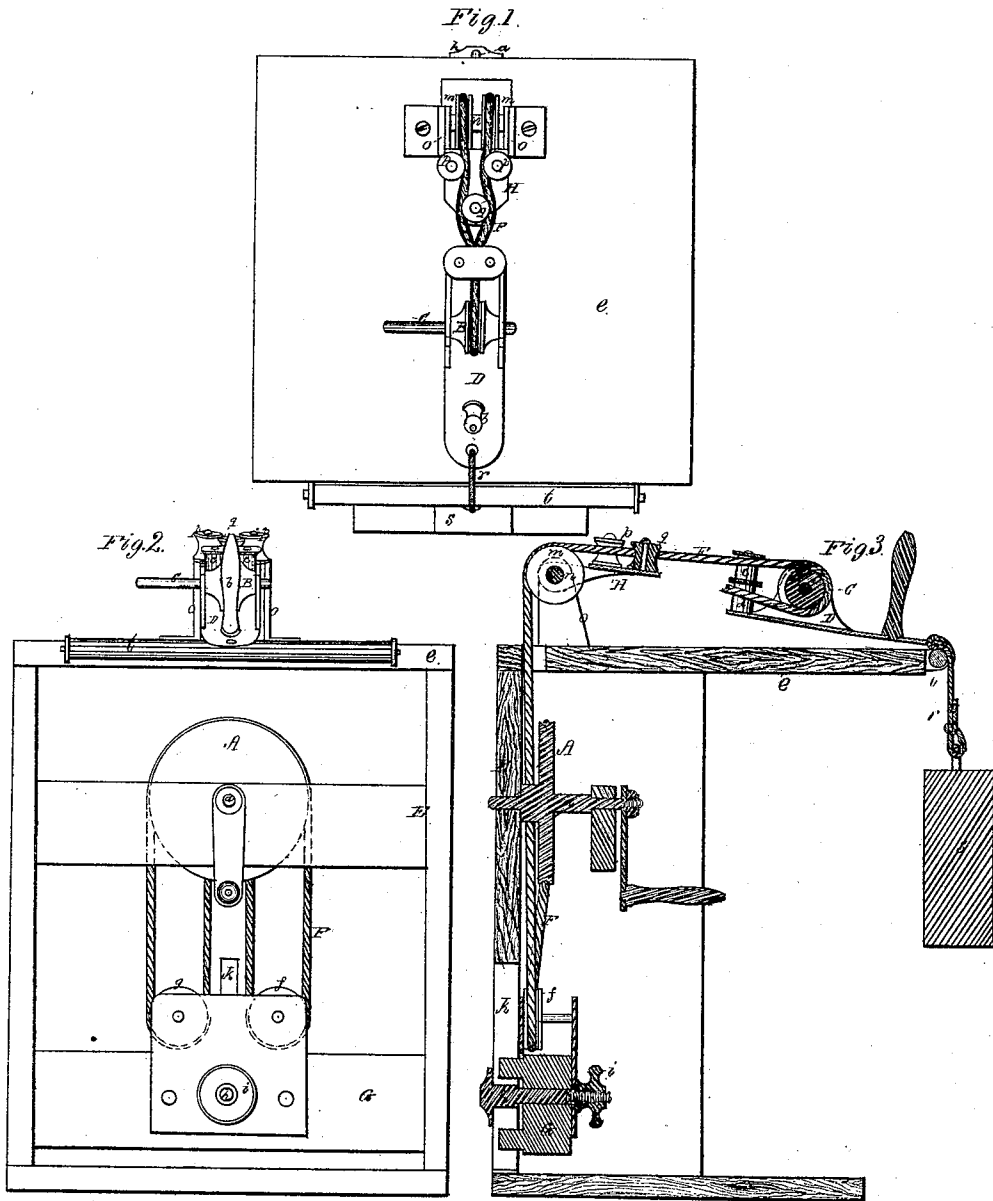


W. H. Brown,

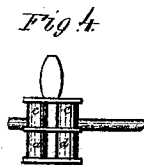
Gearing.

No. 106,993.

Patented Sept. 6, 1870.



Witnesses.  
S. N. Piper  
L. N. Miller



William H. Brown.  
by his attorney.  
R. W. Eddy

# United States Patent Office.

WILLIAM H. BROWN, OF BANGOR, MAINE.

Letters Patent No. 106,993, dated September 6, 1870.

## IMPROVEMENT IN PULLEY MECHANISM.

The Schedule referred to in these Letters Patent and making part of the same.

To all persons to whom these presents may come:

Be it known that I, WILLIAM H. BROWN, of Bangor, of the county of Penobscot and State of Maine, have made a new and useful Pulley Mechanism; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 is a top view;

Figure 2, a rear elevation; and

Figure 3, a vertical section of my invention as applied to a driving-pulley or wheel, a driven or another pulley or wheel, and endless band or belt employed to transfer motion from one to the other of the said two pulleys.

The purpose of the invention is to enable a person to move the driven pulley and its arbor in any direction, either toward or away from him, or laterally or obliquely, or upward or downward, over a table or surface while the said driven pulley may be in revolution, and in the meantime maintain the endless belt in due tension on the pulleys.

The invention enables a lapidary or a carver to direct and operate a drill or boring-tool or rotary cutter to great advantage, and saves the necessity of moving up to the said tool or cutter the article to be wrought, which may be confined in position upon the table.

In glass-cutting and in boring, drilling, or carving various articles, the subject or work to be reduced has often to be moved to the tool, while the latter may be in revolution, it being frequently difficult to effect such movements of the work, and while so doing for the workman to properly see the tool when and while it may be in action.

With my invention these difficulties are overcome, as the operative has only to move his tool over the work, and while so doing he can see the tool and work, change the direction of the former, as occasion may require.

In the drawing—

A denotes a driving-wheel or pulley mounted on a shaft, *a*.

The driven wheel or fellow pulley is shown at B, as fixed upon a mandrel, C, sustained in suitable bearings in a carrier, D.

To this mandrel the cutting-tool is to be fixed.

The carrier is provided with a handle, *b*, at or near its rear end, and at its front end it sustains two pairs of friction-rollers, *c c d d*, which are arranged in it in manner as shown in the drawing, particularly in Figure 4, which denotes an inner end view of such carrier.

The grooved pulley or wheel A, with its arbor, is arranged within a frame or table, E, and below its top *e*, in manner as represented.

An endless band, F, goes around the upper half of the periphery of the said wheel, thence continues downward underneath and partially around two other grooved wheels, *f g*, carried by a weight, G, which may or may not be provided with a clamp-screw, *h*,

and a nut, *i*, by which it may be clamped to the frame when desirable, the clamp-screw going through a vertical slot, *k*, made in the frame.

From the weight wheels *f g*, the endless band is led upward through a hole, *l*, in the table-top, and thence over two grooved wheels, *m m*, having their arbor *n* supported by two standards, *o o*, elevated on the table.

An arm H, pivoted to the said arbor, so as to play up and down thereon, carries three grooved guide-rollers, *p p q*, arranged in manner as represented, and to freely revolve on journals projected upward from the arm.

The endless band is next led between the rollers *p p* and on opposite sides of the roller *q*, in manner as shown in fig. 1.

Thence, the said band passes between the rollers of the parts of guide-rollers *c c* of the carriers, and thence around the driven, or to be driven, wheel B, in manner as shown in the drawing.

Furthermore, I usually apply to the said carrier, the rope or cord *r* of a counterbalance weight, *s*, and lead such rope across a friction-roller, *t*, arranged along the edge of the frame or table, in manner as represented, the object being to counterbalance the draft on the carrier produced by the weight G.

From the above it will be seen that, when the driving-wheel is in revolution, whatever movement may be imparted to the carrier within the range of its motion, the wheel B will be kept in rotation, and there will be an equal tension on the driving-band.

The arm H, with its three guides or rollers, serves to keep the belt from moving laterally off the wheels *m m*, the guides or rollers of the carrier also operating to direct the band and keep it in place upon the wheel B.

What I claim as my invention, is—

The combination and arrangement of the movable carrier D, the guide-wheels *m m*, and the weight G, and its guide-wheels *f g*, with the driving and driven wheels A B and their endless band F, the whole being applied together and to a frame or table, substantially in manner and so as to operate as described.

Also, the arrangement and combination of the arm H and its guides *p p q* with the endless belt or band F, the wheels A B, the carrier D, the guide-wheels *m m*, and the weight G and its wheels *f g*, the whole being applied to a table or frame, so as to operate essentially as described.

Also, the combination of the counterbalance weight *s* with the carrier D, the driving and driven wheels A B, the endless band F, the guide-wheels *m m*, and the weight G, arranged and applied together as and for the purpose, and to operate as hereinbefore explained.

W. H. BROWN.

Witnesses:

R. H. EDDY,  
J. R. SNOW.