No. 656,999. Patented Aug. 28, 1900.

T. McKELVEY.

SAW SET.

(Application filed Apr. 23, 1900.)

(No Model.)

Fig. 1.

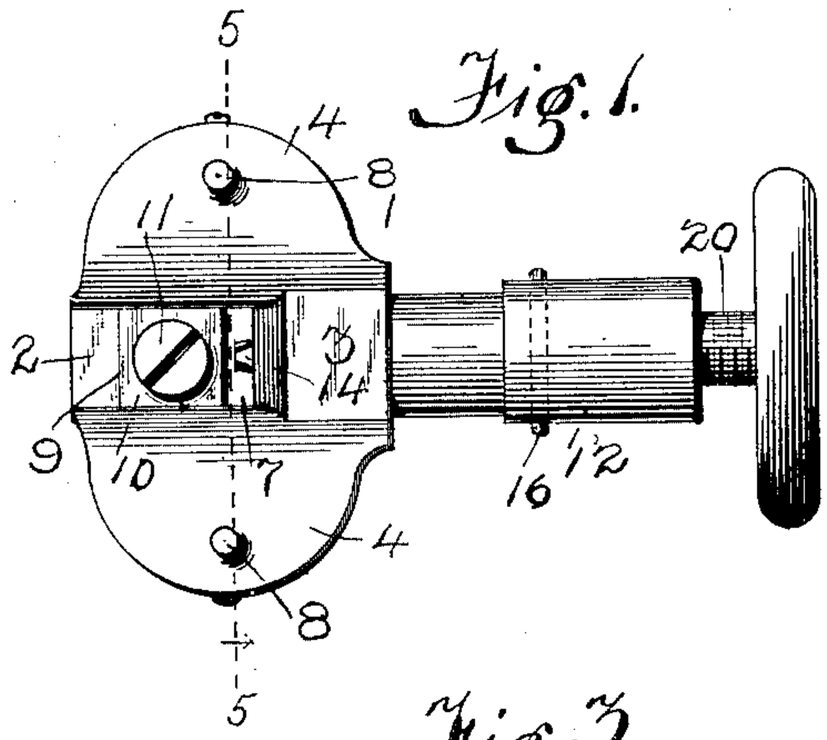


Fig. 2.

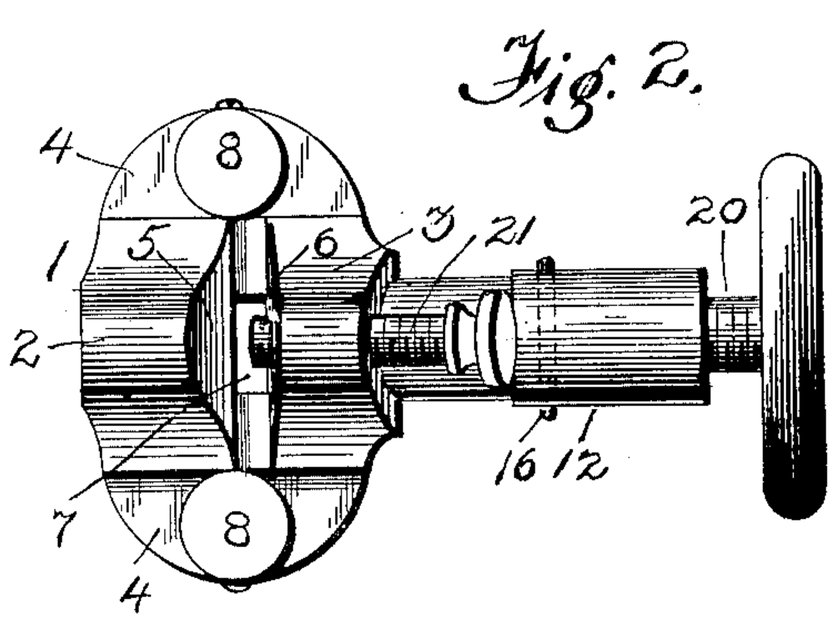


Fig. 3.

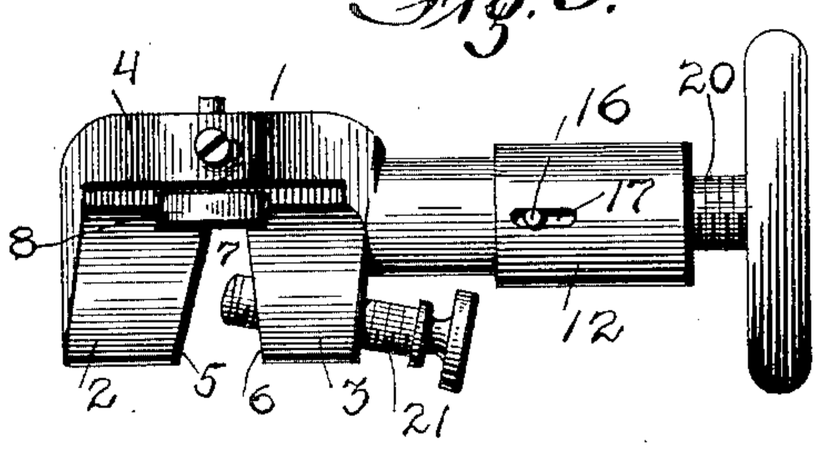


Fig. 4.

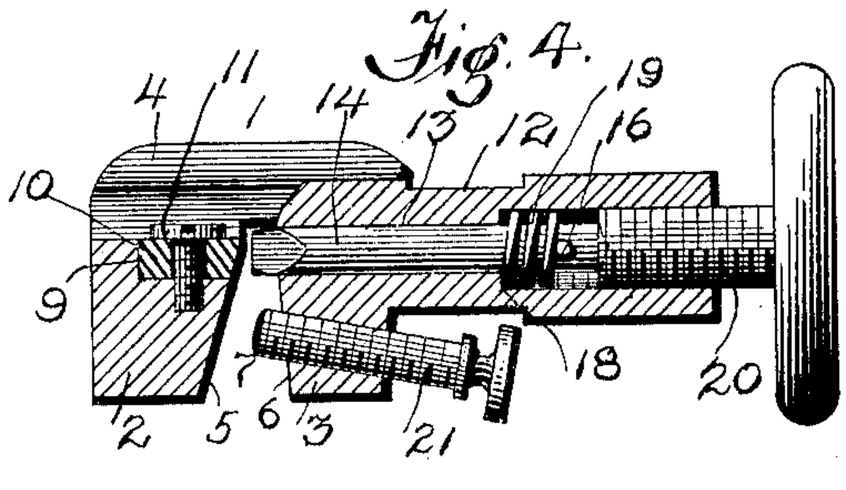
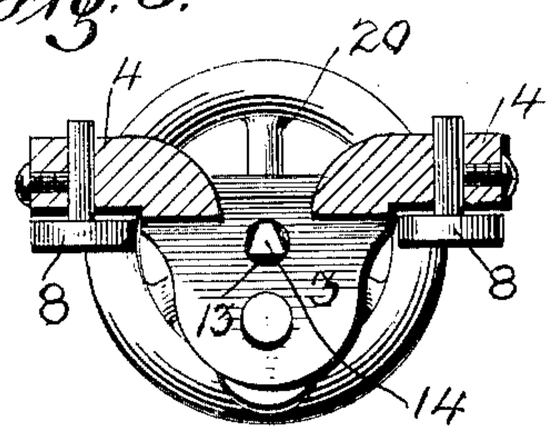


Fig. 5.



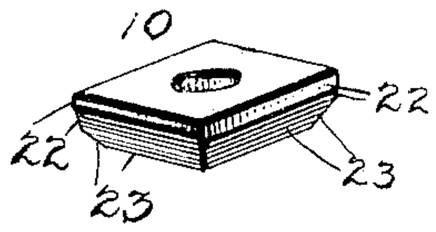


Fig. 6.

Fig. 7.

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

UNITED STATES PATENT OFFICE.

THOMAS McKELVEY, OF TRAIL, CANADA.

SAW-SET.

SPECIFICATION forming part of Letters Patent No. 656,999, dated August 28, 1900.

Application filed April 23, 1900. Serial No. 14,027. (No model.)

To all whom it may concern:

Be it known that I, THOMAS McKELVEY, a citizen of the Dominion of Canada, residing at Trail, in the county of West Kootenay, Province of British Columbia, Dominion of Canada, have invented a new and useful Improvement in Saw-Sets, of which the following is a specification.

My invention relates to improvements in saw-sets.

One object of my invention is to provide a device of this character in which the teeth of the saw may be set readily and accurately at the desired angle; in which the set can be accurately positioned to insure accurate setting; in which the set is movable positively longitudinally, the anvil being held rigidly, and in which an anvil having a plurality of operating-faces, each adapted to form the set of teeth of different sizes, is removably secured in position, the position being fixed regardless of which side of the anvil is being used.

A further object is to provide a device of this character which is neat and attractive in appearance, durable in construction, simple and efficient in operation, and which can be made at a small cost.

To these and other ends, the nature of which will appear as the invention is hereinafter described, said invention consists in the improved construction and combination of parts hereinafter fully described, pointed out particularly in the appended claims, and illustrated in the accompanying drawings, forming a part of this specification, and in which similar numerals of reference indicate corresponding parts in all of the figures.

In the drawings, Figure 1 is a top plan view of my improved saw-set. Fig. 2 is a bottom plan view thereof. Fig. 3 is a side elevation. Fig. 4 is a longitudinal sectional view taken centrally. Fig. 5 is a cross-sectional view taken on the line 5 5 of Fig. 1. Fig. 6 is a detail of the anvil-block. Fig. 7 is a detail of the set.

In devices of this character several requisites are essential to the formation of a tool or device which will perform the saw-setting operation effectively. The device must be formed so as to be accurately positioned on the saw-teeth readily and without liability of being moved away from the desired position. The device should also allow of the application of a steady pressure to the set, which pressure should be applied thereto in such manner as to cause a non-liability of the device being inadvertently moved from its position when such pressure is applied. Both the anvil and set should be readily removable from the casing to enable repairs to be made, while one of its parts should be capable of being adjusted to allow of the setting of saws having different sizes of teeth, and for the sake of economy it is preferable that the anvil have such regulating means. In the accompanying drawings I have disclosed a structure having each and all of these requisites, and in order that the construction may be more readily understood I will now proceed to describe the parts composing it in detail.

1 designates the head, formed substantially as shown. This head is formed of two downwardly-extending portions 2 3, connected at their upper ends by the laterally-extending wings 4 4, the latter being formed and connected to the portions 2 3, substantially in the manner shown in Fig. 5. The portions 2 3 have their adjoining faces beveled, as shown at 5 and 6, respectively, thereby forming an inwardly-converging opening 7 therebetween, into which opening the toothed edge of the saw passes when the device is being placed in operative position. Each of the wings 4 4 is provided with an adjustable support 8, formed of softer metal, such as copper, although other material might be used—such, for instance, as glass—said supports resting on the apex of the teeth on each side of the tooth being operated upon, even though the teeth have been filed or sharpened, the supports not injuring the sharpened points of the teeth, the latter merely supporting the weight of the device, there being no tendency of the teeth being required to withstand additional weight due to pressure. As will be seen by referring to the drawings, the opening 7 extends entirely through the device vertically, so that the saw-tooth to be operated

upon is visible at all times to the operator; hence the ability to accurately position the device.

The portion 2 is provided at its top with a recess 9, (shown in Figs. 1 and 4,) within which is mounted the anvil 10, hereinafter described, said anvil being secured in position by means of the set-screw 11. The portion 3 is formed with a rearwardly-extending casing 12, having a central longitudinally-extending opening 13, the rear portion of which is enlarged and screw-threaded. The opening 13 is adapted to receive the set 14, which fits within the reduced portion of said opening, and the front end of said set is provided with the setting-face 15, as shown in Figs. 5 and 7. Near the rear end of said set is removably secured a laterally-extending pin 16, which is adapted when the set is in position to extend radially through slots 17, formed in the casing 12, as shown in Fig. 3, said pin and slots serving to limit the movement of the set within the casing and also serving to prevent any tendency of rotary movement of the set within its casing, thus insuring the proper positioning of the operating-face 15 relative to the tooth. As shown, the enlarged portion of the opening 13 extends forwardly to a point beyond the limit of forward movement of the pin, a shoulder 18 being formed, between which and the pin and encircling the set 14 is a spring 19, which tends to normally hold said set in its rear or inoperative position. A screw-threaded rod portion 20, having a rotating handle of suitable form—such, for instance, as that shown in the drawings—is mounted within the enlarged portion of the opening 13, the forward end of said rod contacting against the rear end of the set, the connection being preferably as shown, the set being centered in the forward end of the rod. This construction enables the operator to readily separate the parts, if necessary, it being required only to remove the rod 20 and remove the pin 16, when the set can be readily removed by allowing it to drop from the casing. By this construction it will be readily seen that the pressure is exerted longitudinally of the set and in alinement therewith and that said pressure is exerted entirely against the tooth being operated upon, the use of the screw-threads allowing of the application of the pressure gradually and positively without the requirement of a great manual pressure—such, for instance, as is required by the use of a lever—in which case there is a tendency of the saw being injured by a vertical pressure of the hand of the operator unconsciously applied, and in addition such construction can be readily and cheaply made, there being no requirement of the use of pivotally-mounted parts, &c., which are constantly subject to a liability of being broken or disarranged, and thus impairing the usefulness of the tool. A set-screw 21 is provided for the portion 3, by means of which the degree of angularity of the set is gaged, it being readily understood that the depth of the set is regulated by the supports 8 acting in conjunction with the faces of the anvil, as hereinafter described.

The anvil 10 is preferably provided with four operating-faces, although a greater or less number may be used, each of which is formed with a straight portion 22 and a beveled portion 23, the respective and relative widths of the straight and beveled portions differing on each face. In use the proper face is turned rearwardly and held in position by the set-screw 11. If a small toothed saw is to be set, the face having the proper straight portion is placed in position, against which the operating-face of the set forces the tooth, only so much of the operating-face of the set operating positively as would be covered by the straight portion of the face of the anvil. If a larger toothed saw is to be operated upon, a different face of the anvil is placed in position, thus causing a larger portion of the operating-face of the set to be brought into positive operation; but at all times the setting is done by the movement of the straight operating-face of the set to force the tooth against the straight portion of the anvil. If it is desired to form a "spring-set," the screw 21 is adjusted to regulate the angularity of the set, after which the device is placed over the saw and the set tightened against the tooth to be set, the screw-threads locking the set against endwise movement. By then springing the rear end of the device in a proper direction the entire device acts as a lever and the tooth is given a spring-set. It will be understood that if desired the set 14 can be locked in position against the tooth by simply leaving the rod 20 in its forward position, (an advantage where the operator is called away from his work,) the set remaining in position and indicating the last tooth operated upon. In addition, the use of the means described allows of a quick and accurate setting, it being readily seen that but a small movement of the rod 20 need be given to release the set and allow it to be passed into position for the next tooth, one turn of the handle being generally sufficient to set the tooth and release it, the amount of rotation required being governed solely by the length of the tooth and the angularity of its set. This provision forms what might be termed an "adjustable stop" to limit the movement of the set, such as cannot be given in a setting-tool having an operating-lever which imparts movement to the set. Other advantages are present in the construction set forth, but it is believed to be unnecessary to point them out in detail.

While I have herein shown and described a tool or device capable of carrying into effect the objects set forth, yet I do not desire to limit myself to such details of construction, but claim the right to use any equivalent con-

struction which will perform the functions necessary in so far as such equivalents or modifications may fall within the spirit and scope of the invention, as set forth in the appended claims.

Having thus described my invention, what I claim as new is—

1. A saw-set comprising a head having laterally-extending wings; an anvil located therein; a longitudinally-movable set, held against rotary movement, extending therein and adapted to coact with said anvil; means for holding said set against rotary movement, said means also serving to limit the longitudinal movement of said set; a removable screw for imparting a forward movement to said set, said screw moving adjustably and being held in its adjusted positions; and means for returning said set to an inoperative position.

2. A saw-set comprising a head having laterally-extending wings; an anvil located therein; a casing extending rearwardly therefrom and having a longitudinal opening; a longitudinally-movable set located within said casing, the front end of said set coacting with said anvil; a pin removably mounted in said set and extending through slots in the sides of said casing, said pin preventing the rotation of said set and also limiting its longitudinal movement; a screw mounted in said opening and adapted to impart longitudinal movement to said set in one direction; and a spring for returning said set to an inoperative position.

3. A saw-set comprising the head 1, having wings 4, and also having the opening 7; supports 8 carried by said wings; the anvil 10; the casing 12, having the opening 13; the set 14 removably located in said opening 13, said set being removable only through the rear end of said opening; the pin 16 carried by said set, said pin holding said set from rotation and also limiting the movement of said set; the spring 19; and the screw 20, substantially as and for the purposes set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

THOMAS McKELVEY.

Witnesses:
E. H. LEWIS,
CHARLES KEELEY.