a high speed, without oscillations is attained.

In the accompanying drawings is shown by way of example one form of the present invention.

Figure 1 is a vertical section and Fig. 2 is a cross section (line A—B of Fig. 1). Fig. 3 shows a modified form of the depending portion of the spindle, the depending portion having a screw-groove. Fig. 4 shows a modification of the main support.

In the drawings 1 indicates the externally threaded lower hollow shaped portion of the main support which extends through the opening in the rail or part of the frame of a spinning machine. A nut 2 screwed on the externally threaded lower portion of the main support holds the main support upon the rail.

3 indicates the oil chamber. 4 is the hollow bearing bolster, resting within the lower portion of the main support.

A spring 7 is placed in a recess or groove 6 on the outer portion of the bearing bolster and engages in a recess or groove 6 of the lower portion 1 of the main support. The outer diameter of the hollow bearing bolster 4 is somewhat smaller than the corresponding bore of the lower portion of the main support, so that the spindle may adjust itself into the axis of the center of gravity. The bearing bolster rests upon a shoulder a in the inside of the hollow shaped lower portion of the main support.

The oil chamber 3 communicates by a groove 8 and a hole 9 with the oil cup 10 the oil being filled therein to the level 11. The bearing bolster 4 carries the spindle 12, and the whorl 13 which is fixed thereon, and dips with its lower extremity 13' into the oil cup 10. The whorl is held by a hook 14 in a known manner. The spindle 12 and the whorl 13, 13' are mounted rotatably by means of the ball or roller bearings 15, 16 on the outer portion of the bearing bolster 4. Instead of ball bearings or roller bearings, combined ball and roller-bearings could be provided. For taking up the axial pressure a thrust bearing could be provided. The spindle 12 has a depending portion or prolongation 12' depending in the bore 4 of the hollow bearing bolster, the diameter of which is larger than the diameter of the prolongation portion 12' of the spindle so that no friction within the bearing bolster takes place. The depending portion or prolongation 12' and the bore 4' are straight or tapered toward the lower end. In consequence thereof by rotation of the spindle 12 the oil will be caused to rotate and to raise higher than the level 11 to the bearing 15. Fig. 3 shows a depending portion or prolongation 17 provided with a screw-groove 18. From the bearing 18 the oil will flow to the lower bearing 16, will be thrown into the oil cup.
10 and will then flow through the groove 6 into the oil chamber 8, where the circulation of the oil will set in again. Instead of only a single hole or canal 9 several holes or passages 9 as shown in Fig. 4 can be provided.

1. A spinning and twisting spindle bearing comprising a spindle, a whorl integral with the spindle, a bearing for said whorl, a bearing bolster connected with said spindle, said bearing mounted on the outer portion of said bearing bolster, a main support means for holding said bearing bolster non-rotatable but with play within said main support so as to be capable of moving laterally and adjusting itself into the axis of the center of gravity, substantially as described and set forth.

2. A spinning and twisting spindle bearing comprising a spindle, a whorl integral with the spindle, a bearing for said whorl, a bearing bolster connected with the spindle, said bearing mounted on the outer portion of said bearing bolster, a hollow main support, a spring between the inner side of said hollow main support and said bearing bolster for holding the latter non-rotatable but with play within said hollow main support so as to be capable of moving laterally and adjusting itself into the axis of the center of gravity, substantially as described and set forth.

3. A spinning and twisting spindle bearing comprising a spindle, a whorl integral with the spindle, a bearing for said whorl, a bearing bolster connected with the spindle, said bearing mounted on the outer portion of said bearing bolster, a hollow main support having an oil chamber in the lower portion thereof and a groove in its inside, a prolongation of said spindle dipping into said oil chamber, a spring lying in both said grooves for holding the bolster non-rotatable but with play within said hollow main support so as to be capable of moving laterally and adjusting itself into the axis of the center of gravity, substantially as described and set forth.

4. A spinning and twisting spindle bearing comprising a spindle, a whorl integral with the spindle, a bearing for said whorl, a bearing bolster connected with the spindle, said bearing mounted on the outer portion of said bearing bolster, a hollow main support having an oil chamber in the lower portion thereof, a prolongation of said spindle dipping into said oil chamber, a spring lying in both said grooves for holding the bolster non-rotatable but with play within said hollow main support so as to be capable of moving laterally and adjusting itself into the axis of the center of gravity, substantially as described and set forth.

5. A spinning and twisting spindle bearing comprising a spindle, a whorl integral with the spindle, a bearing for said whorl, a bearing bolster connected with the spindle, said bearing mounted on the outer portion of said bearing bolster, a hollow main support having an oil chamber in the lower portion thereof and a recess in its outer side, said bearing mounted with rolling friction on the outer portion of said bearing bolster, a hollow main support, an oil chamber in the lower portion thereof and a recess in its inside, a prolongation of said spindle dipping into said oil chamber, a spring lying in both of said recesses for holding the bolster non-rotatable but with play within said hollow main support so as to be capable of moving laterally and adjusting itself into the axis of the center of gravity, substantially as described and set forth.

6. A spinning and twisting spindle bearing comprising a spindle, a whorl integral with the spindle, two bearings with rolling friction for said whorl, a bearing bolster connected with the spindle and having a groove in its outer side, said bearings mounted with rolling friction on the outer portion of said bearing bolster, a hollow main support having an oil chamber in the lower portion thereof and a groove in its inside, a prolongation of said spindle dipping into said oil chamber, an oil cup for catching the oil dripping from said bearings, a communication from said oil cup with the said oil chamber, a spring lying in both said grooves for holding the bolster non-rotatable but with play within said hollow main support so as to be capable of moving laterally and adjusting itself into the axis of the center of gravity, substantially as described and set forth.

7. A spinning and twisting spindle bearing comprising a spindle, a whorl integral with the spindle, two bearings with rolling friction for said whorl, a bearing bolster connected with the spindle and having a groove in its outer side, said bearings mounted with rolling friction on the outer portion of said bearing bolster, a hollow main support having an oil chamber in the lower portion thereof and a groove in its inside, a prolongation of said spindle dipping into said oil chamber, an oil cup for catching the oil dripping from said bearings, a communication from said oil cup with the said oil chamber, a spring lying in both said grooves for holding the bolster non-rotatable but with play within said hollow main support so as to be capable of moving laterally and adjusting itself into the axis of the center of gravity, substantially as described and set forth.
portion thereof and a groove in its inside, a depending portion of said spindle dipping into said oil chamber and having a screw-groove therein, an oil cup for catching the oil dripping from said bearings, a communication from said oil cup with the said oil chamber, a spring lying in both said grooves for holding the bolster non-rotatable but with play within said hollow main support so as to be capable of moving laterally and adjusting itself into the axis of the center of gravity, substantially as described.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

HERMANN HONEGGER.

Witnesses:
CARL GUBER,
BERTHA C. GROB.