

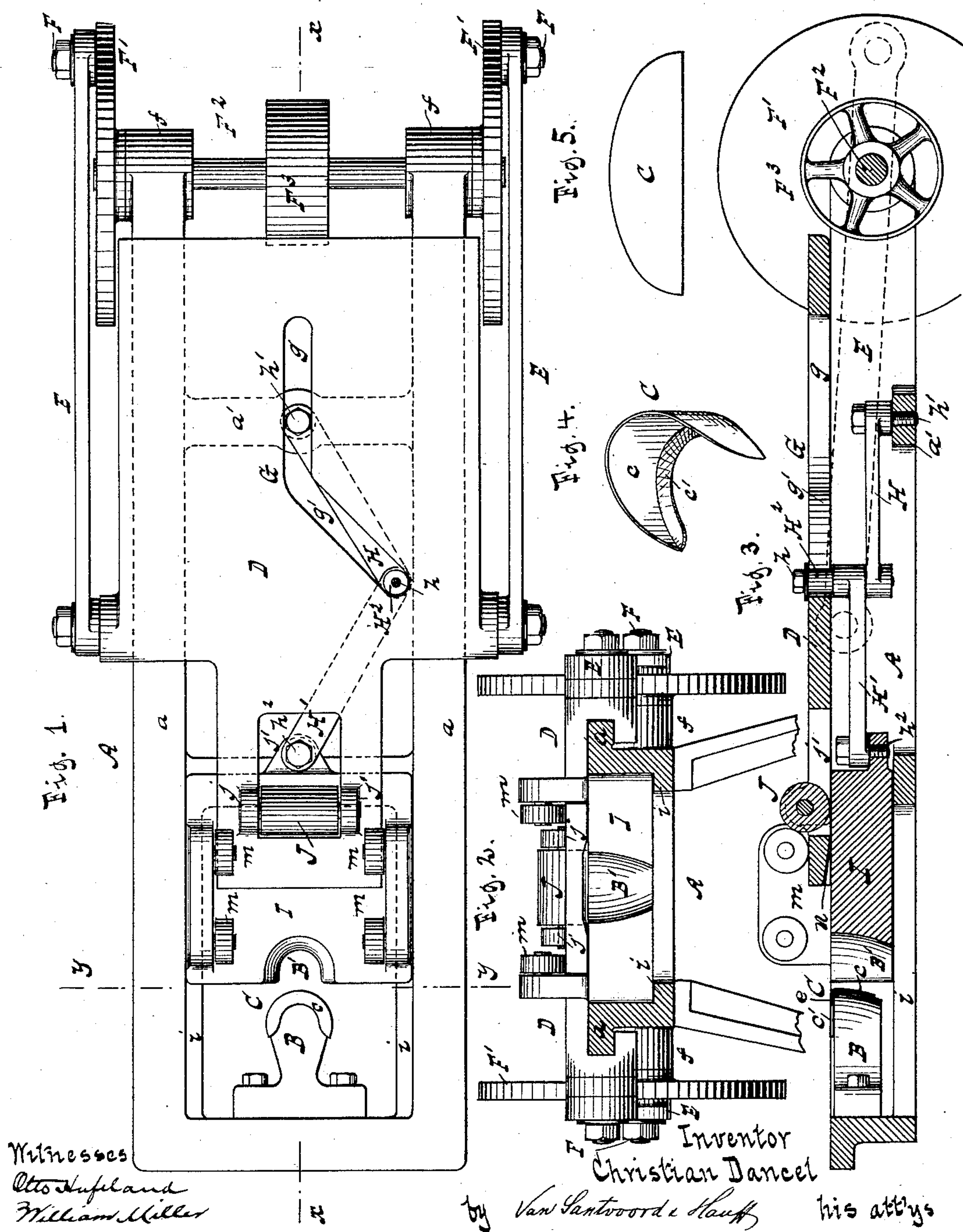
(No Model.)

C. DANCEL.

MACHINE FOR MAKING HEEL STIFFENERS.

No. 327,244.

Patented Sept. 29, 1885.



UNITED STATES PATENT OFFICE.

CHRISTIAN DANCEL, OF NEW YORK, N. Y.

MACHINE FOR MAKING HEEL-STIFFENERS.

SPECIFICATION forming part of Letters Patent No. 327,244, dated September 29, 1885.

Application filed June 25, 1885. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN DANCEL, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Machines for Making Heel-Stiffeners, of which the following is a specification.

My invention relates to improvements in machines for making heel-stiffeners for boots and shoes; and it consists in certain novel features of construction, which are fully pointed out in the following specification and claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a plan or top view, partly in section, of a machine embodying my invention. Fig. 2 is a transverse section of the same in the plane $y y$, Fig. 1. Fig. 3 is a longitudinal section in the plane $x x$, Fig. 1. Fig. 4 is a perspective view of one of the heel-stiffeners when completely finished. Fig. 5 is a face view of one of the blanks from which the stiffeners are pressed.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates the trough-shaped bed or base-plate of the machine, which is supported upon suitable legs or standards, Fig. 2, and to which are attached the principal working parts of the machine.

To the front end of the bed or base-plate of the machine is attached by bolts or screws the die B, the face of which is inclined and is shaped to conform to the required form of the heel-stiffener C, Fig. 4, and upon this die is placed the blank, Fig. 5, from which the stiffener is made. Before placing this blank upon the die it may be subjected to a previous manipulation and bent so as to fit over the die, which will prevent the same from falling off the die, and will also facilitate the subsequent operations; but this first operation is not positively necessary, as the blanks can be directly placed on the die, and the machine made to perform its functions.

D is a sliding carriage working on suitable guideways, $a a$, on the bed of the machine, and to which a reciprocating motion to and from the die is imparted by rods E E, pivoted to hubs thereon, and which are connected with crank-pins F F on cranks F' F', secured to

both ends of a shaft, F², extending transversely across the rear end of the machine, and having suitable bearings, $f f$, therein. A rotary motion is given to this shaft by means of a pulley, F³, situated thereon between the cranks, which is connected so that it can be conveniently thrown into or out of motion with a pulley on a counter-shaft. In the main portion of this sliding carriage D is formed a slot, G, which has a portion, g , extending parallel with the direction of motion of the carriage, and another portion, g' , extending obliquely and making an angle with the said direction, but so curving from the rectilinear portion as to produce no shock in the motion of the machine.

H H', Figs. 1 and 3, are a pair of toggle-levers, which are connected with each other by a pivot, h , and one of these levers, H, is connected with a cross-piece, a' , of the bed-plate of the machine at h' , while the other lever, H', is connected at h^2 to a lug on the punch I, which slides on suitable guide-bars, $i i$, formed in the trough of the frame, and which is provided with a depression, B', the shape of which conforms to that of the die. Upon the pivot h , which connects the toggle-levers H H', is mounted a small roller, H², which engages with the angular slot G, and when the carriage D is in its extreme backward position, as shown in the drawings, this roller is at the forward end of the oblique portion of the slot, and the levers form an angle with each other. When the carriage is moved forward, the points of pivoting of the toggle-levers are gradually brought into a straight line, and the punch I is forced against the die and acts upon the body c of the blank upon the die, and the blank is properly rounded. When the toggle-levers are in such a straight line, the roller H² has fallen into that portion of the slot which lies parallel with the direction of the motion of the carriage, and consequently the levers will remain stationary, and will not be disturbed by the subsequent motion of the carriage until the oblique slot is again brought in position to engage with the said rollers on the return motion of the bed, when the punch will be brought back to its former position.

The forward end of the carriage is provided

with a narrow portion upon which is mounted a crimping-roll, J, secured on a shaft, which has its bearings in suitable lugs, *j j*, on the said carriage, and this roll extends through a suitable hole, *j'*, in the carriage in such a position that its lower surface will come in a position to bear nearly upon the top of the die B, and is also in contact with the upper surface of the punch I. After the punch I has been forced against the die the carriage continues in its direct course, and the roll J passes over the top of the die and forms the flange *c'* of the stiffener, crimping it around the top surface of the die, which operation completes the stiffener.

In order to cause the carriage to work smoothly, and to prevent the same from being strained, I use rollers *m m*, mounted on suitable lugs on the punch I, and the said rollers are adjusted to bear upon the carriage.

In the operation of the machine the punch I first strikes the die, bends the blank, and forms the body of the stiffeners, and then holds the same firmly in position until the crimping-slide has acted thereon, when the punch releases the stiffener and the same can be removed and a new blank placed on the die. The lower forward edge of the extension of the carriage D is somewhat hollowed out at *n* to form a crimping-edge, so that the same will first come into contact with and spread the flange *e* over the upper surface of the die before the said flange is acted upon by the crimping-roll.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for making stiffeners for boots and shoes, a crimping-roll, a sliding car-

riage upon which said roll is journaled, provided with a straight and an oblique slot communicating together, a movable punch upon which the sliding carriage moves, and a toggle lever connected to the punch at one end and to the rigid frame of the machine at the other, the pivot of said lever being prolonged to engage with the slot in the sliding carriage, the whole being combined substantially as described.

2. In a machine for making stiffeners for boots and shoes, the combination, with a sliding carriage having its forward portion beveled off or inclined, of a crimping-roll journaled upon said carriage, a movable punch, and a die, and means, substantially as described, for reciprocating the carriage over the punch and die, as set forth.

3. In a machine for making stiffeners for boots and shoes, the combination of the stationary die, the sliding carriage, the crimping-roll and edge thereof, the curved slot in the carriage, and the toggle-levers H H', one of which is connected to the bed of the machine and the other with the punch, and the joint of which is engaged by the slot, whereby the punch is caused to impinge upon the blank and hold the same in advance of the crimping-roll, substantially as shown and described.

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

CHRISTIAN DANCEL. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.