

No. 669,223.

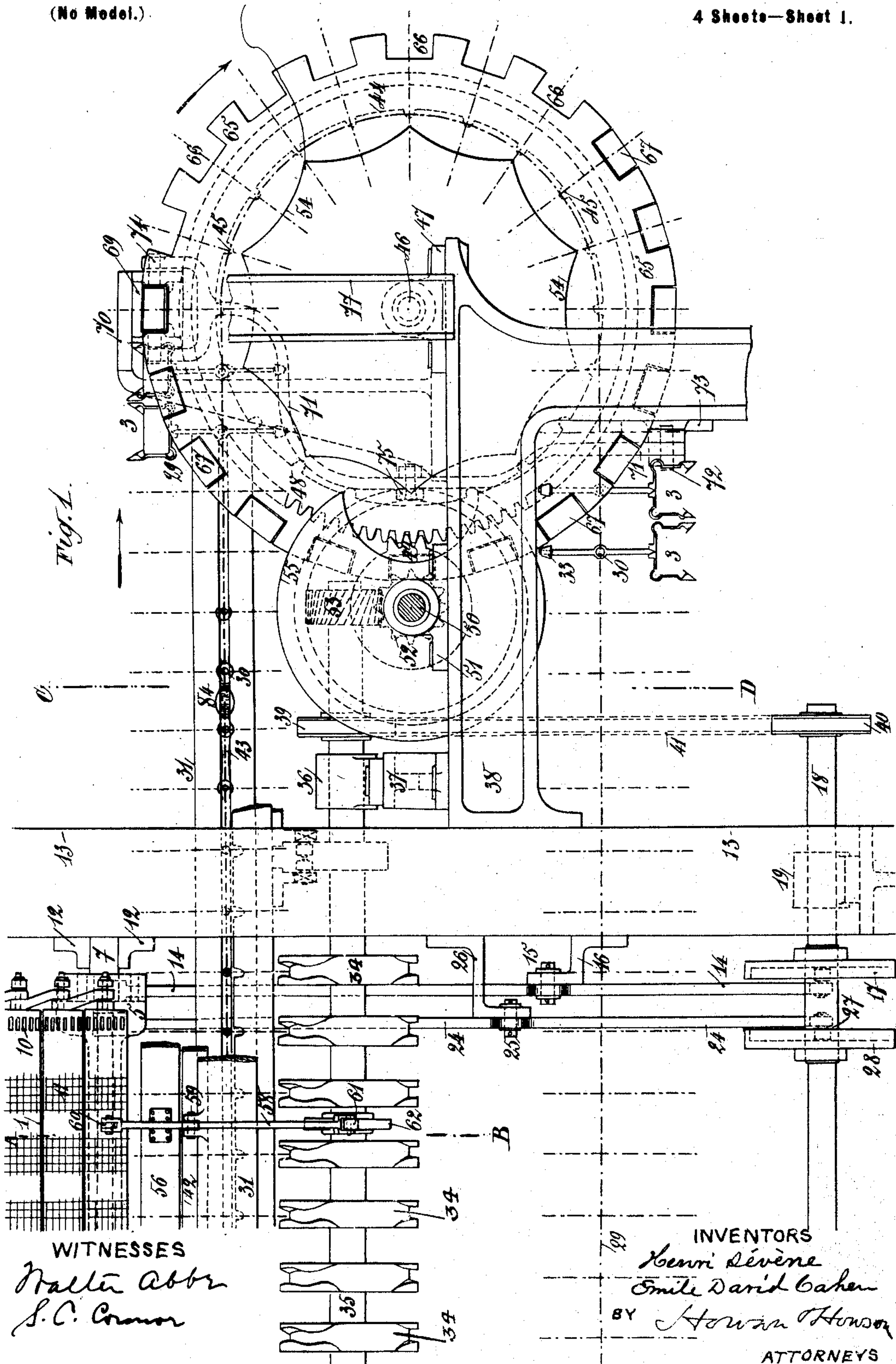
Patented Mar. 5, 1901.

H. SÉVÈNE & E. D. CAHEN.
MACHINE FOR BOXING MATCHES.

(Application filed July 21, 1900.)

(No Model.)

4 Sheets—Sheet 1.



No. 669,223.

Patented Mar. 5, 1901.

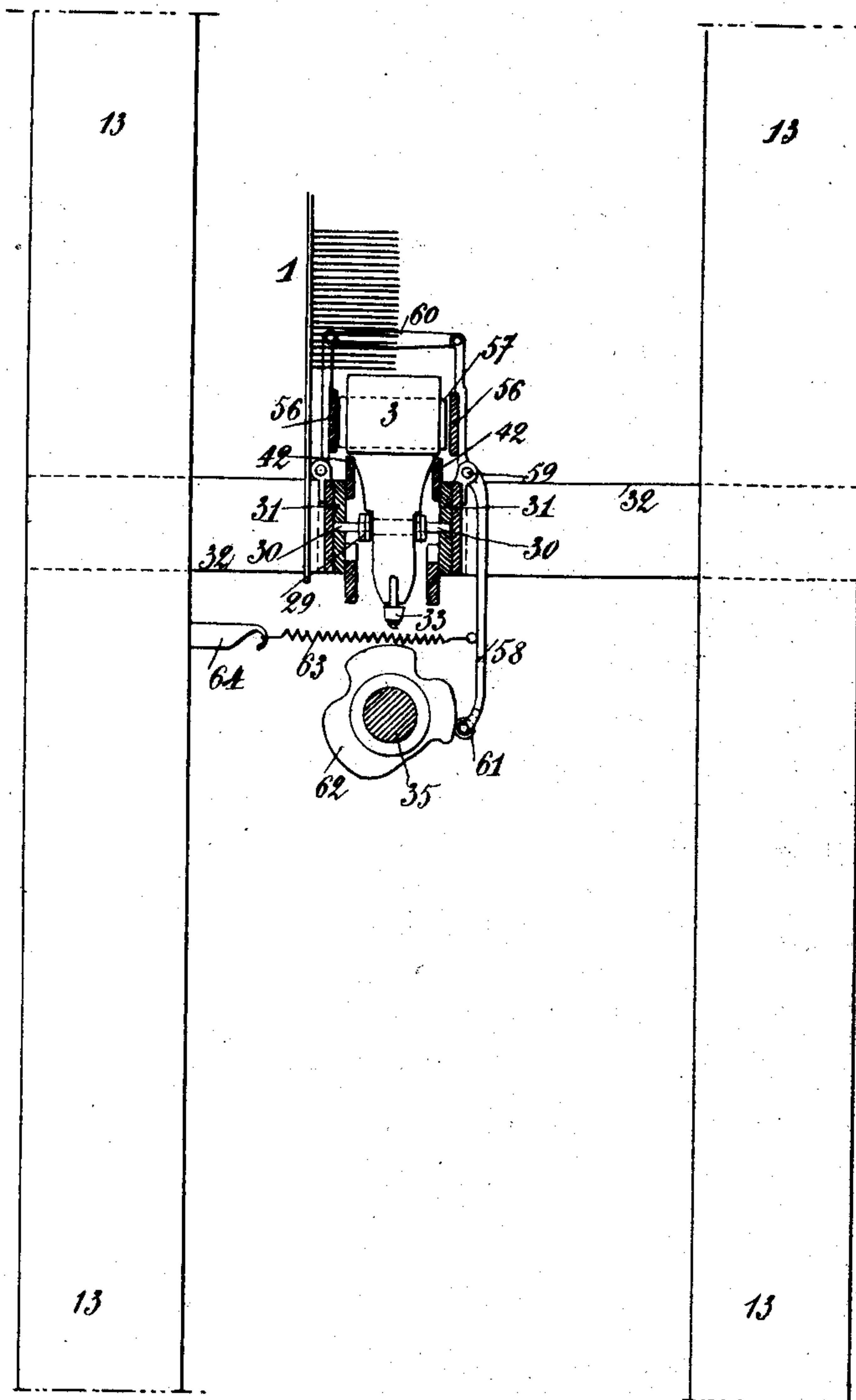
H. SEVÈNE & E. D. CAHEN.
MACHINE FOR BOXING MATCHES.

(Application filed July 21, 1900.)

(No Model.)

4 Sheets—Sheet 2.

Fig. 2.



WITNESSES

Walter Abbott
S. C. Connor

INVENTORS

Henri Sévène
Emile David Cahen
BY *Horace H. H. H.*
ATTORNEYS

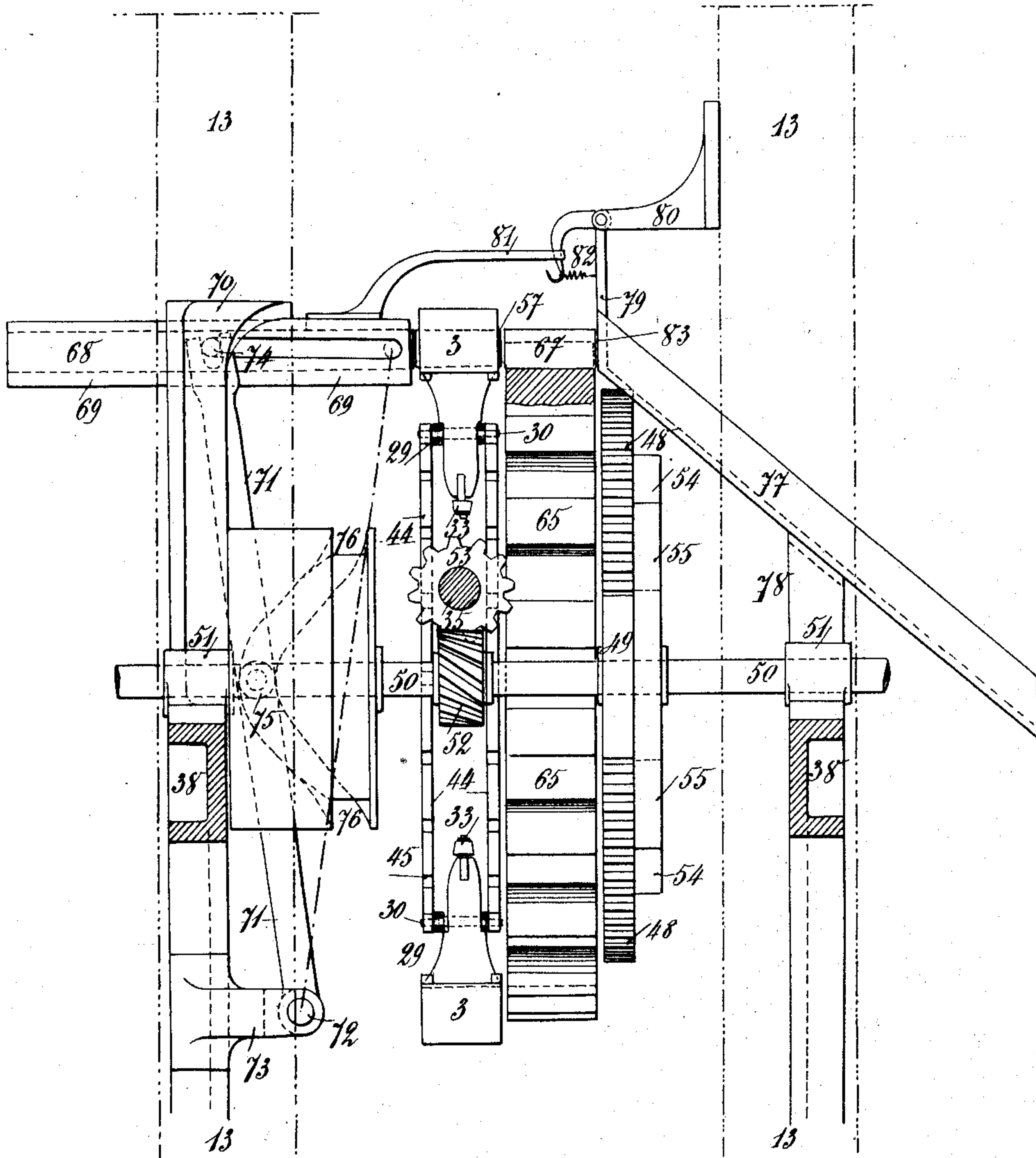
H. SÉVÈNE & E. D. CAHEN.
MACHINE FOR BOXING MATCHES.

(Application filed July 21, 1900.)

(No Model.)

4 Sheets—Sheet 3.

Fig. 3.



WITNESSES

Walter Abbe
S. C. Connor

INVENTORS

Henri Sévène
Emile David Cahen
BY *Hanson Hanson*

ATTORNEYS

No. 669,223.

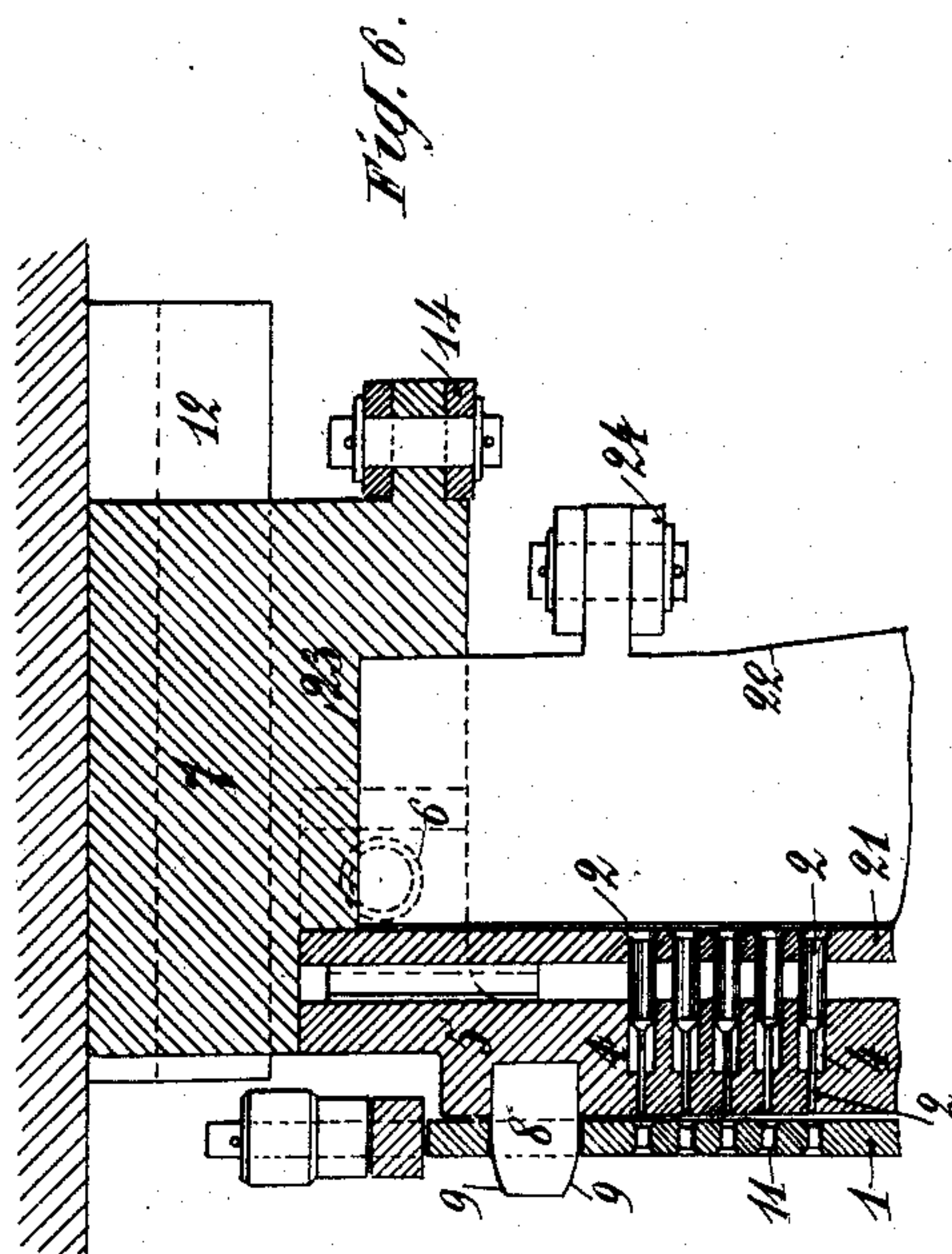
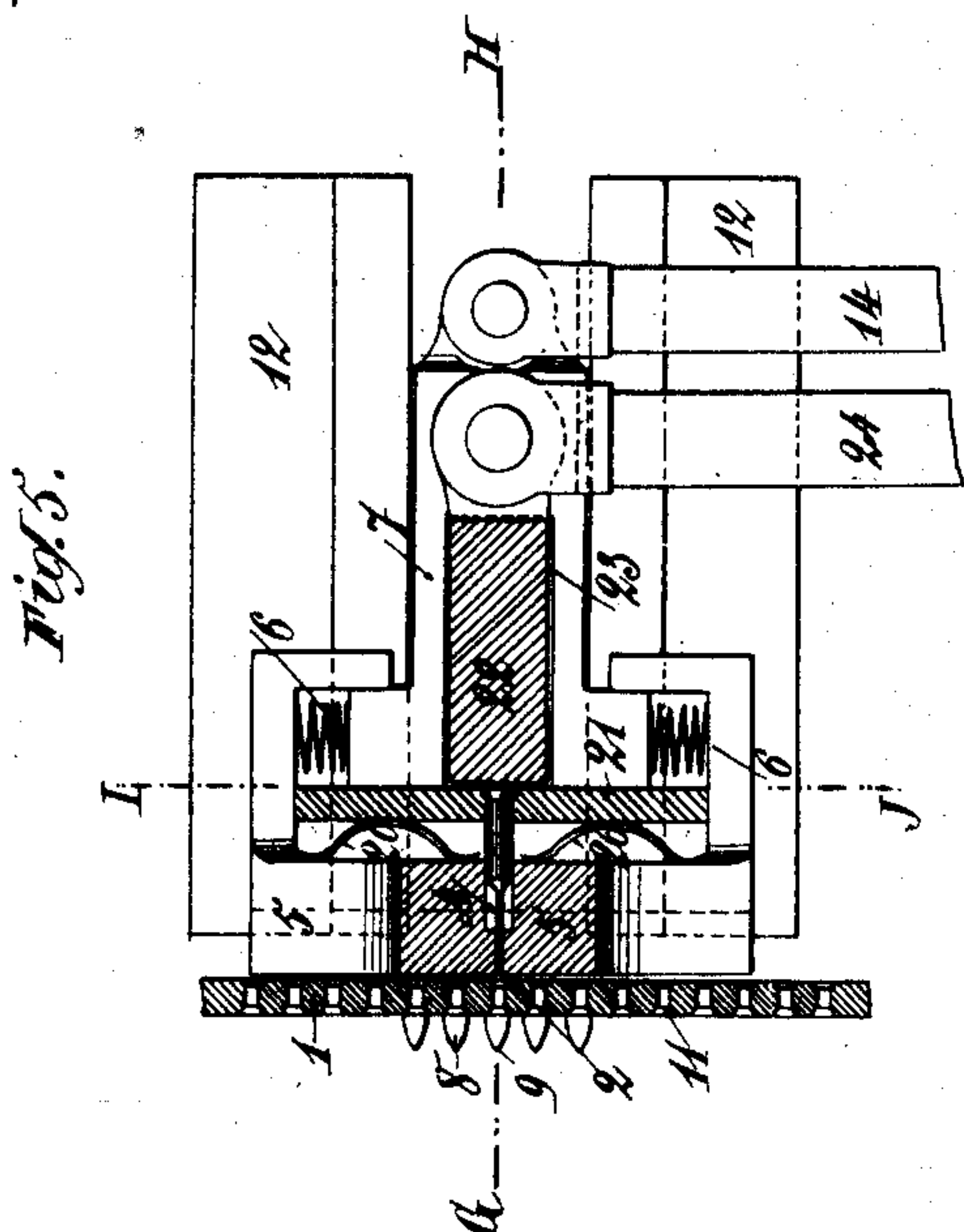
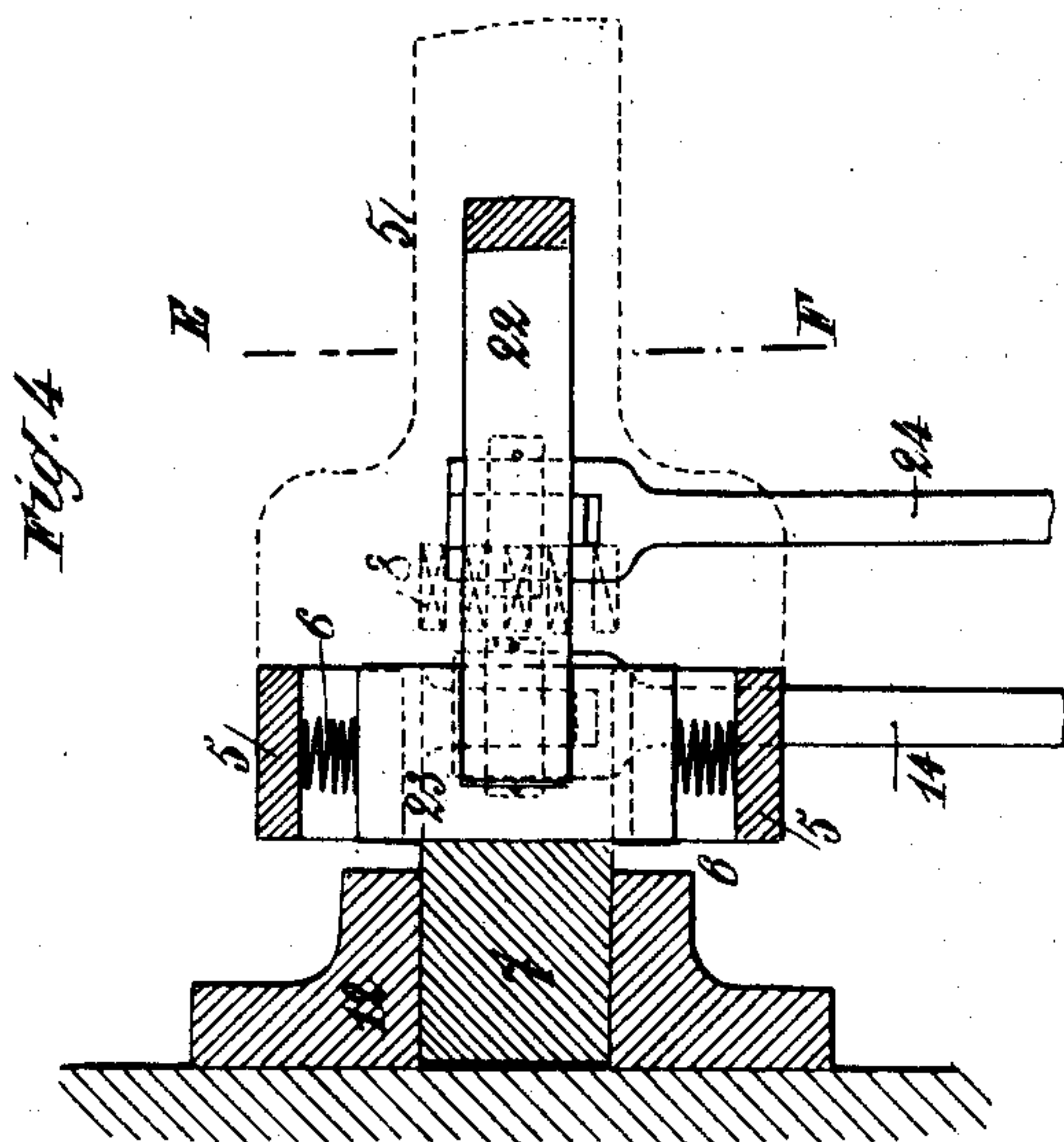
Patented Mar. 5, 1901.

H. SÉVÈNE & E. D. CAHEN.
MACHINE FOR BOXING MATCHES.

(Application filed July 21, 1900.)

(No Model.)

4 Sheets—Sheet 4.



WITNESSES
Hatten Abbe
S. C. Connor

INVENTORS
Henri Sévène
Emile David Cahen
BY *Horace H. H. H.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

HENRI SÉVÈNE AND EMILE DAVID CAHEN, OF PARIS, FRANCE.

MACHINE FOR BOXING MATCHES.

SPECIFICATION forming part of Letters Patent No. 669,223, dated March 5, 1901.

Application filed July 21, 1900. Serial No. 24,458. (No model.)

To all whom it may concern:

Be it known that we, HENRI SÉVÈNE and EMILE DAVID CAHEN, citizens of the Republic of France, residing at Paris, France, have
5 invented certain new and useful Improvements in Apparatus for Boxing or Packing Matches, of which the following is a specification.

In specification of Letters Patent No. 643,072 is described certain apparatus for boxing or packing matches; and the present invention relates mainly to modifications and improvements of such apparatus, whereby certain parts therein described are omitted,
15 others simplified, and improvements introduced into the mechanism.

In order that the invention may be clearly understood, reference is made to the accompanying drawings, in which—

20 Figure 1 is a side elevation of the main portion of the machine. Fig. 2 is a cross-sectional view on line A B, Fig. 1. Fig. 3 is a cross-sectional view on line C D, Fig. 1. Fig. 4 is a view, on a larger scale, of part of the
25 mechanism for holding the match-carrying chain and for operating the match-expelling punches, the view being taken on line I J of Fig. 5. Fig. 5 is a sectional view taken on the line E F, Fig. 4; and Fig. 6 is a plan view
30 on the line G H, Fig. 5.

Throughout the drawings the same figures of reference are used to designate like parts of the mechanism.

According to the present invention the table and rakes employed for collecting the matches forced from the match-chain are entirely dispensed with, the matches forced from such chain falling directly into the box-slides, and the means for expelling the matches will
40 be first described, reference being more particularly made to Figs. 1, 4, 5, and 6. For the purpose of forcing the matches from the chain it is of course desirable that the punches and the holes in the chain exactly correspond, and to secure this the chain 1 is provided with end slots 10, with which projecting pins 8, preferably provided with beveled ends, are adapted to engage. The pins 8 are
45 carried by a bar 5, extending entirely across chain 1 at the rear of same, said bar being supported on springs 6, resting on bar 7, which is capable of backward-and-forward

movement between guides 12, such movement being imparted by means of a lever 14, pivoted at 15 to a bracket 16 on the frame 13 and
55 operated by a cam 17 on the main driving-shaft 18. The bars 5 and 7 having been pressed forward, pins 8 enter slots 10 in chain 1 and secure the position of the flexibly-mounted bar 5 relatively to the chain, so that
60 the punches exactly correspond with the holes of the chain, and as soon as this end is secured cam 28, also on shaft 18, actuates lever 24, pivoted at 25 to bracket 26 on frame 13 and connected at its upper end with bar
65 22, resting in a groove 23 of the bar 7, and forward motion is imparted to punch-plate 21, carrying punches 2, sliding in grooves 4, formed in bar 5, so as to expel the matches
70 from holes 11 in chain 1. The return motion of the punch-plate may be secured positively or by means of springs 20, or in place of this each punch may be directly operated on by the bar 22 and be returned by independent
75 springs.

The frames 3 for carrying the drawers or box-slides are carried on arms mounted on pivots 30 of chains 29, and when in front of match-chain 1 the pivots 30 extend into
80 steadying-grooves in side plates 31, Fig. 2, carried by bars 32 of the frame 13. The inner ends of the arms carrying the box-slides are provided with enlarged heads 33, adapted to engage with cams 34 on shaft 35, carried
85 in bearings 36 and driven from main shaft 18 by means of chain-wheels 39 and 40 and chain 41. The bearings 36 may be carried on blocks 37, mounted on brackets 38. The action of
90 cams 34 is to impart individual side oscillation or movement to the box-slides, as in the previous specification. Oscillation or movement in direction of the length is secured
95 from shaft 35 by means of a cam 62, with which roller 61 on lever 58 is kept in constant contact by means of a spring 63, secured to hook 64 on framing 13. Lever 58 is
100 pivoted at 59 and carries link 60 and a corresponding pivoted part on the opposite side of the box-slide, frame-bars 56 being secured to the oscillating frame thus formed for the purpose of applying end-on movement to the box-slides 57, any excess movement being prevented by steadying-pieces 42 42.

Shaft 35 carries a worm 53, engaging with

worm-wheel 52 on shaft 58 in bearings 51, which in turn carries a partially-toothed wheel with teeth 49, adapted to engage at intervals with the teeth of gear 48, mounted on shaft 46, and a further mutilated wheel 55, adapted to permit movement of gear 48 while teeth 49 are in gear and to prevent movement of gear 48 and shaft 46 while the teeth are out of gear by the engagement of the unbroken portion of its periphery with the curved surfaces of a species of star-wheel 54, mounted on shaft 46. Said shaft 46 also carries two disks or wheels 44, Fig. 3, provided with slots or notches 45, adapted to receive the pivots 30 of chain 29, and a further wheel 65, provided with recesses 66, adapted to receive the inclosing covers for the box-slides, which may be fed thereto by hand or otherwise. On a line with recess at the top of the wheel and of the box-slide opposite thereto is a plunger 68, sliding in a guide 69 and receiving a backward-and-forward movement from shaft 50 by the action of cam 76 on roller 75, attached to lever 71, pivoted at 72 on a bracket 73, secured to framing 13. The upper end of lever 71 is bifurcated and embraces pins 74 on plunger 68, the forward movement of which forces the filled box-slide out of its frame into its cover in wheel 65, sufficient resistance for this purpose to the movement of the cover being offered by flap 79, pivoted on bracket 80 and normally held closed by spring 82. On the continued forward movement of plunger 68 the arm 81 strikes and opens the flap 79 and the filled box passes down the chute 77, after which the parts return to the position first described.

The motion of the parts is so timed that while an empty or partially-filled slide is receiving the matches a filled box is being forced into its cover and expelled from the machine.

We claim—

1. In a machine for boxing matches and in combination, a match-chain having slots therein, a bar carrying pins adapted to engage with said slots, punches guided by said bar and means for independently operating the bar and punches substantially as described.

2. In a machine for boxing matches and in combination, a match-chain having slots therein, a flexibly-mounted bar carrying tapered pins adapted to engage with said slots, punches guided by said bar and means for operating the bar and punches substantially as described.

3. In a machine for boxing matches and in combination, a match-chain, a flexibly-mounted bar adapted to engage therewith, means for advancing and retiring said bar, punches movably guided in said bar, and a pressure-bar for imparting forward movement to

the punches, and means for returning said punches to their normal position substantially as described.

4. In a machine for boxing matches and in combination, a match-chain, a flexibly-mounted bar adapted to engage therewith, means for advancing and retiring said bar, punches movably guided in said bar, a punch-plate carrying said punches, and means for advancing and retiring said punch-plate substantially as described.

5. In a machine for boxing matches, the combination of a match-chain, means for expelling the matches therefrom, a further chain carrying pivoted box-slide frames, and heads 33 on the arms of said frames, with a series of independent cams adapted to consecutively engage said heads and impart a side-to-side oscillation to the box-slide frames, a separate movable bar for imparting end-to-end oscillations to said frames, and means for actuating said bar, substantially as described.

6. In a machine for boxing matches, the combination of a match-chain, means for expelling the matches therefrom, a further chain carrying the box-slides, means for imparting side-to-side and end-to-end oscillation to said slides, and means for intermittently feeding forward said chain and slides with a wheel adapted to carry the covers for said box-slides, a plunger working across the box-slide chain, and adapted to force the slides into the covers carried by the wheel and to expel the filled and covered box from said wheel, substantially as described.

7. In a machine for boxing matches, the combination of a match-chain, means for expelling the matches therefrom, a further chain carrying the box-slides, means for imparting side-to-side and end-to-end oscillation to said box-slides and means for intermittently feeding forward said chain and slides, with a wheel adapted to carry the covers for said slides, a star-wheel locking-plate moving in unison with said wheel, a mutilated wheel intermittently engaging with the star-wheel locking-plate and adapted to hold the cover-carrying wheel so that the covers shall be in alinement with the slides and a plunger working across the box-slide chain and adapted to force the slides into the covers and to expel the filled and covered box from the wheel, substantially as described.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

HENRI SÉVÈNE.
EMILE DAVID CAHEN.

Witnesses:

CHARLES DONY,
EDWARD P. MACLEAN.