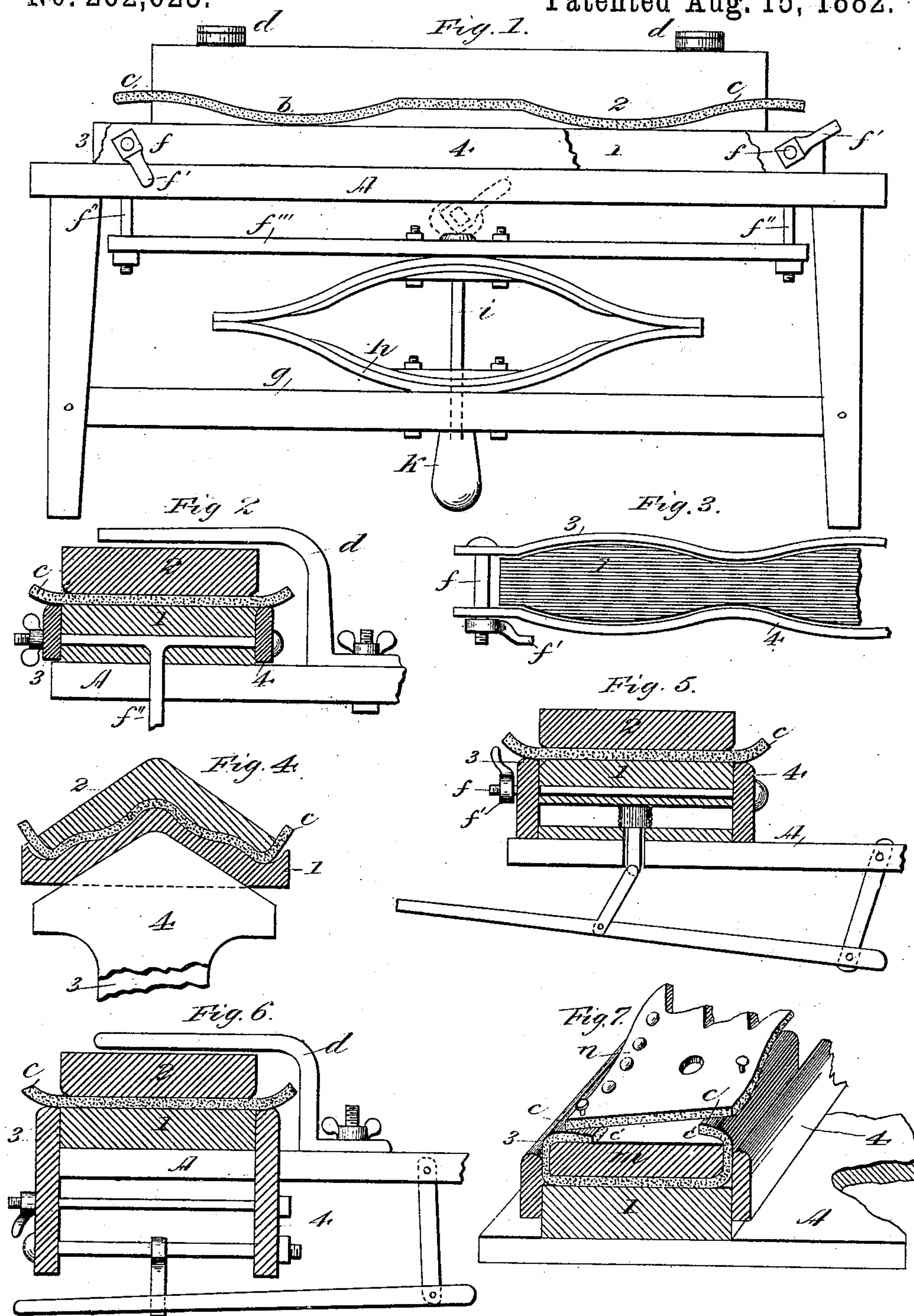


(No Model.)

C. C. SCHWANER.  
HARNESS PAD PRESS, &c.

No. 262,623.

Patented Aug. 15, 1882.



Witnesses,

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# UNITED STATES PATENT OFFICE.

CHRISTIAN C. SCHWANER, OF WINTERSSET, IOWA.

## HARNESS-PAD PRESS, &c.

SPECIFICATION forming part of Letters Patent No. 262,623, dated August 15, 1882.

Application filed April 15, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, CHRISTIAN C. SCHWANER, of Wintersset, in the county of Madison and State of Iowa, have invented a die and harness-pad press and apparatus for shaping and making up harness-pads, of which the following is a specification.

The object of my invention is to save time, labor, and expense in the construction of harness-pads, and to produce improved pads.

Heretofore dies have been made in two parts in such a manner that leather pressed between them was stretched and crimped simultaneously; but in thus shaping leather to form a harness-pad the edges are liable to be doubled into folds and the leather wrinkled and not shaped smooth and even, as required to produce a perfectly-formed and uniformly soft and pliable pad-surface, adapted to engage and rest upon an animal's back without chafing.

My invention consists in forming a harness-pad die in four parts, as hereinafter fully set forth, in such a manner that the horizontal and bottom contour of a pad is formed complete between an upper and lower die before the vertical and longitudinal sides are clamped to the said dies, and crimped by means of shaping devices, that are fitted to and moved vertically and parallel with the sides of the upper and lower dies.

Figure 1 of my accompanying drawings is a side view of my pad-shaping device, composed of four parts, that are combined and adapted to be adjusted and operated relative to each other in such a manner that the side-crimping bars will move vertically, as required, to produce a pad of uniform width and straight sides. Fig. 2 is a transverse section of Fig. 1. Fig. 3 is a top view of my device, adapted to produce a pad with uneven or bulging sides. Fig. 4 is a transverse section of my device, adapted to produce an arched pad. Fig. 5 is a transverse section of my device, in which the side-shaping crimping-bars are fixed to a bench and the horizontal bottom-shaping dies moved vertically. Fig. 6 is a transverse section, in which the side-crimping bars are moved vertically, while the bottom-shaping dies are clamped down upon a fixed base. Fig. 7 is a perspective view of a section of my device, and shows

my manner of using it in making up a pad after the leather is shaped. Jointly considered, these figures clearly illustrate the construction, operation, and utility of my complete invention.

A represents the top of a bench adapted to support my dies and operative mechanism.

No. 1 is a straight-sided die-block, adapted to rest flat upon the base A. It has two concaves, *b*, equidistant from its longitudinal center, that correspond in shape with the cushioned surface designed to be formed on the complete pad.

No. 2 is the upper and mating die-block, corresponding in form with No. 1.

*c c* represent a leather pad-blank or pad-piece pressed between the two die-blocks Nos. 1 and 2 to bend and shape it horizontally to conform with the shape of the die-surface in such a manner that the parts projecting laterally outside of the die-blocks will assume the same shape without getting creased or wrinkled.

Nos. 3 and 4 are my side-crimping bars, that engage the sides of the die-blocks Nos. 1 and 2, and by a vertical movement relative to the said blocks, or vice versa, the projecting edges of the leather *c c* are turned upward and crimped around the sides of the upper die-block to make the pad-piece conform with the shape of the die-block. The straight top edges of the crimping-bars Nos. 3 and 4 will come in contact with that part of the leather that is deepest in the concaves *b*, and, in combination with the inclines of the horizontal edges of the die-blocks, will produce a shearing pressure in gradually drawing the leather upward and crimping it into shape without doubling, creasing, or wrinkling, to conform with the die-block No. 2, as required, to make a smooth pad of the same shape. The same result is produced in shaping an arched pad by means of side-crimping bars having their top edges inclined in opposite directions from their centers, as shown in Fig. 4.

*d d* are elbow-shaped clamps combined with the bars A, as shown in Figs. 2 and 6, to be operated by means of screws to engage the top surface of the upper die-block, No. 2, and move and press it down upon the lower die-block,



No. 1, as required, to shape the leather blank *c c* and to fasten the said mating dies and the leather jointly to the base *A*, as required, before the crimping-bars Nos. 3 and 4 can be moved upward to shape the projecting sides of the blank or pad-piece *c c*. Clamps of any suitable form may be substituted for the elbow-shaped pieces *d*.

*f f* are transverse rods or bars, by means of which the ends of the parallel crimping-bars are adjustably connected in such a manner that they can be readily moved to and from the sides of the die-blocks Nos. 1 and 2 by simply operating a thumb-nut, *f'*, on the screw-threaded end of each connecting-bar.

*f''* are branches extending downward from the horizontal bars *f*.

*f'''* is a straight bar fixed to the lower ends of the T-shaped end pieces, *f f''*, to connect them and to produce, in combination with the crimping-bars, a rigid movable frame.

*g* is a straight bar fixed to the legs of the base *A* to support a spring, *h*, immediately below the bar *f'''* in such a manner that the spring in its normal condition will push and hold up the complete frame composed of the crimping-bars Nos. 3 and 4, the T-shaped ends *f f''*, and the bar *f'''*, as required, to engage, crimp, and shape the leather *c c*, held between the die-blocks Nos. 1 and 2.

*i* is a rod connected with the top and center of the spring *h* at its upper end and with a treadle, *k*, at its lower end in such a manner that the force of the spring can be readily overcome by foot-pressure upon the treadle, as required, to bring down the frame and crimping-bars held up by the spring when in its normal condition.

An eccentric may be mounted above the spring, as indicated by broken lines in Fig. 1, to accomplish the same result. A screw or any other suitable mechanical power may be substituted for the spring and treadle to op-

erate the crimping-bars Nos. 3 and 4; or the crimping-bars may be fastened to the base and the die-blocks Nos. 1 and 2 moved vertically by means of springs and levers or other suitable mechanical devices, as indicated by Fig. 5, to accomplish the results contemplated by my invention.

When I have shaped a pad-piece I remove the upper die-block, No. 2, and slip metal plates *m* in its place, as shown in Fig. 7, and then double the edges *c'* of the pad-piece *c c* inward and place a stiff-leather nut-piece on top and nail it to the edges of the said pad-piece. The crimping side bars, Nos. 3 and 4, will aid in holding the pad-piece and plates *m* in proper position while nails are being driven through the leather and clinched on the inside of the pad by means of the metal plates *m*. After the leather nut-piece or top *n* is thus fixed to the leather pad-piece *c c'*, I withdraw the plates *m* and remove the pad thus smoothly and expeditiously shaped and advantageously made up ready for stuffing in my pad-making apparatus.

I claim as my invention—

1. In a device or machine for shaping harness-pads, the combination of vertically and laterally adjustable and parallel side bars with a pair of die-blocks, to operate in the manner set forth, for the purposes specified.

2. A pad-shaping and pad-forming machine composed of the following elements, to wit: a bench or base, *A*, a pair of horizontal die-blocks, Nos. 1 and 2, a pair of adjustable crimping-bars, Nos. 3 and 4, a movable frame, *f f'' f'''*, a spring, *h*, and treadle *k*, substantially as shown and described, to operate in the manner set forth, for the purposes specified.

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Witnesses:

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