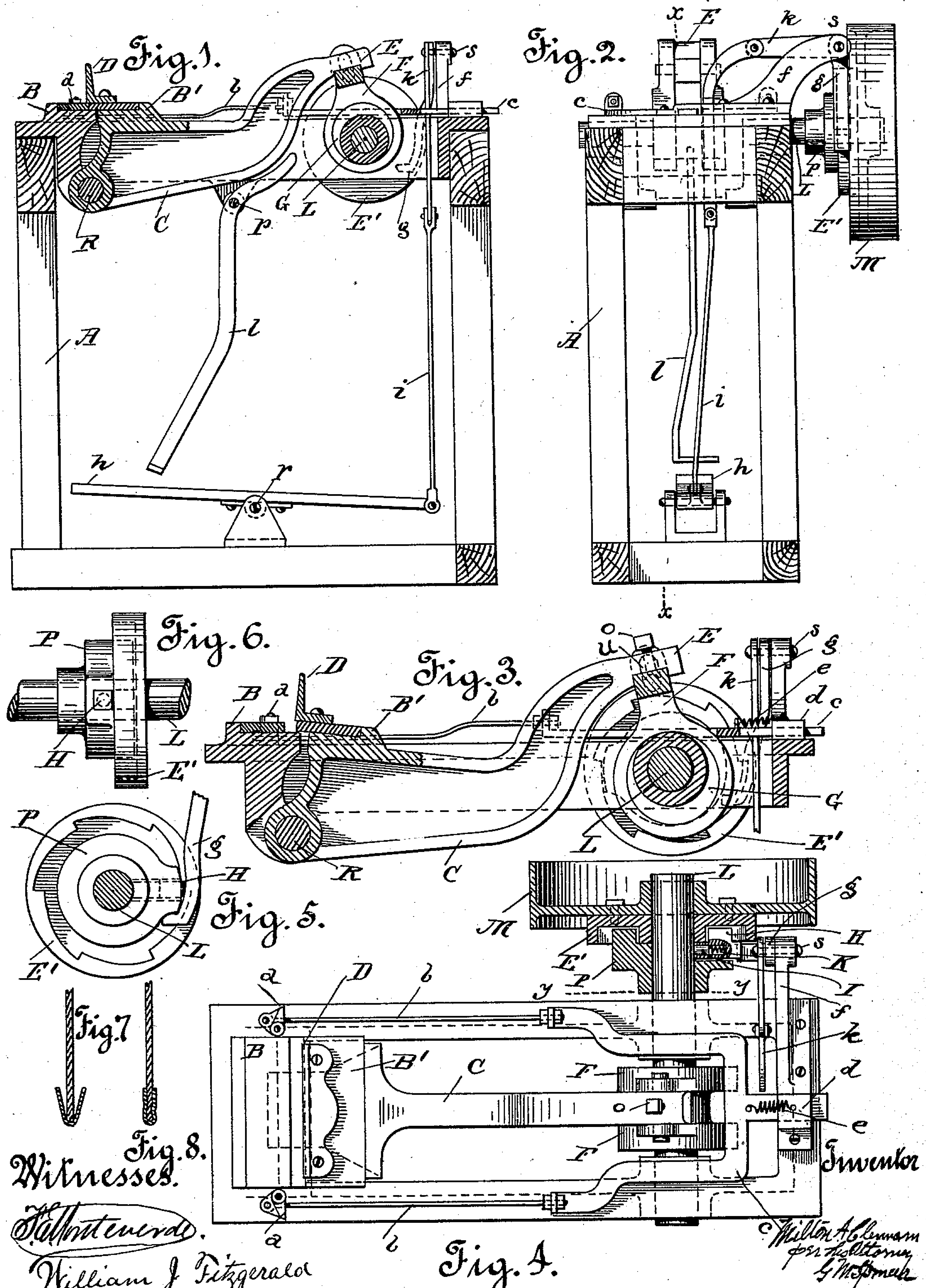
(No Model.)

M. A. CLENNAM.

MACHINE FOR EDGING BOXES OF WOOD VENEER WITH SHEET METAL.

No. 539,765. Patented May 21, 1895.



Witnesses.

William J Fitzgerald

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per his Attorney

UNITED STATES PATENT OFFICE.

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MACHINE FOR EDGING BOXES OF WOOD VENEER WITH SHEET METAL.

SPECIFICATION forming part of Letters Patent No. 539,765, dated May 21, 1895.

Application filed April 17, 1894. Serial No. 507,878. (No model.)

To all whom it may concern:

Be it known that I, MILTON A. CLENNAM, a citizen of the United States, residing at San Francisco, county of San Francisco, and State of California, have invented a certain new and useful improvement for fastening and crimping tin or metal folded strips upon the edges of wood veneer material for fruit-baskets or for other purposes, of which the following is a specification.

My invention relates to improvements for fastening or crimping tin or metal folded strips upon the edges of wood veneer material for fruit baskets or for other purposes, so as to bind the upper edges of the sides firmly together, and thus give strength and durability to the thin veneer basket, or to the parts of the material thus bound by the metal strips.

The folded metal strips partly open are placed between the jaws of the machine with the partly open edges turned up, between which the edges of the wood veneer material are inserted. A horizontal lever, *h*, is mounted on a support at the bottom of the frame. To the rear end of this lever is attached an upright rod, *i*, that is connected at its upper extremity to the end of a bent lever, *k*, that operates the pawl lever and hub stop, *g*, which forces inward the pawl, H, in hub, P, on axle, L, of the ratchet wheel, E′, and at the same time stops the hub from turning down as the pawl is disengaged from the ratchet. A bent lever is also attached to the frame which moves the jaws and extends down to near the upper side of the aforementioned horizontal lever, so that when the operator presses with the heel upon the horizontal lever and at the same time pushes with the end of his foot against the end of the upright lever moving it forward, the bent upper part lifts against the arm that moves the jaw piece to which it is attached, lightly closing the jaws after the placing of the metal strips therein, and the insertion of the edges of the veneer material holding these firmly in position for the machine to act, when starting the same. On the removal of the pressure of the foot on the two levers, the pawl lever and hub stop *g* slide out from the hub, which movement allows the pin I to be pressed out by the spring and engage the pawl with one of the ratchet teeth, of the ratchet wheel, E′ which latter in its revolution carries the eccentric strap, F, attached to the end of arm, C, thus closing the jaws upon the metal pieces crimping them upon the veneer material. This same movement also operates to move the head piece *c* forward, which turns the wing pieces on the sides of the jaws inward, bending the straight metal pieces at right angles to the part held in the jaws. The bent portion not being long enough to extend across the adjoining side of the basket edge, another strip is placed lapping over it into the open jaws, and the edges of the adjoining side of the basket is placed therein and the levers are moved, and the connection is made by the pawl to the pulley. The jaws are again closed fastening and crimping the strip upon the veneer edge as before, and in this manner the edges of the veneer material are bound. When the pawl does not engage the ratchet wheel, the pulley moves loosely upon the axle. The head piece *c* has a spring on its upper side near the end, upon which it acts in its movement back and forth, serving to steady its movement. A guard sets upon the top of the jaw piece against which the veneer material rests to be operated upon. The front jaw piece is fixed and is attached to, and rests upon a solid iron plate support on the lower part of which the opposite jaw is pivoted and moves. I attain these objects by the mechanism illustrated in the following drawings:

Figure 1 is a sectional side elevation of the machine, taken through line *x x* on Fig. 2, with the jaws closed; Fig. 2, a rear end elevation of the machine; Fig. 3, an enlarged detail sectional elevation of mechanism, as shown in Fig. 1, with jaws open; Fig. 4, an enlarged detail plan of the same in part section; Fig. 5, an enlarged detail front elevation of the ratchet-wheel and pawl, taken through line *y y* on Fig. 4; Fig. 6, a side elevation of the same; Fig. 7, a detail of veneer and metal strip.

A represents the frame; B and B′, the jaws that crimp the metal strips upon the edges of the veneer material; D, the guard on the top of the jaw, B′; C, the arm that operates the movable jaw, B′; E, the end of the arm attached to the eccentric strap; E′, a ratchet wheel; F, an eccentric strap; G, an eccentric;

H, a pawl in the hub, P, that engages the ratchet wheel having a tail-piece fitting against the face of the axle, L, said tail-piece having an opening within which plays the pin, *i*, and the spring, K, as illustrated in Fig. 4; I, a pin in the pawl; K, a spring at the end of the pin in the pawl to spring the pawl out to engage the ratchets; L, an axis on which the ratchet wheel turns; M, a pulley on the shaft operating the machine; P, a hub on the axle carrying the pawl; *a a*, wing pieces at the sides of the jaws for bending metal strips; *b b*, rods attached to the wing pieces and connecting at the opposite end with the eccentric strap; *c*, a head-piece, connected to the wing pieces, *a a*, and operated by rods, *b b; d*, the slide through which the end of the head piece moves; *e*, a spring on head-piece operating by its elasticity to keep the head-piece against the face of eccentric strap, F; *f*, a bracket supporting the lift and bent lever; *g*, a pawl lever and hub stop, which forces the pawl inward, disengaging it from the ratchet, and at the same time stopping the hub from turning downward; *h*, the lever under the machine against which the heel of the operator's foot is pressed to act upon the lift; *i*, a rod on the end of the lever connecting with jointed bent lever *k* for raising the lift; *s*, a pin on which the jointed bent lever *k* moves; *l*, an upright lever operating against the under side of arm, C; R, an axis on which the movable jaw is operated; *o*, a set screw on top of the eccentric strap; *u*, a slot in the end of the eccentric strap in which the pin connecting the arm, C, with eccentric strap moves when the arm is acted upon by the bent lever; *p*, a pivot upon which the lever *l* operates; *r*, a pin upon which the lever *h* moves; *u*, a slot in the end of eccentric strap to provide for its free movement upon action of bent lever.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. A metal crimping machine consisting of the frame support, A; the jaws, B and B′, in which the metal strips are placed with the open edges turned up for the reception of the veneer material, which when inserted therein, the metal strips are tightly fastened upon by the closing of the jaws; the guard, D, against which the veneer material may rest for operation; the arm, C, attached to and operating the movable jaw, the other end being attached to the end of the eccentric strap; the ratchet wheel, E′; the eccentric G, the eccentric strap F, the pawl in the hub of ratchet wheel for engaging the ratchets; the pin, I, inserted in said pawl; the spring, K placed on top of said pin for springing the pawl under the ratchets; the hub, P, in which the pawl is inserted; the axle, L, on which the ratchet wheel and pulley are set; the pulley, M, by which the axle is operated; the wing pieces *a a*, for bending the metal strips; the rods, *b b*, attached at one extremity to the side of the fixed jaw, and at the other extremity to the arms of the head piece; the head piece *c* to which the said rods are fastened; the slide, *d*, over the end of the head piece, acting as a guide; the spring, *e*, on the head-piece, that operates by its elasticity to keep the head-piece against the face of eccentric strap F, the bracket, *f*, supporting pawl lever and hub stop and bent lever; the pawl lever and hub stop, *g*, by which the pawl is forced inward, and the hub is stopped from turning downward; the horizontal lever, *h*, by which the pawl lever and hub stop are acted upon; the rod, *i*, connecting the end of horizontal lever with bent lever; the bent lever, *k*, attached at one end to the pawl lever and hub stop; the lever, *l*, attached to and extending down from the under side of the frame; the axis, R, on which movable jaw operates; the set screw, *o;* the pivot, *p;* the pin, *s*, holding bent lever, *k*, and lift in place,—substantially as herein described and set forth.

2. In a metal crimping machine, the combination of the jaws, B and B′, in which the metal strips are placed, and tightly fastened by the closing of the jaws, the guard, D, on the jaw, B′, against which the veneer material may rest for operation; the arm, C, attached to and operating the movable jaw, the opposite end of which is attached to the eccentric strap; with the wing pieces, *a a*, on jaw, B, for bending the folded metal strips at right angles to the position of metal strip crimped upon the edge of the wood veneer material; the rods, *b b*, attached to said wing pieces, and joined at the opposite end to the head piece; the head piece, *c;* the slide, *d;* the spring, *s*, operating by its elasticity to keep the head-piece against the eccentric strap, F; the bracket, *f;* the pawl lever and hub stop, *g*, acting upon the pawl and hub; the eccentric strap, F; the eccentric, G; the ratchet wheel, E′; the hub, P; the pawl, H, in said hub for engaging the ratchet wheel; the pin, I; the spring, K, on top of said pin for throwing the pawl out to engage the ratchet wheel; the axis, L; the pulley, M; the lever, *h*, and rod, *i;* the bent lever, *k;* the lever, *l*, attached to the frame of machine immediately under the arm that moves the jaw piece; the pin, *p;* and the axis, R, on which the arm moves,—substantially as herein described and set forth.

3. In a metal crimping machine, the combination of the hub, P, the pawl, H, in said hub for engaging the ratchet wheel; the pin, I; and the spring, K, for engaging said pawl with the ratchet wheel on axis, L; the eccentric and eccentric strap; the jaws for crimping the metal strips upon the edges of the wood veneer material; the arm, C, and wing pieces, *a a;* the rods, *b b;* and head piece, *c;* the slide, *d;* and the spring, *e*, for keeping the head-piece against the face of the eccentric strap, F; the horizontal lever, *h;* the bent lever, *k;* and the lever, *l*, operating against the under side of arm, C,—substantially as herein described and set forth.

4. In a metal crimping machine, the combi-

nation of the fixed jaw, B; with the movable jaw, B′, the guard on the same; the arm, C, attached to said movable jaw; the eccentric strap, F, to which said arm is attached; the eccentric, G; the hub, P; the pawl for engaging the ratchet; the pin, I, and the spring, K, inserted in the pawl for operating it; the ratchet wheel, E′; the pulley; the pawl lever and hub stop, *g;* the wing pieces on side of jaw, B, for bending the metal strips; the rods, *b b;* the head piece, *c;* the horizontal and bent levers, *h* and *k;* and the lever, *l*, attached to the under side of arm, C,—substantially as herein described and set forth.

5. In a metal crimping machine, the combination of the wing pieces, *a a*, on the side of the fixed jaw, B, for bending the metal strips; the rods, *b b*, and head-piece, *c*, operating said wing pieces; the slide, *d;* and the spring, *e*, on the top of said slide; with the jaws, B and B′, the arm, C; the eccentric and eccentric strap; the hub, P, on the ratchet wheel; the pawl in said hub; and the pin and spring in said pawl for operating it to engage the ratchet wheel; the ratchet wheel and pulley; the pawl lever and hub stop, *g;* the horizontal and bent levers, *h* and *k;* and the lever, *l*, attached to the under side of the arm, C,—substantially as herein described and set forth.

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Witnesses:
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