J. M. ROUNDS.

STOP MOTION FOR VENEER LATHES.

APPLICATION FILED JAN. 9, 1908.

942,105. Patented Dec. 7, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

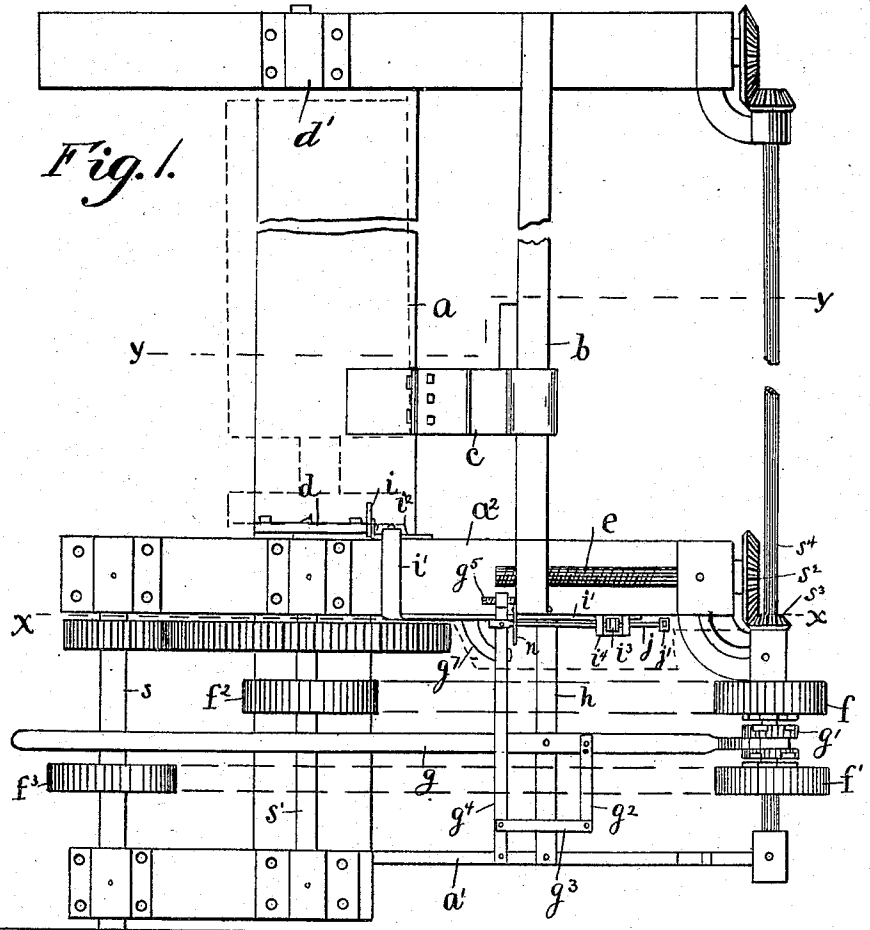
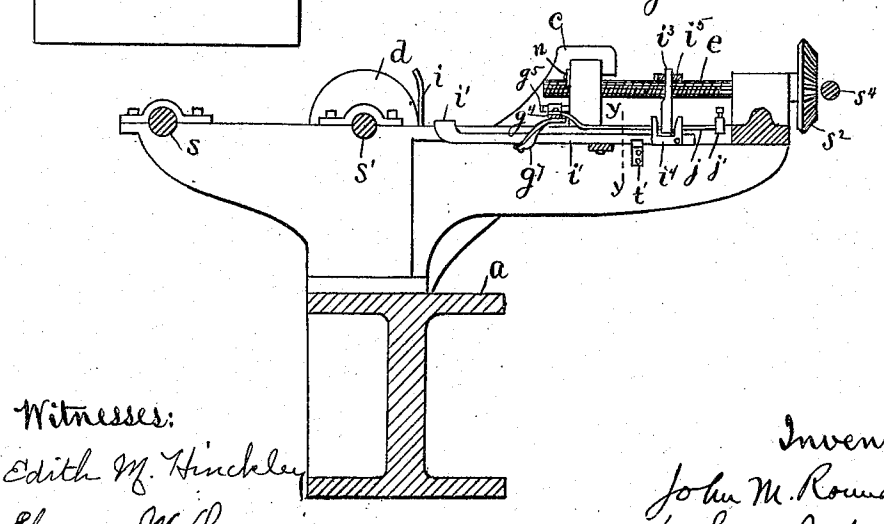


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 6.

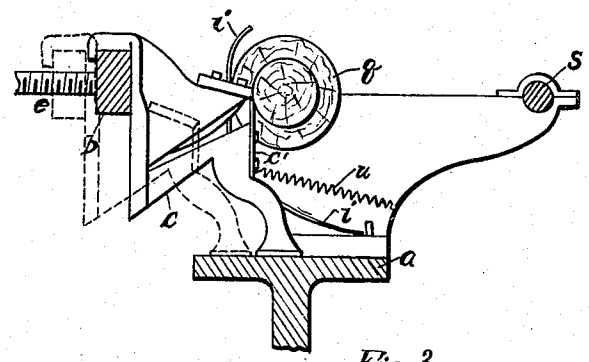


Fig. 3.

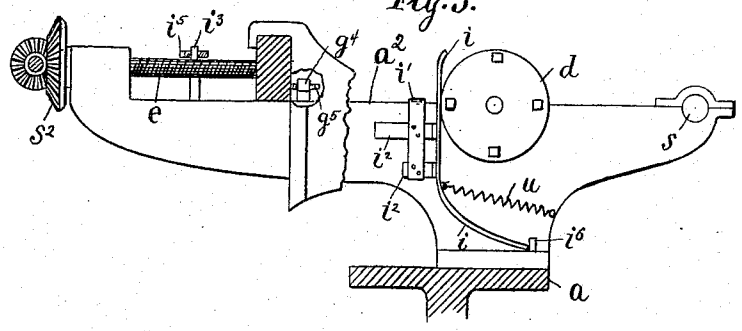


Fig. 5.

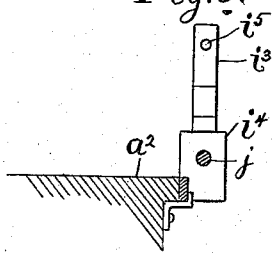
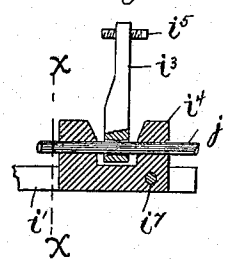


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN M. ROUNDS, OF STRONG, MAINE.

STOP-MOTION FOR VENEER-LATHES.

942,105. Specification of Letters Patent. Patented Dec. 7, 1909.

Application filed January 9, 1908. Serial No. 409,899.

To all whom it may concern:

Be it known that I, JOHN M. ROUNDS, a citizen of the United States, and a resident of Strong, in the county of Franklin and State of Maine, have invented a certain new and useful Improvement in Stop-Motions for Veneer-Lathes, of which the following is a specification.

My invention relates to veneer lathes such as are used for cutting strips of veneer from logs in the manufacture of toothpicks and other like articles. In these lathes the log is held between a face plate and a tail stock and the veneer strips are cut by a knife block, one end of which rests on the bed of the lathe and is adapted to slide thereon and the other on the knife carrier bar along which it is pushed by hand to move it from one cut to the next. The knife carrier bar is fed inward toward the log by a pair of feed screws, one on each end, these screws having two connections with the driving mechanism, one of a slow inward feed for cutting the veneer and the other a more rapid return feed to get the knife block into position to be moved on the knife carrier bar for the next cut, a shipping lever being provided for throwing in first one and then the other of these motions. In the ordinary operation of these lathes in cutting toothpick strips, the lathe is controlled by the operator who reverses the feed at the end of the inward cut by throwing in the return clutch and stops the feed when the knife block is clear of the log so that it can be moved along for the next cut. In practical operation it is found that there is some liability of running the knife block in too far and there is with some operators considerable waste of time caused by letting the knife carrier bar run back too far. When the knife block is withdrawn more than necessary the slow inward feed before the knife touches the log takes up time which is entirely wasted.

There is considerable difference in individual operators in the economy with which a lathe is run and the object of my invention is to devise a practical automatic stop motion to stop the inward feed at a predetermined point and to stop the outward motion of the header at the instant it is free from the log. I accomplish these objects by the means of the mechanism hereinafter shown and claimed.

I illustrate my invention in the accompanying drawing which shows an embodiment of my invention which I have applied to a tooth-pick lathe in practical use.

In the drawing:—Figure 1 is a plan view showing one end of the ordinary toothpick lathe with my stop motion attached thereto with the log outlined in dotted lines, Fig. 2 is a section on the line $x\ x$ of Fig. 1, Fig. 3 is a section on $y\ y$ of Fig. 1 looking toward the face plate, Fig. 4 is a longitudinal section showing the rear stop and its connections and Fig. 5 is a section on $x\ x$ of Fig. 4. Fig. 6 is the same section as that of Fig. 3 showing the knife carrier in position and a log in place.

a represents the bed of the lathe, a' the frame work of the lathe head, b the knife carrier bar, which supports one end of the knife block, a^2 the track on which it slides, c the knife block or knife carrier one end of which is supported by the knife carrier bar and one end of which rests on the bed of the machine and is adapted to slide thereon, e one of the feed screws, s^2 its bevel gear, s^3 and s^4 the feeding pinion and shaft, f and f' the feeding pulleys and clutches, g' the clutch adapted to throw in either the inner or outward feed, g the shipping lever pivoted to a cross bar h, f^2 and f^3 the primary feed pulleys connected by belts with pulleys f and f' respectively, s the main driving shaft, s' the lathe spindle shaft, d the face plate and d' the tail stock.

The parts mentioned are old and well known in such lathes and their construction and operation are not necessary to be particularly described in order to properly understand my invention.

The inward stop mechanism is designed to stop the inward feed at a point which remains substantially the same at all times and requires but slight adjustment.

The inward stop mechanism comprises a lever g^4 having one end pivoted to the frame of the lathe, and its other or free end supported, by means of a support g^7, a sufficient distance above the track a^2 to clear other devices hereinafter described. The free end of the lever g^4 is provided with an adjustable screw g^5, against which the knife carrier bar strikes in its inward movement. The lever g^4 is pivotally connected to the shipping lever g by means of the link g^3 which is pivotally-connected to the bar g^2 secured to said shipping lever. The free end of the lever g^4 is supported directly in front of the knife carrier bar, so that when said bar is

moved inward it strikes against the lever g^4, moving it to a neutral position, thus it will readily be seen that when the knife carrier bar reaches the inner end of its motion leaving the desired size of heart, it strikes the adjusting screw g^5 and the clutch g' is thrown over into the neutral position and the inward feed is stopped. The rearward feed is started by throwing over the shipping lever into the reverse position. The position of the back stop for checking the rearward motion of the knife carrier is designed to be determined by the size of the log and varies with each log of different diameter, the stop motion being put into operation when the knife block clears the log.

A stop is provided in the rear of the knife carrier bar and connected with the shipping lever and is adapted to be struck by the knife carrier bar on its rearward movement. The position of this stop is varied with each log by means of a guide which is adapted to rest against the outside surface of the log preferably at or near the face plate, the distance of this guide from the center determining the position of the stop through suitable connections. The parts are so adjusted that the stop will be struck when the knife is substantially back even with the guide or in other words at the surface of the log or a little outside of the same, to allow of irregularities in the surface. The mechanism here shown for accomplishing this result comprises a guide i consisting of a flat bar passing vertically up by the edge of the face plate but wide enough to bear both on the surface of the log at the end and on the face plate when the log is out. This guide is held so as to slide horizontally from and toward the log and for this purpose I rivet to it two angle irons i^2 which rest flat against the vertical face of the frame which serves to steady them. Secured to these angle irons there is a flattened bar i' which passes vertically up over the track a^2 and is then bent so as to lie horizontally along one side of the track a^2 near the upper surface. An angle iron t' (Fig. 2) is secured to the frame of the machine and serves to support the rear end of the bar i'. The lower portion of the guide i is shown as turning forward and impinging when in its inner position against the stop i^6. A spring u secured to the guide i and to the frame of the machine acts to keep the guide bearing against the log. The guide i and the bar i' thus form one structure capable of sliding horizontally according to the position taken by the guide.

The back stop against which the knife carrier bar acts, consists as here shown, of a vertical arm i^3 through the lower end of which a horizontal rod j loosely passes, the connection being such that when the stop is struck by the knife carrier bar at its end or at a point remote from its connection with the rod, the rod will be clamped or pinched and a longitudinal motion will be imparted to the rod. The rod j is connected at its end with the lever g^4 and it lies adjacent and parallel to the bar i'. It has on its rear end a collar j' to prevent the stop i^3 from slipping off. The upper or contact end of the stop i^3 has an adjusting screw i^5 against which the contact plate n on the knife carrier bar is adapted to strike. The stop i^3 is made to slide along the rod j to locate it at the necessary point by means of a block i^4 secured to the bar i' and having two upward extending offsets through which the rod j passes and which embrace the stop i^3 where the same connects with the rod j. As a result of this construction the moving of the block i^4 one way or the other by changing the position of the guide i also moves the stop i^3 to a corresponding position but leaves it always so connected with the rod that when it is struck by the knife carrier bar it will pinch the rod and move it along. The position of the block i^4 on the bar i' is such that when the knife is substantially opposite the guide i the contact plate n will be against the stop. The rod j being connected with the lever g^4 actuates that lever and throws the clutch into its neutral position when the plate n strikes the stop i^3 thus stopping the rearward movement of the knife carrier bar.

From what has been said the operation of the two stop motions will be readily understood. When the log is put in the lathe, the guide i is pressed back to allow the log to be put in position and it is then released and allowed to bear against the surface of the log. When the knife has reached its inner position which is constant, the knife carrier bar strikes the screw g^5 on the lever g^4 and stops the feed as explained. When the plate n strikes the screw i^5 the knife will have just cleared the log the lever i^3 pinches the rod j, moving the same longitudinally, the lever g^4 is thrown over and the clutch g' moves to its neutral position. The knife block is then slid by hand along the knife carrier bar to take another cut and the above operation is repeated.

The two stop motions here described enable the lathe to be operated by less skilful men than it could be without them and the full productive capacity of the lathe is assured.

Many modifications of the mechanism shown may be made while keeping within the limits of my invention.

I claim:—

1. In a veneer lathe the combination with the knife carrier bar and shipping lever, of a movable guide adapted to bear against the outside of the log, a stop connected with the shipping lever and adapted to be struck by the knife carrier bar on its rearward move-

ment and means operated by said guide for moving said stop in and out.

2. In a stop motion for veneer lathes, the combination with the knife carrier bar and shipping lever, of a movable guide adapted to bear against the outside of the log, a horizontally movable bar connected with the said guide, a stop carried by said bar and adapted to be struck by the knife carrier bar on its rearward movement and means actuated by said stop for throwing the shipping lever.

3. In a veneer lathe, the combination with the knife carrier bar and shipping lever of a movable guide adapted to bear against the outside of the log, a longitudinally movable bar connected with said guide, a longitudinally movable rod adjacent to said bar and connected with the shipping lever, a stop on said rod adapted to be struck by the knife carrier bar on its rearward movement to move said rod longitudinally and means carried by said bar to slide said stop on its rod.

4. In a veneer lathe, the combination with the knife carrier bar and shipping lever, of a movable guide adapted to bear against the outside of the log, a longitudinally movable bar connected with said guide, a longitudinally movable rod adjacent to said bar and connected with the shipping lever, a stop on said rod adapted to slide thereon and to be struck by the knife carrier bar on its rearward movement, the stop being so connected with the rod as to be clamped thereto by the contact with the knife carrier bar, and a block secured to said bar and embracing said stop to slide it on said rod when out of contact with the knife carrier bar.

5. In a veneer lathe, the combination with the knife carrier bar and shipping lever, of a movable guide adapted to bear against the outside of the log, a longitudinally movable bar connected with said guide, a longitudinally movable rod adjacent to said bar and connected with the shipping lever, a stop sliding loosely on said rod and adapted to be struck by the knife carrier bar on its rearward movement at a point remote from the rod, whereby the stop pinches the rod and moves the same, and a block secured to said bar and embracing said stop to slide it on said rod when out of contact with the knife carrier bar.

6. In a veneer lathe, the combination with the knife carrier bar and shipping lever, of a movable guide adapted to bear against the outside of the log, a longitudinally movable bar connected with said guide, a longitudinally movable rod adjacent to said bar and connected with the shipping lever, a stop consisting of an upward extending arm through which the rod loosely slides, the end of said arm being adapted to contact with the knife carrier bar on its rearward motion, and a block secured to said bar and embracing the arm at its junction with the rod.

7. In a veneer lathe, the combination with the knife carrier bar and shipping lever, of a movable guide adapted to bear against the outside of the log, a longitudinally movable bar connected with said guide, a longitudinally movable rod adjacent to said bar and connected with the shipping lever, a block secured to said bar having two offsets through which said rod passes, a stop loosely mounted on said rod between said projections and having an upward projecting arm the end of which is adapted to be struck by the knife carrier bar on its rearward movement and means connecting said rod to the shipping lever.

8. In a veneer lathe, the combination with the knife carrier bar and shipping lever of a guide extending adjacent to the log, a spring for pressing said guide against the log, a stop connected with the shipping lever and adapted to be struck by the knife carrier bar on its rearward movement and means operated by said guide for moving said stop in and out.

9. In a veneer lathe, the combination with the knife carrier bar and shipping lever of a guide extending adjacent to the log, a spring for pressing said guide lever against the log, a longitudinally movable rod adjacent to said bar and connected with the shipping lever, a block secured to said bar having two offsets through which said rod passes, a stop loosely mounted on said rod between said projections and having an upward projecting arm, the end of which is adapted to be struck by the knife carrier bar on its rearward movement and means connecting said rod to the shipping lever.

Signed at Strong, Maine, this 23d day of December, 1907, in the presence of two witnesses.

JOHN M. ROUNDS.

Witnesses:
JOHN C. TIRRELL,
E. E. RICHARDS.