

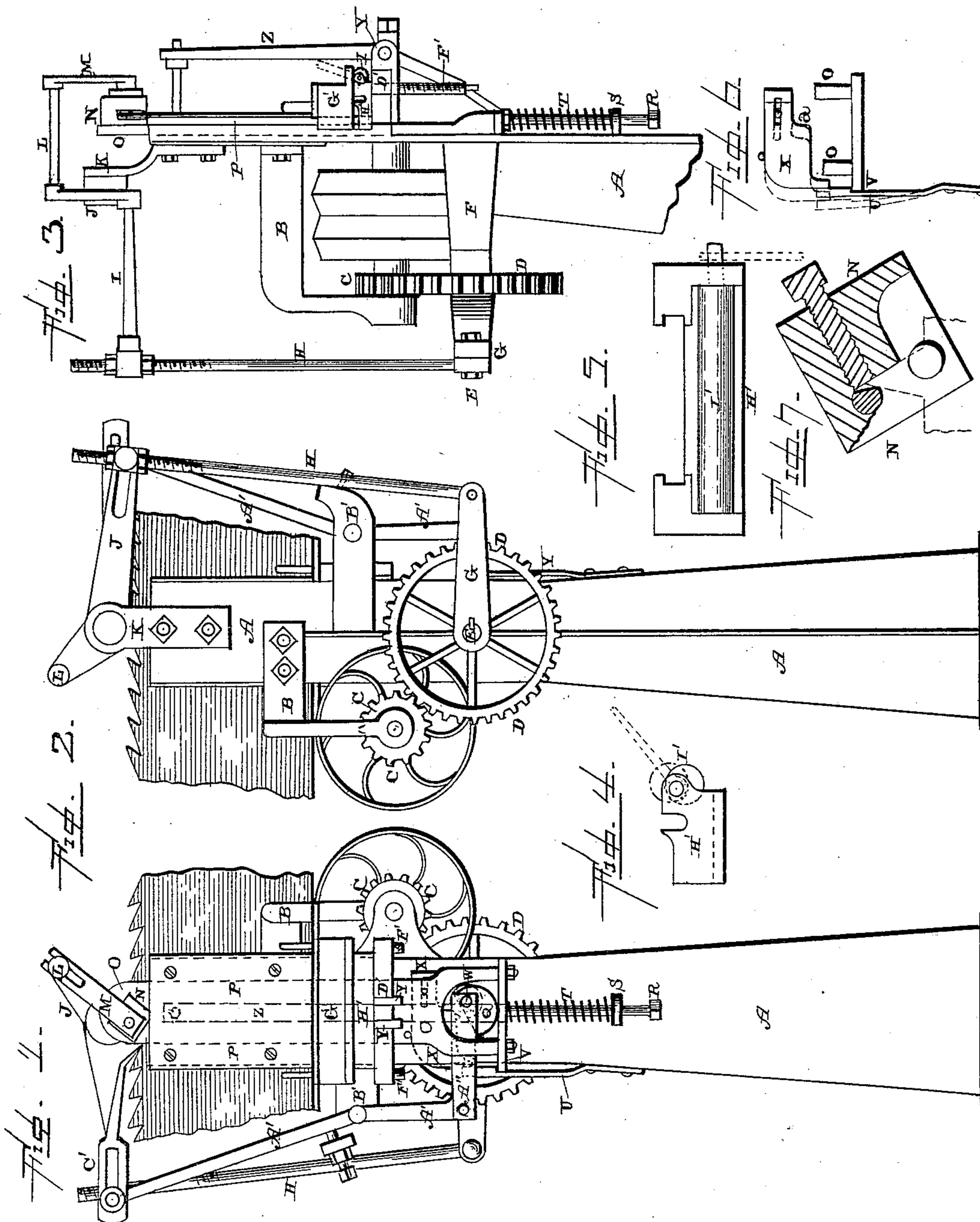
(No Model.)

A. S. PARKE.

SAW SWAGING MACHINE.

No. 390,894.

Patented Oct. 9, 1888.



Witnesses.

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UNITED STATES PATENT OFFICE.

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SAW-SWAGING MACHINE.

SPECIFICATION forming part of Letters Patent No. 390,894, dated October 9, 1888.

Application filed June 5, 1888. Serial No. 276,152. (No model.)

To all whom it may concern:

Be it known that I, AMOS S. PARKE, of Bay City, in the county of Bay and State of Michigan, have invented certain new and useful Improvements in Saw-Swaging Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference
10 being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in saw-swaging machines; and the objects of my invention are to move the sliding bar which
15 carries the swaging-block downward by means of a cam and return it to position by means of a spring; to hold the sliding bar when forced downward by means of a latch-spring, in order to take the friction from the cam, and to provide the cam with a projection for tripping the latch-spring; to provide the gang attachment with a cam rod or shaft, by means of which the saw can be given a quick adjustment without the necessity of operating set-
20 screws, and to make the connecting-rod screw-threaded at their upper ends, so that the arm or lever which operates the swages can be adjusted to the angle of the saw teeth.

Figure 1 is a front view of a machine embodying my invention, the lever α being shown in dotted lines. Fig. 2 is a rear view of the same. Fig. 3 is a side elevation. Figs. 4 and 5 are end and plan views, respectively, of the gang attachment. Fig. 6 is a detail view showing the sliding dog and the latch-spring. Fig.
35 7 is a vertical section of the saw-swage.

A represents the vertical frame upon which the operating parts are mounted. Extending from one side of this frame A is the bearing B,
40 between the lower end of which and the frame is journaled the driving-shaft, upon which the fast and loose pulleys are placed in the usual manner. Upon the outer end of this shaft is placed the pinion C, which meshes with the gear-wheel D, placed upon the shaft E, which is journaled in a suitable bearing, F, which is secured to the frame A. Upon the outer end of this shaft E is secured the crank G, which has the adjustable connecting-rod H secured to its
50 outer end. In case power cannot be obtained for operating this machine then the crank G

can be operated by hand-power. The upper end of the connecting-rod is screw-threaded and has the swiveled wrist I adjustably secured thereto, and this wrist is connected at
55 its opposite end to the slotted arm or lever J, which is pivoted in the bearing K, which projects above the top of the frame A. The rod H is made screw-threaded, and the arm J is slotted, so that any desired adjustment can be
60 given to the arm and the parts connected thereto, and thus adapt the swage to the angle of the saw-tooth being operated upon. This adjustment is necessary, because the teeth of different saws do not extend at the same angle
65 and an adjustment of the swage which will answer for one saw would not answer for another.

Secured to the inner and upper end of the arm or lever J is the wrist L, which has connected to it at its outer end the slotted lever
70 M, which is connected to the swage N at its lower end. This swage N is secured to the upper end of the vertically-moving bar O, which is held in position by means of the plate
75 P, which is secured to the front of the frame A. The swage N is the same as is shown in Patent No. 333,540, granted to me January 5, 1886, and hence need not be more fully described in this connection. To the opposite end of the
80 shaft E from the crank G is secured the cam Q, which is made to revolve between the bifurcated lower end of the sliding bar O, and which cam serves to depress the bar O for the purpose of forcing the swage down upon the
85 tooth of the saw. Projecting downward from the lower end of the sliding bar O is the rod R, which passes through the guide S upon the side of the frame, and around which rod is placed the spring T, the lower end of which
90 bears against the guide S, while its upper end bears against the lower end of the bar O for the purpose of returning the bar to position as soon as it is left free to move. When the cam Q reaches a certain position in its revolution,
95 it begins to depress the bar O and compress the spring T, and when the bar O has descended to its lowest position the latch-spring U catches over the shoulder V upon the rod O, and thus holds the bar in its lowest
100 position. Upon the outer side of the cam Q is a projection, W, which as the cam revolves

strikes against a shoulder, *a*, upon the lower edge of the sliding dog X, and which dog forces the spring-latch U outward, so as to release the sliding bar O and allow it to spring upward, carrying the swage with it. This dog X is slotted, and a suitable guide is passed through the slot. After having been moved by the pin W on the cam the latch-spring U instantly returns it to position.

Pivoted in a suitable bearing, Y, secured to the front of the machine, is the clamping-lever Z, which has its lower end turned at such an angle that when the sliding bar descends the lower end of the bar strikes against the lower end of the lever Z and forces the adjustable clamp, which passes through the upper end of the lever Z, against the side of the saw, so as to hold it rigidly while the swage is acting upon one of its teeth. As the sliding bar moves upward, the lower end of this clamping-lever Z is released, and then the saw is free to be moved endwise.

Secured to the end of the shaft E from the wheel D is the cam Q, and on this cam is formed the pin, stud, or lug W, to which one end of the connecting-rod A'' is attached. As this cam sweeps around, the rod A'', which is pivoted to the lower end of the feed-lever A', causes the lever to turn upon its pivot on the bracket B', and thus operate the slotted adjustable dog C', which feeds the saw forward. The stud or lug W and connecting-rod A'' impart to the feed-lever A' an even movement. This feeding forward of the saw only takes place after the sliding bar has been forced upward by the spring T and after the lever Z has left it free to move.

Projecting horizontally from the front of the frame is the bracket D', through which the two adjusting-screws F' are passed. The upper ends of these screws bear against either the under side of the table G', upon which the saw is held while being swaged, or against the under side of the gang attachment H', which has a sliding vertical adjustment upon the plate P. If saws of a uniform size are to be swaged, the gang attachment need not be used; but if the saws are not uniform, then the gang attachment will be placed between the bracket and the table and the lower ends of the screws F' made to bear against the lower edge of the bracket. The table G' then rests directly upon the top of the gang attachment H', which has the cam-shaft I passing through its top. This gang attachment is provided with grooves upon its inner side, so as to catch over the edges of the

plate P, to slide vertically thereon as it is adjusted by means of the screws F'. If the teeth of the saw are uneven and a gang adjustment is necessary, instead of moving the screws F' the shaft I will be turned by means of a lever or handle applied to one end, and this shaft will raise or lower the table more quickly than could be done by moving the screws F'.

Having thus described my invention, I claim—

1. The combination of the endwise-moving bar having the swage connected to its upper end and the operating-levers for moving the swage, the spring connected to the lower end of the bar for returning it to position, the cam for depressing the bar, and the swage, substantially as shown.

2. The combination of the vertically-moving bar, the swage connected to its upper end, the spring connected to its lower end, the cam for depressing the bar, the spring-latch for holding the bar when depressed, and a sliding dog which is operated by a projection upon the cam for releasing the bar, substantially as described.

3. The combination of a vertically-moving bar provided with a projection at its lower end and having a swage secured to its upper end, a horizontal support, Y, projecting from the side of the frame, and the pivoted clamping-lever Z, pivoted in the support and provided with a clamp at its upper end for striking against the side of the saw, and bent at its lower end, so as to be struck by the projection on the lower end of the bar as the bar descends, substantially as set forth.

4. The combination of the shaft E, the crank applied thereto, the screw-threaded connecting-rod, the swiveled wrist connected to the upper end of the connecting-rod, the lever J, the wrist L, connected thereto, the lever M, connected to the swage, the vertically-moving bar O, the spring for returning it to position, and the cam for compressing the bar, substantially as specified.

5. The combination of the bracket, the adjusting-screws passing through it, the gang provided with the cam-shaft, and the table which supports the saw, substantially as shown.

In testimony whereof I affix my signature in presence of two witnesses.

AMOS S. PARKE.

Witnesses:

AMOS J. PARKE,
WILLIAM J. HAWKINS.