

S. F. MAXWELL.
NAIL-KEG.

No. 172,642.

Patented Jan. 25, 1876.

Fig. 1.

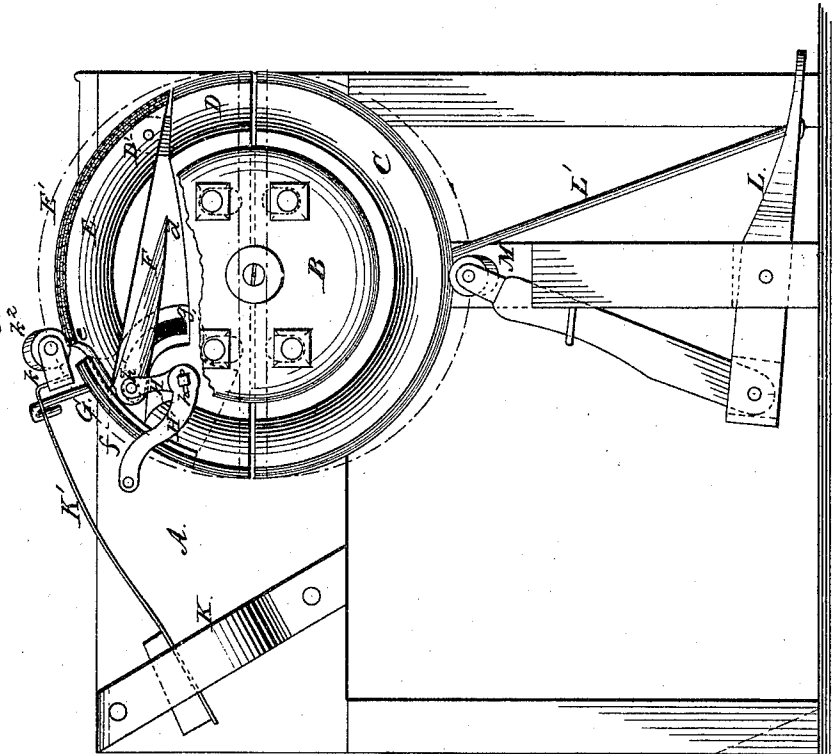
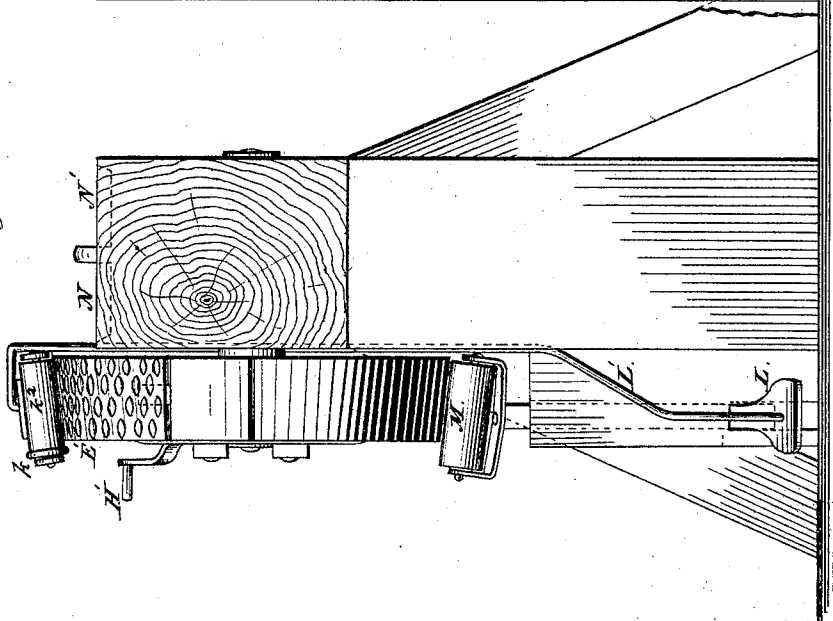


Fig. 2.



Witnesses:

Edwin James.

John K. Jones.

Inventor:

Samuel F. Maxwell.

per J. E. J. Holmeads
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Fig. 3.

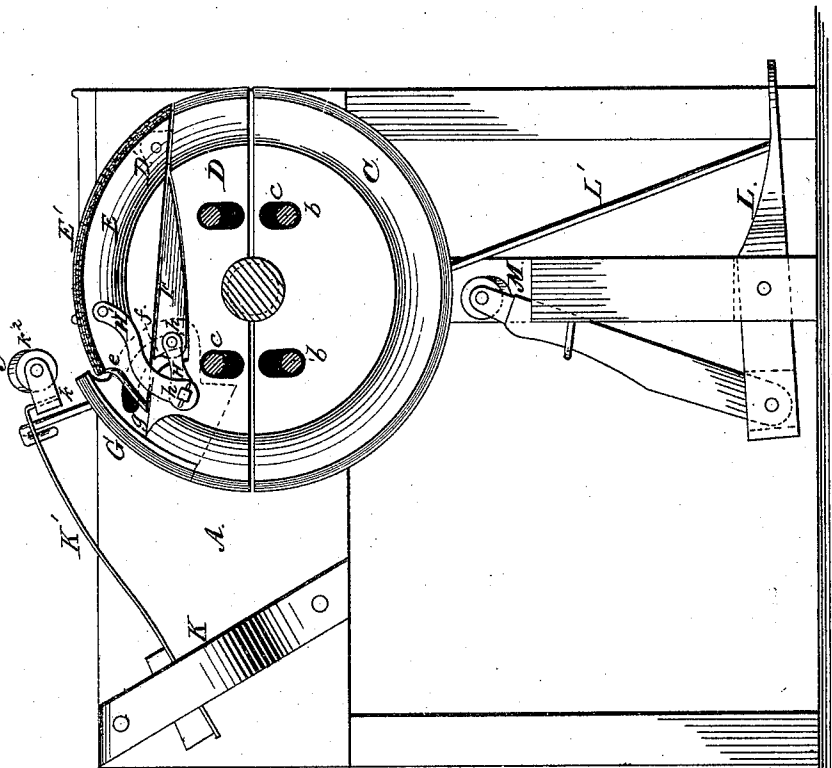
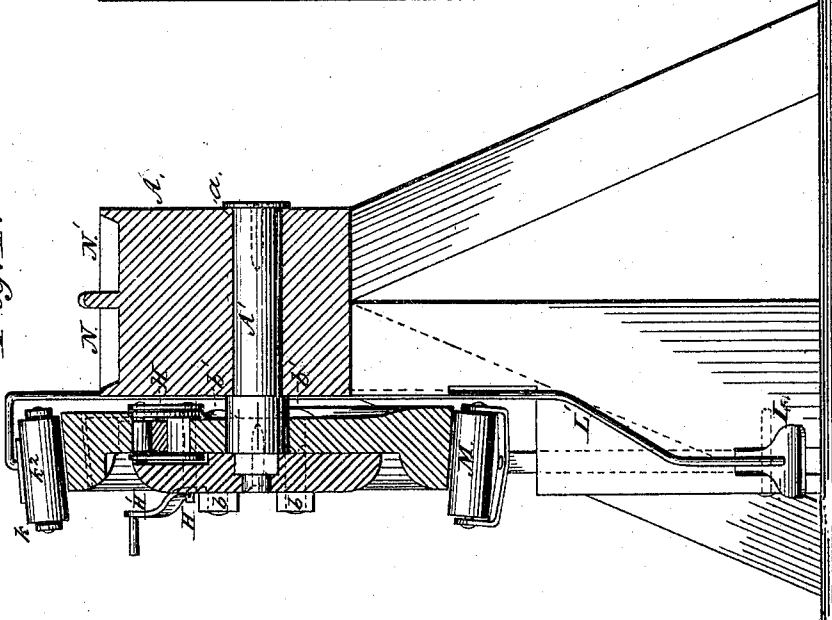


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

SAMUEL F. MAXWELL, OF CLIFTON, WEST VIRGINIA.

IMPROVEMENT IN NAIL-KEGS.

Specification forming part of Letters Patent No. **172,642**, dated January 25, 1876; application filed August 10, 1875.

To all whom it may concern:

Be it known that I, SAMUEL F. MAXWELL, of Clifton, in the county of Mason and State of West Virginia, have invented certain Improvements in Nail-Kegs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing and the letters of reference marked thereon, making part of this specification, in which—

Figures 1 and 3 are side views. Figs. 2 and 4 are vertical sectional views.

My present invention is an improvement on the invention embraced in and covered by Letters Patent of the United States issued to me February 16, 1875, No. 159,945.

In my present improvement the former around which the hoop is bent, while it operates on substantially the same principle as does the former in the patent referred to; yet in my present improvement—and herein lies one of the most important features of the invention—the former is a compound wheel consisting of a bearing plate or wheel, and which is rigidly attached to an axial shaft, and to this wheel are attached, by means of oblong slotted bearings and bolts, the sections of the former-wheel, their arrangement and method of attachment being such as to permit of either the enlargement or contraction of the wheel, whereby the same mechanism can be used to bend hoops of varying diameters, or such as are suited for either barrels or kegs.

My invention also consists in providing the spring clamping-arm, which, in my present invention, as in my former patent, serves to press and retain the hoop around the former, with an anti-friction roller; and also in employing, in connection with said spring-arm and roller, a supplemental clamping-roller attached to a vertical arm secured at the rear of the treadle, and which, when the treadle is depressed, presses said roller up against the former, or the hoop which encircles the same. These clamping-rollers serve to secure the hoop, retaining the same tightly against and around the wheel while being tacked.

The construction and operation of my invention are as follows:

A is a bench or table of ordinary construction, and is formed with a horizontal circular opening or mortise, *a*, and in which is secured

and revolves an axial shaft, *A'*. To the front surface of this shaft, and at its center, is firmly bolted or keyed the bearing or face wheel *B* of the hoop-former, and in such manner as to insure of its always rotating with said shaft. The former, or section of the compound wheel around which the hoop is bent and tacked, consists of two half-wheels, one of which, *C*, is solid, and the other is composed of a center-piece, *D*, a segment or quarter clinch-piece, *E*, and a tongue or wedge-shaped piece, *F*. The form and relative arrangement of these sections are clearly shown in Fig. 3. The two half-wheels *C* and *D E F* are attached to the rear surface of the bearing axial wheel *B* by means of oblong slotted bearings *c c* and bolts *b b* and nuts *b' b'*, as clearly shown in Figs. 3 and 4, and the sections *D E F* are connected together as follows: The segment *E* is secured to the center-piece *D* by a hinged or pivot joint, *D'*, precisely as is the segment in my former patent secured to the main section of the wheel, and is designed to operate in precisely the same manner, in connection with the catch-plate *G*, in securing the end of the hoop. The segment *E* is faced with small grooves *E'*, running across the wheel, as clearly shown in Fig. 2, and at the section where the hoop is tacked. This makes a complete clinch across the grain of the wood. The segment is beveled at its forward section, so as to provide a recess-tongue, *e*, as clearly shown in Figs. 1 and 3. The tongue *F* is of the form shown, and fits in the recessed face *d* of the center-piece *D*, and is attached to crank-arms *H H*, secured to axial bearing *h*, and the outer bearing *h'* of which works in a curved slot, *g*, cut on the flanged bearing-surface of the catch-plate *G*, all as clearly shown in Figs. 1 and 3. The upper rounded surface of the tongue *F* is notched, and provides a toothed bearing, *f*. When the former-wheel is in the position shown in Fig. 3, it will be seen that an opening is left between the catch-plate *G* and the bevel-tongue *e* of the segment *E*, for the insertion of the end of the hoop. The handle *H'* is then turned, and which, through the crank-arms *H*, imparts an eccentric movement to the tongue *F*, forcing out the segment *E*, as shown in Fig. 1, and securing the end of the hoop under the catch-plate *G*, by means of the bevel-tongue *e* and the tooth *f*. Now, we

will suppose that when the several parts of the wheel are together, as shown in Fig. 1, the dimensions of the former-wheel are such as to bend a hoop of suitable diameter for a keg. To alter the same mechanism so as to permit it to bend a hoop of a size suitable for a barrel, you simply have to loosen the nuts $b' b'$ and shift the position of the bolts $b b$ in the slots $c c$, so as to enlarge the former, as shown in dotted lines, Fig. 1; and, as the segment E, tongue F, and catch-plate G are all connected to the center-piece D, its relative change of position in no manner affects their working. To a suitable post or upright, K, is attached a spring-catch plate, K^1 , the function of which is precisely the same as that of my former patent; but, instead of pressing the hoop around the wheel by means of the sharp edge of the spring-catch, I use in my present improvement an anti-friction roller, K^2 , and which is secured at the outer section of the spring-catch in suitable bearings, $k k$. The catch is operated by means of a treadle, L, and connecting-rod L' , precisely as in my former patent. M is a supplemental pressure-roller, and is secured in a suitable upright and post at the rear section of the treadle. By referring to Figs. 1 and 3, it will be seen that when the treadle is depressed a simultaneous movement is imparted to both rollers, throwing them against the wheel, or in position to lightly press the hoop thereon, holding it in proper position while

being tacked. N N' are suitable receptacles for the tacks, &c.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a hoop-bending machine, in combination with a presser-plate to secure the hoop around the former, a compound former-wheel, consisting of the bearing-plate B and sections C D E/F, slots $c c$, and bolts and nuts, the whole being constructed and arranged to operate substantially as described, as and for the purpose specified.

2. In combination with a wheel or former having a pivoted segment, E, and clasp G, the tongue F, recessed so as to provide a tooth-bearing, f , the same being so combined and arranged that when the tongue is drawn through suitable mechanism it shall not only throw out the segment, but leave its tooth in position to bite the hoop under the catch, substantially as described.

3. The former or wheel B C D E F, catch G, spring-plate K^1 , roller K^2 , treadle L, and roller M, the whole being combined and arranged to operate substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL F. MAXWELL.

Witnesses:

E. W. MOREY,

MARY M. DOWNING.