

No. 686,491.

Patented Nov. 12, 1901.

C. H. VAN AUKEN.
SAW SWAGE.

(Application filed June 24, 1901.)

(No Model.)

3 Sheets—Sheet 1.

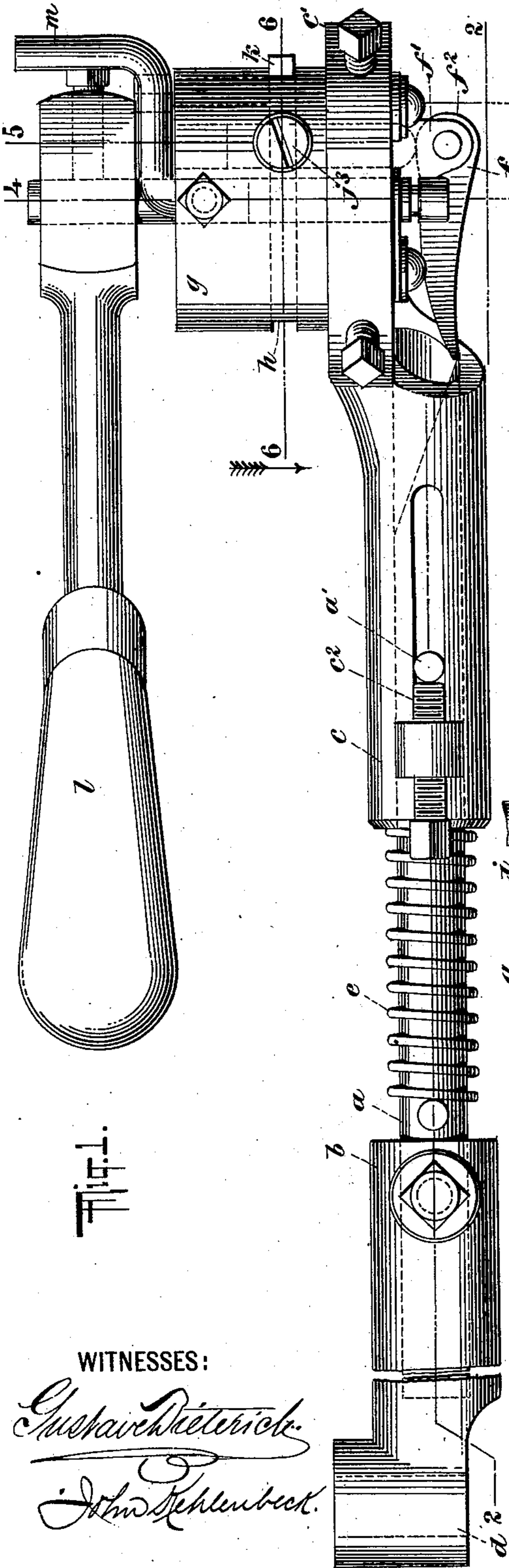


Fig. 1.

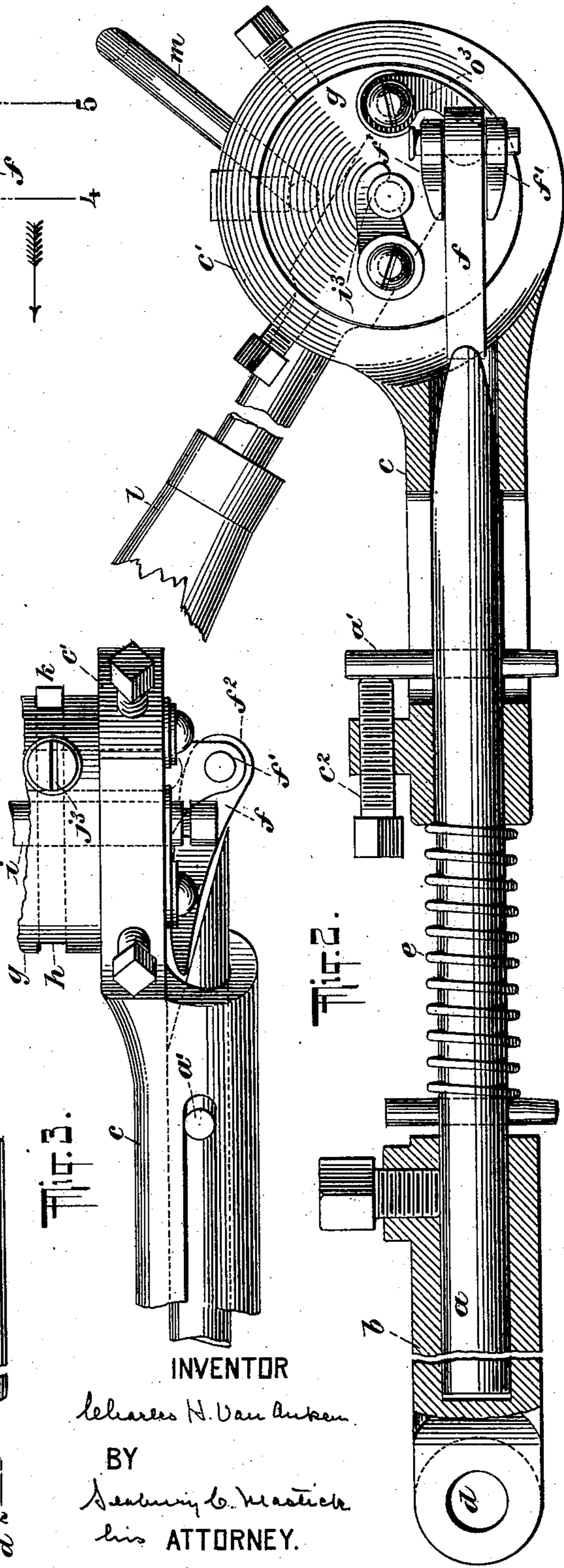


Fig. 2.

Fig. 3.

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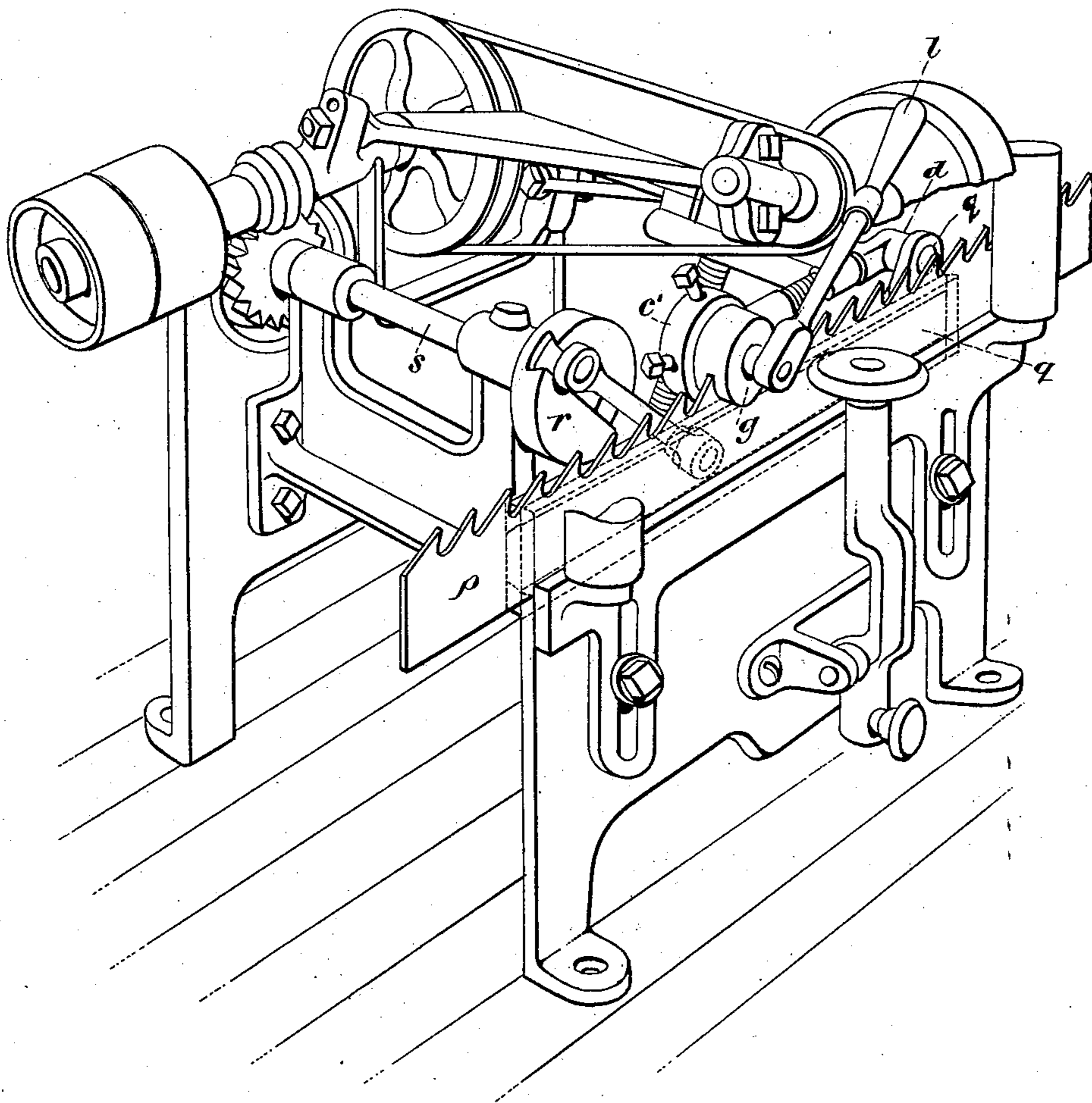
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3 Sheets—Sheet 3.

Fig. 11.



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UNITED STATES PATENT OFFICE.

CHARLES H. VAN AUKEN, OF ALBANY, NEW YORK.

SAW-SWAGE.

SPECIFICATION forming part of Letters Patent No. 686,491, dated November 12, 1901.

Application filed June 24, 1901. Serial No. 65,782. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. VAN AUKEN, a citizen of the United States, and a resident of Albany, Albany county, New York, have invented certain new and useful Improvements in Saw-Swages, of which the following is a specification.

My invention relates to an improvement in saw-swages, and is designed to provide a machine adapted to operate with greater speed, more regular action, and with a more uniform result than heretofore.

In the following, with reference to the accompanying drawings, I have described a structure embodying my invention, the features thereof being more particularly pointed out hereinafter in the claims.

Figure 1 is a plan view of my new saw-swage, a part being broken away for convenience of illustration. Fig. 2 is a side view of the same, partially in section. Fig. 3 is a plan view of a portion of the swage, showing a detail of operation. Fig. 4 is a sectional view of the barrel along the line 4 4 of Fig. 1. Fig. 5 is a sectional view of the barrel along the line 5 5 of Fig. 1. Fig. 6 is a sectional view of the barrel along the line 6 6 of Fig. 1. Fig. 7 is a rear elevation of the barrel, parts being broken away to show a detail of construction. Fig. 8 represents the anvil, Fig. 9 the guide-block, Fig. 10 the die, and Fig. 11 is a perspective view of my new swage in connection with a band-saw-sharpening machine.

Similar letters indicate similar parts throughout the several views.

a is a rod beveled at one end, adapted to be held in socket b by any suitable means, as by a set-screw, and to slide in sleeve c , the latter being preferably integral with the barrel-support c' . The socket is provided with suitable means d for attachment to an appropriate device for transmitting a reciprocating motion to the swage, such as the slide usually adapted to carry the feed-finger in a band-saw-sharpening machine. A spring e on rod a bears at one end against a pin in the rod and at the other against the end of the sleeve, thus forming an elastic connection between the rod and the sleeve. The stroke of the rod is limited by a pin a' moving in a slot in the sleeve and having a bearing against a set-screw c^2 . The beveled end of the rod is

adapted to slide upon the arm of lever f , having an eccentric-head f^2 , fulcrumed in brackets $f' f'$ on the barrel g . The barrel is held in support c' by suitable set-screws and is preferably made of a solid piece of metal provided with a transverse saw-receiving slot h and a central longitudinal aperture adapted to receive a swaging-die i . An anvil j , beveled at one edge to receive the point of guide-block k , is disposed in the barrel at the bottom of aperture j' and is held in place by a suitable retaining-screw. Guide-block k is held in slot h in juxtaposition to anvil j by screw k' , extending through the barrel, as shown in Fig. 7. The die has a cut-away portion i' , forming a swaging edge, between which and the anvil the saw-tooth is swaged, and is provided at one end with a plurality of annular recesses $i^2 i^2$, adapted to receive a retaining-spring i^3 , mounted on the barrel, by which means the die may be shifted lengthwise, presenting different portions of swaging edge i' to the saw, while the other end is cut away to form a seat for the handle l , by means of which the die is operated. A stop m , held in the barrel by a suitable set-screw, limits the movement of the lever l as it rotates the die. A clamp-tooth n is disposed in an aperture in the barrel on one side of the slot h , being held in place by a suitable retaining-screw, while opposed to it in an aperture on the opposite side of the slot h is a clamp-tooth o , extending through the barrel and having a rounded head o' , adapted to bear against the eccentric head f^2 of the lever f . An annular recess o^2 on clamp-tooth o is adapted to receive a spring o^3 , mounted on the barrel and by means of which the tooth is withdrawn from the slot h while not under pressure. The clamp-teeth are so disposed with relation to the saw p that they clamp the body of the saw between the teeth.

The operation of the device is as follows: The swage being attached by means d to an appropriate device for transmitting a reciprocating motion to it—such as the slide q of a band-saw-sharpening machine, said slide being actuated by cam r on shaft s —the slot h is placed over the teeth of a saw held in position by appropriate means, as shown. The slide q being set in motion and its travel being so regulated that the swage will fall on each

tooth serially, the tooth passes under guide *k* between the anvil *j* and die *i*, as shown in Fig. 6. The forward stroke of the slide compresses spring *e* and forces the beveled end of rod *a* on the lever *f*, thus causing clamp-teeth *n* and *o* to firmly grasp the saw. When this has been done, then the rest of the stroke is expended as a finger in pushing the saw along. When the saw is clamped, the operator pushes handle *l* away from stop *m*, swaging the tooth of the saw between the die and the anvil. It is thus seen that the swaging may be done as quickly as the sharpening, the swaging device acting as a finger for moving the teeth forward for the sharpener.

The position of the clamp-teeth, whereby they clamp the body of the saw between the teeth and not the saw-tooth or the portion below it, as heretofore, prolongs the life of the saw, as otherwise the steel forming the saw-tooth is crushed or crystallized by the constant clamping, rendering it practically impossible to thereafter swage the tooth without breaking off its point.

It is obvious that details may be changed without departing from the spirit of my invention, and I do not desire to restrict myself to the exact construction shown.

What I do claim, and desire to secure by Letters Patent, is—

1. In a saw-swage the combination of a slotted barrel, an anvil seated therein, a die adapted to swage the saw-tooth against the anvil and means for clamping the saw-blade while the tooth is being swaged, the relative arrangement of the swaging and clamping means being such that the latter clamps the body of the saw between the teeth while the tooth to be swaged is in operative position between the anvil and die.

2. In a saw-swage the combination of a slotted barrel, an anvil seated therein, a die adapted to swage the tooth against the anvil,

a feeding device adapted to feed the saw-teeth to the swage and means operated by the feeding device for clamping the saw-blade while the tooth is being swaged.

3. The combination of a saw-sharpening machine, a saw-swage having a slotted barrel, an anvil seated therein and a die adapted to swage the saw-tooth against the anvil, and means operated by the saw-sharpening machine for clamping the saw-blade during the swaging process.

4. The combination with a saw-sharpening machine of a saw-swage having a slotted barrel, an anvil seated therein, a die adapted to swage the saw-tooth against the anvil, and a spring-controlled reciprocating arm operated by the saw-sharpening machine and adapted to clamp the saw-blade during the swaging process and feed the saw forward for the sharpener.

5. The combination of a saw-sharpening machine, a saw-swage having a slotted barrel, an anvil seated therein, and a die adapted to swage the saw-tooth against the anvil and means operated by the saw-sharpening machine for clamping and releasing the saw-blade and for feeding the saw forward for the sharpener.

6. The combination of a saw-sharpening machine with a saw-feeding device consisting of an arm adapted to reciprocate in a guiding-sleeve, said sleeve supporting a saw-swage provided with means actuated by the reciprocating arm for clamping the saw-blade and feeding the saw forward for the saw-sharpener.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

CHARLES H. VAN AUKEN.

Witnesses:

WILLIAM F. FLEET,
W. G. WINNE.