C. ELLIOT.

POSTAGE STAMP AFFIXING MACHINE.

APPLICATION FILED DEC. 9, 1907.

920,844.

Patented May 4, 1909.

2 SHEETS—SHEET 1.

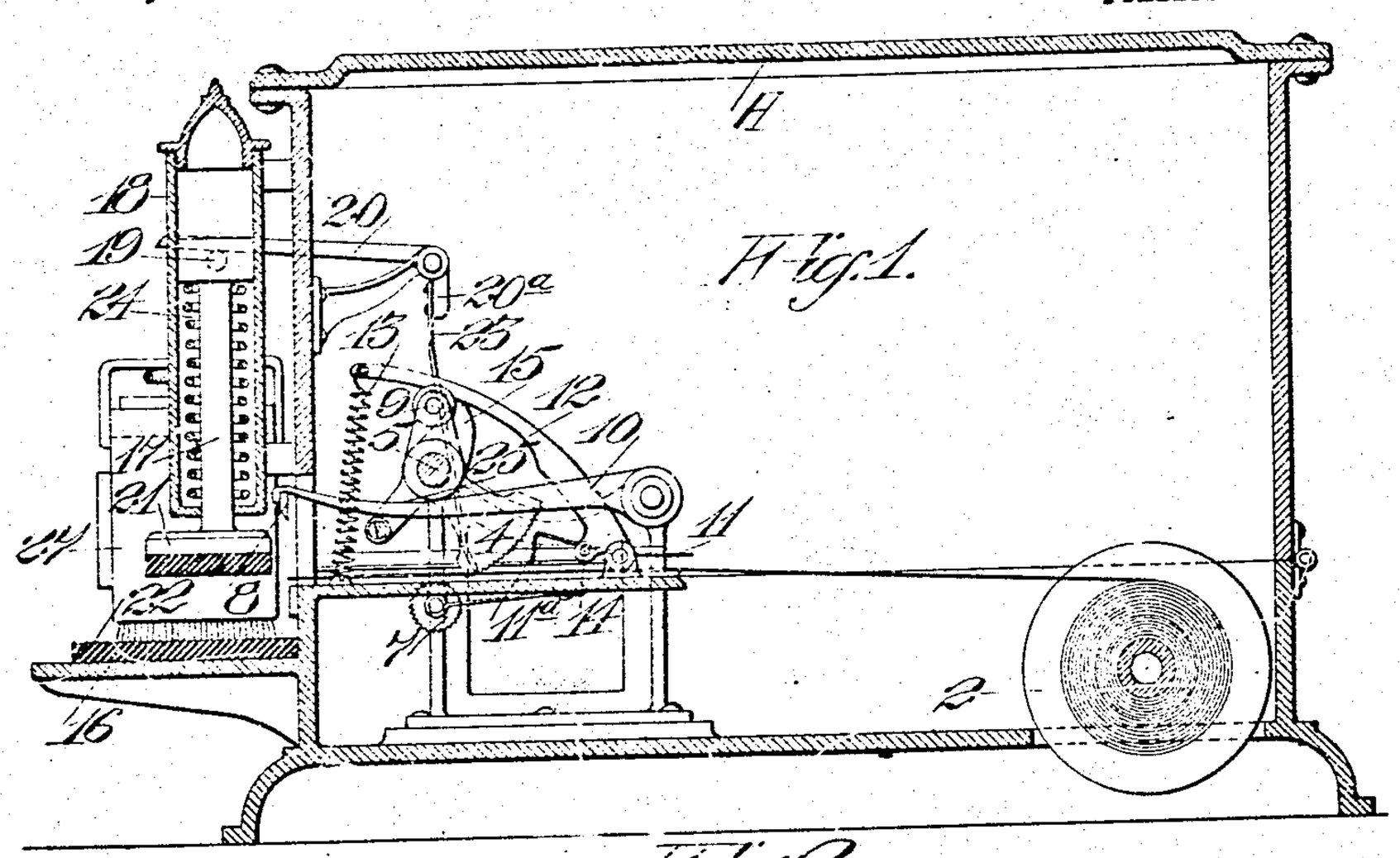
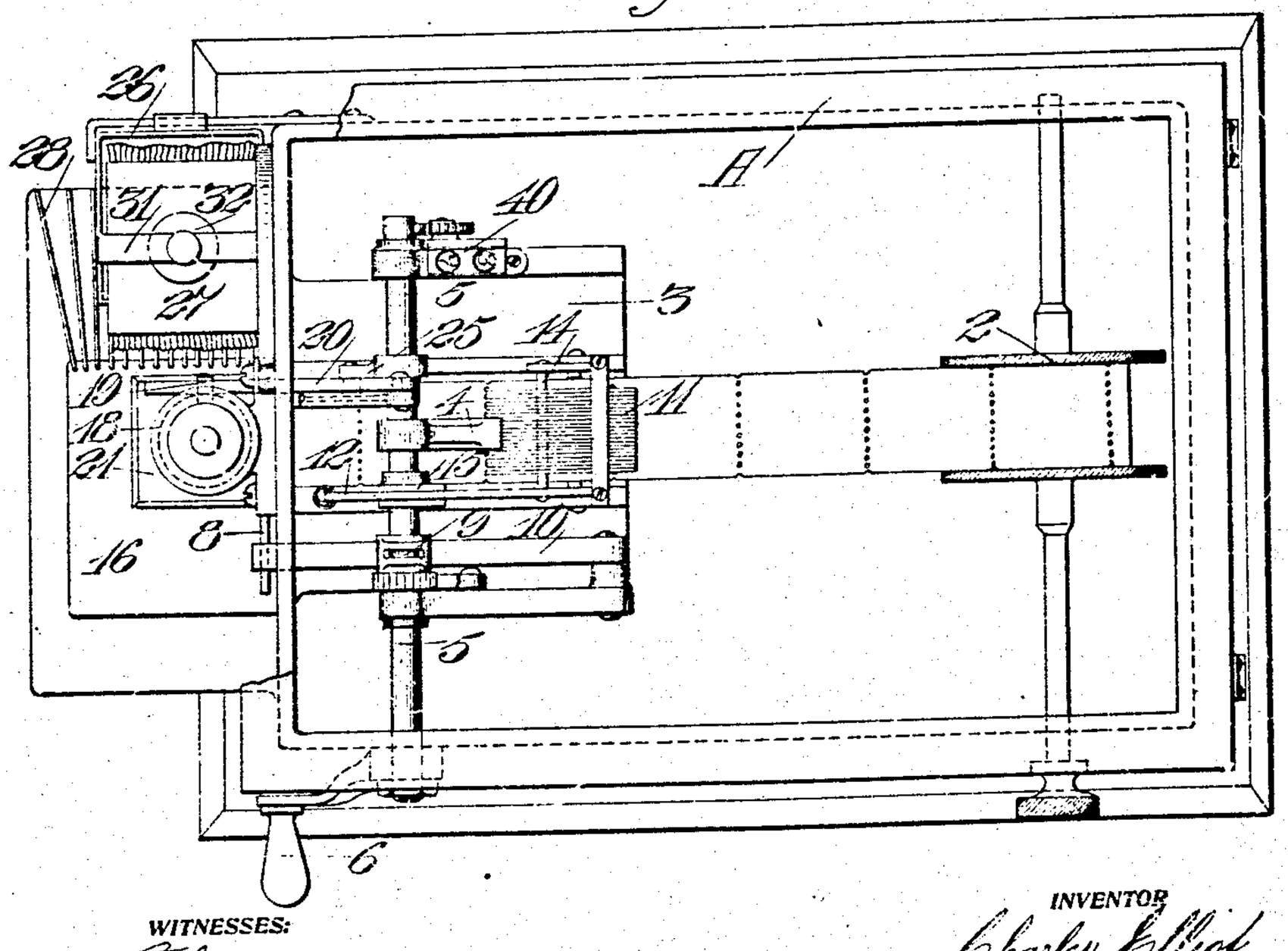


Fig. 1.

Fig. 2.



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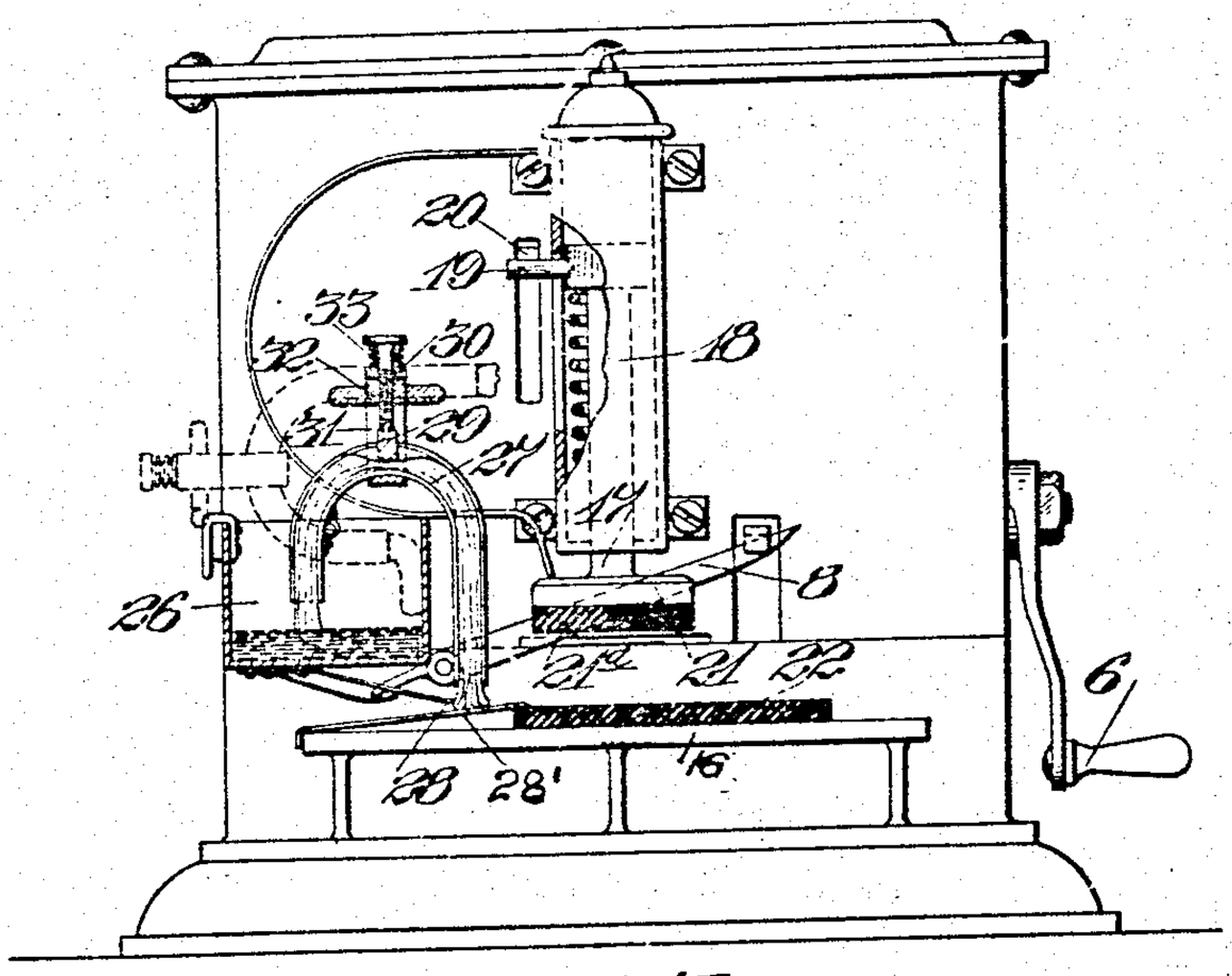

Fig. 3.

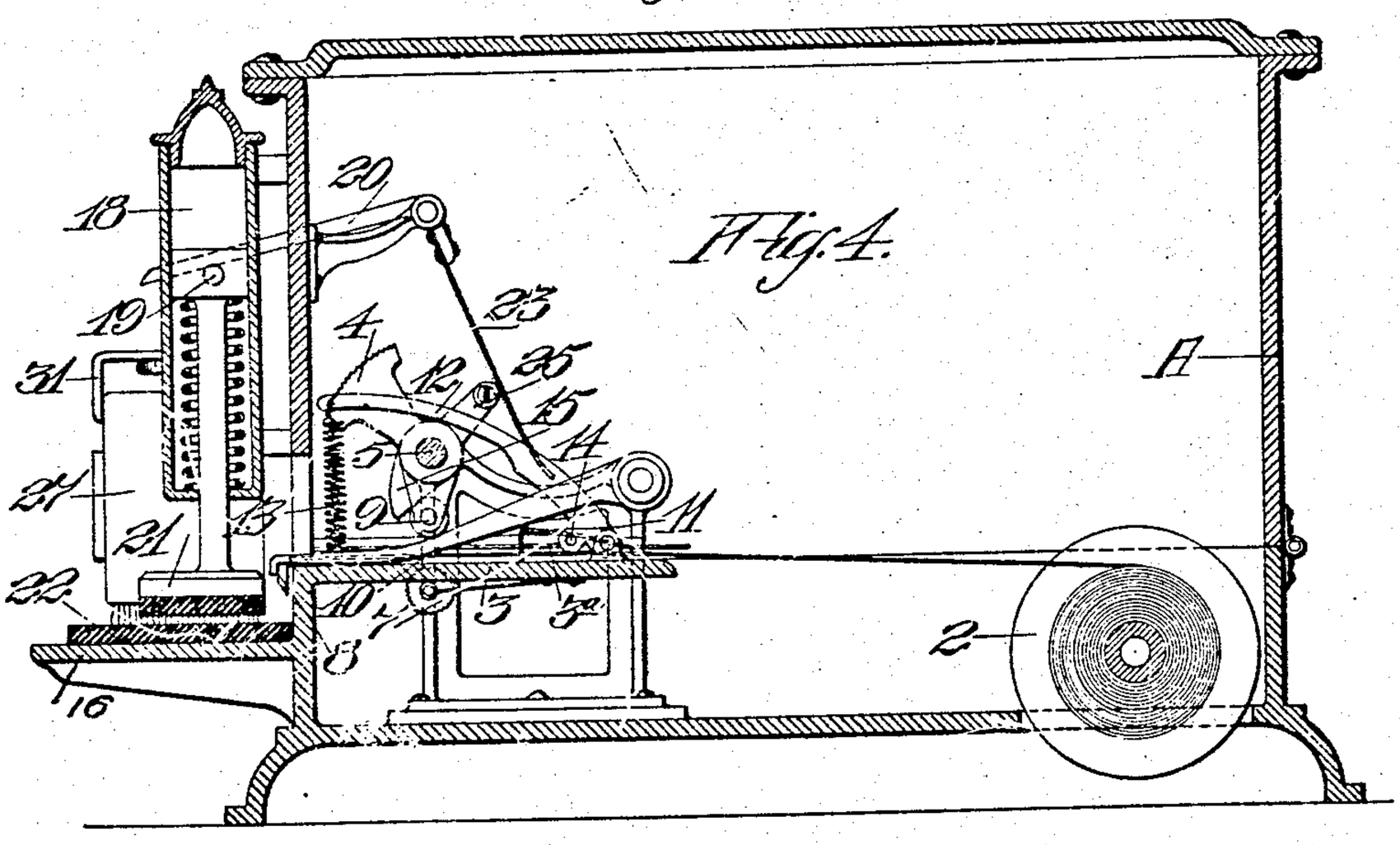

Fig. 4.

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POSTAGE-STAMP-AFFIXING MACHINE.

No. 920,844. Specification of Letters Patent. Patented May 4, 1909.

Application filed December 9, 1907. Serial No. 405,799.

To all whom it may concern:

Be it known that I, CHARLES ELLIOT, a citizen of Great Britain, residing at Alameda, in the county of Alameda and State of California, have invented new and useful Improvements in Postage-Stamp-Affixing Machines, of which the following is a specification.

My invention relates to an apparatus for affixing postage-stamps to letters, circulars, packages, and the like: and it consists in a combination of mechanism and in details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a longitudinal sectional elevation of my apparatus, with the parts in normal condition. Fig. 2 is a plan view of the same. Fig. 3 is an end view and partial section. Fig. 4 is a longitudinal section showing the stamping head disposed in operative position.

It is the object of my invention to provide means for delivering, detaching from bulk, wetting and affixing postage-stamps to letters, circulars, and the like, by mechanism contained in a suitable case, and actuated from the outside by means of a handle, lever, or other means, so that the articles to be stamped are simply placed in position upon a small table attached to the case, and by revolution of the handle of the machine, or depression of an equivalent lever, the mechanism is actuated to complete the operation.

The mechanism which I employ may be partly inclosed in an exterior case A.

2 is a drum upon which the stamps, in long strips, may be conveniently coiled, the stamps having perforations at their junction, and being gummed upon one side in the usual manner, in readiness for application.

3 is a table of any suitable construction and substantially in line with the journaled drum 2, and over this table the line of stamps is caused to pass. The operation of moving the stamps over the table is effected by a segmental toothed cam 4 mounted upon a shaft 5, which may be turned by means of a crank or equivalent operating device 6.

Beneath the table, and projecting sufficiently through a slotted opening therein, is a small roller 7. The cam 4 and the roller 7 both have fine teeth, and the cam comes into such close proximity or contact with the roller, that the edge of a stamp being received between the two will be pulled forward by the travel of the cam over the roller, and advanced to a point where it may be severed from the line of connected stamps, by means of a cutter blade 8 pivoted so as to move transversely across the line of travel of the stamps, said cutter blade being normally held up by the pressure of a spring upon the rear extension behind the pivot point, or in other suitable manner; and the blade is depressed by means of a cam 9 carried upon, and turnable in unison with, the shaft 5 and having an anti-friction roller on the cam point. The movement of these parts is in such relation that when the line of connected stamps has been advanced so that one is projected beyond the cutting blade, the cam 9 acts to depress the end of a lever 10, which in turn presses upon the outer and raised end of the knife blade, so as to depress it, and sever the stamp in the manner of a pair of shears.

A transparent plate of glass, mica, or other suitable material 3ª may be fixed sufficiently above the table 3 to allow the stamps to pass between the two, and be protected from above. An opening is made through this superposed plate at a point where the cam 4 is depressed to engage with the roller 7, and another opening is made transversely through the plate and table to receive the points of retaining devices, to be hereafter described.

In printing stamps it is found that considerable irregularity exists, so that some stamps are longer than others, and if the advance of the stamps is not in some way regulated, they will in time be moved to such a point that the knife or cutter will sever the stamps at points which may be across the body of a stamp and not on the line of the perforations, thus mutilating or destroying the value of the stamp. In order to prevent this, I have shown a series of spring-toothed wires or pins 11. These wires are here shown as lying horizontally, and above the line of travel of the stamps, and the ends of the wires are bent down substantially at right angles, as shown at 11ª, so that these points may pass through the transverse slot in the plate previously referred to, when required.

Above the wires 11 is fulcrumed a yoke having an arm 12 extending forwardly and normally drawn downward by a coiled spring or like device 13. Across the yoke and beneath the spring arms 11 is a rod or bar 14, and this rod or bar is drawn down with the yoke and the lever arm at the proper

time, so that the spring arms 11 are released, and the downturned points 11^a are allowed to rest upon the surface of the stamp.

15 is a cam fixed upon the shaft 5 with such relation to the feed cam 4 that it engages the lever arm 12 and normally raises the lever, the yoke, and the transverse rod 14, and with it the teeth 11^a, so that when the cam 4 engages with the line of stamps, there is nothing to prevent the stamps from being advanced between the cam and the roller 7, as previously described. The length of the cam is such that the line will be advanced so as to project a single stamp beyond the cutting blade 8, and the depression of this cutting blade, as described, will sever the stamp.

In order to correct any irregularities in the length of the stamps, and the distances between the perforations which mark the line of separation of the stamps, the cam 15 releases the lever arm 12, and the yoke, allowing them to be drawn down by the action of the spring 13, thus relieving the spring arms 11 and allowing them to descend so that the points 11^a will rest upon the surface of each stamp just before the perforations have reached the line of these points. The spring arms being slender and independent of each other, it will be seen that as soon as the perforations have reached the line of these points 11^a some of the points will drop into the perforations, and will thus arrest the line of stamps so that a corresponding line of perforations will be presented sufficiently in line with the knife to insure the severing of the advanced stamp, on, or closely contiguous to, the line of perforations; the variation not being sufficient to be important, as between the two or three stamps thus projected: and by reason of the adjustment at each time, there will be no accumulation of errors sufficient to cause the difficulty previously referred to.

As soon as the stamp has been severed, the cutter bar released, and the advancing cam having passed the roller, and the cam 15 having released the lever arm 12, the spring wires 11 with their points will be raised so as to free the line of stamps, and to allow the feed cam to again act and advance the line. Thus the stamps will be constantly advanced and evenly severed, in condition for being applied to the letter or package. This application takes place upon a table or surface 16 located just beneath the point at which the advanced stamp is positioned to be severed by the cutter. The stamp is applied by means of a vertically reciprocating and guided bar 17, here shown as slidable in a tube or sleeve 18, and having a pin 19 projecting through the slot in the side of the tube, and engaged by one arm of a bell-crank lever 20 suitably fulcrumed at its angle to some part of the case A, or other convenient support. The lower end of the stem or plunger 17 carries the stamp affixing plate 21, which has a thick, compressible shoe 21^a upon its lower surface; and this corresponds with a similar compressible surface 22 upon the table 16.

In order to apply the stamp with an elastic pressure, and to compensate for different thicknesses of letters, I have shown the arm 20^a of the plunger actuating lever as having a spring extension 23 which passes down behind the actuating shaft 5, so that the spring 24 within the casing 18, acting to lift the plunger and the lever arm 20, will bring the end of this spring arm 23 into contact with the shaft, which acts as a stop to limit the normal upward movement of the plunger.

A crank arm or cam 25 fixed upon the shaft 5 is revolved with such relation to the movement of the parts heretofore described, that it will engage the spring 23, and through it will tilt the bell-crank lever 20, thus forcing the plunger and the stamping surface 21^a down upon the stamp, and the latter upon the letter or package to which it is to be applied; and the yielding of the spring 23 causing an increasing and elastic pressure similar to that applied by the thumb, to firmly affix the stamp, and at the same time allowing for the varying thicknesses of letters or packages to which the stamp is to be applied. The continued revolution of the shaft 5 carries the crank arm 25 out of contact with the spring arm 23, and thus relieving the plunger, allows the stamp head to rise to allow another stamp to pass beneath it.

In order to properly moisten the letter, and to provide a continuous supply of moisture, I have shown a water receptacle 26 located at one side of the path of the stamps and the affixing plunger. Fulcrumed within this receptacle is a siphon-shaped tube 27, which is here shown as adapted to contain a wicking, and having sufficient breadth in one direction to receive the width of the wicking, and sufficient depth transversely to receive its thickness. This siphon-shaped tube is curved, as shown, the outer end being sufficiently lower than the inner one so that water may pass slowly through the wicking by capillary attraction and siphonage, and in sufficient quantity to moisten the article to be stamped. Beneath this receptacle and the outer end of the siphon tube is a grid composed of upper wires 28 and lower wires 28′, these wires being so disposed that the end of a letter may pass between the upper and lower set and beneath the moistened surface of the wicking; and this allows the end of the letter to be sufficiently moistened, so that when the stamp is pressed upon it, it will adhere.

In order to prevent the flow of moisture when the apparatus is not in use, and also to cut off all flow, I have shown a transversely movable gate 29, the movement of which is

effected and controlled by means of a screw and spring-pressed stem 30 passing through a yoke 31 which extends across above the upper portion of the siphon tube 27. A milled or corrugated disk 32 is turnable upon the screw threads, and a spring 33 acts normally to raise the pressure plate. When the milled head is turned in the proper direction this plate is forced down against the tension of the spring, and thus compresses the wicking in the tube to such an extent that it will not act either as a siphon or by capillary attraction to such an extent as to cause the moisture to drip. At the same time, the wicking will remain sufficiently moist to be ready for use at any time, and the pressure of the gate may be released whenever a batch of letters is to be stamped, so as to furnish a sufficient and unfailing supply of moisture.

Although I have heretofore described my apparatus as especially adapted for separating and affixing stamps, it will be understood that it may be applied for labels or any like articles which it is desired to separate and affix in a similar manner; and it will be understood that such labels may be applied to bottles, or other articles than letters or flat packages, without materially altering the constructions herein described.

When the apparatus is out of use, it will only be necessary to tilt the siphon so that it will stand in a horizontal position, when all action will cease. It may be restored to activity again by restoring it to its normal position with the legs vertical.

In order to keep a record of the stamps used, I may employ a registering apparatus, as 40, which is actuated at each revolution of the shaft and segment by which the stamps are advanced, and any suitable recording device will keep the account.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. In an apparatus of the character described, a means for supplying stamps or labels in continuous strips, a table having a superposed sheet or surface forming a space between the two through which the strip is passed, a positively driven shaft journaled and turnable in line above said opening, a corrugated segment mounted upon the shaft having a peripheral length equal to the advance required of the strip, an opening in the upper surface through which the segment passes in its revolution, and a corrugated pinion journaled below the table having its upper surface sufficiently above the table to coact with the segment and advance this strip.

2. In an apparatus of the character described, a table with a superposed surface between which and the table the strips are advanced, a shaft journaled transversely above the table, a corrugated faced segment fixed to the shaft and having a length equal to each required advance of the strip, an opening made in the superposed plate or surface in line beneath the shaft, a roller journaled beneath the table having its upper surface projecting through an opening therein to coact with the segment and advance the strip a distance equal to the length of the segment, and means for arresting the strips at the termination of each advance.

3. In an apparatus of the character described, a table, means for supplying strips to pass over said table, a revoluble segment and a coacting roller, between which the strips are passed, and by which they are advanced a distance equal to the length of the segment, means for equalizing the advance of the strip, said means including spring-pressed teeth or points adapted to engage the transverse lines of holes in the strip and arrest it after each advance, and a cutter whereby the projecting end of the strip is severed.

4. In an apparatus of the character described, a table, means for supplying and intermittently advancing perforated stamps or labels across said table means for arresting the strips, said means including spring-pressed points, said points pressing on the strip of stamps to engage the transverse perforations of the strip after an advance has been completed and means for raising and releasing said points to release the strip for further advance.

5. In an apparatus of the character described, a table, means for supplying stamps or the like in strips, means for intermittently advancing the strips across the table, means for regulating the advance means for severing the stamps, means for moistening the surface to which the stamp is to be affixed, and means for applying the severed stamp to the surface, said means consisting of a vertically reciprocal pressure plate, a bell-crank lever fulcrumed at its angle and having an elastic arm, and a crank revoluble to engage said arm and depress the pressure plate, said elastic arm producing a yielding and increasing pressure upon the stamp.

6. In an apparatus of the character described, a table, means for supplying stamps or the like in strips, means for advancing the strips across the table and regulating the amount of advance, a cutter by which each projected stamp is severed, a table adapted to receive the surface upon which the stamp is to be applied, a vertically-movable spring-retracted plunger having an elastic pressure plate vertically above the table and the severed stamp, and means for producing a yielding pressure upon the stamp, said means consisting of a fulcrumed bell-crank lever, one end of which engages the plunger, said lever having one elastic arm, and a revoluble crank engaging said arm to depress the plunger and pressure plate, and to produce a

yielding and increasing pressure upon the stamp.

7. In an apparatus of the character described, means for supplying and advancing stamps or the like in continuous strips and severing said stamps intermittently, a table, means for guiding envelops or surfaces to which the stamp is to be applied, means for moistening said surfaces, said means including a container, and a curved siphon tube containing a wick, one end of said tube dipping into the water container, and the other in the line over which the envelop is passed to a position beneath the stamp.

8. In an apparatus of the character described, means for advancing, registering, and severing stamps or the like intermittently, a table upon which an envelop or surface is presented to receive the severed stamp, means for moistening said surface, said means consisting of guides for the envelop, a siphon tube adapted to contain a porous wick, a water container to which the siphon is fulcrumed, with one end immersed and the other end contiguous to the table over which the envelop is passed, and a gate for regulating or arresting the flow of water through the wick.

9. In an apparatus of the character described, means for supplying stamps or the like in strips, intermittently advancing said strips and severing the stamps, a table upon which the envelop or surface to be stamped is passed beneath the stamp, a pressure means by which the stamp is applied to the envelop, and means for previously moistening the envelop, said means consisting of a water container, and a bent or siphon-shaped tube containing a substance through which the water may pass by capillary attraction, said tube being fulcrumed to the container and adapted to tilt so that its arms are in a substantially horizontal position, and the flow of moisture arrested, or to stand in a vertical position with one end dipping into the water, and the other in the line of movement of the envelop to the point where the stamp is to be applied.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES ELLIOT.

Witnesses:
CHARLES A. PENFIELD,
S. H. NOURSE.