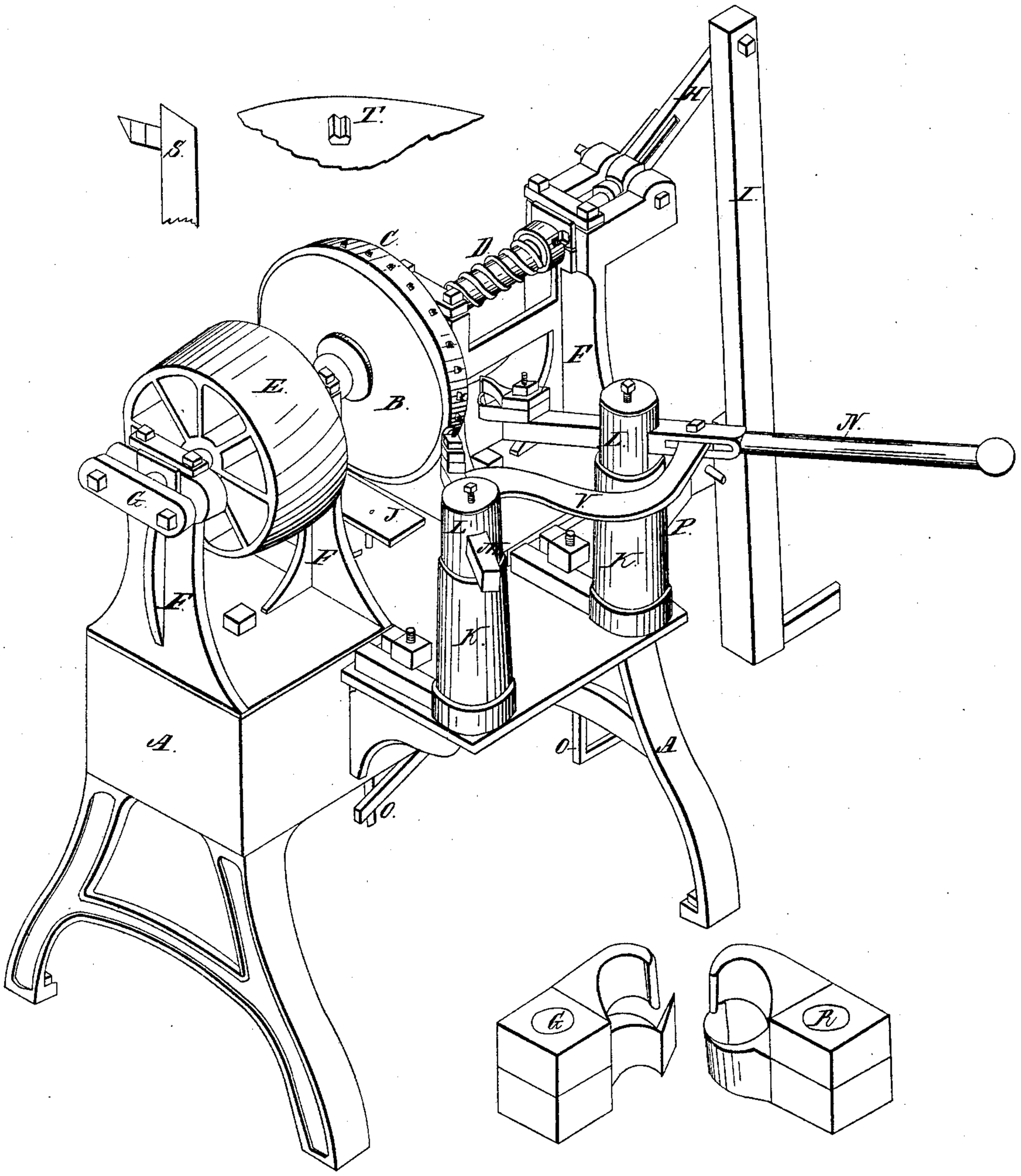
W. Berard,

Making Barrel Heads.

No. 19,066. Patented Jan. 12, 1858.



UNITED STATES PATENT OFFICE.

WM. BEVARD, OF MUSCATINE, IOWA.

METHOD OF CONNECTING THE BEVELING-KNIVES IN CIRCULAR-CUTTING BARREL-HEAD MACHINERY.

Specification of Letters Patent No. 19,066, dated January 12, 1858.

To all whom it may concern:

Be it known that I, WILLIAM BEVARD, of the city of Muscatine and State of Iowa, have invented a new and useful Improvement Upon Machinery for Circling Barrel-Heads; and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification.

The letters A, A, upon the drawing represent the cast iron frame of the machine; B, C, the cast iron plates or disks, between which the pieces composing the barrel-head are held; D, a spiral spring surrounding the shaft, to which the right hand disk C, is attached. This spring throws back the disk C, that the pieces of heading may be put in and taken out.

E, represents the driving pulley; F, F, F, the cast iron heads supporting the shaft and disks; H an eccentric lever, worked by the treadle I, to force the right hand disk, C, toward the disk B and hold the heading firmly while the bits are applied.

J is an iron step raised by the treadle O, O, to support the heading until held by the pressure of the disks B and C, and then lowered to permit the free revolution of the disks.

K, K, are hollow pillars to support the cylinders L, L.

L, L, are cylinders revolving horizontally in the pillars K, K, and supporting the arms M and N. To these arms the bits are attached, and revolving with the cylinders L, L, may be applied to or withdrawn from the heading, as the operation of circling and beveling requires.

V is the curved iron coupling connecting the arms M, and N, and by which the bit on the arm M, is brought to the heading at the same time with the bit on the arm N, which arm N is also the lever by which, with the right hand, at one motion, the bits are applied to the heading. The coupling V is constructed so as to be extended, or shortened, at will, and is so situated, or attached to the arms M, N, that the bit on the arm M, though applied to the heading at the same moment with the bit on the arm N, traverses, while cutting, but one-half the space traversed by the bit on arm N,—thus with perfect accuracy cutting two-thirds of the head on the right side, and one-third upon the left, and beveling to an edge, ready for use.

a, *b*, *c*, are forked springs on the inner surface of the disk C, near the circumference, and equi-distant from the center, inclining from the center of the disk, and sharpened at the point by an acute bevel on the inside of the sprig. These sprigs when forced into the wood by the treadle I compress the pieces composing the head firmly together, and hold the joints against the action of the bits in cutting.

G, is a regulator, by which the position of the disks with reference to the bits may be changed from right to left, or left to right, increasing or decreasing the bevel on the outside of the head, as desired.

x, *x*, are screws to hold the arms M and N in place.

P is a piece of iron attached to the frame to hold the treadle I down.

Q and R are enlarged side views of bits—R right hand and Q left hand bit.

S is an enlarged side view of the sprig, and a section of disk C, showing the inclination of the sprig from the center, and the beveling of the sprig itself to a point, from the inside.

T is an enlarged front view of a sprig, and a section of disk C.

In operating the machine the pieces to compose the head are dropped between the disks B and C, and rest upon the iron step J, which is held up against or near the disks by the foot pressing down on the lever O. The right hand is then laid upon the end of the lever H, and by a slight pressure closes the disks and relieves the foot, which is then placed upon the treadle I, and applies the force necessary to hold the heading firmly between the disks. The disks with the heading are then put in motion, at a velocity of from five hundred to six hundred revolutions per minute. The bits are next brought to the heading by one motion of the right hand upon the lever, or arm N, bringing both bits to operation, and circling, beveling and chamfering the head at one operation. The force is then removed from the eccentric lever, H. The spiral spring D, throws back the disk C, and the finished head is taken out—the whole operation requiring from thirty to thirty-five seconds.

So perfect is the operation of this machine, that while it saves one-half the time,

by doing double the work of any other machine, in a given time, thus economizing at least fifty per cent. of the cost of power and labor, it also does its work so well that every head is a true circle, and no timber is lost by splintering or shivering.

It is important in the manufacture of barrel heads, to make the bevel on the outside of the head much less than on the inside whereby the heads are able to support a greater stress as the bevel will not be so liable to break off and it is also necessary to make all the heads exactly alike in this respect, particularly when the barrel is made with machinery—to effect this object therefore—with accuracy and with greater facility, and to provide a more convenient method of bringing the two disks B and C together, is the object of my invention.

What I claim therefore and desire to secure by Letters Patent, is—

The described method of connecting the two bit holders M and N so as to cause them to act substantially as set forth.

WM. BEVARD.

Attest:

WILLIAM A. WHITING,
H. D. LA COSSITT.