No. 786,750. PATENTED APR. 4, 1905.

E. A. FRANTZ.

GIN SAW GUMMER.

APPLICATION FILED APR. 29, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

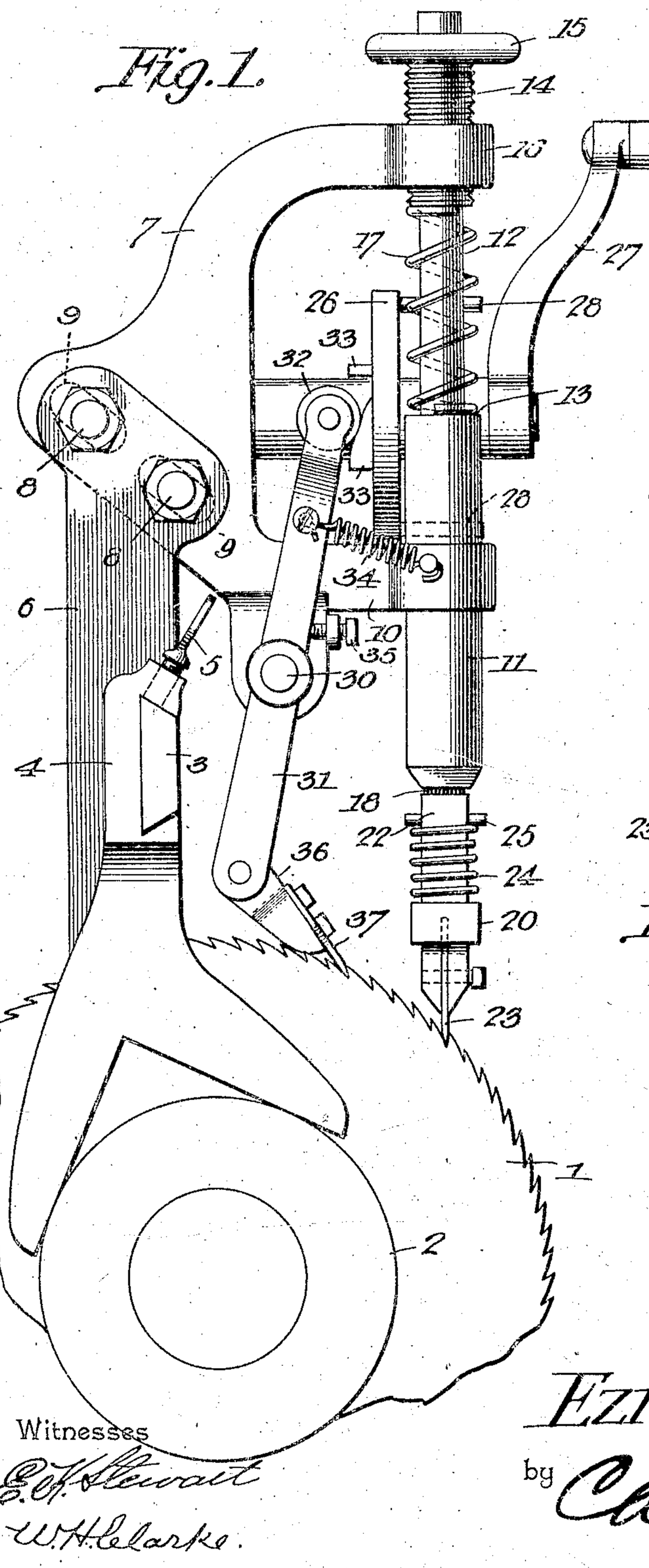

Fig. 4.

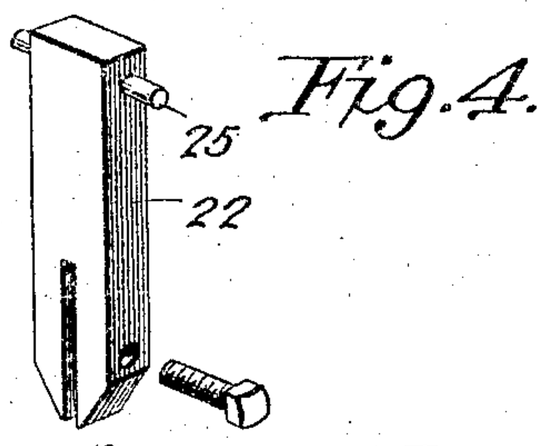

Fig. 5.

Fig. 7.

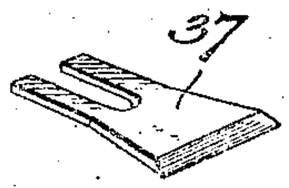

Fig. 6.

Witnesses
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2 SHEETS—SHEET 2.

Fig. 3.

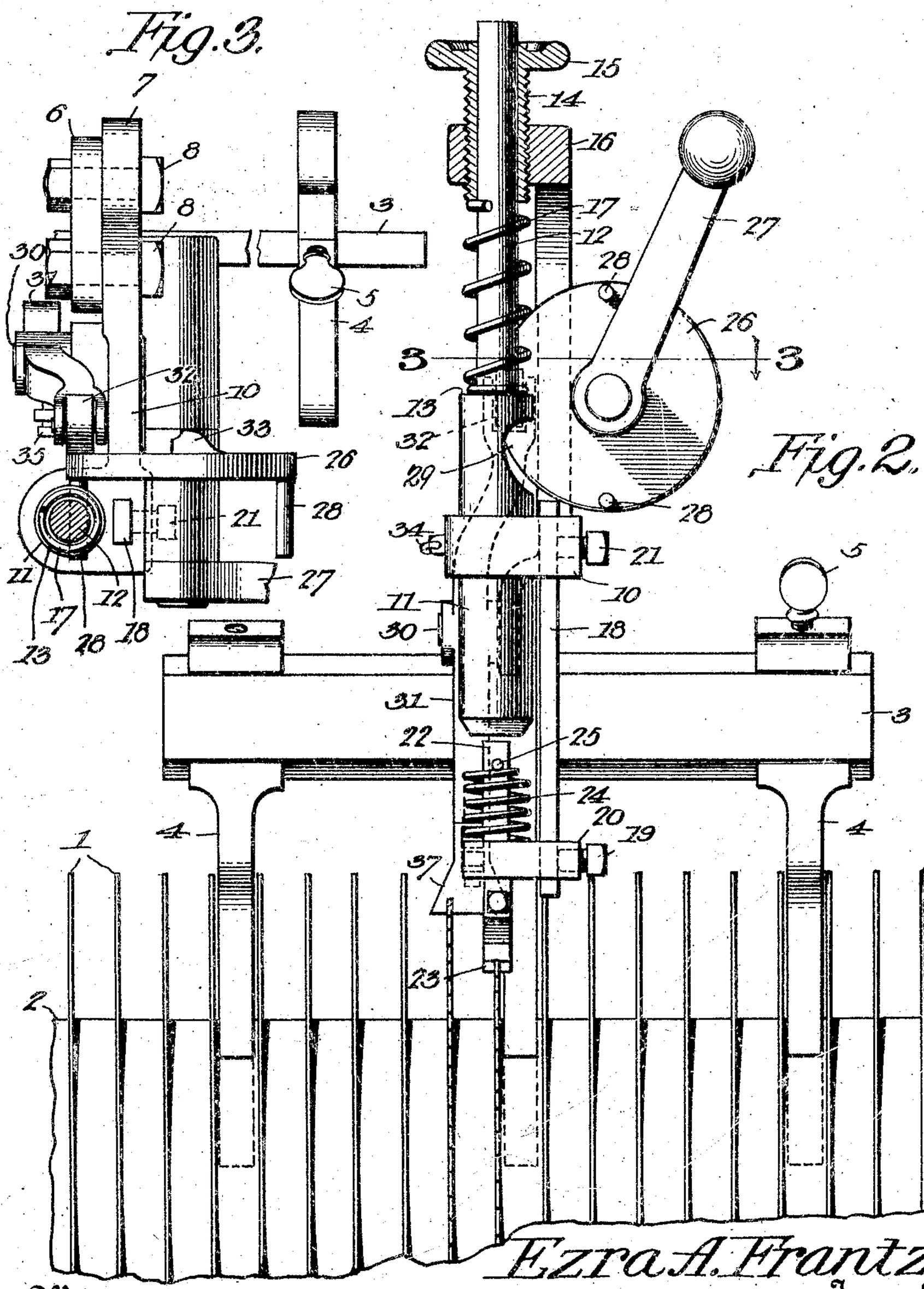

Fig. 2.

Witnesses

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No. 786,750. Patented April 4, 1905.

UNITED STATES PATENT OFFICE.

EZRA ALLEN FRANTZ, OF WEATHERFORD, TEXAS.

GIN-SAW GUMMER.

SPECIFICATION forming part of Letters Patent No. 786,750, dated April 4, 1905.

Application filed April 29, 1904. Serial No. 205,571.

To all whom it may concern:

Be it known that I, EZRA ALLEN FRANTZ, a citizen of the United States, residing at Weatherford, in the county of Parker and State of Texas, have invented a new and useful Gin-Saw Gummer, of which the following is a specification.

This invention relates to gin-saw gummers.

The object of the invention is to improve the construction of such machines in the particulars hereinafter specified.

Referring to the accompanying drawings, Figure 1 is a side elevation of a machine constructed in accordance with my invention. Fig. 2 is a view at right angles to Fig. 1. Fig. 3 is a horizontal section on line 3 3 of Fig. 2. Fig. 4 is a detail view of the auxiliary plunger. Fig. 5 is a detail view of a chisel or gumming-tool. Fig. 6 is a detail view of the plate 37 on the lever 36. Fig. 7 is a detail view of a circular cutting-tool to be used in place of the chisel 23.

Like reference characters indicate like parts in the views.

The gin-saws 1 when mounted in temporary bearings to enable them to be operated or gummed by my improved machine are spaced apart by collars 2, as usual. The frame of my machine comprises a laterally-extending bar 3, which is beveled at its upper and lower edges, as shown in Fig. 1. Mounted upon the beveled bar 3 are two brackets 4, which are forked at their lower ends in the manner shown to straddle the collars between the saws, so as to support the machine in proper relation to the saws being gummed. The brackets 4 are movable longitudinally upon the bar 3 in order to be adjusted to the collars 2, said brackets being held firmly in adjusted position by the thumb-screws 5. Attached to or formed on the bars 3 intermediate the brackets 4 is an upright 6, constituting part of the machine-frame. The upper surface of the upright 6 is beveled, as shown, and upon this beveled surface is adjustably mounted a bracket 7. Any suitable adjustable connection may be utilized between the bracket 7 and the upright 6. For convenience I have illustrated the connection as comprising bolts 8, passing through lugs on the upright 6 and through slots 9 in the bracket 7, the slots being engaged by the bolts. Mounted for longitudinal movement in an arm 10 of the bracket 7 is a plunger 11, which at its upper end is reduced in diameter, as shown at 12, to form a shoulder 13. A screw-threaded bushing 14, having a hand-wheel 15, is mounted in an arm 16 of the bracket 7. A longitudinal bore in the bushing 14 forms a bearing for the reduced end 12 of the plunger 11. Surrounding the reduced end 12 of the plunger 11 is a spiral spring 17, which bears at one end against the shoulder 13 of the plunger and at the other against the bushing 14. By turning the bushing one way or the other the tension of the spring 17 may be regulated. Passing through the arm 10 of the bracket 7 in a direction approximately parallel to the plunger 11 is a bar 18, which has adjustably mounted upon its lower end by means of an adjusting-screw 19 a bracket 20. At its opposite end the bar 18 is adjustable longitudinally in the arm 10 by means of the adjusting-screw 21. The bracket 20 on the bar 18 supports a small plunger 22, in the lower end of which is removably secured in any suitable manner a chisel 23 or other suitable cutting device for gumming the gin-saws. A spiral spring 24 surrounds the plunger 22, said spiral spring bearing at one end against the upper surface of the bracket 20 and at its other end against a pin 25, extending through the plunger. It will be observed that the plunger 22 is directly in line with the plunger 11 and is adapted to be operated thereby.

Journaled in the bracket 7 is a wheel 26, which may be operated in any preferred manner—as, for instance, by a crank 27. On one side of the wheel 26 two pins 28 28 are provided, said pins alternately engaging and disengaging a cut-away portion 29 of the plunger 11, whereby the plunger is first raised against the action of the spring 15 and then released and driven downward by said spring when the pin 28 leaves the cut-away portion 29.

Pivoted at 30 to the bracket 7 is a feed-lever 31. The upper end of the feed-lever 31 is slotted to receive an antifriction-roller 32, which is engaged alternately by lugs 33 33 on

the wheel 26. By this means the lever is rocked to and fro. A spring 34, attached at one end to the lever 31 and at the other end to the arm 10 of the bracket 7, serves to retract the lever against the action of the lugs 33 33. In order to limit the throw or swing of the lever 31, an adjusting-screw 35 is mounted in a part of the bracket 7 adjacent to the upper end of the lever 31. Loosely pivoted to the lower end of the lever 31 is an auxiliary lever 36, upon which is adjustably mounted, by means of a suitable bolt-and-slot connection, a plate 37, the end of which is adapted to engage the teeth of one or two gin-saws and turn them at the proper time. I prefer to make the plate 37 wide enough to engage two or more of the saws 1, so as to avoid the danger of breaking the saw-teeth by engaging only one saw.

By making the bracket 7 adjustable on the beveled upper surface of the upright 6 I am enabled to regulate the pitch of the saw-teeth. If the bracket be adjusted downwardly, the saw-teeth will be given a greater hook or length and the cotton will be torn more readily.

Instead of the chisel 23 shown in Fig. 5 I may employ a circular gumming instrument, such as shown in Fig. 7. When one portion of the edge of the circular tool becomes worn, it may be revolved to bring a fresh portion into operation.

It will be understood that changes in the particular details of construction hereinbefore described may be made within the scope of the following claims without departing from the spirit of my invention.

What I claim is—

1. In a saw-gummer, the combination with a yoke-shaped frame, of a main spring-pressed plunger working through the opposite arms of the frame, a bracket hung from the lower arm of the frame, a spring-supported auxiliary plunger carried by the bracket in the path of the main plunger and provided with a gumming-blade, a shaft carried by the yoke-shaped frame transversely of the main plunger between the arms of the frame, a wheel mounted upon the shaft and provided with a crank-handle located in front of the plunger, a projection upon the front side of the wheel, a cam upon the rear side of said wheel, a main plunger having a shoulder located in the path of the projection for contact thereby to move the plunger against the tension of its spring, and a lever fulcrumed intermediate of its ends upon the frame in rear of the plunger with one end in the path of the cam and its opposite end provided with a dog for engagement with the teeth of a saw.

2. In a saw-gummer, the combination with a frame having a pair of alined guide-openings one of which is screw-threaded, a threaded bushing adjustable in the screw-threaded opening, a plunger working in the opening and in the bushing, a spring bearing against the bushing and the plunger, the bushing being adjustable to vary the tension of the spring, means to move the plunger against the tension of the spring and to trip therefrom to release the plunger, and a gumming-blade actuated by the plunger.

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

EZRA ALLEN FRANTZ.

Witnesses:

THOMAS F. EDGAR,

CHAS. JOHNSON.