

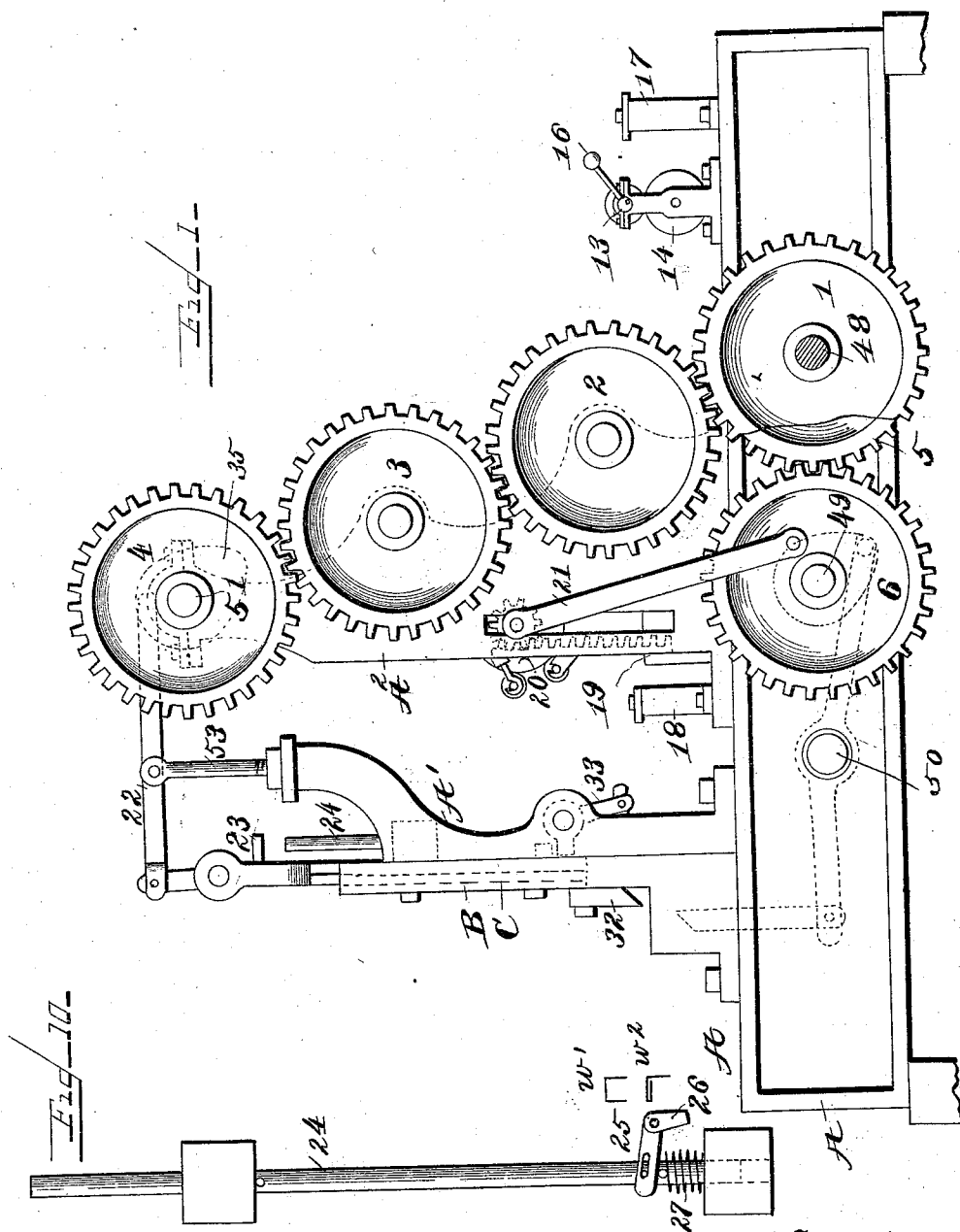
(No Model.)

6 Sheets—Sheet 1.

C. J. WEINMAN & E. E. EUCHENHOFER.  
TAG MACHINE.

No. 551,878.

Patented Dec. 24, 1895.



Witnesses  
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*S. Whitaker*

Inventors  
*C. J. Weinman*  
*E. E. Euchenhofer*  
by *B. Pickering* Attorney

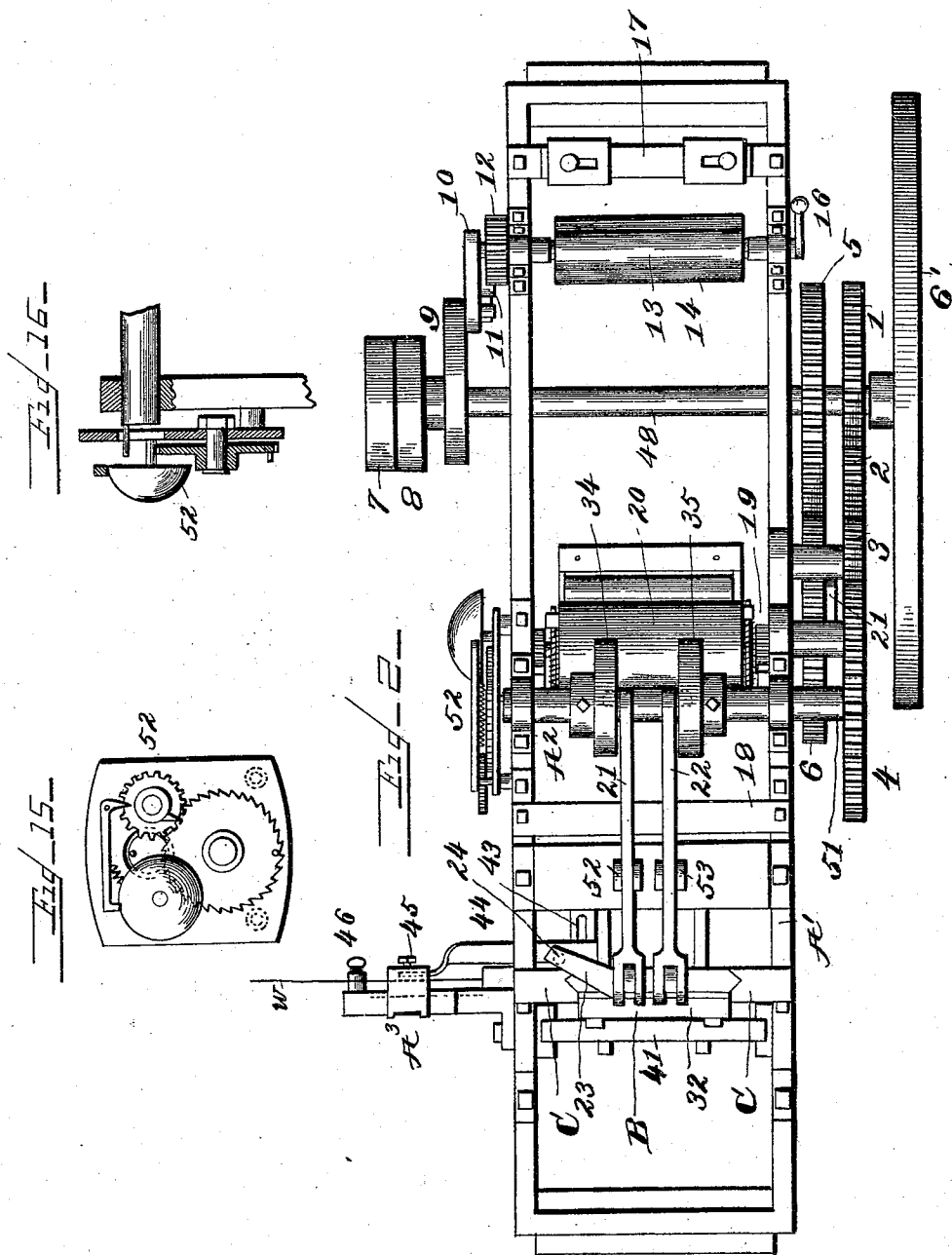
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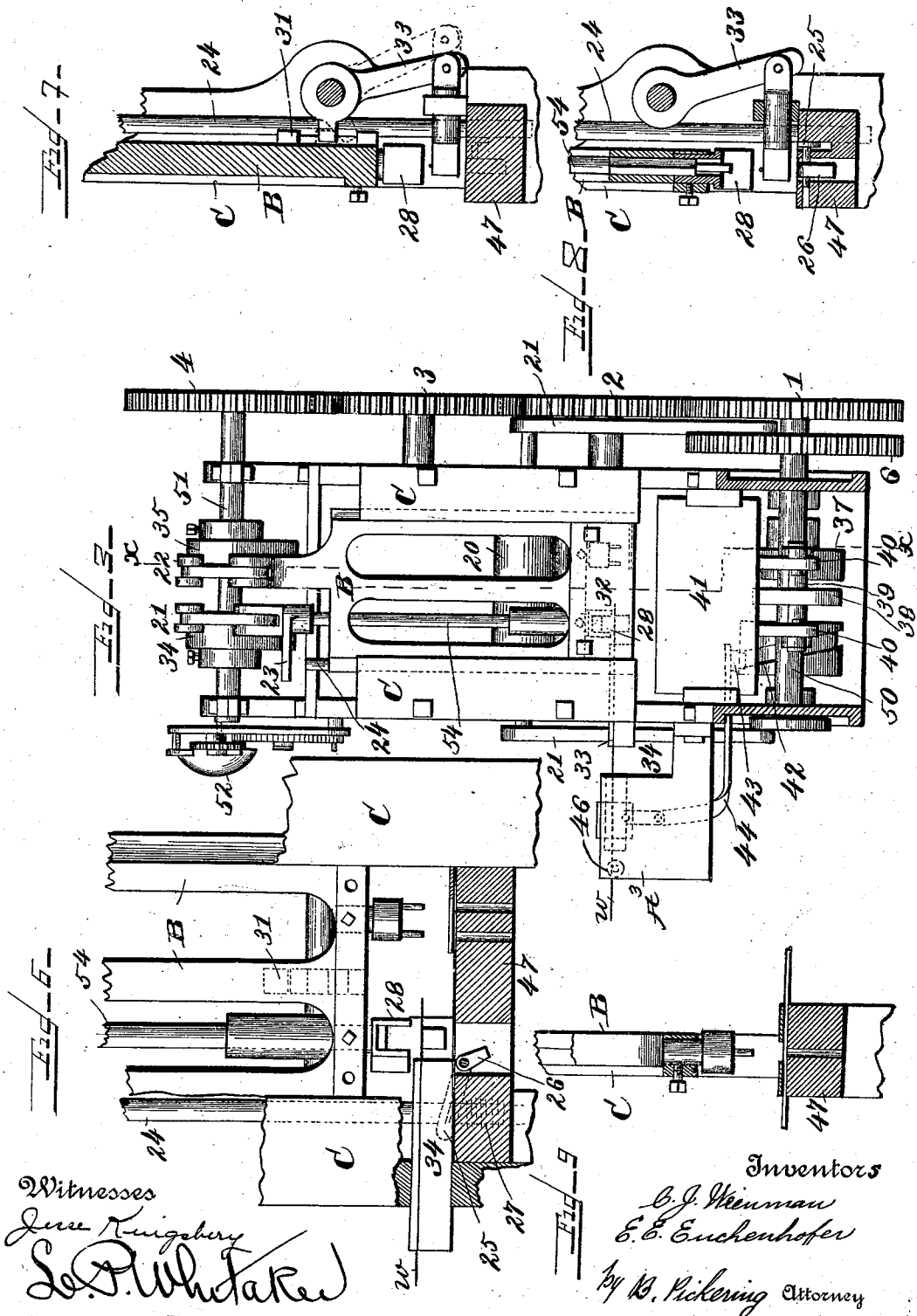
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6 Sheets—Sheet 3.

TAG MACHINE.

Patented Dec. 24, 1895.



(No Model.)

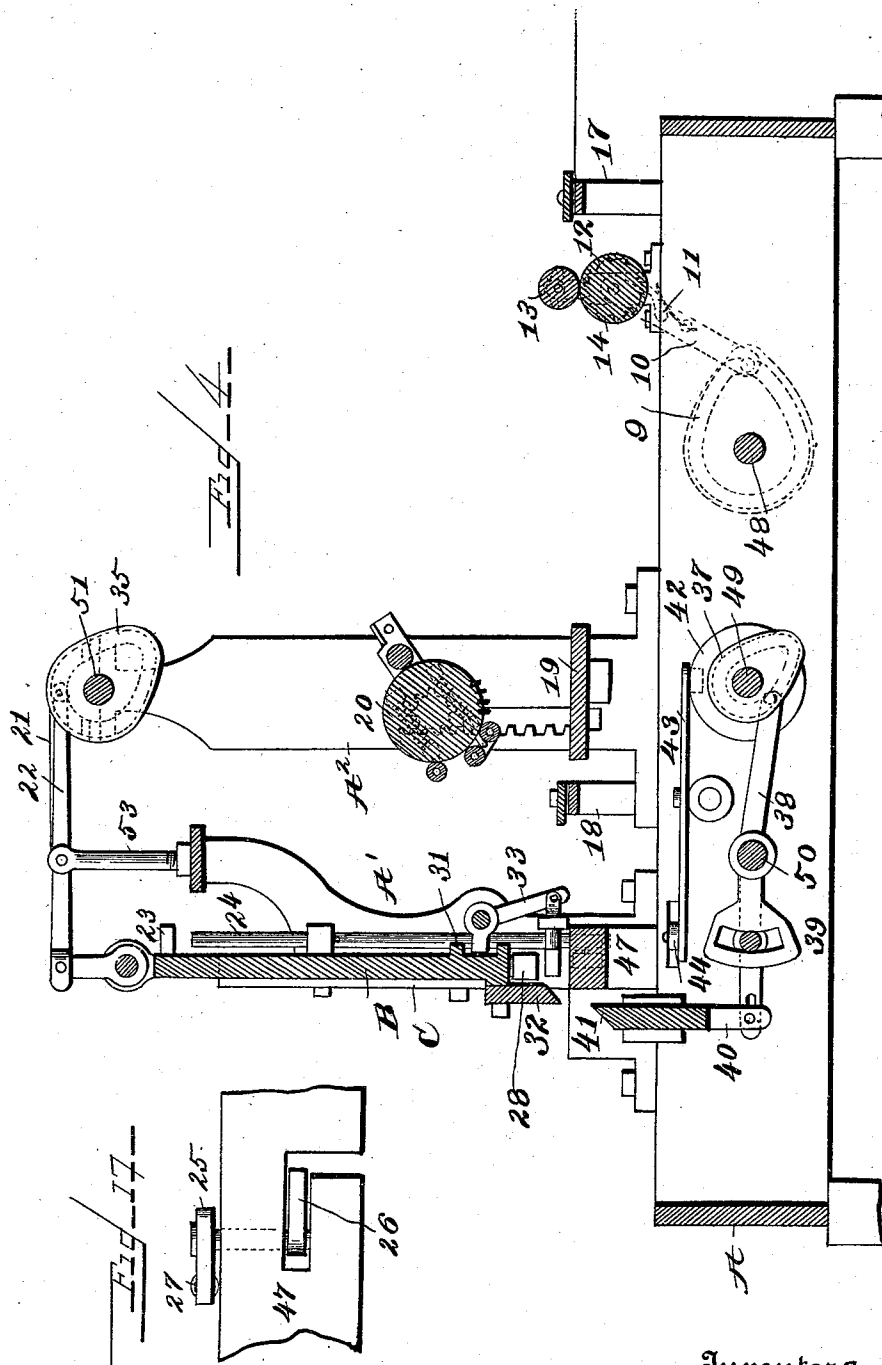
6 Sheets—Sheet, 4.

C. J. WEINMAN & E. E. EUCHENHOFER.

TAG MACHINE.

No. 551,878.

Patented Dec. 24, 1895.



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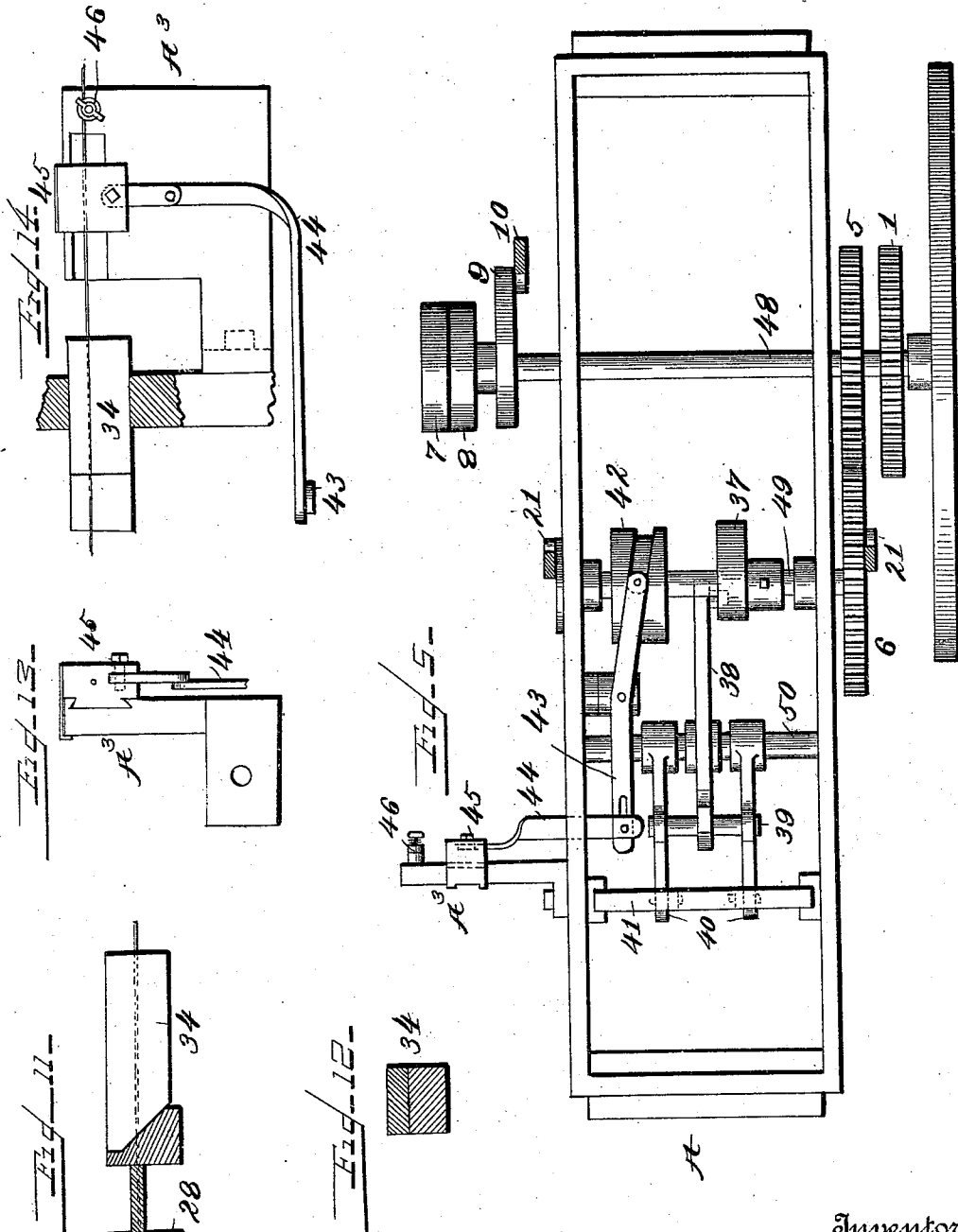
(No Model.)

6 Sheets—Sheet 5.

C. J. WEINMAN & E. E. EUCHENHOFER.  
TAG MACHINE.

No. 551,878.

Patented Dec. 24, 1895.



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(No Model.)

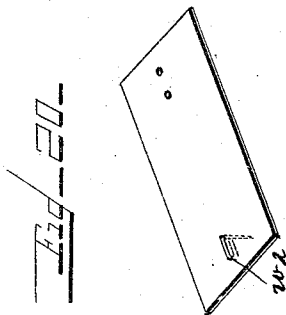
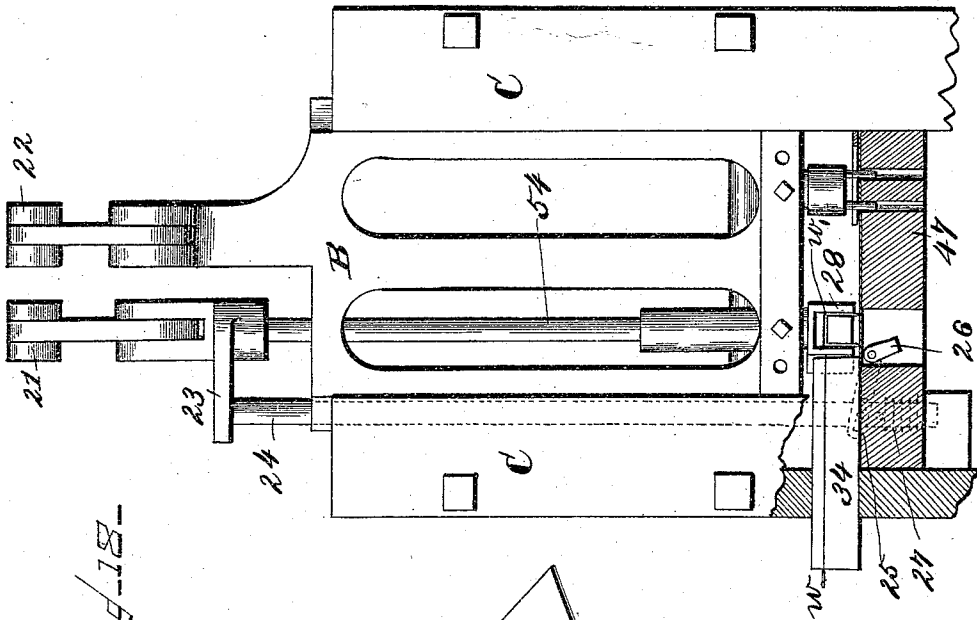
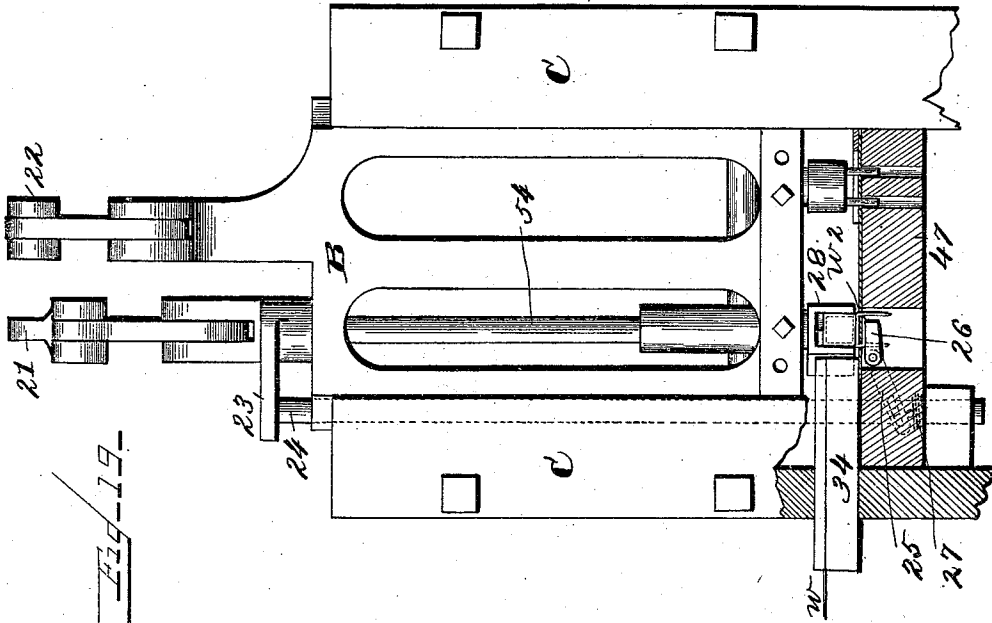
6 Sheets—Sheet 6.

C. J. WEINMAN & E. E. EUCHENHOFER.

TAG MACHINE.

No. 551,878.

Patented Dec. 24, 1895.



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# UNITED STATES PATENT OFFICE.

CHRISTIAN J. WEINMAN AND EDWARD E. EUCHENHOFER, OF DAYTON,  
OHIO, ASSIGNORS TO SIMON DANCYGER, OF SAME PLACE.

## TAG-MACHINE.

SPECIFICATION forming part of Letters Patent No. 551,878, dated December 24, 1895.

Application filed February 20, 1891. Serial No. 382,277. (No model.)

*To all whom it may concern:*

Be it known that we, CHRISTIAN J. WEINMAN and EDWARD E. EUCHENHOFER, citizens of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Tag-Machines; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and numerals of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in tag-machines, the features of which will be fully hereinafter described and claimed.

The object of our invention is the manufacture of the marking-tag, the invention of Simon Dancyger, for which Letters Patent were issued on the 6th day of March, 1888, and numbered 379,054.

The mechanism is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the tag-machine. Fig. 2 is a top view of the same. Fig. 3 is a front view with a portion cut away. Fig. 4 is a longitudinal vertical section on line *xx*, Fig. 3. Fig. 5 is a top plan, all mechanism above the bed-plate being removed. Fig. 6 is an enlarged front end view of the staple-forming mechanism. Fig. 7 is a central longitudinal vertical section of the same. Fig. 8 is a similar section through the staple-former. Fig. 9 is a similar section through the punch. Fig. 10 is an enlarged detail view of mechanism for bending up the staple. Fig. 11 is an enlarged top plan of the wire-guide and a cross-section of the former. Fig. 12 is an enlarged cross-section of the wire-guide. Fig. 13 is an enlarged end view of the wire-tension device. Fig. 14 is a side elevation of the same. Fig. 15 is an enlarged side elevation of the registering device. Fig. 16 is a central vertical section of the same. Fig. 17 is a modified form of mechanism for bending up of the wire staple. Figs. 18 and 19 are front elevations showing the operation of the machine. Fig. 20 is a perspective of the tag made by the machine.

Like letters and numerals designate like parts throughout the several views.

A is a cast-iron frame, and may be mounted on legs or otherwise. Near the center of the frame are the uprights A<sup>2</sup> and near the front end are the uprights A'. At the rear end and external to the frame is attached a support for a roll of paper. (Not shown in the drawings.) The guide 17 is attached to the frame, and near this are standards holding the rollers 13 and 14, between which the paper is fed to the machine. The top one of feed-rollers is slightly eccentric in its bearings in the uprights, and to the bearing-shaft is attached the handle 16, by which the top roller is forced down against its fellow, and thus the paper is held snugly between the two rollers.

In bearings in the rear portion of the frame is supported the shaft 48, to which is attached on the rear side of the frame, in the order named, the balance-wheel 6, cog-wheels 1 and 5, and to the rear side the cam 9, the driving-pulley 8 and loose pulley 7. The arm 10, which engages the groove of the cam, has a fixed pivot, which has a bearing in the axle of the roller 14. To this arm is pivoted the pawl 11, which engages the ratchet-wheel 12 fixedly attached to the axle of said roller. The rotation of the cam gives a reciprocating movement to the arm, and through the agency of the pawl the paper is carried forward between the rollers, and thus intermittently paper from the roll is supplied to the machine. The action of the rollers is to carry the paper over the tympan 19, through the guide 18, over the plate 47, where the wire clasp is inserted and the completed tag is cut off by the shears.

A well-known form of printing device is attached at the center of the machine, the driving-shaft 49 being supported in bearings in the side of the frame, and the motion is derived from the principal shaft 48, the two shafts being connected by the cog-wheels 5 and 6. To the latter and its fellow wheel outside of the back of the frame are attached crank-pins, and the pitmen 21 connect said pins with the axles of the cylindrical bed-plate 20. In the under side of this plate is the bed in which the type are locked. External to the ends of this bed-plate is a frame, the center of which embraces the axles of said bed-plate,

and the cog-wheels of said frame engage a rack attached to the inside of the principal frame. Within this inking-frame are held a series of rollers and a supply-roller with basin, and these rotate over the surface of the bed-plate and type to supply the ink for the impression made on the tag when the bed-plate is brought down to the tympan. Near the top and on the back of the frame is attached a well-known form of register. The same is operated by a pin in the end of the shaft 51, and the gear is so arranged that the hammer strikes the gong when one thousand tags have been made.

The series of cog-wheels 1, 2, 3, 4, 5, and 6 are all of the same diameter, and effect their revolutions in the same time. The wheels 2 and 3 are idlers supported on hubs attached to the part of frame A<sup>2</sup>, and through these wheels are communicated the power from the driving-shaft 48 to the shaft 51, through their respective cog-wheels. To the shaft 51 is attached the two cams 34 and 35.

On the cross-bar of the part of the frame A' are the adjustable standards 52 and 53, in which the arms 21 and 22 are pivoted. The latter through an intervening link connects the cam 35 with the slide B, held in the grooves of the parts C C. The said cam communicates to said slide an irregular reciprocating motion. To the lower part and to the right of the center of said slide is a holder (see Fig. 3) in which are held two punches 30. These with their entering-plates serve to punch two holes in the end of the tag. The cam 34 gives an irregular reciprocating motion to the arm 21, which is connected by a link to the rod 54, which is held in bearings in the top of slide B, and in the former 28, held rigidly in the lower part of said slide. On the back of this slide is attached a slotted plate 31 or two lugs, which engage a short arm supported on a shaft in part A' of the frame. On the same shaft, extending obliquely downward, is an arm to which a square bar is attached and which slides in a lug of the side of the frame. As the slide is raised by the cam the short arm is engaged, and the bar is thrust forward, and after a staple of wire is formed over the same it is withdrawn by the downward movement of the slide, the upper lug engaging said short arm. To the arm A<sup>3</sup> of the frame at its end is the binding-plate 46, beneath which the wire *w* passes and which gives a degree of tension to the same. On a lug is pivoted the arm 43, one end of which connects with the cam 42, and the other is connected with the arm 44, and to the outer end of which is connected the clamp 45, which engages the wire and alternately feeds the same into the machine. A side view of the clamp is shown at Fig. 5. The cutter-guide 34 is held rigidly in the side of the frame and is of two parts, divided horizontally and having a groove on the inner face of one part, which is traversed by the wire as the same is drawn into the machine. A part

of the inner end is beveled and an incline of the former 28 abuts the same and as said former is being carried downward the wire is cut off obliquely, thus forming fine points on the clasp. The instant the wire is cut the former engages the severed piece and carrying the same over the square bar 33, thus forming a staple. Previously the paper has been carried onto the base-plate 47, the bar is withdrawn to the rear and a further downward movement of the former carries the wire staple down through the paper, and at this instant the arm 23 strikes the rod 24, which causes the arm 26 to raise and one point of said wire staple is closed against the under side of the paper, thus leaving one of the points in the slot in the base-plate which is carried forward in a vertical position. This is the point which enters the opposite end of the tag and forms the fastening to merchandise. At Fig. 4 is a detailed view of the parts that close one point of the clasp. The rod 24 is held up by the spiral spring 27, and the same is carried down as before described. The closing-arm 26 and the operating-arm 25 are held on the shaft, having a bearing in the base-plate 47. At Fig. 9 is shown a modified form of the device, in which the rod would strike the top of the operating-arm and the spring 27 would carry up said arm. At Fig. 4, *w'* is the staple form of the wire before it pierces the paper, and *w<sup>2</sup>* is the form when fastened to the paper. On the shaft 49, inside of the frame, is attached the cam 37. This gives an irregular reciprocating motion to the arm 38 pivoted to the shaft 50. In the end of this arm is a slot in which the pin 39 moves. This pin carries the pivotal arms held on the same shaft, and to the outer ends of which is attached the cutter-blade 41 held in grooves of the frame. The plate 32 is bolted to the frame and against the edge of this the cutter acts to separate the paper, thereby delivering a completed tag.

The functions of the respective parts are given with a description of the mechanism, and it is only necessary to add that the distinct operative parts perform their functions in a regular succession or simultaneous in one revolution of the driving-shaft.

Having fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a tag-machine the combination of the cam 35, arm 22, slide B, carrying punches 30, as a means of perforating paper on base 47 having therein punch orifices; the cam 34, arm, 21, rod 54 to which arm 23 is attached and at the lower end the former and cutter 28, the square bar 33 with pivotal parts, and arm to engage lugs 31 of the slide to operate the same to form a staple of the wire; the rod 24 with spiral spring 27 to elevate said rod, arms 25 and 26 to bend up one point of the clasp; the wire feed comprising cam 42, arm 43, reciprocating arm 4 and catch 45; the wire guide and cutter plate 34, with suitable



mechanism to supply paper to the base 47, substantially as set forth.

2. In a tag-machine the combination of the cam 37, arm 38 with slotted end, the pin 39 arms 40 held on said pin, the cutter 41 with its adjacent plate 32, as a means to cut off a portion of paper for a tag, and suitable mechanism to feed said paper alternately from a roll, substantially as set forth.

10 3. In a tag-machine, the combination of the cam 35 with its connecting arm 22, the vertical slide B, the cam 34 with its connecting arm 21, the vertical sliding rod 54 to which

arm 23 is attached, the former 28, the bar 33 with pivotal parts, the lugs 31 of the former 15 slide, the rod 24 means to elevate the same, and the arms 25 and 26 to bend up the point of the formed staple, substantially as described.

In testimony that we claim the foregoing as our own we affix our signatures in presence of 20 two witnesses.

CHRISTIAN J. WEINMAN.

EDWARD E. EUCHENHOFER.

Witnesses:

B. PICKERING,

E. BELL.