(No Model.) 2 Sheets—Sheet 1.

S. W. BUENCE & J. SCHUETZ.

SAW SET.

No. 457,179. Patented Aug. 4, 1891.

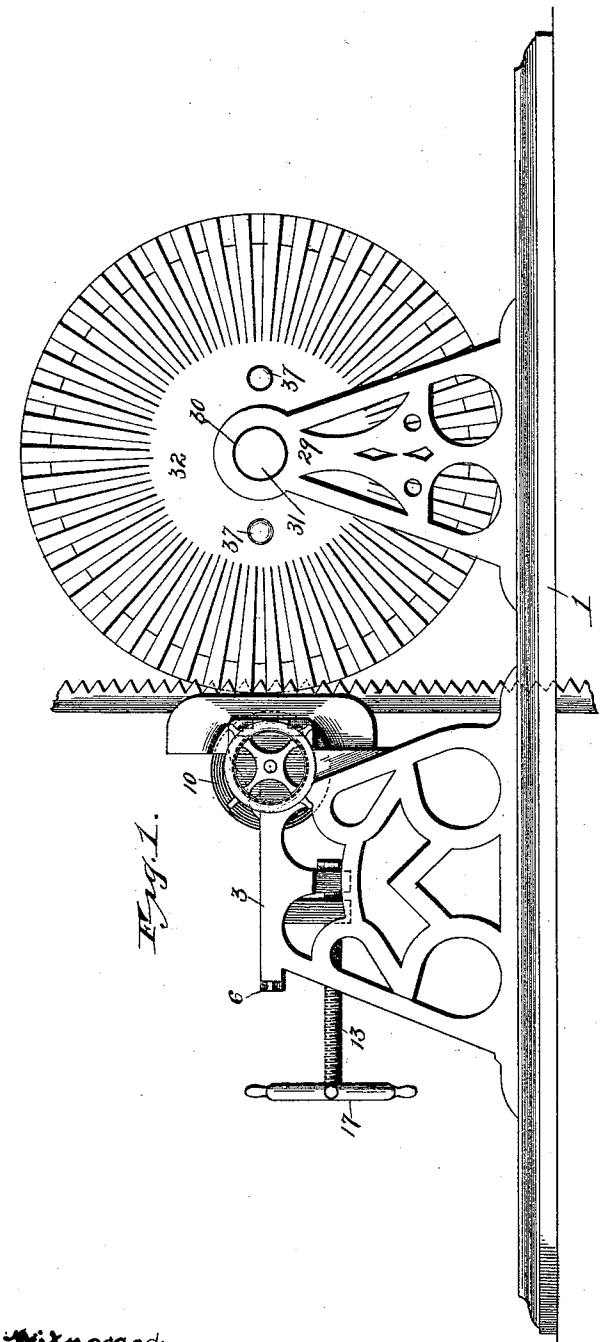


Fig. 1.

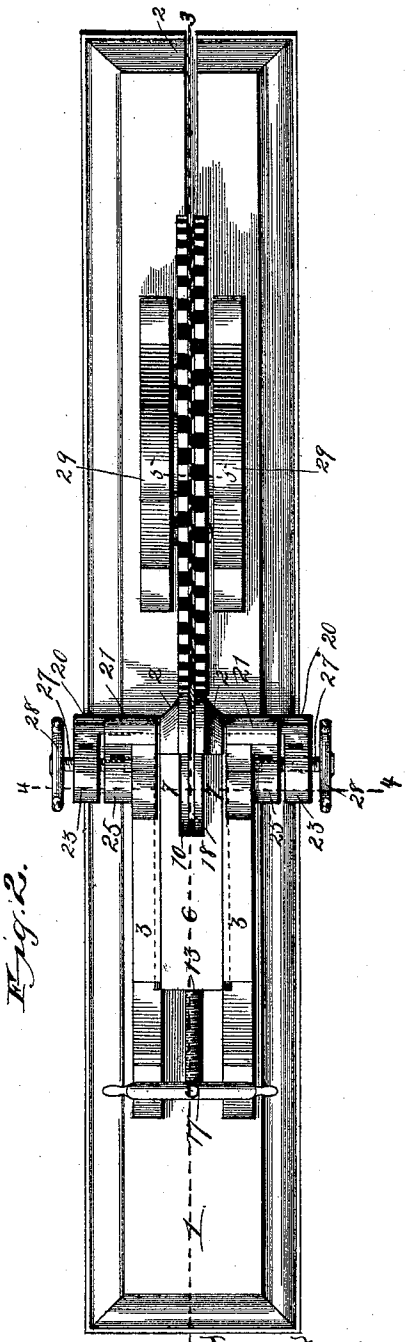


Fig. 2.

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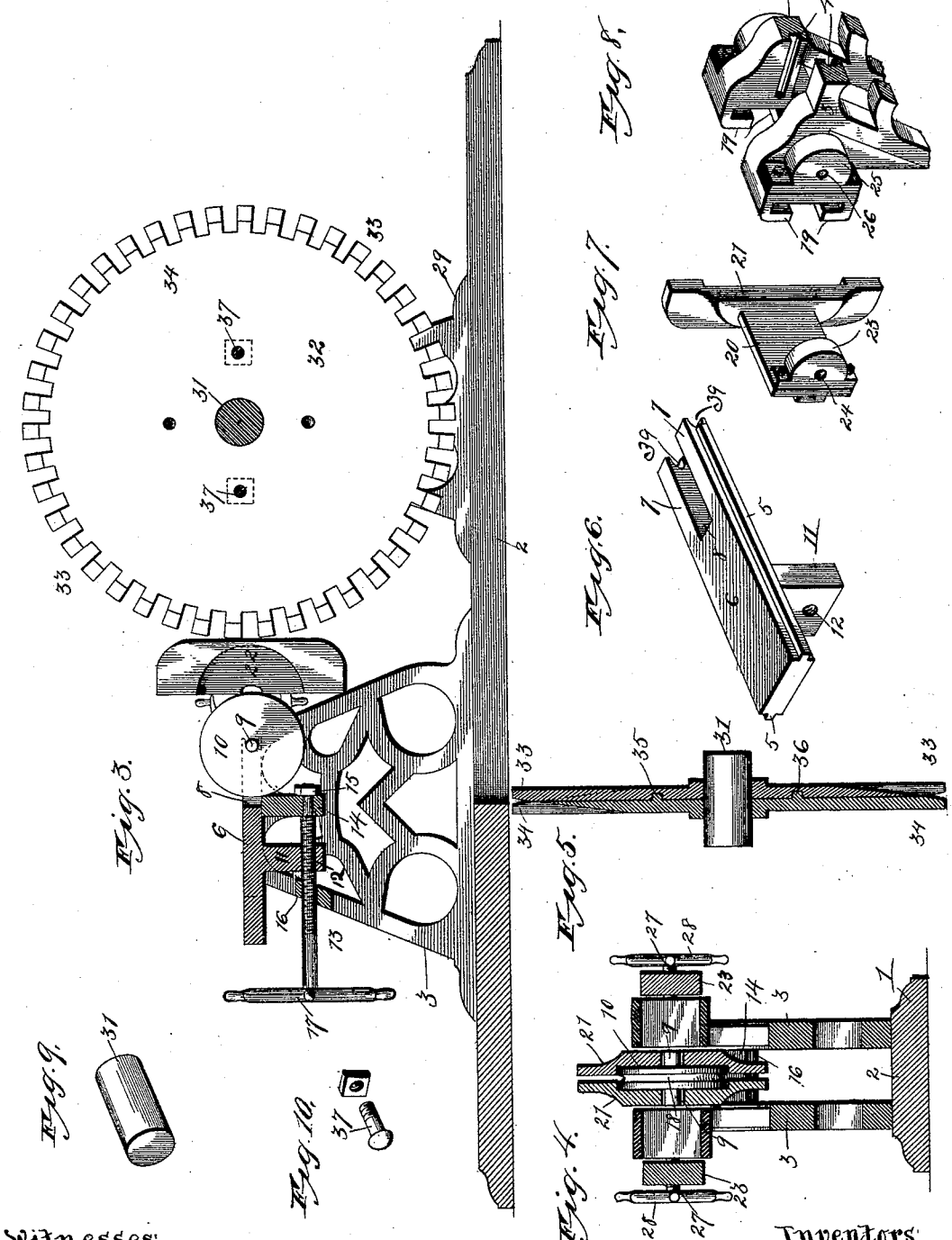
THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

S. W. BUENCE & J. SCHUETZ.

SAW SET.

No. 457,179. Patented Aug. 4, 1891.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

SAMUEL W. BUENCE AND JOHN SCHUETZ, OF ARGENTINE, KANSAS.

SAW-SET.

SPECIFICATION forming part of Letters Patent No. 457,179, dated August 4, 1891.

Application filed March 26, 1891. Serial No. 386,520. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL W. BUENCE and JOHN SCHUETZ, of Argentine, Wyandotte county, Kansas, have invented certain new and useful Improvements in Saw-Sets, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention relates to appliances for imparting the required slant to the teeth of band-saws so that the kerf or cut made by the saw shall be wider than the thickness of the saw; and the objects of our invention are to provide a saw-set which shall operate with great rapidity to uniformly set the teeth of the saw and which shall be caused to operate simply by the revolution of the saw; furthermore, to provide a saw-set certain parts of which shall be removable and interchangeable, so as to adapt the appliance to operate upon saws of different sizes and upon different types of saw-teeth.

To the above purposes our invention consists in certain peculiar and novel features of construction and arrangement, as hereinafter described and claimed.

In order that our invention may be fully understood, we will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a side elevation of our improved revolving saw-set. Fig. 2 is a plan view of the same. Fig. 3 is a vertical longitudinal section of the same on the line 3 3 of Fig. 2. Fig. 4 is a transverse vertical section of the same on the line 4 4 of Fig. 2. Fig. 5 is a cross-section of the two setting-disks on the line 5 5 of Fig. 2, the said disks being removed from their supporting-standards. Fig. 6 is a detached perspective view of the slide which carries the backing-wheel. Fig. 7 is a detached perspective view of one of the saw-guides. Fig. 8 is a perspective view of the upper front portion of the slide-support, showing the guides for the sliding saw-guides. Fig. 9 is a detached perspective view of the removable axle of the setting-disks. Fig. 10 is a detached perspective view of one of the connecting-bolts for the setting-disks.

In the said drawings, 1 designates the base of the saw-set, the said base being of oblong rectangular form and being provided with a long recess or cut 2, extending longitudinally of the base and opening at one end of the same, for the purpose to be hereinafter explained. Upon the upper side of the base 1 and near to the opposite end of the same from that at which the recesses or cut 2 opens are secured two parallel upright standards 3. The upper inner side of each of these standards is formed with a horizontal groove 4, each of which opens out of the rear end of the standard and terminates just within the front end of said standard, as shown in Fig. 8. These two grooves lie exactly opposite each other and are designed to receive elongated tongues or ribs 5 upon opposite sides of a slide 6. This slide 6 is bifurcated at its front end, so as to form two parallel arms 7, which are separated from each other by a recess 8, extending longitudinally of the slide. At its outer end each of the arms 7 is formed with a half-bearing 39 for the stud-axles 9 of a backing-wheel 10, to be hereinafter more fully described.

From the under side of the slide 6 depends a bearing 11, through which is formed an internally-screw-threaded opening 12. A screw-rod 13 works through this opening 12, and the inner end of said rod is reduced to pass through an opening in a cross-piece 14, which connects the two standards 3 beneath the slide 6. A nut 15 is screwed upon the inner end of the rod 13, so that the cross-piece 14 is confined between said nut and a shoulder on the inner part of the rod 13. The rod 13 also passes through a smooth opening in a cross-piece 16, connecting the two standards 3 at the rear sides thereof and beneath the slide 6, the said cross-piece serving to support the outer part of the rod. At its outer end the rod 13 carries a hand-wheel 17 or an equivalent device by which to revolve the rod. The backing-wheel 10, above referred to, is formed with a peripheral groove 18 to receive the back of the saw, as will be hereinafter explained.

Upon the front upper corner of each standard 3 is formed a vertical C-guide 19, the two guides thus being opposite each other,

and through each of these guides works the horizontal outwardly-extending slide portion 20 of a saw-guide 21. These guides lie opposite to and parallel with each other and are each of elongated form, the inner side of each guide being formed with a segmental recess 22 to receive the outer part of the backing-wheel 10. To the rear side of each slide 20 and at the outer end thereof is bolted a bearing 23, having a screw-threaded opening 24, while upon the rear side of each guide 19 is bolted a bearing 25, having a smooth opening 26. A screw-rod 27 works through each opening 24 of the slides 20, and its inner end is retained within the opening 26 of the corresponding bearing 25. The outer end of each screw-rod 27 carries a hand-wheel 28 or an equivalent device for rotating said screw-rod; and it will be seen that by turning the said screw-rods 27 in one or the opposite direction the guides 21 will be moved nearer to or farther from each other, for a purpose that will be presently explained.

Upon the upper side of the base 1, near that end out of which the recess 2 opens, are formed or secured two upright parallel standards 29, in the upper ends of each of which is formed a bearing 30. Through these bearings 30 extends a removable axle 31, which also extends transversely through the centers of the two setting-disks 32. Each of these disks 32 is formed on its periphery with a number of radial tooth-like projections 33, and each of said projections is formed on one side with a downwardly and outwardly inclined surface 34. These disks are mounted upon the axle 31 side by side, with the projections or dies 33 of one disk opposite the spaces between the dies 33 of the other disk and with the inclined surfaces 34 inclined toward each other. In order that the dies of one disk shall always remain opposite the spaces between the dies of the opposite disk, each disk is formed with two lugs 35 and two recesses or holes 36, and these lugs entering the recesses or holes prevent the disks from revolving past each other. At points opposite from the lugs 35 and recesses 36 are two bolts 37, which pass through the disks and are each provided with a nut 38 and aid in keeping the disks together with their dies in the described relation to each other.

In using the saw-set the axle 31 is first pushed out of its bearings 30 in the standards 29 and the setting-disks 32 are removed. The base-plate 1 is now placed upon the band-saw table and the saw is caused to enter the recess 2, the base being moved along till the back of the saw enters the groove 18 of the backing-wheel 10. The setting-disks 32 are now placed in position and the axle 31 is pushed into the bearings 30 of the standards 29 and through the centers of the disks 32. The screw-rod 13 is rotated so as to properly adjust the slide 6 to bring the backing-wheel into proper position, and the screw-rods 27 are rotated so as to bring the guides 21 lightly against the sides of the saw, so that it will run true, the toothed edge of the saw extending between the dies 33 of the disks 32. The saw-band is now moved over the pulleys which carry it, and as it passes between the guides 21 it rotates the disks 32, the alternate disks 33 coming in contact with the opposite sides of the alternate teeth of the saw and the inclined surfaces 34 of the dies bending the successive teeth with a movement corresponding with the length of the saw and in opposite directions so as to give them the required set or slant. The operation is accomplished with marked rapidity, and a saw can be completely set in a small fraction of the time formerly required. Moreover, it is unnecessary to remove the saw from its working position while its teeth are being set, so that a great saving of time and labor is obtained.

It is obvious that a precise form, size, and number of dies for each disk are to be varied to accord with different types of saw-teeth, and it will be seen that the adjustable character of the slides which carry the guides and the backing-wheel enables the saw-set to operate upon the saws of very different widths and thicknesses.

Having thus fully described our invention, what we claim as new therein, and desire to secure by Letters Patent, is—

1. An improved saw-set comprising a suitable recessed base, a frame located upon said base, a slide mounted adjustably in said frame and carrying a peripheral grooved backing-wheel, a pair of guides for the sides of the saw mounted upon adjustable slides working laterally in the frame, screw-rods for moving said slides, and a second frame located upon the base and carrying two removable revoluble disks having each a number of radially-projecting peripheral dies arranged alternately with relation to each other, substantially as set forth.

2. An improved saw-set comprising a pair of revoluble disks having each radially-projecting peripheral dies, the dies of one disk being opposite the spaces between those of the other disk and one of said disks having projections on its side to enter recesses in the adjacent side of the other disk, and bolts passing through the disks and serving to properly connect said disks, substantially as set forth.

3. An improved saw-set comprising a pair of revoluble disks mounted side by side and having each a number of radial peripheral dies, each of the dies of one disk being opposite the space between the two successive dies of the companion disk and all of said dies being inclined upwardly and outwardly at the sides which are adjacent to each other, substantially as set forth.

4. An improved saw-set comprising a suit-

able frame-work, a slide mounted therein and carrying at its front end a peripherally-grooved backing-wheel for the saw, and a pair of saw-guiding slides working in said frame at right angles to the backing-wheel slide and having each a guide provided on its side with a recess to receive the backing-wheel, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

SAMUEL W. BUENCE.
JOHN SCHUETZ.

Witnesses:
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H. E. PRICE.