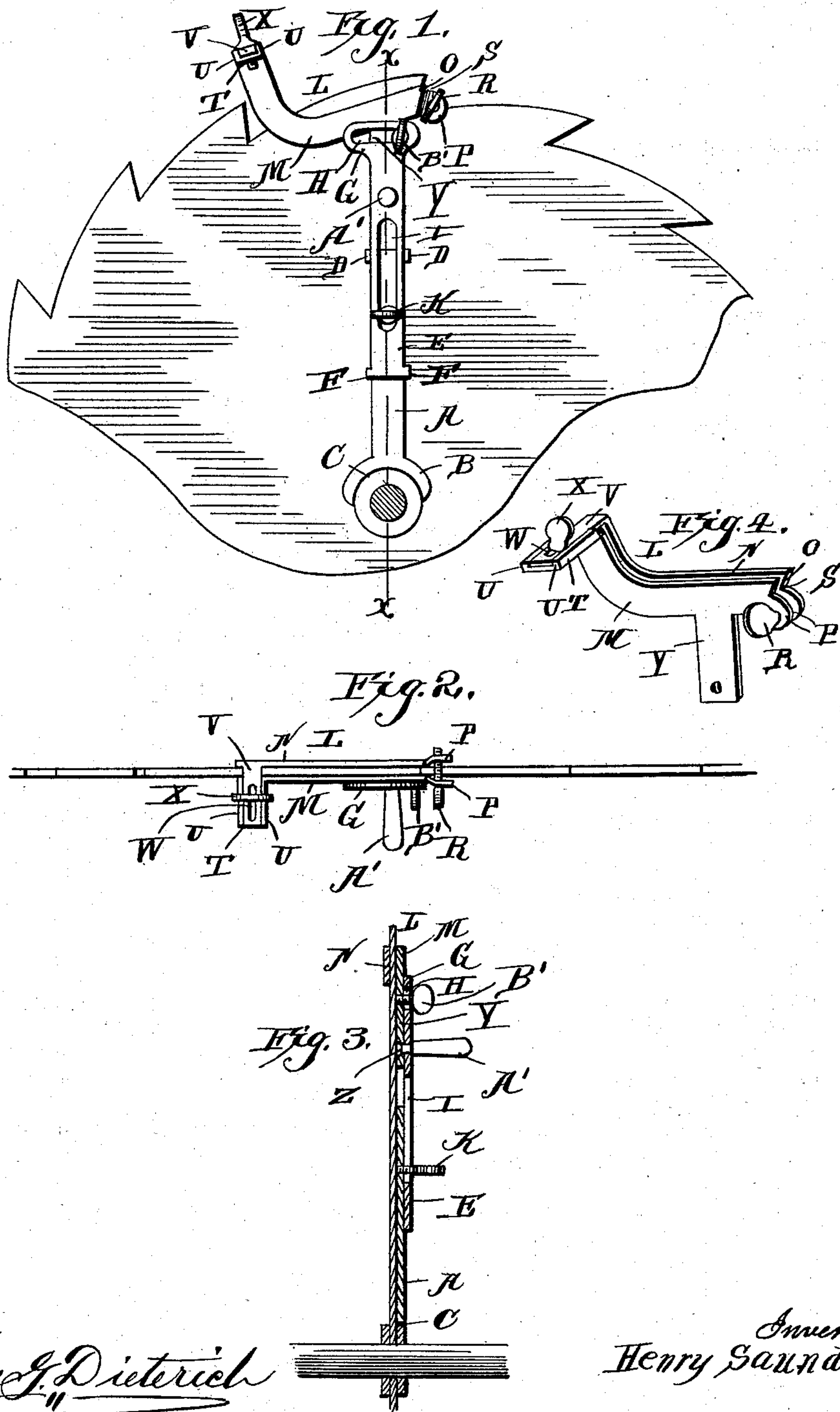


(No Model.)

H. SAUNDERS.  
GAGE FOR SAWS.

No. 406,774.

Patented July 9, 1889.



Witnesses  
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# UNITED STATES PATENT OFFICE.

HENRY SAUNDERS, OF PERRY, MISSOURI.

## GAGE FOR SAWS.

SPECIFICATION forming part of Letters Patent No. 406,774, dated July 9, 1889.

Application filed March 30, 1889. Serial No. 305,363. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY SAUNDERS, a citizen of the United States, residing at Perry, in the county of Ralls and State of Missouri, have invented a new and useful Improvement in Gages for Setting and Sharpening Saws, of which the following is a specification.

My invention relates to an improvement in gages for facilitating setting, swaging, and sharpening the teeth of circular saws; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is an elevation of a gage embodying my improvements, showing the manner of using the same on a circular saw. Fig. 2 is a top plan view of the same. Fig. 3 is a sectional view on the line *xx* of Fig. 1. Fig. 4 is a detail view of the clamp for the saw.

The arm A has a foot B at its lower end with a concave or curved face C, adapted to engage the collar at the center of the saw, and said arm is provided at its outer end on its front side with a pair of guide-ears D. An extension-plate E is fitted on the base of the arm, is guided between the ears D, and is provided at its lower end with a pair of guide-ears F, which engage the edges of the arm A and thereby keep the extension-plate in line with the said arm. At the outer end of the extension-plate and projecting laterally beyond one side thereof is formed a head G, which has a tangential curved slot H, and the longitudinal portion of the extension-plate is provided with a slot I. A thumb-screw K works in the said slot, engages the threaded opening in the arm A, and is adapted to clamp the extension-plate to the arm at any desired adjustment.

The clamp L comprises a pair of plates M N, which are shaped to correspond with the desired shape of the circular-saw teeth, the said plates being provided near one end with angular shoulders O. The said plates are further provided at their front ends with a pair of forwardly-projecting and downwardly-inclined ears P. An adjusting-screw R is swiveled in the plain opening in one of the said ears and engages a threaded opening in the other. The inner sides of the angular

shoulders O are beveled outward to form a recess S, which corresponds with the desired shape of the swaged cutting-edges of the saw-teeth. The plate M has at its rear end a lateral arm T, with its sides turned up at the right angles to form parallel guiding-flanges U, and the plate N has a lateral arm V, formed at its rear end, which bears on the arm T and is guided between the flanges U. Said arm is further provided with a longitudinal slot W, and an adjusting-screw X works in the said slot and engages the threaded opening in the arm T. The function of the screws X and R is to adapt the plates which constitute the clamp or vise to be moved toward and from each other and thereby adapt them to be fitted on a saw-tooth of any width. Depending from the plate M near the front end thereof is an arm Y, which bears against the rear side of the extension-plate E, near the upper end thereof, the said arm being pivoted on a stud Z, formed at the rear end of a handle A', which projects from the front side of the extension-plate. An adjusting-screw B' operates in the slot H and engages a threaded opening at the upper end of arm Y, and enables the clamp or vise to be turned to any desired adjustment with relation to the extension-arm, according to the profile of the teeth of the saw, and clamped in such position.

By reason of the extension-plate E the gage is adapted to be used on saws of varying diameters.

The operation of my invention will be readily understood.

Having adjusted the plate E to the desired extent or to a distance equal to that from the center of the saw to the outer edge of its shortest tooth, the clamp or vise is adjusted on the extension-plate to the required pitch of the saw-teeth and is fitted on one of the same with the cutting-edge of the tooth, where it is to be swaged, arranged between the shoulders O in the recess S. By using a file the tooth may have its parts which project beyond the vise or clamp cut away, thus giving the desired shape to the tooth. Each tooth in succession on the saw will thus be treated, and when finished the saw will be exactly circular in shape, all the teeth will be of the same shape and depth, and their swaged



edges will be of the same width; hence my improved gage renders it possible to sharpen and swage the teeth of a circular saw with a degree of accuracy closely approaching perfection.

Having thus described my invention, I claim—

1. In a gage for sharpening and swaging the teeth of circular saws, the combination of the arm A, the extension-plate E thereon, the clamp-screw to secure said extension-plate to said arm at any desired adjustment, and the clamp or vise pivoted to the extension-plate, substantially as described.

2. The vise or clamp comprising the laterally-adjustable plates, one of which is provided with the arm Y, in combination with the arm A, the extension-plate E thereon, and the pivot-connection between the arm Y and said extension-plate, substantially as described.

3. In a saw-gage, the vise or clamp comprising the plates M N, adapted to the contour of the saw-teeth, and the adjusting-screws to move said plates laterally toward and from each other, in combination with a support for the clamp, substantially as described.

4. In a saw-gage, the clamp or vise comprising the plates M N, adapted to the shape of the saw-teeth and having the lateral arms at their rear ends guided one on the other, the set-screws to secure said arms at any desired adjustment, the ears projecting from the lower

front ends of the plates, and the set-screws connecting said ears, in combination with means for supporting the gage, substantially as described.

5. In a gage for circular saws, a standard having the clamp or vise adapted to receive the saw-teeth in succession, said clamp or vise having the shoulders O beveled outward on their opposing sides at their front edges, for the purpose set forth, substantially as described.

6. The circular-saw gage comprising the arm A, having the foot B, for the purpose set forth, the extension-plate E, guided on the arm and having the longitudinal slot I and the curved slot H, the set-screw in slot I and engaging-arm A, the vise or clamp bearing against the extension-plate and comprising the laterally-adjustable plates M N and the screws to operate the same, the handle extending through the extension-plate and having the studs forming the pivot for the vise or clamp, and the adjusting or set screw operating in slot H and engaging the vise or clamp, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

HENRY SAUNDERS.

Witnesses:

H. H. TURNER,  
JONATHAN TURNER.