

(No Model.)

C. HOFF.
SHEET METAL SEAMING MACHINE.

No. 470,755.

Patented Mar. 15, 1892.

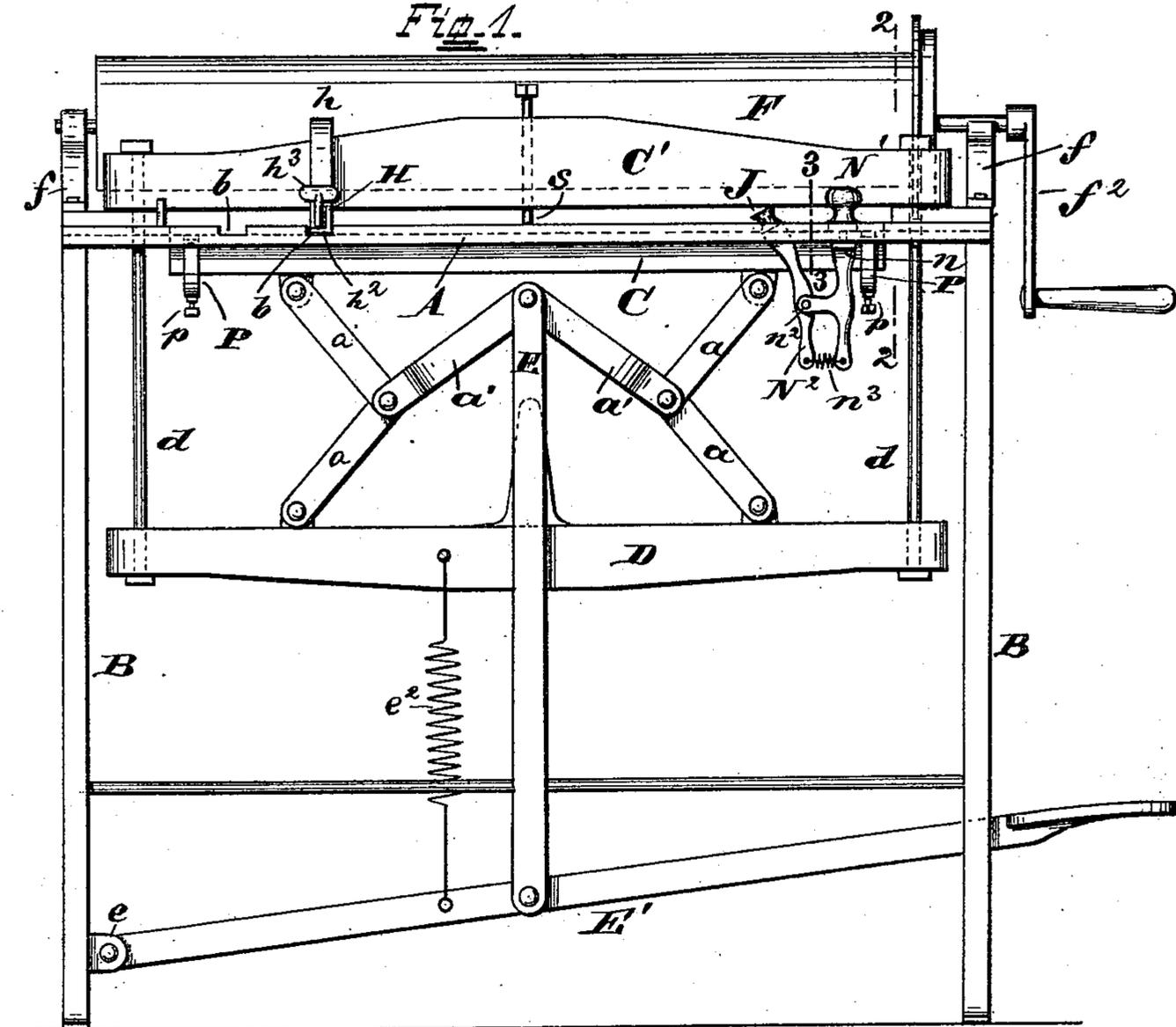


Fig. 3.

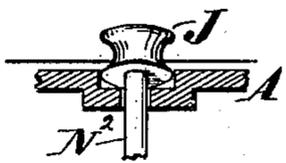


Fig. 2.

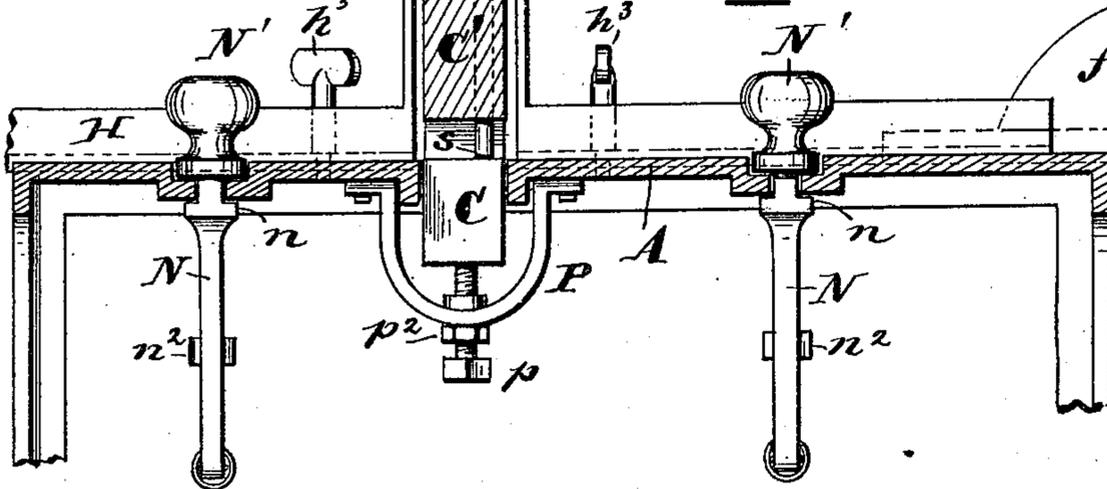
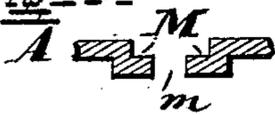


Fig. 4.



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CHARLES HOFF, OF CINCINNATI, OHIO.

SHEET-METAL-SEAMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 470,755, dated March 15, 1892.

Application filed April 3, 1891. Serial No. 387,489. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HOFF, a citizen of the United States, residing at Cincinnati, in the county of Hamilton, State of Ohio, have invented certain new and useful Improvements in Sheet-Metal-Seaming Machines, of which the following is a specification, reference being had to the accompanying drawings.

My present invention consists in certain improvements in and attachments to be connected to a machine for forming the seams on sheet metal preparatory to rolling said metal in a compact form for shipment.

The construction of machine to which my improvements are applicable is one having a horizontal feeding-table, a stationary and movable clamp-jaw, between which jaws the metal is fed to be seamed, and a rear drum on which the metal is rolled after being seamed, substantially as shown in Letters Patent No. 314,448, granted to me March 24, 1885.

While it is preferred to employ my improvements hereinafter set forth in connection with a machine constructed substantially as shown and described in said patent, said improvements may, so far as applicable, be used in connection with a seaming-machine otherwise differently constructed and differently operated.

In the accompanying drawings, Figure 1 is a front elevation of a machine embodying my invention. Fig. 2 is a longitudinal section taken on the dotted line 2 2 of Fig. 1 through the feeding-table, stationary jaw, and drum, said section being taken on a line vertical with the end of the movable jaw, the lower portion of the machine being broken away. Fig. 3 is a section taken on the dotted line 3 3 of Fig. 1, showing the position of the gage-roller in the groove which extends across the table in front of the clamp-jaws. Fig. 4 is a section through the cross groove and slot in the feeding-table.

The machine to which my invention relates is preferably constructed as follows: The feeding-table A is mounted on a suitable frame support B, said table having a cross-slot of sufficient width to permit of the lower movable jaw C entering through said slot to clamp the hooked seam on the sheet metal against

the upper stationary jaw C'. Beneath the table A is suspended the cross-bar D by means of rods *dd*. Between and pivotally connected to the cross-bar D and movable clamp-jaw C is the compound triple toggle connection consisting of the pivoted levers *a* and *a'*, the latter at their pivotal connection being connected to the vertical bar or rod E, to the lower end of which is centrally pivoted the foot-lever E', one end of said lever being pivotally connected to a suitable bracket *e* on the frame of the machine. The foot-lever is retained in an elevated position (when not operated upon) by means of a suitable elastic connection *e²*, connected to the cross-bar D. The drum F is removably connected to suitable bracket journal-bearings *f* at the rear of the machine, said drum being provided with a suitable crank *f²* for winding the seamed metal thereon.

The aforescribed construction of seaming-machine is practically the same as that shown and claimed in my aforesaid former patent, and it is not my purpose to claim herein any of said features, excepting in so far as may be necessary to the practical operation of my improvements thereto.

My invention consists in providing a suitable gage and guide to be attached to the feeding-table to properly and evenly guide the sheets of metal between the clamp-jaws to be seamed, and afterward to guide said seamed sheets in such a manner as that they will be evenly reeled onto the drum. To accomplish this object, I have provided the longitudinal vertical guide-piece H, which is connected to the table A near one side thereof, against which one side of the sheets to be seamed slides, said sheets being held in position thereto by a gage J, the latter being elastically connected to the table A. It is preferred to employ two of these gage-rollers J, one in front of the clamp-jaws and one at the rear thereof, as shown in Fig. 2.

The guide-piece H is preferably provided with a central integral loop *h*, which encircles the top of the stationary jaw C', as shown, thus forming one continuous guide-piece at the front and rear of the clamp-jaws. One or more longitudinal grooves *b* are formed in the table A, in one of which the lower flanged portion *h²* of the guide rests, as shown in Fig. 1, and

is secured therein by suitable screws h^3 . The object in having more than one groove b is to accommodate varying widths of metal.

The feeding-table is provided with one or
5 more cross-grooves M, having a central slotted opening m therein, (see Fig. 4,) said groove and slot extending across said table for its greater but not its entire width. The top
10 end portion of the bracket N is screw-threaded and projects through the slot m in the table, a suitable nut N' being screwed onto the top of said bracket. When screwed
20 down to place, as shown in Fig. 2, this nut, in connection with the flange n on the bracket, serves to rigidly connect the latter to the table and prevent any lateral movement thereon. Near the center of this vertical bracket is cast the lateral projecting lugs n^2 , between
25 which is pivoted centrally the lever N^2 , to the top portion of which is rotatably connected the gage-roller J.

Between the lower end portions of the bracket N and the lever N^2 is secured an elastic connection n^3 , preferably a coiled
30 spring, as shown. The top portion of the lever N^2 projects through the slot m of the table at an oblique angle to its face, which causes the gage-roller J to rest in the groove M at an oblique angle, the lower peripheral
35 edge of said roller resting in said groove below a plane with the top surface of the table, as shown in Figs. 1 and 3. The object of this arrangement of the gage-roller is to provide against any liability of the metal sheets sliding beneath said roller, in which
40 event the latter would be of no service. This gage-roller J can be readily and quickly adjusted with reference to the guide H by simply loosening the nut N' , at which time the bracket N, lever N^2 , and gage J are free to
45 slide in the slot m to any desired position, and there secured by simply tightening the nut.

The sheets of metal to be seamed are hooked together in the usual manner and fed rear-
50 ward until the hooked portion of the flange strikes the gravity-pin S in the stationary jaw C', at which time the movable jaw is brought up against the seam by means of the foot-lever E' and connecting mechanism, as in my original machine, thus tightly and securely
locking the hooked seam. The sheets thus seamed are hooked to the removable drum F, as described in my former patent, on which
55 the roll of metal is reeled and fed rearward.

In the construction shown in my former

patent difficulty was experienced in feeding the hooked sheets between the clamp-jaws so that said hooked seam would come parallel with said jaws, also in reeling said sheets on the drum evenly, which difficulty I now
60 obviate by means of the guide H and gage J. The sheets are fed rearward between said guide and gage, the latter being so adjusted with reference to the width of the metal as that said gage J will impinge against one side
65 of the sheet by reason of the elastic connection n^3 forcing the sheet to slide rearward against and on a line with the guide H, thus bringing the hooked seam up parallel with the clamp-jaws, and also causing said sheets
70 to be evenly reeled on the drum.

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

1. In a seaming-machine constructed substantially as set forth, the longitudinal groove
75 b near one side of the feed-table, vertical guide H, having a bottom flange h^2 , said flange resting in said groove, and suitable means for connecting it thereto, in combination with the yielding rotatable gage J, adjustably con-
80 nected at the opposite side of said table, substantially as set forth.

2. In a seaming-machine constructed substantially as set forth, the feed-table A, hav-
85 ing a cross-groove M in its top face, said groove having a central elongated opening m therein, bracket N, having a screw-threaded top portion and flange n , lugs n^2 , connected to said bracket, between which lugs is pivoted the lever N^2 , gage-roller J, connected to the top of
90 said lever, and an elastic connection n^3 between the lower free ends of bracket N and lever N^2 , the top of said bracket projecting through said opening m and provided with a nut N' , said roller-gage resting at an angle
95 within said groove, in combination with the guide H, for the purposes specified.

3. In a seaming-machine constructed substantially as set forth, the table of said ma-
100 chine, having a cross-groove M therein, and the longitudinal guide H, connected to one top side face of said table, in combination with a yielding rotatable gage J, the lower peripheral edge of said gage resting in said groove below a plane with the top surface of the ta-
105 ble, for the purposes specified.

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Witnesses:

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O. M. HILL.