This invention relates generally to improvements in a turning roll assembly, and more particularly to an improved workpiece adapter that can be selectively utilized to support and rotate workpieces smaller than those that can be efficiently handled directly by the turning wheels of such assembly.

The conventional turning roll assembly includes a pair of drive wheels capable of supporting and turning workpieces within a certain range of sizes. Very small and/or lightweight workpieces not within the suitable range cannot be effectively and efficiently turned because they are outside the capability imposed by the size of the wheels.

It is an important objective to provide a turning roll assembly with an adapter bracket that can be utilized selectively when the need arises to turn such small and/or lightweight workpieces, thereby increasing the capability of the turning roll assembly.

An important object is achieved by the provision of a workpiece adapter that includes a pair of rollers mounted to a bracket in side by side relation, and means mounting the bracket to hold the rollers against the wheels of the turning roll assembly, whereby the rollers and a workpiece supported on the rollers are rotated by the wheels. Of course, the rollers are of a smaller diameter than the wheels and are able to turn a smaller workpiece than can be turned effectively by the wheels alone.

Another important object is realized by the structural arrangement of the bracket-mounting means which enables the adapter rollers to be moved selectively into operative engagement with the wheels for usage in a manner to support a workpiece on the rollers, and to be moved selectively away from the wheels so that the wheels are clear for usage in a manner to support a workpiece directly on the wheels.

Still another important object is attained by the provision of resilient means connected to the bracket and Urging the rollers downwardly under pressure against the wheels to maintain effective driving relation therebetween. Other advantages are provided by making the connection of this resilient means detachable so that the adapter assembly can be moved to its inoperative position away from the wheels and thereby enable use of the wheels per se to support and turn a workpiece.

An important object is afforded by the mounting mechanism for the adapter bracket and rollers in that the bracket is carried by a pivotally mounted arm that permits the bracket and rollers to be swung into or out of operative position relative to the turning wheels. It is advantageous to pivot the arm on the rotary axis of one of the turning wheels, and specifically on one wheel shaft.

Another important object is achieved by the provision of a lever having a pressure means that is engageable with a workpiece supported on the adapter rollers to assure driving engagement and turning by the rollers, the lever being pivoted on the adapter bracket, being swingable selectively to the operative pressure-applying position, and being automatically adjustable upon pivotal movement to the size of the workpiece.

Yet another important objective is attained by the provision of a resilient means connected to the lever and tending to urge the forwardly unconnected end of the lever under the resilient loading, whereby to maintain the frictional drive between the workpiece and the supporting adapter rollers.
3,278,060 3. 23 being turned by its frictional engagement. It will be understood that any workpiece within a range of sizes can be supported and rotated by the turning wheels 21 and 23, such range depending upon the capability of the turning wheels 21 and 23 as determined by their size and spacing among other considerations.

The structure and function of this turning roll is described in detail in U.S. Patent No. 3,042,259, issued July 3, 1962.

A workpiece adapter assembly is associated with the above described turning roll assembly to enable the support and rotation of much smaller workpieces than is possible with the turning wheels 21 and 23 alone. This adapter assembly includes a substantially V-shaped bracket referred to by 36 formed by a pair of spaced angle plates 37 and 38. The angle plates 37 and 38 are secured together at their corners by a transverse shaft 40. The shaft 40 extends outwardly beyond the side of angle plate 38 to provide a stub shaft 41 on which one end of a connecting arm 42 is pivotally mounted. The opposite end of connecting arm 42 is pivotally mounted at the opposite axis of wheel 21, and particularly is rotationally mounted on the shaft 20.

Carried by the adapter bracket 36 and rotationally mounted between the angle plates 37 and 38 are a pair of rollers 43 and 44, the roller 43 being located in side by side relation and adapted to frictionally engage the turning wheels 21 and 23 respectively when the adapter bracket 36 and rollers 43 and 44 are moved to a position between such wheels 21 and 23. Specifically, the roller 43 frictionally engages the rim of wheel 21, while the roller 44 frictionally engages the rim of wheel 23. Upon turning of the wheels 21 and 23, the rollers 43 and 44 will be turned by the wheels so that a small workpiece 45 supported between and on the rollers 43 and 44 is rotated.

To maintain an effective frictional drive engagement between the turning wheels 21 and 23 and the rollers 43 and 44, a resilient means is operatively connected to the adapter assembly which tends to hold the rollers 43 and 44 under loading of such resilient means against the turning wheels 21 and 23. This resilient means includes a tension spring 46 having one end detachably fastened to a hook 47 fixed to the connecting arm 42 just below the pivot connection of such arm 42 with the bracket stub shaft 41. The opposite end of spring 46 is detachably connected to a rod 50, the rod 50 being hooked and detachably secured to the base 10 by insertion through a lateral hole 51.

It is thought that the usage and functional advantages of the adapter assembly illustrated in FIGS. 1 and 2 have become fully apparent from the foregoing detailed description of parts, but for completeness of disclosure, such usage will be briefly described. It will be assumed that a small workpiece 45 is to be supported and rotated. Accordingly, the connecting arm 42 of the adapter assembly is swung to a position to locate the adapter bracket 36 and the rollers 43 and 44 between the turning wheels 21 and 23. The tension spring 46 is operatively connected between the arm 42 and the base 10 so as to urge the bracket 36 downwardly between the turning wheels 21 and 23 and to urge the rollers 43 and 44 under pressure against the rims of the wheels 21 and 23 respectively. The small workpiece 45 is then disposed on and between the rollers 43 and 44. Upon energization of the power unit 24, the drive roll 25 will turn the wheels 21 and 23 in the same direction. Consequently, because of the driving connection between the wheels 21 and 23 with the rollers 43 and 44 respectively, the wheels will turn the rollers so that the rollers will in turn rotate the workpiece 45 supported on the rollers.

In the event that a large workpiece is desired to be supported and rotated by the turning roll assembly, and such large workpiece is of a size beyond the effective capabilities of the small rollers 43 and 44, the adapter assembly is moved out of its operative position to clear the wheels 21 and 23 so that the large workpiece can be placed directly upon the wheels 21 and 23. To condition the turning roll assembly for this type of operation, the spring 46 is detached by removing the rod 50 from the base 10. Then, the connecting arm 42 is swung in a direction to move the bracket 36 and rollers 43-44 away from the operative position between the wheels 21 and 23 to an inoperative position (not shown) at one side of wheel 21 so that it is clearly out of the way and does not obstruct access to or operation of the turning wheels 21 and 23. Then, the large workpiece can be seated directly upon one or both of the wheels 21 and 23. Upon energization of the power unit 24, the drive roll 25 will turn the wheels 21 and 23 in the same direction, and consequently will rotate the workpiece supported directly on and between such wheels.

Again, if a small workpiece 45 is to be supported and rotated by the turning roll assembly, the adapter assembly is readily repositioned for use. The arm 42 is swung about its mounting shaft 20 to bring the adapter bracket 36 and rollers 43 and 44 back to a position between the turning wheels 21 and 23 in which the rollers 43 and 44 frictionally engage the rims of such wheels. The tension spring 46 is then engaged by the small workpiece 45 thereby engaging the workpiece to the rollers 43 and 44. The connection of the spring 46 to the arm hook 47 being usually maintained at all times. Then, the small workpiece 45 can be seated directly on and between the rollers 43 and 44 for turning operation as previously described.

Under some circumstances, the workpiece is not only small but is light in weight. As a result, it is possible that the weight alone of the small workpiece will not create sufficient frictional engagement between the workpiece and the rollers 43 and 44 which would enable the rollers to turn such workpiece effectively and efficiently. To meet this situation, the adapter assembly is provided with a hold-down unit that can be selectively utilized to place sufficient pressure on the small workpiece so that it is pressed downwardly against its supporting rollers 43 and 44 with sufficient force to provide an effective and efficient frictional driving engagement between the workpiece and rollers. The detailed construction of this hold-down unit is disclosed in FIGS. 3-5 inclusive.

This hold-down assembly includes an arm 52 fixed as by welding to the connecting arm 42, one end of arm 52 being pivotally mounted with connection to the stub shaft 41. The arms 42 and 52 are angularly related so that when the bracket 36 is located in its operative position between the turning wheels 21 and 23, the arm 52 will extend upwardly above and at one side of the rollers 43 and 44. Pivotally mounted to the upper end of arm 52 is a lever 53 that extends over the workpiece 45 supported on the rollers 43 and 44. Fixed to an intermediate portion of lever 53 by block 54 is a pressure roll 55 constituting a pressure means engageable with the top of the small workpiece 45. Under some circumstances, the weight of the lever 53 and the pressure roll 55 is insufficient to cause effective frictional engagement between the small workpiece 45 and the supporting rollers 43 and 44. However, in the event that this weight is not sufficient, a spring-link assembly generally indicated at 56 is provided to afford a positive load that is adjustable to a predetermined desired value.

This spring-link assembly 56 includes a tubular rod 57 in which an elongate rod 60 is telescopically mounted. As is best seen in FIG. 5, the lower end of tubular rod 57 is closed by cap 61, the elongate rod 60 extending through and projecting downwardly below the cap 61. The inner end 62 of the elongate rod 60 is provided with a shoulder 63. A compression spring 64 is located with in the tubular rod 57 and about the elongate rod 60. One end of the spring 64 engages the cap 61, while the other
end engages the shoulder 63, the spring 63 tending to retract the elongate rod 60 within the tubular rod 57. The hook 65 is adapted to interfit a compatible hole 66 formed in the base 10. It will be understood that the hook 65 pivotally connects the elongate rod 60 to base 10, such pivotal connection allowing the spring-link assembly 56 to swing in order to accommodate the different angular positions assumed by lever 53.

A spring 63 is attached to one side of the tubular rod 57. This plate 67 is provided with a plurality of side opening slots 70 adapted to receive a retaining pin 71 fixed to and extending laterally from the end of lever 53. The size of the workpiece 45 supported on the rollers 43 and 44 and the amount of pressure to be applied by the roll 55 on top of the workpiece 45 determines the specific slot 70 into which the lever 53 pin 71 is interfit. For example, considering the very small workpiece 45 shown in unbroken lines of FIG. 4, the lever 53 is pivoted downwardly over the workpiece 45 until the pressure roll 55 rests on top of such workpiece 45. Then, the rod 57 is pivotally moved to a position adjacent the end of lever 53, and the rod 57 is extended until a desired spring pressure is reached, and then the retaining pin 71 is fitted into the closest plate slot 70. The spring 64 tends to urge the tubular rod 57 downwardly, and consequently tends to urge the lever 53 downwardly about its pivot connector so as to exert the spring pressure on top of the workpiece 45 through the pressure roll 55.

To disengage the hold-down unit, the tubular rod 57 is lifted against spring loading to release the retaining pin 71 from the plate 67, and the rod 57 is pivotally moved to withdraw the pin 71 from its slot 70. For convenience, the upper end of the tubular rod 57 is provided with a handle 72. If a larger workpiece 45 is seated on the rollers 43 and 44 as is indicated by broken lines in FIG. 4, the lever 53 is brought down over the workpiece until the pressure roll 55 engages the top of such workpiece. It will be noted that the lever 53 changes its angular position automatically to adjust to the size of the workpiece. To connect the spring-link assembly, the handle 72 is gripped and the tubular rod 57 is raised to interfit the retaining pin 71 in one of the plate slots 70 depending on the amount of spring loading desired to be exerted by the pressure roll 55 on the workpiece to provide the desired fractional, driving engagement between the workpiece and the supporting rollers 43 and 44. The spring-link assembly 56 will pivot about its connection to the base 10 in order to accommodate any arcuate position assumed by the retaining pin when the lever 53 is brought down over the workpiece. It is thought that the usage and functional advantages of this hold-down unit have become apparent from the foregoing detailed description of its parts, but for completeness of disclosure, the usage will be briefly described. It will be assumed that the adapter assembly is located in its operative position with the adapter rollers 43 and 44 engaging the turning wheels 21 and 23 respectively, and that the resilient means provided by spring 46 operatively interconnects the adapter bracket 36 and base 10. The small workpiece 45 is seated on and between the adapter rollers 43 and 44. It will be further understood that the workpiece is of a size and weight so that there is not sufficient fractional engagement between the workpiece and the supporting adapter rollers 43 and 44 to provide an efficient drive therebetween.

The lever 53 is pivotally moved and brought down over the workpiece 45 to engage the top of the workpiece with the pressure roll 55. Under some conditions, the weight of the lever 53 and the pressure roll 55 will be sufficient to create an effective fractional drive engagement between the workpiece and the supporting rollers 43 and 44. However, it is advantageous to provide a greater positive pressure.

The handle 72 of the spring-link assembly 56 is gripped and the tubular rod 57 is swung to a position adjacent the free end of lever 53, and the tubular rod 57 is raised to fit the pin 71 into an appropriate plate slot 70. The spring 64 tends to urge the tubular rod 57 downwardly, and therefore the plate 67 acting through the pin 71 tends to rotate the lever 53 downwardly and urge the pressure roll 55 against the top of the workpiece 45.

To release the hold-down unit, the handle 72 is gripped and the tubular rod 57 is lifted to relieve the spring pressure between the plate 67 and pin 71. Then, the tubular rod 57 can be swung away from the end of the lever 53 to withdraw the pin 71 from its slot 70. The lever 53 can then be raised out of operative position and the workpiece 45 can be removed.

The hold-down unit can be conveniently used subsequently with a workpiece of the same size or any other small size suitable to be supported and rotated on the adapter rollers 43 and 44. Assuming that a little larger workpiece 45 is to be supported and rotated, the lever 53 is pivotally moved over the workpiece to engage the pressure roll 55 on top of such workpiece. The spring-link assembly 56 is attached in the same manner to the lever pin 71.

If a large workpiece is to be rotated directly by the turning wheels 21 and 23, the adapter assembly can be conveniently moved out of its operative position in the same manner as previously described. First, however, the hold-down unit is released by disengaging the spring-link assembly 56 from the lever pin 71. The spring-link assembly 56 can then be either removed from the base 10 or be swung downwardly out of the way. Then, the spring loading provided by spring 46 to the adapter assembly is relieved by disconnecting the rod 50 from the base 10. Then, the entire adapter assembly including the bracket 36, rolls 43-44 and lever 53 is swung outwardly from between the turning wheels 21 and 23 upon pivotal movement of the connecting arm 42 about shaft 20 until the adapter assembly and hold-down unit is located at one side of wheel 21 completely out of the way so that the large workpiece can be seated directly upon and between the turning wheels 21 and 23.

The adapter assembly and hold-down unit can be quickly and easily repositioned for operation upon a simple reversal of this sequence of steps.

Although the improvements have been described by making detailed reference to a preferred embodiment and a modification thereof, such detail is to be understood in an instructive, rather than in any restrictive sense, many variants being possible within the scope of the claims hereunto appended.

I claim as my invention:

1. In a turning roll assembly for supporting and rotating a workpiece:

(a) a pair of wheels disposed in side by side relation,

(b) means driving the wheels in the same direction, and

(c) a workpiece adapter including a bracket,

2. In a turning roll assembly for supporting and rotating a workpiece:

(a) a pair of wheels disposed in side by side relation,

(b) means driving the wheels in the same direction, and

(c) a workpiece adapter including a bracket,
(d) a pair of rollers mounted on the bracket in side by side relation,
(e) each wheel drivingly engaging one roller, the rollers being rotated in the same direction and being adapted to turn a workpiece, and
(f) means mounting the bracket enabling movement of the bracket and rollers away from the wheels to clear the wheels for supporting and rotating a workpiece.

3. In a turning roll assembly for supporting and rotating a workpiece:
(a) a pair of wheels disposed in side by side relation,
(b) means driving the wheels in the same direction, and
(c) a workpiece adapter including a bracket,
(d) a pair of rollers mounted on the bracket in side by side relation, the rollers being of smaller diameter than the wheels,
(e) each wheel drivingly engaging one roller, the rollers being rotated in the same direction and being adapted to turn a workpiece smaller than can be turned effectively by the wheels alone,
(f) resilient means being detachably connected to the bracket and urging the rollers downwardly under pressure against the wheels to maintain effective driving relation therebetween, and
(g) means mounting the bracket enabling movement of the bracket and rollers away from the wheels to clear the wheels for supporting and rotating a workpiece, the resilient means being selectively detachable to release the bracket for movement away from the wheels.

4. In a turning roll assembly for supporting and rotating a workpiece:
(a) a pair of wheels disposed in side by side relation,
(b) support means on which each wheel is rotatively mounted, and
(c) a workpiece adapter including a bracket,
(d) a pair of rollers mounted on the bracket, and
(e) an arm pivotally connected to the support means and attached to the bracket, the arm being selectively movable to bring the bracket and rollers from a position out from between the wheels to a position between the wheels so that each wheel engages one of the rollers, and
(f) means driving the wheels and hence the rollers, whereby to turn a workpiece supported on the rollers.

5. In a turning roll assembly for supporting and rotating a workpiece:
(a) a pair of wheels disposed in side by side relation,
(b) support means on which each wheel is rotatively mounted, and
(c) a workpiece adapter including a bracket,
(d) a pair of rollers mounted on the bracket in side by side relation, and
(e) an arm pivotally connected to the support means and attached to the bracket, the arm being pivotally movable to bring the bracket and rollers between the wheels so that each wheel engages one of the rollers, and
(f) means driving the wheels and hence the rollers, whereby to turn a workpiece supported on the rollers,
(g) the arm being pivotally movable to swing the bracket and rollers selectively out from between the wheels so that the wheels can directly support and turn a workpiece.

6. In a turning roll assembly for supporting and rotating a workpiece:
(a) a pair of wheels disposed in side by side relation,
(b) support means,
(c) a pair of shafts rotatively mounting the wheels on the support means, and
(d) a workpiece adapter including a bracket,
(e) a pair of rollers mounted on the bracket in side by side relation, and
(f) an arm pivotally mounted on one of the wheel shafts and pivotally connected to the bracket, the arm being pivotally movable to bring the bracket and rollers between the wheels so that each wheel engages one of the rollers,
(g) means driving the wheels and hence the rollers, whereby to turn a workpiece supported on the rollers, and
(h) a spring detachably connected to the bracket and urging the bracket downwardly between the wheels and urging the rollers under pressure against the wheels to provide an effective friction drive therebetween,
(i) the arm being pivotally movable to swing the bracket and rollers selectively out from between the wheels upon release of the spring from the bracket so that the wheels can directly support and turn a workpiece.

7. In a turning roll assembly for supporting and rotating a workpiece:
(a) a pair of wheels disposed in side by side relation,
(b) means driving the wheels in the same direction, and
(c) a workpiece adapter including a bracket,
(d) a pair of rollers mounted on the bracket in side by side relation,
(e) means mounting the bracket to hold the rollers against the wheels to rotate the rollers and a workpiece supported on the rollers, and
(f) means carried by the workpiece adapter engaging the workpiece under pressure to provide a retentive engagement of the workpiece with the rollers to assure turning by the rollers.

8. A turning roll assembly for supporting and rotating a workpiece:
(a) a pair of wheels disposed in side by side relation,
(b) means driving the wheels in the same direction, and
(c) a workpiece adapter including a bracket,
(d) a pair of rollers mounted on the bracket in side by side relation,
(e) means mounting the bracket to hold the rollers against the wheels to rotate the rollers and a workpiece supported on the rollers,
(f) a lever pivotally mounted to the bracket, and
(g) a pressure means carried by the lever and engageable with the workpiece to assure turning of the workpiece by the rollers,
(h) the lever being pivotally movable to adjust to the size of the workpiece.

9. A turning roll assembly as defined in claim 8, in which:
(i) a resilient means is connected to the lever and tends to urge the pressure means against the workpiece under loading of the resilient means.

10. A turning roll assembly as defined in claim 8, in which:
(i) a rod is detachably connected to the lever, and
(ii) a spring is connected to the rod tending to urge the rod in a direction to pivot the lever and urge the pressure means against the workpiece.

11. In a turning roll assembly for supporting and rotating a workpiece:
(a) a base,
(b) a pair of wheels mounted on the base and disposed in side by side relation,
(c) means driving the wheels in the same direction, and
(d) a workpiece adapter including a bracket,
(e) a pair of rollers mounted on the bracket in side by side relation, and
(f) means mounting the bracket to hold the rollers against the wheels to rotate the rollers and a workpiece supported on the rollers,
(g) a lever pivotally mounted to the bracket,
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(h) a pressure means carried by the lever and engageable with the workpiece to assure turning of the workpiece by the rollers, and  

(i) resilient means including telescopically related rod portions, one rod portion being pivotally attached to the base and the other rod portion being detachably connected to the lever, and  

(j) a spring interconnecting the rod portions tending to urge the rod portions in a direction to pivot the lever and urge the pressure means against the workpiece,  

(k) the rod portions swinging about the pivot connection to the base to accommodate the pivotal movement of the lever in order to cause and maintain connection between the lever and rod portions.  

12. In a turning roll assembly for supporting and rotating a workpiece:  

(a) a pair of wheels disposed in side by side relation,  

(b) support means on which each wheel is rotatively mounted, and  

(c) a workpiece adapter including a bracket,  

(d) a pair of rollers mounted on the bracket,  

(e) an arm pivotally connected to the support means and attached to the bracket, the arm being movable to bring the bracket and rollers between the wheels so that each wheel engages on of the rollers,  

(f) means driving the wheels and hence the rollers, whereby to turn a workpiece supported on the rollers,  

(g) a lever pivotally mounted to the bracket, and  

(h) a pressure means carried by the lever and engageable with the workpiece supported on the rollers to assure turning of the workpiece by the rollers,  

(i) the lever upon pivotal movement adjusting to the size of the workpiece.  

13. In a turning roll assembly for supporting and rotating a workpiece:  

(a) a pair of wheels disposed in side by side relation,  

(b) support means on which each wheel is rotatively mounted, and  

(c) a workpiece adapter including a bracket,  

(d) a pair of rollers mounted on the bracket, and  

(e) an arm pivotally connected to the support means and attached to the bracket, the arm being movable to bring the bracket and rollers between the wheels so that each wheel engages one of the rollers,  

(f) means driving the wheels and hence the rollers, whereby to turn a workpiece supported on the rollers,  

(g) a lever pivotally mounted to the bracket,  

(h) a pressure means carried by the lever and engageable with the workpiece supported on the rollers to assure turning of the workpiece by the rollers, and  

(i) resilient means detachably connected to the lever and tending to urge the pressure means against the workpiece under loading of the resilient means,  

(j) the arm being pivotally movable to swing the bracket and rollers selectively out from between the wheels upon release of the resilient means from the lever so that the wheels can directly support and turn a workpiece.  

14. In a turning roll assembly for supporting and rotating a workpiece:  

(a) a base,  

(b) support means attached to the base,  

(c) a pair of wheels disposed in side by side relation,  

(d) a pair of shafts rotatively mounting the wheels on the support means, and  

(e) a workpiece adapter including a bracket,  

(f) a pair of rollers mounted on the bracket, and  

(g) an arm pivotally mounted on one of the wheel shafts and pivotally connected to the bracket, the arm being pivotally movable to bring the bracket and rollers between the wheels so that each wheel engages one of the rollers.  

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(h) means driving the wheels and hence the rollers, whereby to turn a workpiece supported on the rollers,  

(i) a lever pivotally mounted to the bracket,  

(j) a pressure means carried by the lever and engageable with the workpiece supported on the rollers to assure turning of the workpiece by the rollers,  

(k) the lever pivotally adjusting to the size of the workpiece,  

(l) a rod interconnecting the lever and base, the rod including extensible rod portions, one rod portion being pivotally attached to the base, the other rod portion being detachably connected to the lever, and  

(m) a spring interconnecting the rod portions and tending to urge the rod portions in a direction to pivot the lever and urge the pressure means against the workpiece,  

(n) the rod pivoting about its pivot connection to the base to accommodate the pivotal movement of the lever in order to cause and maintain connection therebetween,  

(o) the arm being pivotally movable to swing the bracket and roller selectively out from between the wheels upon release of the rod from the lever so that the wheels can directly support and turn a workpiece.  

15. In a turning roll assembly for supporting and rotating the workpiece:  

(a) a pair of wheels disposed in side by side relation,  

(b) support means on which each wheel is rotatively mounted, and  

(c) a pair of shafts rotatively mounting the pair of wheels,  

(d) a workpiece adapter including a bracket,  

(e) a pair of rollers mounted on the bracket in side by side relation,  

(f) an arm pivotally mounted on one of the wheel shafts and attached to the bracket, the arm being pivotally movable to bring the bracket and rollers between the wheels so that each wheel engages one of the rollers, and  

(g) means driving the wheels and hence the rollers, whereby to turn a workpiece supported on the rollers.  

16. In a turning roll assembly for supporting and rotating a workpiece:  

(a) a pair of wheels disposed in side by side relation,  

(b) support means on which each wheel is rotatively mounted, and  

(c) a workpiece adapter including a bracket,  

(d) a pair of rollers mounted on the bracket,  

(e) an arm pivotally connected to the support means and attached to the bracket, the arm being pivotally movable to swing the bracket and rollers selectively out from between the wheels so that the wheels can directly support and turn a workpiece, and  

(g) a spring attached to the bracket and urging the bracket downwardly between the wheels and urging the rollers under pressure against the wheels to provide an effective friction drive therebetween, the spring being detachably connected to the bracket to release the bracket and rollers for movement away from the wheels.  

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