

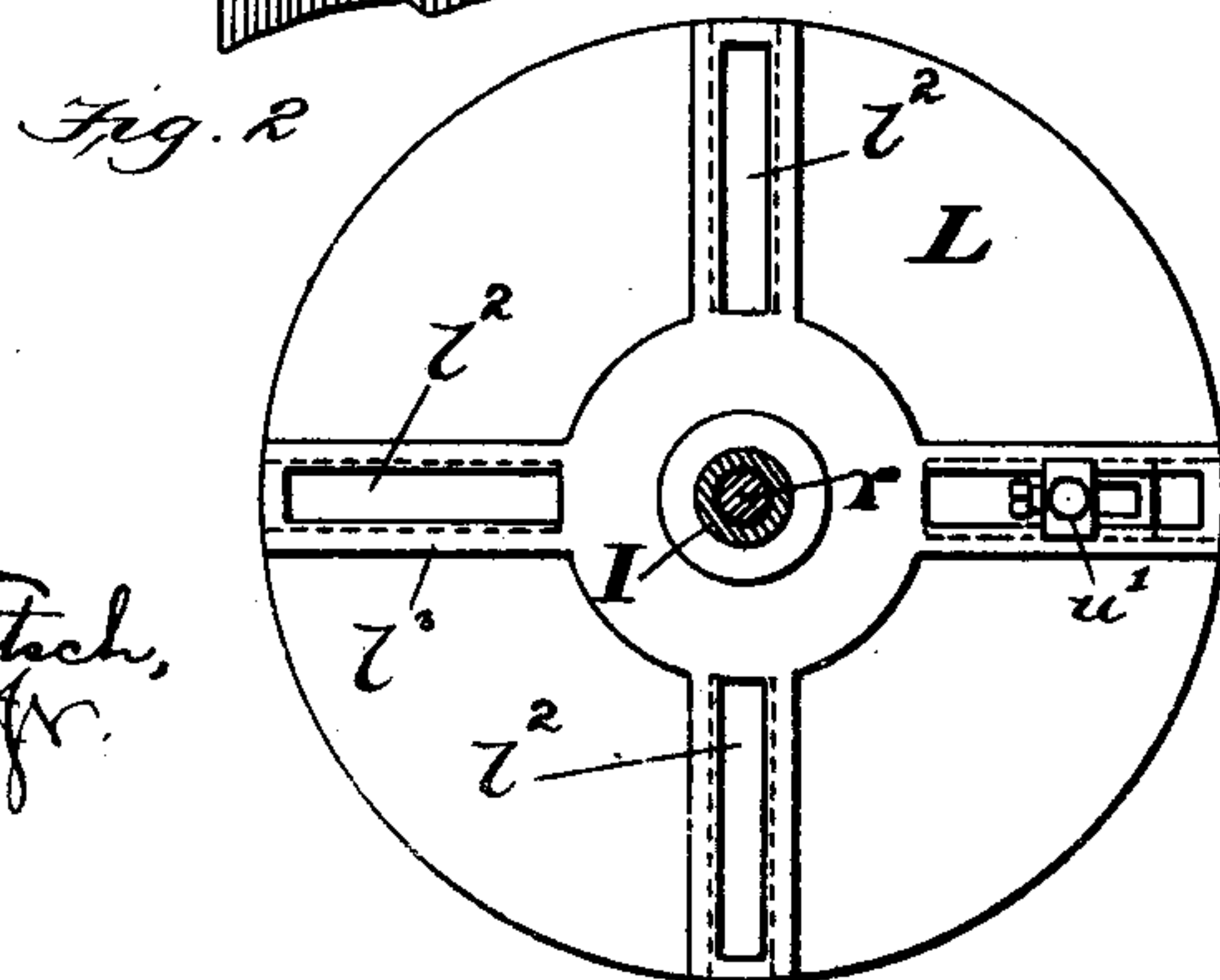
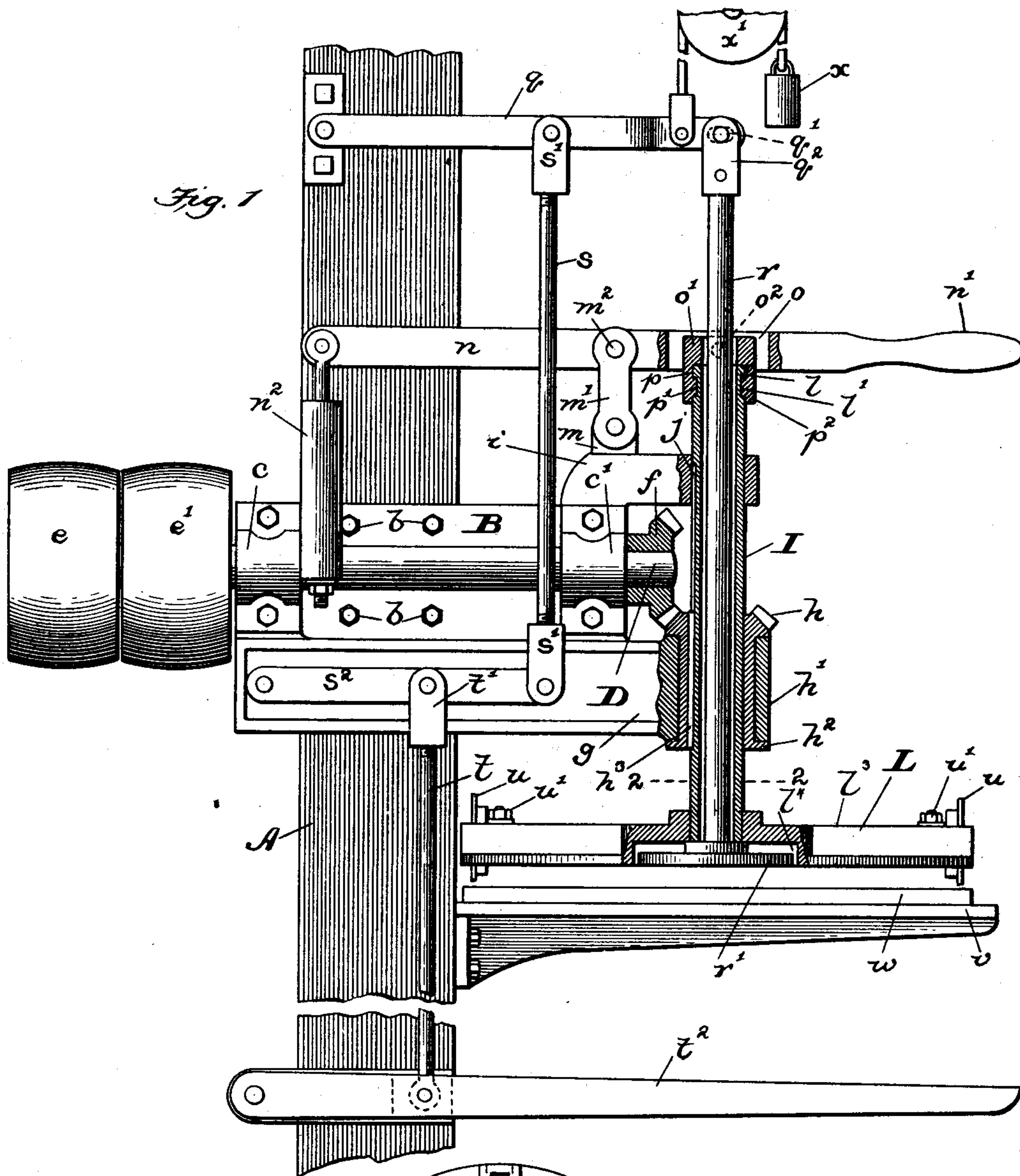
No. 713,908.

Patented Nov. 18, 1902.

R. W. McDANIEL.
WOODWORKING MACHINE.

(Application filed Mar. 10, 1902.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

ROBERT W. McDANIEL, OF BALTIMORE, MARYLAND.

WOODWORKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 713,908, dated November 18, 1902.

Application filed March 10, 1902. Serial No. 97,484. (No model.)

To all whom it may concern:

Be it known that I, ROBERT W. McDANIEL, a citizen of the United States, residing at Baltimore, State of Maryland, have invented certain new and useful Improvements in a Rotary Woodworking-Machine, of which the following is a specification.

This invention relates to an improvement in the construction of machines for cutting out circular disks, such as heads for barrels and kegs and similar work.

The invention consists of the improved construction of parts, as will be hereinafter pointed out.

In the drawings, Figure 1 illustrates in part a side elevation and partly a sectional view of the machine, and Fig. 2 is a horizontal section on the line 2 2 of Fig. 1 and illustrates a plan view of the rotary cutter-head.

In the drawings, A designates a vertical standard which may be secured to a base or, if preferred, may be secured between the floor and ceiling. This standard supports a horizontal bracket B, which latter is secured thereto by bolts *b*. The bracket B is provided at each end with a bearing *c* and *c'*, which support a horizontal shaft D, provided at one end with a fast and loose pulley *e* and *e'*, and at the opposite end said shaft carries a bevel-gear *f*, which revolves in a vertical plane. The bracket B is also provided with an arm *g*, which projects horizontally beneath the bevel-gear *f*, and said arm has a bearing *h'*, which supports a bevel-gear *h*, that revolves in a horizontal plane and meshes with the other gear *f*. The horizontally-revoluble gear *h* is provided on its lower end with a laterally-projecting flange *h*², which takes under the lower surface of the bearing *h'* and prevents vertical displacement of the gear. The gear *h* is also provided with a vertical feather *h*³, the object of which will be hereinafter described. An arm *i* extends in a horizontal direction from the bracket B and projects over and beyond the gear *f*.

A hollow shaft I extends vertically through the horizontal arm *i* and also through the horizontally-revoluble gear *h*, and said hollow shaft is provided with a groove *j*, which extends in a vertical direction and into the gear *h*. The feather *h*³ of the gear has position in the groove *j* on the shaft. This feather *h*³

connects the gear *h* and shaft I with respect to all rotary motion, but permits said shaft to have a free vertical movement through said gear. The lower end of said shaft I carries a circular cutter-head L, which latter revolves with the shaft, and the upper end of said hollow shaft is provided with a head *l*, having a surrounding groove *l'*. The arm *i* is provided with a lug *m*, to which latter one end of an upright link *m'* is pivoted, and the other end of said link is pivoted at *m*² to a lever *n*. Thus the lever *n* is supported above the arm *i* and has a slight lateral movement because of the upright link between it and the arm.

The lever *n* is provided with a circular opening *o*, which takes around the upper end of the hollow shaft I. A swiveled block *o'*, having a central opening, is secured or swiveled by two pins *o*² in said opening. The pins pass through the lever *n*, one at each side, and each of said pins enters the block at opposite sides, so as to pivot or swivel the block within the slot *o*. The lower part of the block on the interior of the central opening is provided with a groove *p*, which receives the grooved head *l* of the shaft I, and an inturned flange *p'*, which takes in the surrounding groove *l'*. A plate *p*² serves to retain the head *l* of the shaft I in the swiveled block *o'*. By the foregoing description it will be seen that the hollow shaft and cutter-head L are suspended from the swiveled block *o'*, and as the shaft is revolved the head *l* will turn loosely in said block. The outer end of the lever *n* is provided with a handle *n'*, and the opposite end of said lever carries a counterbalance-weight *n*², which keeps the handle end of the lever, the hollow shaft I, and the cutter-head normally elevated.

Pivoted to the standard or beam A above the lever *n* is a lever *q*, which projects in a horizontal direction, and the free end of said lever has position directly above the hollow shaft I, and this free end of said lever is provided with an elongated slot *q'*. A slotted head *q*² receives the free end of the lever *q*, and a pin passing through said head and also through the slot *q'* in said lever serves to pivotally connect said head and lever. A vertical rod *r* has its upper end secured in the head *q*², and said rod depends from the head

and passes down loosely through the hollow shaft I, and the lower end of said rod carries a presser-head r' to hold down the material. By reference to the drawings it will be seen
5 that the rod r and presser-head r' have a vertical movement independent of the hollow shaft and cutter-head.

A vertical rod s is provided with slotted heads s' , similar to the head q^2 . One head is
10 pivotally connected to the upper lever q and the lower head s' to a lever s^2 , which has position beneath the shaft D, and one end of said lever is pivoted beneath the bearing c . A lower vertical rod t connects the lever s^2
15 with a treadle t^2 . It will be seen that the ends of rods s and t are threaded in order that both may have a vertical adjustment.

The cutter-head L in the present instance is circular in form and is provided with radiating slots l^2 , surrounded by flanges l^3 . Suitable cutters u have position within the slots
20 l^2 , and a clamp device u' extends crosswise of the slot and rests on said flanges and serves to retain the cutters in any set position within the slots. It will thus be seen that the cutters may be adjusted to cut larger or smaller wood disks. The cutter-head is also provided with a recess l^4 in its bottom, which receives the presser-head r' .

30 A bracket-table v is secured to the standard beneath the cutter-head and serves to hold the material out of which the disks are to be cut.

In operation the material w , such as wood,
35 out of which the disks are to be cut is placed on the table v beneath the cutter-head L. The treadle t^2 is now depressed, which causes the rods t , s , and r to be pulled down, and the presser-head r' will press on top of the
40 material w and hold it firmly on the table against rotation and displacement when the cutters are brought into contact with it. The lever n is now pulled downward, carrying the swiveled block o' , hollow shaft I, and revolving cutter-head L with it. This downward
45 movement of the cutter-head causes the cutters to contact with the upper surface of the board or other material w and cut same as the head and cutters are revolved. The hollow
50 shaft I is continuously revolved by means of

the gears h and f and the shaft D. When the wood disk has been cut, the lever n is released, and the same is raised by means of the weight
 n' . The raising of the lever n carries the hollow shaft and cutter-head with it. The
55 treadle is now released, and the rod r and presser-head r' are raised by means of the weight x , which is suspended from a cord or belt which passes over the pulley x' and is attached to the lever q .
60

The novel features of construction and combination are pointed out in the claim.

Having thus described my invention, what I claim is—

The combination of a standard; a bracket
65 supported by the standard and having a bearing, h' , at one end; a bevel-gear, h , supported in said bearing and revoluble in a horizontal plane; a driving-shaft also supported by said bracket and carrying a gear which
70 revolves in a vertical plane and meshes with said horizontal revoluble gear; a vertical hollow shaft having at its upper end a circumferential groove, said shaft extending through said bevel-gear and connected therewith by
75 a groove and feather; a revoluble cutter-head on the lower end of said hollow shaft; a horizontal pivoted lever above said driving-shaft, said lever carrying at one end a weight and
80 near the opposite end having a circular opening; a block pivoted at each side in said central opening and hanging pendent therefrom, said block also having a central opening the interior of which latter is provided with a
85 groove, and an inturned flange which receives the grooved end of the vertical hollow shaft; a rod passing through the opening in said pivoted block and extending entirely through said hollow shaft and carrying a
90 presser-head on its lower end; a weight for keeping the rod and presser-head normally elevated and lever mechanism for lowering said rod and presser-head.

In testimony whereof I affix my signature in the presence of two witnesses.

ROBERT W. McDANIEL.

Witnesses:

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