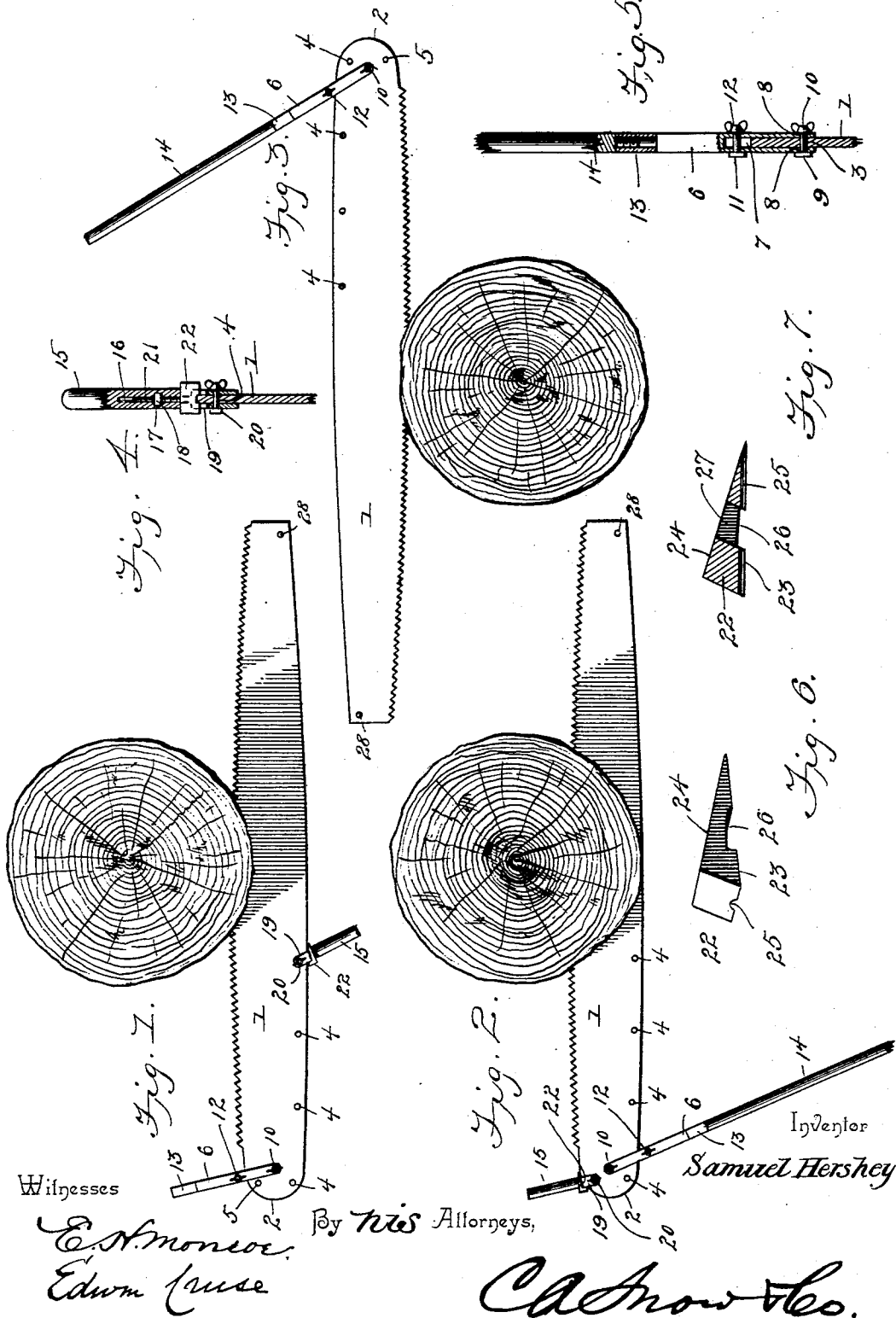


(No Model.)

S. HERSHEY.
CROSSCUT SAW.

No. 587,817.

Patented Aug. 10, 1897.



UNITED STATES PATENT OFFICE.

SAMUEL HERSHEY, OF NEAR ALLENDALE, ILLINOIS.

CROSSCUT-SAW.

SPECIFICATION forming part of Letters Patent No. 587,817, dated August 10, 1897.

Application filed December 23, 1896. Serial No. 616,738. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL HERSHEY, a citizen of the United States, residing near Allendale, in the county of Wabash and State of Illinois, have invented a new and useful Crosscut-Saw, of which the following is a specification.

This invention relates to crosscut-saws; and it consists of certain improvements in the construction of a saw-blade, the handles, and the means for attaching the handles to the blade.

The object of the invention is to provide a saw which can be easily and effectively operated by one man in felling trees or cutting up logs.

In the drawings, Figure 1 is a plan view of my improved saw, showing the position of the handles at the commencement of a cut on a standing tree, the tree being shown in section. Fig. 2 is a similar view showing the position of the handles when the blade has fully entered the tree. Fig. 3 is a view of the saw as used to cut a log. Fig. 4 is a view of one of the handles, partly in section, attached to the saw-blade. Fig. 5 is a similar view showing the other handle attached to the saw. Figs. 6 and 7 are views, the latter in section, of a detached detail.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

1 represents the saw-blade, the butt-end of which is rounded, as indicated at 2. The blade is perforated near its butt-end about midway of its width, as indicated at 3. It is also provided with a series of perforations near its back edge, as indicated by 4, these perforations being a suitable distance apart. There is also a perforation 5 at the butt-end near the front edge of the blade, and the perforations 4 and 5 are all equidistant from the edge of the saw. 6 represents what, for the purpose of clearness, will be designated the "main handle." This handle is longitudinally slotted at its lower end, as indicated at 7, the slot being of such width as to receive the saw-blade, which should fit neatly therein. At the lower end the handle is provided with a transverse perforation 8, through which and the opening 3 in the saw-blade a threaded bolt 9 passes and the square head of which engages

one side of the handle, and a thumb-nut 10, which works on the threaded bolt, engages the opposite side of the handle. Another bolt 11, similar to that marked 9, also passes transversely through the handle at a point just beyond the edge of the saw-blade, and this bolt is also provided with a thumb-nut, (marked 12.) It will be seen, therefore, that by loosening the thumb-nuts 10 and 12 the handle may be swung around the butt-end of the saw on the bolt 9 to occupy any desired angle relative to the saw-blade and that it may be firmly held in the desired position by tightening up the thumb-nuts 10 and 12. The upper end of the handle 6 is provided with a socket rigidly attached thereto, and this socket 13 is interiorly screw-threaded and receives the threaded end of the section 14. The object in using the additional section or extension 14 with the handle 6 is to give the operator greater power on the saw when it is used to make a cut in a standing tree and also for the purpose of enabling the operator to cut up a log without having to stoop, as would be the case with a short handle.

The supplemental handle is marked 15, and this handle is designed to be secured in one of the openings 4, or in the opening 5 when used in connection with the handle 6, it being understood that the handle 6 is always secured in the opening 3. The handle 15 is in two sections, the upper one being preferably of wood with an opening extending from its lower end some distance in its length, as indicated at 16. It is also provided with a square recess 17 a short distance from its lower end, which recess intersects the longitudinal opening 16 and is for the reception of a squared nut 18, the threaded opening in which registers with the longitudinal opening 16. The lower section of the handle consists of a yoke 19, preferably of metal, adapted to straddle the saw-blade and to be secured thereto by a pin 20, passing through the lower end of the yoke and one of the perforations in the saw-blade. The yoke is provided with a threaded shank 21, adapted to enter the opening 16 and to screw into the nut 18.

22 represents a washer having a horizontal lower face 23 and an upper inclined face 24. The lower face is provided with a longitudinal groove 25 to fit over the back of the saw

and with a transverse groove 26 for the reception of the top of the yoke. The washer is also provided with an elongated opening extending vertically through it, as indicated 5 by 27; and which communicates with the transverse slot 26. Now if the yoke is connected to the blade by the pin 20 and the washer fitted over the yoke to rest on the back of the saw, with the shank 21 extending through the 10 opening 27 and the upper section 15 of the handle screwed on the shank, the lower end of the section 15 will by its engagement with the inclined face of the washer throw the handle to an acute angle with the blade and at 15 the same time clamp the handle firmly to the blade. The transverse slot 26 and the elongated opening 27 will permit the yoke to move to the desired angle to the blade, and it is evident that the angle of inclination may be varied by using washers of varying inclinations 20 on their upper faces.

In cutting down a tree it is necessary that the operator should have full control over the blade of the saw to hold it in the proper plane 25 while starting the cut, and to enable him to do this the handles are arranged as shown in Fig. 1—i. e., the main handle 6 is swung around to project at substantially a right angle beyond the saw-teeth, and the supplemental handle 15 is secured in one of the perforations on the back edge of the saw and at 30 an acute angle to the saw. The operator is thus enabled to hold the saw steadily and in the proper plane to start the cut, steer the saw into the tree, and prevent it from running up or down, and the inclination of the handle 15 materially aids in holding the saw 35 to its work.

When the saw has penetrated the tree a 40 sufficient distance to be supported in the proper plane by the cut, as indicated in Fig. 2, the handle 6 is swung around to project at an acute angle to the back of the saw and the extension 14 is screwed into it. The handle 45 15 is moved from the back of the saw and secured to the butt-end through the opening 5. By reason of the lengthening of the handle 6 the operator gets increased power to hold the saw to its work, and the short handle 15 enables him to hold the saw steadily. In practice it has been found that one man can by 50 using a saw in this manner accomplish almost, if not quite, as much work as two men with the ordinary crosscut-saw.

Fig. 3 shows the handle 6 with its extension 55 14 attached to the saw when the saw is to be used for cutting up logs into suitable lengths, and it will be readily seen that the inclination of the handle tends to keep the saw to its work, and at the same time the 60 operator can cut the log without stooping. When used for this purpose, the supplemental handle 15 may be dispensed with.

Another advantage arising from the use of a saw with a single handle is that the operator is enabled to make a much longer stroke. 65 For instance, in cutting a log four feet in diameter with a six-foot saw if there is a handle at each end only a two-foot stroke can be made, whereas if only one handle is used the 70 operator may make a much longer stroke—say four feet—and this longer stroke enables the saw to clear itself of sawdust much better than it could on a short stroke, and the saw will consequently run faster and be more 75 effective.

If necessary, my saw may be used as a two-handled saw by attaching the handle 15 to the front end of the saw, the opening 28 being 80 provided for that purpose.

Having thus described the invention, what is claimed as new is—

The combination with a saw-blade having its rear end rounded to form the arc of a circle and provided with an opening at a point 85 constituting the center from which the said arc of a circle is struck, and a series of openings in the saw-blade equidistant from its edge, arranged along the back edge of the saw and in the butt-end near the front edge thereof, of a handle pivoted on a pin passing 90 through the central opening, said handle adapted to swing around the rounded end of the saw, devices to clamp said handle rigidly in the desired position, and a supplemental 95 handle adapted to be attached to the saw-blade by a pin passing through one of said series of openings, and means to clamp said supplemental handle to the saw-blade at any desired angle thereto, substantially as described. 100

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

SAMUEL HERSHEY.

Witnesses:

ROBERT BELL,
R. J. BAIRD.