No. 720,039. PATENTED FEB. 10, 1903.

A. LEMMON.

CUTTER GUARD.

APPLICATION FILED JUNE 9, 1902.

NO MODEL.

Fig. 1.

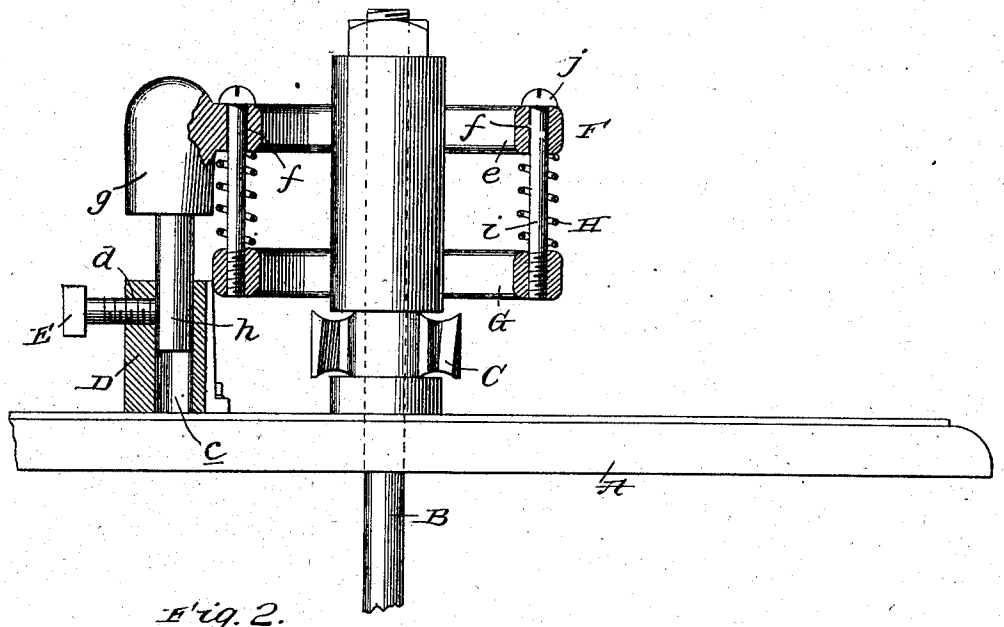


Fig. 2.

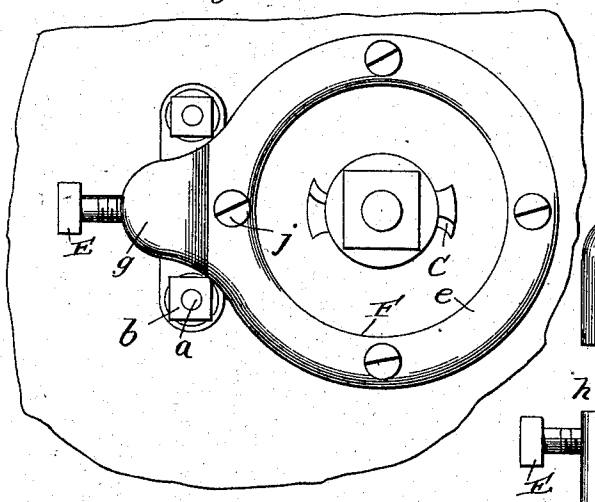
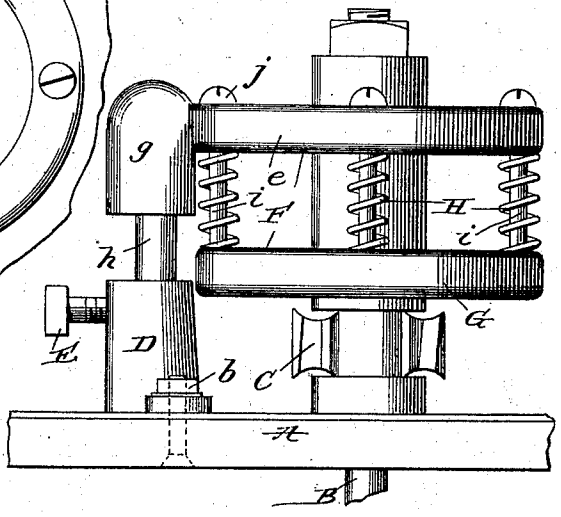


Fig. 3.



Witnesses
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALEXANDER LEMMON, OF SHELBYVILLE, INDIANA.

CUTTER-GUARD.

SPECIFICATION forming part of Letters Patent No. 720,039, dated February 10, 1903.

Application filed June 9, 1902. Serial No. 110,824. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER LEMMON, a citizen of the United States, residing at Shelbyville, in the county of Shelby and State of Indiana, have invented new and useful Improvements in Cutter-Guards, of which the following is a specification.

My invention relates to improvements in cutter-guards for use in woodworking-machines, and has for its general object to provide a simple and efficient device designed more particularly for guarding the rapidly-revolving bit of a shaper or "frizzer."

With the foregoing in mind the invention will be fully understood from the following description and claims when taken in conjunction with the accompanying drawings, in which—

Figure 1 is a vertical section, partly in elevation, illustrating my improved guard in its proper operative position on the work-support or table of a shaper. Fig. 2 is a top plan view of the same, and Fig. 3 is a side elevation.

Similar letters of reference designate corresponding parts in all of the views of the drawings, referring to which—

A is the work-support or table of a shaper; B, the usual shaft extending through said support and designed to be driven at a high rate of speed; C, a bit secured on the said shaft in the ordinary well-known manner, and D a standard arranged at a slight distance from the shaft. The said standard, which forms part of my improvements, is secured on the support A by bolts and nuts *a b* or other suitable means and is provided with a vertical bore *c* and also with a horizontal threaded aperture *d*, which communicates with the bore and is designed to receive a set-screw E.

F is the body of my improved guard, and G is the vertically-movable annular member or ring thereof. The body F is preferably formed of one piece of suitable material, and in the preferred embodiment of the invention it comprises an open horizontal portion or ring *e*, adapted to surround the shaft B, as shown, and having a plurality of equidistant vertically-disposed apertures *f* and a vertical portion *g*, which extends downwardly at one side of said horizontal portion or ring *e* and terminates in a stem *h*, adapted to rest and be adjustably secured by the set-screw E in the bore *c* of standard D. The annular member or ring G is disposed below and preferably corresponds in shape and size to the ring *e* of the body F. It is connected to the said ring *e* by vertical bolts *i*, which extend loosely through the apertures *f* in the ring and are provided above the same with heads or other enlargements *j*.

H H are coiled springs which surround the bolts or guide-rods *i* and are interposed between the ring *e* of the body F and the annular member or ring G. These springs H have for their purpose to normally hold the ring G in and return it to the relative position shown in the drawings, also to exert pressure on the said spring G when it is moved upwardly from the position illustrated.

In the practical use of my improvements the guard is adjustably fixed at a height to suit the work to be cut, and a piece of work is run in between the support A and member G and against the bit. Incident to the cutting of the piece of work it will be observed that the ring or member G is yieldingly held against or closely adjacent to the upper side of the piece of work, and hence the device is enabled to efficiently guard the bit and preclude injury to the workman; also, that the said member or ring G is free to give upwardly and accommodate itself to inequalities in the thickness of the work, with the result that the liability of the guard being broken or otherwise injured incident to the running of the work against the bit is reduced to a minimum.

I prefer in practice to so adjust the guard that the annular member or ring G thereof will be yieldingly held under pressure down upon the work, this in order to enable said member or ring to assist the operator in keeping the work or timber against the bit and to hold or assist in holding the timber firm on the table. It happens frequently that the attendant is required to shape pieces that are greater in length than the width of the table, and in consequence one end of the timber does not rest upon the table, and were no means provided to hold it against the table it would tip up away from the same. If the spring-pressed guard member G were not provided to hold the timber against the bit and

down on the table, it would have to be done by hand, and to do it the workman would be compelled to place his hands in a dangerous position near the bit.

It will be appreciated from the foregoing that my improved device is very simple, inexpensive, and durable, that it obviates the necessity of the attendant placing his hands near the bit, and that inside as well as outside work can be done when it is employed in conjunction with a bit.

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

1. The combination in a woodworking-machine, of a work-support, a cutter, and a cutter-guard comprising a spring-pressed annular member or ring supported adjacent to the cutter, and movable with respect to the same.

2. The combination in a woodworking-machine, of a work-support, a cutter, and a cutter-guard comprising a body suitably supported above the cutter, an annular member or ring disposed below and connected with the body so as to move toward and from the same, and one or more springs arranged to exert downward pressure on said annular member or ring.

3. The combination in a woodworking-machine, of a work-support, a cutter, and a cutter-guard comprising a body suitably supported above the cutter and having vertical apertures, an annular member or ring disposed below the body, bolts connected to said member or ring and extending loosely through the apertures of the body and provided above the same with enlargements, and coiled springs surrounding the bolts, and interposed between the body and the annular member or ring.

4. The combination in a woodworking-machine, of a work-support, a cutter, a standard arranged adjacent to the cutter, and a cutter-guard comprising a body disposed above the body and having a depending portion at one side adjustably connected to the standard, an annular member or ring disposed below the body, bolts connected to said member or ring and extending loosely through the apertures of the body and provided above the same with enlargements, and coiled springs surrounding the bolts, and interposed between the body and the annular member or ring.

5. A cutter-guard for woodworking-machines comprising a body having apertures, an annular member or ring, bolts connected to the said annular member or ring and extending through the apertures of the body and provided with enlargements, and coiled springs mounted on the bolts and arranged between the body and annular member.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ALEXANDER LEMMON.

Witnesses:
CHAS. H. TINDALL,
H. C. MORRISON.