(No Model.)

C. O. WILDER.

APPARATUS FOR BENDING AND TRIMMING SPRING BOXES.

No. 361,340. Patented Apr. 19, 1887.

Fig. 3.

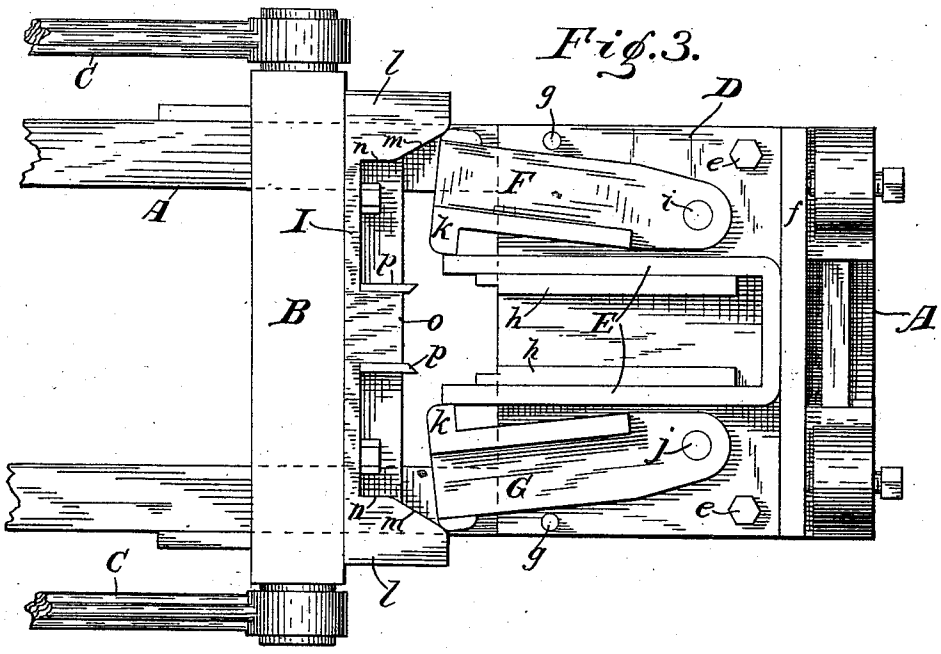


Fig. 4.

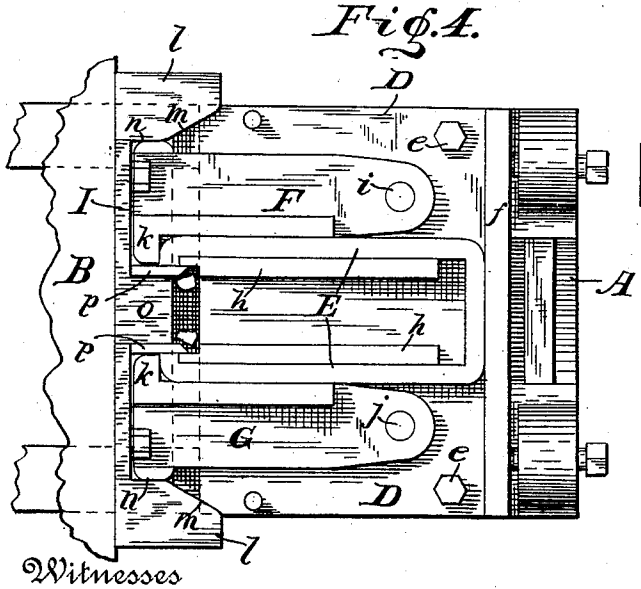
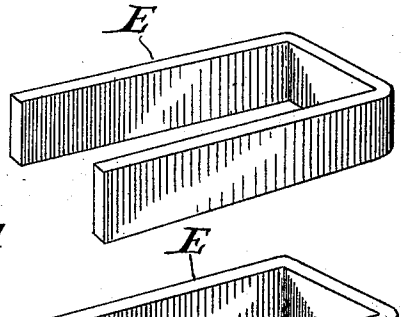


Fig. 1.



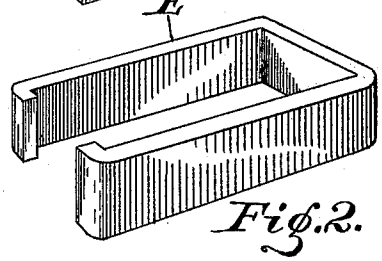


Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES O. WILDER, OF INDIANAPOLIS, INDIANA.

APPARATUS FOR BENDING AND TRIMMING SPRING-BOXES.

SPECIFICATION forming part of Letters Patent No. 361,340, dated April 19, 1887.

Application filed January 24, 1887. Serial No. 225,088. (No model.)

To all whom it may concern:

Be it known that I, CHARLES O. WILDER, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Bending and Trimming Dies, of which the following is a specification.

My invention relates to an improved die for bending and trimming the open ends of spring-boxes for freight-cars.

The object of my improvement is to provide means whereby said spring-box ends may quickly and accurately be bent to a given length and the bent ends squarely trimmed at one operation, all as hereinafter fully described.

The accompanying drawings illustrate my invention.

Figure 1 is a perspective view of a spring-box before the ends are bent. Fig. 2 is a perspective view of a spring-box after the ends are bent and trimmed. Fig. 3 is a plan showing the dies open and the unbent spring-box in position. Fig. 4 is a plan showing the dies closed and the operation of bending and trimming the spring-box completed.

My die is adapted to be used on any of the well-known form-bending machines having a bed-frame, to which the main portion of the die may be secured, and a reciprocating head, to which the remainder of the operative parts may be secured.

As such machines are well known, I do not here illustrate the machine in full, but only such portions as are necessary to show the operation of the die.

A is the bed-frame, on which the cross-head B is reciprocated by means of the connecting-rods C C, which are attached to suitable driving mechanism. (Not shown.)

D is a heavy cast-iron plate, secured rigidly by bolts *e e* to the bed A, and having a flange, *f*, and two parallel ribs, *h h*, projecting upwardly from its upper surface. Ribs *h h* are at such a distance apart as to fit nicely between the sides of the spring-box E. Pivoted to plate D, at *i* and *j*, are a pair of jaws, F and G, the outward movement of which is limited by pins *g g*. The inner edges of said jaws, next the ribs *h h*, are made thicker than the rest of the jaw, and each jaw is provided with a strong laterally-projecting lip, *k*.

Secured to the cross-head B so as to move therewith is a plate, I, having at opposite ends projecting arms *l l*, each having an inclined portion, *m*, and a parallel portion, *n*. Plate I is also provided at its center with a lug, *o*, to the parallel opposite sides of which are secured a pair of knives, *p p*.

In operation, the cross-head and plate I being drawn back and the jaws F and G open, as seen in Fig. 4, the spring-box E is placed over the ribs *h*, its closed end resting against the flange *f*, and the extreme ends of its sides resting between the lips *k k* of the jaws F and G. The cross-head carrying plate I now moves forward, the inclined faces *m* of arms *l l* first coming in contact with the rounded outer corners of the jaws, as in Fig. 1, and forcing the jaws together, thus bending the ends of the spring-box sides at right angles over the ends of the ribs *h*. Cross-head B still continuing to move forward, the jaws are held in place by the parallel portions *n* of the arms *l*, while the knives *p p* operate to shear off the irregular ends of the inwardly-bent ends of the spring-box, thus leaving said inturned ends true and exactly the required distance apart.

It is obvious that if it is desired to bend and trim only one of the sides of the spring-pocket or other like piece, one of the pivoted jaws and one of the knives may be dispensed with without departing from the spirit of my invention.

I claim as my invention—

1. The fixed plate D, having flange *f* and ribs *h h*, the jaws F and G, each having a lip, *k*, and pivoted to said plate, and the plate I, having arms *l l*, said arms each having the inclined face *m* and parallel portion *n*, and the plate I being arranged to have a reciprocating movement, all combined and arranged to co-operate in the manner and for the purpose specified.

2. In a bending and trimming die, the fixed plate having a rib raised thereon, the swinging jaw pivoted to said plate and having a lip arranged to pass the end of said rib, the reciprocating plate carrying an arm having the inclined face *m* and parallel face *n*, and the

trimming-knife secured to said plate, all combined and arranged to co-operate in the manner and for the purpose specified.

3. The fixed plate D, having flange *f* and ribs *h h*, the jaws F and G, each having a lip, *k*, and pivoted to said plate, plate I, having arms *l l* and lug *o*, said arms each having the inclined face *m* and parallel portion *n*, and knives *p p*, the plate I being arranged to have a reciprocating movement, all combined and arranged to co-operate in the manner and for the purpose specified.

CHARLES O. WILDER.

Witnesses:
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