P. J. LUCEY.

ADJUSTING MEANS FOR SLICING MACHINE KNIVES.

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1,428,291. Patented Sept. 5, 1922.

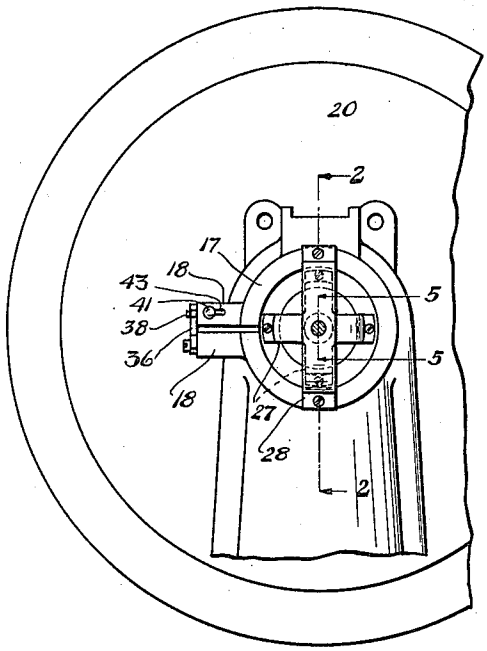


Fig. 1

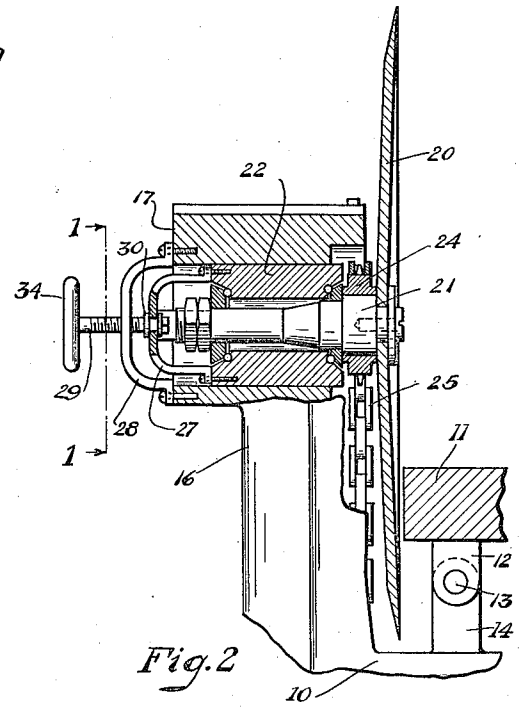


Fig. 2

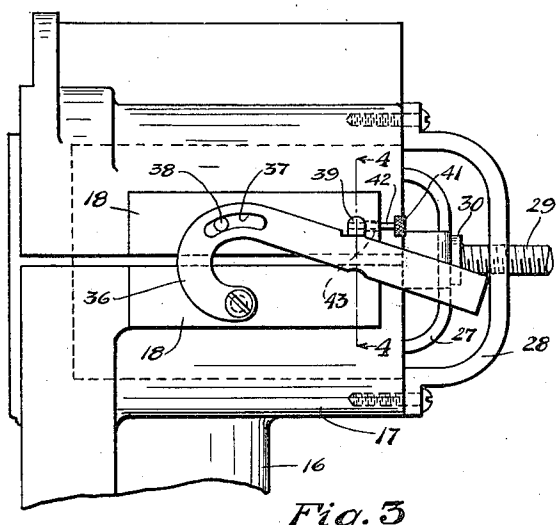


Fig. 3

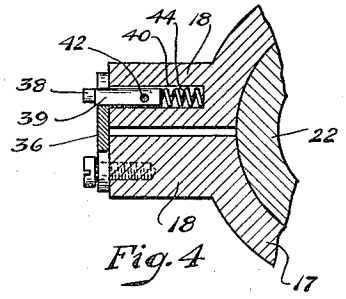


Fig. 4

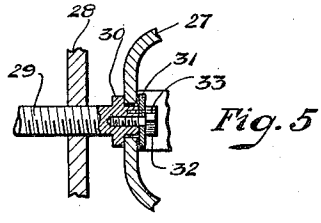


Fig. 5

Witnesses:
Wm. Schnellhardt.
J. D. Stuwe

Inventor
Patrick J. Lucey
By Joshua R. H. Potts
His Attorney

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UNITED STATES PATENT OFFICE.

PATRICK J. LUCEY, OF CHICAGO, ILLINOIS.

ADJUSTING MEANS FOR SLICING-MACHINE KNIVES.

Application filed February 10, 1922. Serial No. 535,505.

To all whom it may concern:

Be it known that I, PATRICK J. LUCEY, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Adjusting Means for Slicing-Machine Knives, of which the following is a specification.

My invention relates to new and useful improvements in adjusting means for slicing machine knives, and has for its main object the provision of means for conveniently and accurately adjusting the slicing machine knife axially on the machine and in exact position with respect to the machine table.

Another object of the invention is to provide means on the machine, and particularly on the machine bracket which supports the bushing carrying the knife, to be readily operable by hand for conveniently releasing said bracket to permit adjustment of said knife bushing in said bracket, and for readily locking said bracket on said bushing.

And another object is to provide means for accurately adjusting the knife and its carrying means axially, and means conveniently operable for fastening the knife carrying means in its adjusted position and for the releasing said knife carrying means.

In the slicing machines with circular knives, which are now on the market, the knife is mounted to rotate on a bracket, usually by fastening the knife to a shaft which rotates in a bushing, and the bushing with the knife being slidable in the bracket longitudinally of the bushing and axially of the knife. The bracket is usually cylindrical in form and clasps the bushing, being opened along the cylindrical wall and provided with extending lips (see Fig. 1) which are drawn together by means of one or more bolts fastened through said lips in order to clamp and retain the bushing in position in the bracket. To fasten or loosen the nuts on the bolts a wrench is required which is not always at hand; and as the knife, which is circular in form, becomes worn down, it becomes smaller in diameter and its effective cutting edge thereby gradually recedes from the machine table. In order to adjust the knife in proper position with respect to the table, it has heretofore been necessary to find a wrench and release the bolts which hold the lips of the bracket together, and then it has been the practice to hit the bushing at the outer end with such wrench or a similar article, in order to drive the knife into its proper position adjacent the machine table, and as the blows usually drove the knife too far the knife end of the bushing had to be hammered to drive the bushing backward. This is at best a tedious and inaccurate manner of adjusting the knife axially into its correct position with respect to the machine table; and to my knowledge no especial means have heretofore been provided on the slicing machine for accurately and readily adjusting the knife axially into its proper position with respect to the table. It is my object to overcome the above defects and to provide means for accurately and conveniently adjusting the knife with respect to the machine table and also to provide means which are conveniently operable for locking said knife and its bearing in such adjusted position.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Fig. 1 is an end elevation of my improved adjustable mounting means for the knife;

Fig. 2 is a vertical sectional view, taken on line 2—2 of Fig. 1, looking in the direction of the arrows;

Fig. 3 is an enlarged side elevational view, looking in a direction opposite to the arrows in Fig. 1;

Fig. 4 is an enlarged fragmentary sectional view, taken on line 4—4 of Fig. 3, and

Fig. 5 is an enlarged fragmentary sectional view, taken on line 5—5 of Fig. 1.

In the drawing, I have shown a portion of the frame 10 of a slicing machine of well known construction, provided with a table 11 slidably mounted on said frame, as by means of arms 12 depending from said table, and slidably engaging the horizontal shaft

13 supported on uprights 14 on the frame. In this form of construction the chain housing 16 on the frame is provided at its upper end with a cylindrical bracket or supporting member 17, and a lip 18 is provided on each side of a longitudinal opening in the wall of said bracket.

The circular and spherical or dished knife 20 is rotatably mounted on said bracket 17, usually by means of a knife shaft 21 which is fixed to the knife and is rotatably mounted on the ball bearings in a bushing 22 adjustably mounted in said bracket 17, said shaft 21 being held against axial movement in said bushing by a pair of washers and lock-nuts, and a chain wheel 24 engaged by the drive chain 25. The parts above described are substantially the same as those found in the slicing machines now on the market.

My improved and conveniently operable means for accurately adjusting the knife and its supporting bushing axially in the bracket and in correct position with respect to the machine table, comprises a 4-armed or double yoke-shaped member 27 fastened to the bushing 22 and extending outward, away from the shaft and lock nuts, and a U-shaped strap or member 28 fastened to the bracket 17, outward of member 27. A shaft 29 has threaded engagement in member 28 and rotatable engagement with member 27 by means of a flange 30 on said shaft 29 and a washer 31 fastened to the end of said shaft by means of a bolt 32 and a retaining pin 33 which passes through the head of the bolt and the washer 31 and into the shaft. A hand wheel 34 is provided on the outer end of shaft 29.

My conveniently operable means for drawing the lips 18 of the bracket together and thereby clamping the bushing 22 in position in said bracket, comprises a lever 36 pivoted with one end to one of the lips and having a curved slot 37 which engages a pin 38 on the other lip. A bolt 39 is slidably mounted in a slot 40 opening toward the forward part of one lip (see Figs. 3 and 4) and is actuated by a head 41 and a stem 42 which is connected to said bolt and is slidable in a slot 43 on the side of said lip (see Fig. 1). A spring 44 is placed in the inner part of slot 40 to force the bolt 39 outward and a notch may be cut on the upper and lower side of lever 36 where said bolt engages said lever. This bolt thus provides means for retaining the lever in either its position to lock the bushing or to release the bushing in the bracket.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of the construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In combination with a slicing machine and a knife rotatably mounted thereon, means for adjusting said knife axially on said machine with minute accuracy.

2. In combination with a slicing machine, a knife rotatably mounted on said machine and being axially adjustable thereon, and means for axially adjusting said knife on said machine.

3. In combination with a slicing machine, a knife rotatably mounted on said machine, and being axially adjustable thereon, and manual means mounted on said machine for accurately adjusting said knife axially on said machine.

4. In combination with a slicing machine having a supporting table, a knife mounted on said machine adjacent said table, and threaded means for accurately adjusting said knife with respect to said table.

5. In combination with a slicing machine having a supporting table, a knife mounted on said machine and being adjustable with respect to said table, and means rotatably connected with said knife and said machine for readily adjusting said knife with respect to said table.

6. In combination with a slicing machine having a knife and knife shaft rotatably mounted on said machine, and being axially adjustable thereon, means mounted on said machine for adjusting said knife shaft axially on said machine.

7. In combination with a slicing machine, means slidably and adjustably mounted on said machine, a knife rotatably mounted on said means, and means for adjusting said slidable means on said machine.

8. In combination with a slicing machine, a support on said machine, means adjustably mounted in said support, a knife rotatably mounted on said means, and means cooperating with said support and adjustable means for accurately moving said knife axially on said support.

9. In combination with a slicing machine, a support on said machine, means slidably mounted in said support, a knife rotatably mounted on said means, and means rotatably connected with said support and said slidable means for accurately adjusting said knife and slidable means axially on said support.

10. In combination with a slicing machine, a knife rotatably mounted on said machine and being axially adjustable thereon, means for axially adjusting said knife on said machine, and readily releasable means for lock-

ing said knife in said axially adjusted position.

11. In combination with a slicing machine, a knife carrying means mounted on said machine, a knife rotatably mounted on said carrying means, means for axially adjusting said knife and its carrying means on said machine, and manually operable means for locking said carrying means in position in said machine.

12. In combination with a slicing machine provided with a support, knife carrying means mounted in said support, a knife mounted on said carrying means, means for moving said carrying means in said support, and means mounted on said support including a swingable member for clamping said support on said carrying means.

13. In combination with a slicing machine provided with a support, knife carrying means longitudinally movable in said support, a knife rotatably mounted on said carrying means, means for moving said carrying means and its knife axially in said support, and means including a member pivoted on said support for locking said carrying means in said support.

14. In combination with a slicing machine provided with a support, means adjustable in said support, a knife rotatably mounted on said means, and manually operable means mounted on said support for conveniently fastening said adjustable means in position in said support or for releasing the same.

15. In combination with a slicing machine provided with a support, means adjustably mounted on said support, a knife rotatably mounted on said means, manually operable means mounted on said support for fastening or releasing said adjustable means in position in said support, and means for retaining said manual means in either its fastening or releasing position.

16. In combination with a slicing machine provided with a clampable support, means adjustably mounted in said support, a knife rotatably mounted on said means, and a lever pivoted on said support for clamping said adjustable means firmly in said support or for releasing said support and permitting adjustment of said means therein.

17. In combination with a slicing machine having a support, means adjustably mounted in said support, a knife rotatably mounted in said means, means fixed on said support, and manually operable means engaging said adjustable means and said fixed means for readily adjusting said knife with the adjustable means axially in said support.

18. In combination with a slicing machine having a support, means adjustably mounted in said support, a knife rotatably mounted on said means, means fixedly mounted on said support, and manually operable means having pivotal connection with one of said means and threaded connection with the other means for accurately adjusting said knife and adjustable means on said support.

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

PATRICK J. LUCEY.

Witnesses:
FREDA C. APPLETON,
J. DANIEL STUWE.