

(No Model.)

2 Sheets—Sheet 1.

R. SCHLEICHER.
MACHINE FOR MANUFACTURING BOXES.

No. 533,499.

Patented Feb. 5, 1895.

Fig. 1.

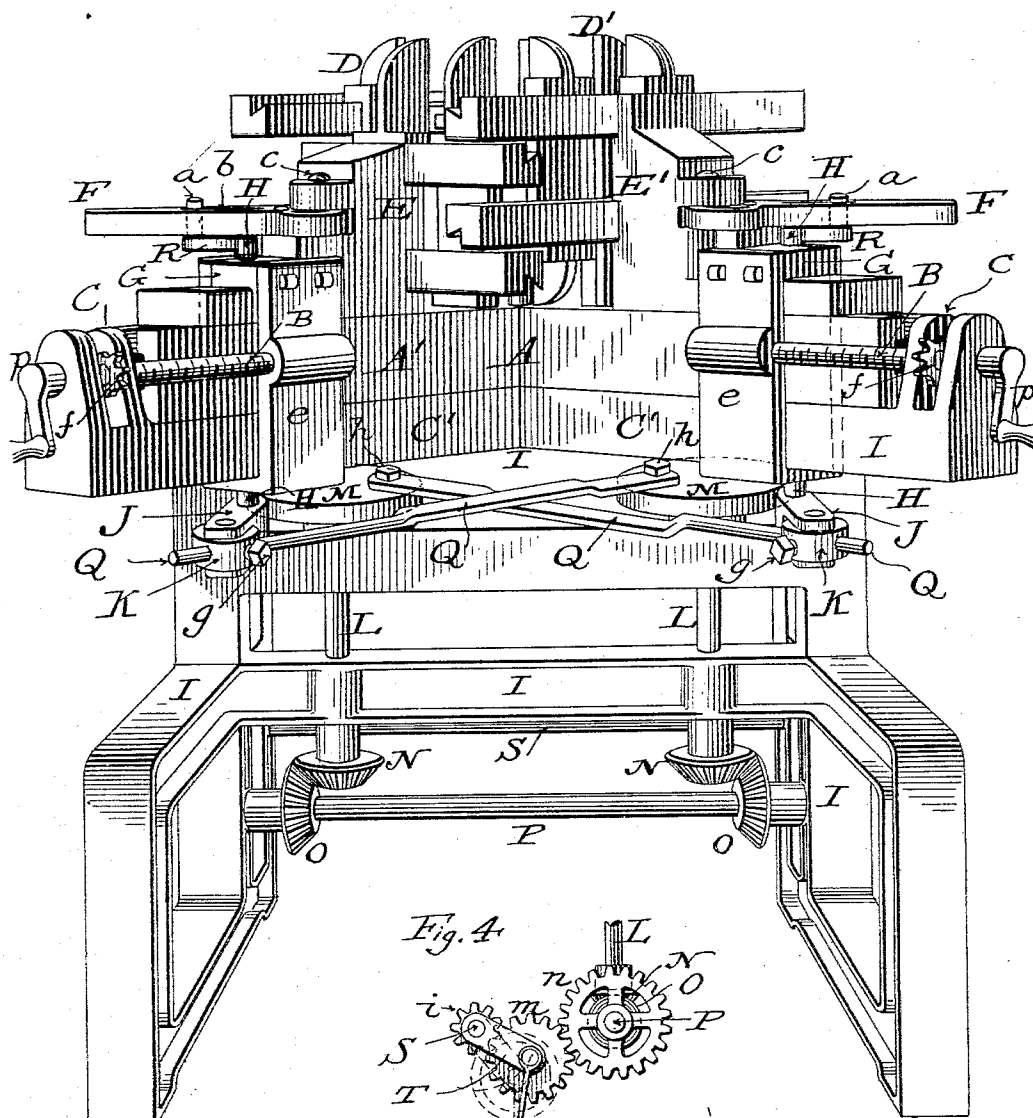
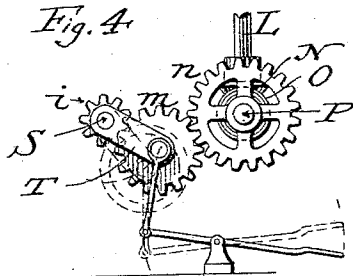


Fig. 4.



WITNESSES

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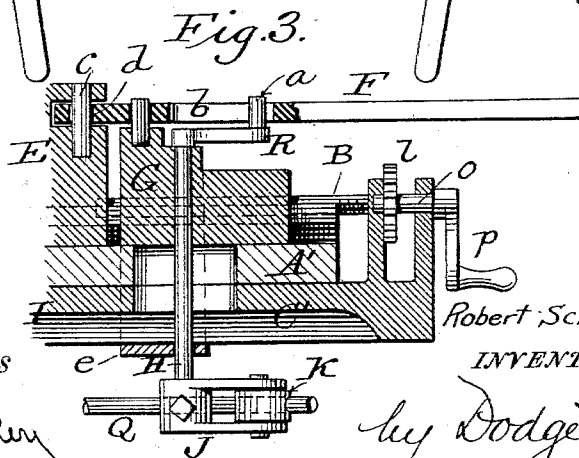
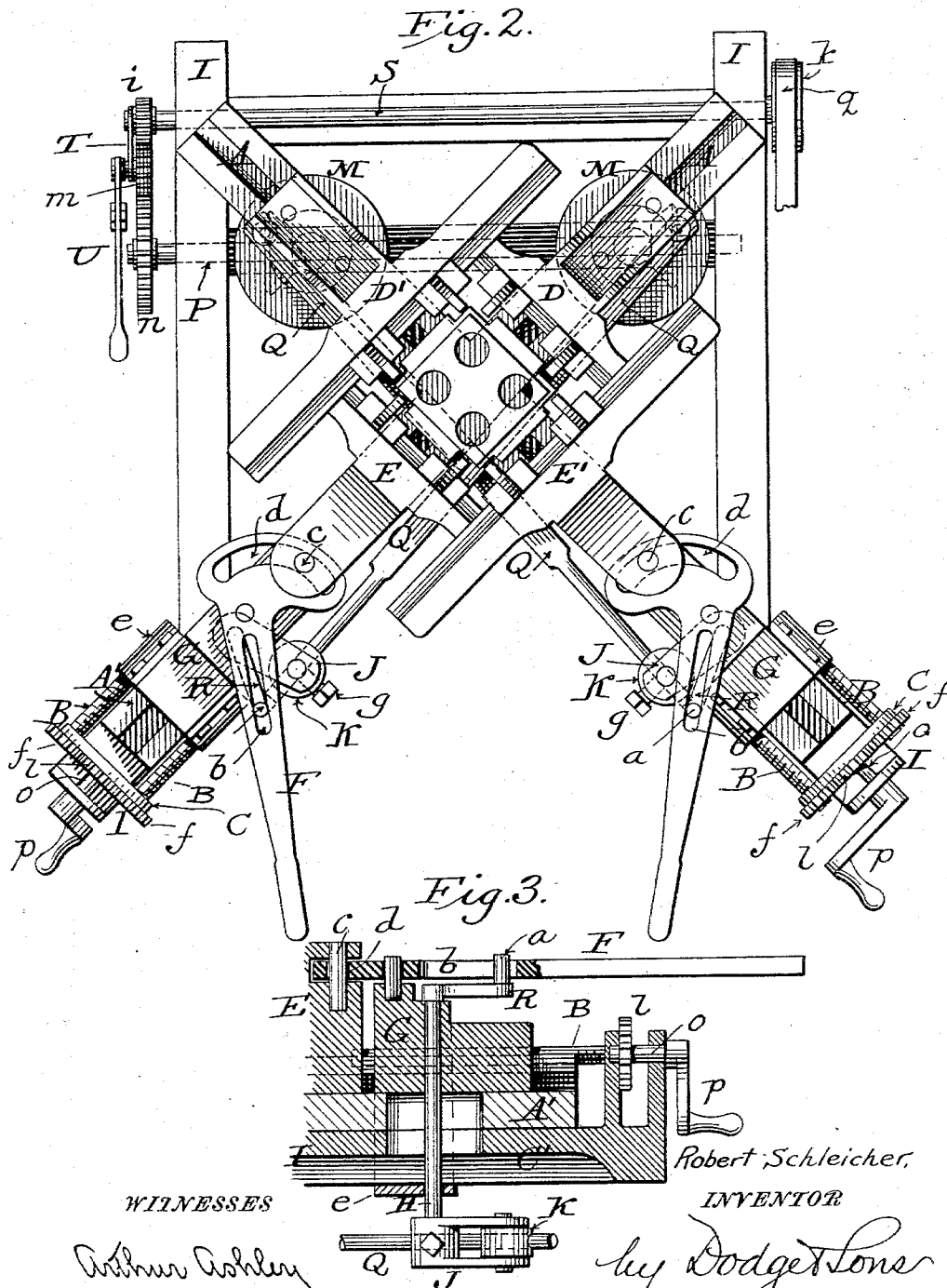
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2 Sheets—Sheet 2.

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WITNESSES

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UNITED STATES PATENT OFFICE.

ROBERT SCHLEICHER, OF LOUISVILLE, KENTUCKY.

MACHINE FOR MANUFACTURING BOXES.

SPECIFICATION forming part of Letters Patent No. 533,499, dated February 5, 1895.

Application filed September 28, 1894. Serial No. 524,399. (No model.)

To all whom it may concern:

Be it known that I, ROBERT SCHLEICHER, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Machines for Manufacturing Boxes, of which the following is a specification.

My invention relates to machines for manufacturing boxes, and is designed as an improvement upon that for which Letters Patent No. 515,026 were granted to me February 20, 1894.

In the drawings: Figure 1 is a perspective view of my improved machine. Fig. 2 is a top plan view; and Figs. 3 and 4, views illustrating certain details of construction.

As in the prior machine, there are two fixed jaws D D' and two movable jaws E E'; the said jaws D D' being adjustably secured upon their supporting arms to accommodate the machine to boxes of different sizes. The support A is in the prior machine, comprising, preferably, four arms arranged at right angles to each other. The jaws E E' are designed to be moved toward and from the respective fixed jaws D D', manually, and also by power; and to secure this result is the object of the present invention.

Mounted upon the arms A' A' of the support A are blocks G G which are adjustable upon the arms by means of screws B, B, which, as shown in Fig. 3 are swiveled at one end in the lugs C of the main frame I, and threaded at the other end to engage the yokes e secured to the blocks G. Screws B B each carry at their outer ends a pinion f, which, as shown in Figs. 2 and 3, engage an intermediate gear l carried by a shaft o; said shaft being journaled in lugs on the main frame and provided with a crank or handle p, so that by turning the shaft o, the screws B B will be turned or rotated and the block G moved inward or outward as required. Journaled in the blocks and passing through the yoke is a vertical shaft H carrying at its upper end a radial arm R, having a pin or stud a, the said pin or stud a entering a slot b in the hand lever F. Each lever F is pivoted to its respective block G and is connected with one of the mov-

able jaws by means of a pin or bolt c entering a cam-slot d in the lever.

Secured to the lower end of the shaft H is a yoke or radial arm J, carrying at its outer end a perforated block K, which, as shown in Figs. 1, 2 and 3, is swiveled therein, and provided with a set screw g.

Journaled in the lower part of the main frame I, are two upright shafts L, L, each carrying at its upper end a crank wheel M, and at its lower end a bevel gear N, the latter engaging corresponding gears O, O, secured upon the cross shaft P. Each disk or wheel M is provided with a crank pin h, to which one end of a pitman Q is attached, the opposite end of the pitman Q being passed through and clamped in the swiveled block K, as shown in Figs. 1, 2 and 3.

From the foregoing it will be seen that when the shafts L, L are turned or rotated they will give motion to their crank disks and the pitman Q, which motion will be transmitted through the yokes or radial arms K to the upright shafts H, and thence to the radial arms R, levers F and movable jaws. The motion given to the shafts L, L is such as to cause the movable jaws to approach the required distance toward the fixed jaw; and after this has been accomplished, their direction of rotation is continued and the movable jaws thereby receded or brought to their normal positions. In order to effect this, I employ a countershaft S which is provided at one end with a gear or pinion i and at the other end with band pulley k. Pinion i meshes with a gear m carried by an arm T hung upon shaft S, and is designed to be brought into and out of engagement with a gear or pinion n on the shaft P; said arm T being operated by means of a treadle U, as shown in Fig. 4. The band pulley k is provided with an open belt q which will receive motion from any suitable motive power. By throwing gear m up into gear with pinion n, the motion imparted to shaft S (which rotates continuously) will be transmitted to shaft P, and shafts L, L, the latter making one complete revolution, during which time the jaws E, E are caused to move up and clamp the box, and then recede or move back to normal

position. When the jaws have been thus moved inward and then outward, the gear *m* is allowed to drop down out of engagement with gear *n* and thus prevent further actuation of the shafts *L*, *L* and the jaws *E*, *E* by power,—the removal of the foot from the treadle *v* permitting the pinion *m* to fall away from pinion *n*. As the shaft *P* is normally out of gear with the power or driving mechanism, the movable jaws may be actuated by hand at any time.

Various forms and arrangement of gearing may be substituted for that shown; it being only necessary that the connections between the shaft *P* and the power be such that the jaws may be actuated manually if desired.

Whenever the supporting blocks *G* are adjusted, the set screws *g* should be loosened to permit of the lengthening or shortening of the connection between the block *K* and the crank wheel.

Having thus described my invention, what I claim is—

1. In combination with a suitable frame or support, and fixed and movable jaws; the oscillating hand levers for manually actuating the movable jaws; and a power mechanism connected with and operating through said hand levers for also actuating the said jaws.

2. In combination with a suitable frame or support, and fixed and movable jaws; oscillating hand levers for manually moving the jaws; a power mechanism connected with and operating through the hand levers for also moving the jaws; and a throw-out device for

disconnecting the power mechanism whereby the jaws may be actuated by hand or power, or partly by both.

3. In combination with a suitable frame or support, and fixed and movable jaws; the block *G*, the lever *F* pivoted thereto and connected with the jaw by means of a pin and a cam-slot; the shaft *H* provided with radial arm *R*; and with a pin *a* to engage the lever; and means for turning the shaft.

4. In combination, with a suitable frame and fixed and movable jaws; block *G*; lever *F* connected with the movable jaw; the shaft *H* connected at its upper end with the lever, and provided at its lower end with arm *J*; the swivel block *K*; the upright shaft *L* provided with crank wheel *M*; the pitman connected at one end with the wheel and at the other end with the block, and means for rotating shaft *L*.

5. In combination with a suitable frame and fixed and movable jaws; block *G*, means for adjusting the block; lever *F* for actuating the movable jaw; shaft *H* connected with the lever, and provided with arm *J* and swivel block *K*; shaft *L* provided with crank wheel *M*; pitman *Q* connected at one end with the crank wheel and adjustably secured to the block *K*; and means for rotating shaft *L*.

In witness whereof I hereunto set my hand in the presence of two witnesses.

ROBERT SCHLEICHER.

Witnesses:

C. C. MENGEL, Jr.,
SAMSON BRIDGERS.