

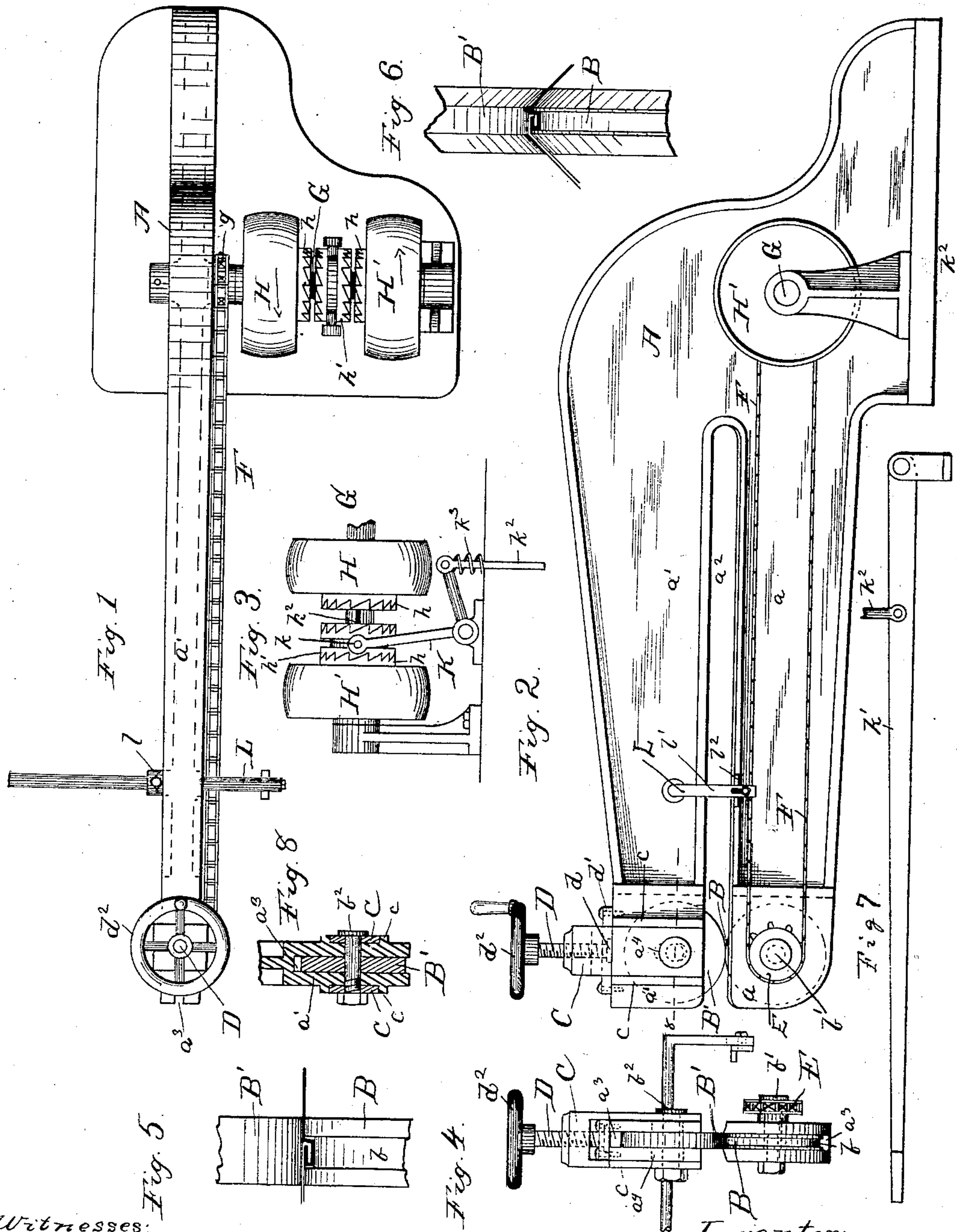
(No Model.)

C. R. PEASLEE.

POWER SHEET METAL GROOVING MACHINE.

No. 348,577.

Patented Sept. 7, 1886.



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POWER SHEET-METAL-GROOVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 348,577, dated September 7, 1886.

Application filed April 12, 1886. Serial No. 193,550. (No model.)

To all whom it may concern:

Be it known that I, CHARLES R. PEASLEE, a citizen of the United States, residing in Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Improvement in Power Sheet-Metal-Grooving Machines, of which the following is a specification.

My invention relates to grooving-machines for compressing and finishing folded or interlocked sheet-metal seams. The machines heretofore commonly in use for this purpose have ordinarily consisted of a goose-neck frame, on the lower limb of which the seam is placed, while the upper limb carries a traveling head or slide, upon which is mounted a grooving-roller. As this roller travels back and forth over the stock or seam, being revolved by a crank by hand, the seam is compressed between said roller and the lower limb of the goose-neck, the upper limb of the goose-neck serving as a guide for the traveling head or slide which carries the roller. Such machines are comparatively slow in operation, and, owing to the fact that the spring of the goose-neck is liable to be considerably greater when the roller head or slide is near the outer and free end of the limb (the leverage then being great) than when near their inner ends, uneven and unsatisfactory work is often produced, especially in folding and seaming heavy stock.

In my invention two power-driven grooving-rollers are employed, one flat and the other grooved, and mounted one on each of the limbs of the goose-neck at the outer or free end thereof. The boxes or bearings of one of these rollers—the upper one, preferably—is adjustable up and down by a hand-screw, so that any desired degree of pressure may be exerted upon the stock or seam as it passes between the rollers. The grooving-rollers being both stationary on the outer ends of the goose-neck limbs, the same degree of pressure will be exerted throughout the whole length of the seam on all parts thereof as it passes or feeds between the rollers, and uniform and perfect work may therefore be done. The lower roller is driven by power from a pulley-shaft through a sprocket chain and wheels. The pulley-shaft has two oppositely-driven loose pulleys, and the sheet-metal stock or

seam, after being passed into the goose-neck between the rollers, is then passed out or back by reversing the motion of the grooving-roller. This is done by means of a sliding double clutch on the pulley-shaft, which engages first one and then the other of the oppositely-moving driving-pulleys.

In the accompanying drawings, which form a part of this specification, and in which similar letters of reference indicate like parts, Figure 1 is a plan view of a machine embodying my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a detail view of the reversing mechanism. Fig. 4 is a front end view. Fig. 5 is an enlarged view of the rollers. Fig. 6 is a similar view showing the form of the rollers employed for corner or angle work. Fig. 7 is a detail view of the treadle or lever for operating the clutch, and Fig. 8 is a section on line 8 8 of Fig. 2.

In said drawings, A represents the goose-neck frame of the machine, having two limbs, a and a' , with a slot or open space, a^2 , between said limbs for the sheet or sheets of metal being seamed to pass into.

B B' are the two grooving-rollers, the lower one, B, having a groove, b , in its periphery for the folds of the seam and the upper being smooth. The rollers B and B' are mounted in vertical slots a^3 in the limbs a and a' . The shaft b' of the lower roller is journaled in suitable bearings on the limb a near its end. The shaft b^2 of the upper roller, B', is journaled on a vertically-adjustable forked slide, C, mounted in suitable guides, c , on the limb a' , so that the roller B' may be adjusted to and from the roller B. This adjustment is effected by a screw, D, having a collar, d , which fits against a cap piece, d' , secured to the limb a' , through which cap-piece the screw passes and enters a threaded hole in the slide C. The screw D is furnished with a hand-wheel, d^2 , and by turning the screw the rollers B and B' may be made to exert any desired degree of pressure upon the stock or seam passing between them. The shaft b^2 of the roller B' extends through transverse slots a^4 in the limb a , to permit of the vertical adjustment of the roller. The depth and width of the groove b in the roller B corresponds to the seam or folds in the sheet metal to be compressed.

The shaft b' of the non-adjustable roller B

is furnished with a sprocket-wheel, E, and is driven by a chain, F, from the pulley-shaft G, which is provided with a sprocket-wheel, g. The pulley-shaft G is furnished with two loose pulleys, H and H', driven in opposite directions, each provided with a clutch-surface, h. The double-faced clutch h', between said pulleys H and H', slides on the shaft G, and the shaft is caused to revolve with the clutch by a pin or key, h², which passes through a slot in said shaft. By moving the clutch h' into engagement with one or the other of said pulleys H H' the rollers B B' are driven in one direction or the other, as may be desired, to pass the seam or stock in or out of the goose-neck. The pulleys H and H' may be conveniently driven in opposite directions by simply employing a straight belt for one and a cross-belt for the other. The clutch h' is moved into and out of engagement with the pulleys H and H' by a bell-crank lever, K, having a yoke, k, on one end connected with said clutch, and operated by a treadle or lever, k', through a connecting rod or link, k². A spring, k³, serves to hold the clutch in engagement with the forward driving-pulley, H, except when the treadle or lever k' is depressed.

L represents a gage or guide for the edge of the sheet, to assist the operator in guiding the seam between the rollers. It is mounted in a hollow boss, l, in the goose-neck, and is adjustable to and from the rollers B B' to accommodate sheets of different widths. Its depending arm l' is furnished with a vertically-adjustable rest, l², to support the edge of the sheet.

The seam or fold throughout its whole length comes twice between the grooving-rollers—once as the sheet passes in and then again as it passes back or out—and the pressure on every part of the seam is alike.

In Fig. 6 the periphery of the rollers B and B' is shaped to receive and compress a lock-seam at the corner of a square can.

The upper roller, B, is not driven positively, except by friction with its companion roller, B'.

The machine is designed to operate upon interlocked or folded seams uniting two flat sheets of sheet metal together, or such seam uniting the two flat sides of a square or rectangular sheet-metal can. In Fig. 6 the seam and two sheets of a square can being operated upon is indicated in place between the rollers B and B'. In Fig. 5 the seam uniting two flat sheets in the same plane is shown between the rollers B and B'. In operation the outer edge

of the sheet being operated upon will abut against the vertical arm l' of the guide L, and rest upon the adjustable ledge or rest l² thereof. When operating upon a seam uniting two flat sheets together in the same plane, the rest l² will be adjusted on about a level with the metal point of the rollers B B', as indicated in Fig. 4 or Fig. 2. When operating upon angle work, as in Fig. 6, the rest l² will be correspondingly adjusted, so as to support the outer edge of the sheet, and in both cases the gage or guide L will be adjusted in or out, so that the depending arm l' may abut against the outer edge of the sheet.

I hereby disclaim the devices shown and described in Letters Patent Nos. 57,980, 61,791, 78,677, and 337,427.

I claim—

1. A sheet-metal-grooving machine consisting in the combination, with a goose-neck frame, of a pair of grooving-rollers mounted on the outer ends of the limbs of said goose-neck, sprocket-wheels E and g, chain F, pulley-shaft G, oppositely-driven pulleys H and H', having clutch-faces h, and double clutch h', substantially as specified.
2. The combination, with goose-neck frame A, having limbs a a', and slot a², of rollers B and B', said roller B having groove b, and said roller B' being journaled in an adjustable slide, C, sprocket-wheels E and g, chain F, pulley-shaft G, oppositely-driven pulleys H and H', having clutch-faces h, and double clutch h', substantially as specified.
3. A sheet-metal-grooving machine consisting in the combination, with a goose-neck frame, of a pair of grooving-rollers mounted on the outer ends of the limbs of said goose-neck, sprocket-wheels E and g, chain F, pulley-shaft G, oppositely-driven pulleys H and H', having clutch-faces h and double clutch h', and a gage or guide, L, for the outer edge of the sheet as it is fed between said rollers, substantially as specified.
4. The combination, with goose-neck frame A, having limbs a and a', with slot a² between said limbs, of roller B, having groove b, and roller B', adjustable slide C, and screw D, sprocket-wheels E and g, chain F, pulley-shaft G, pulleys H and H', having clutch-faces h, double clutch h', and lever K, substantially as specified.

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