

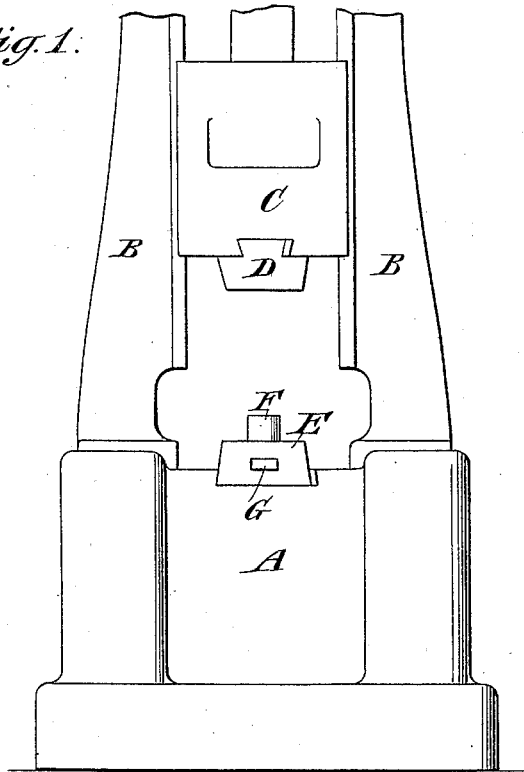
(No Model.)

J. BASS.  
DIE FOR MAKING TURN BUCKLES.

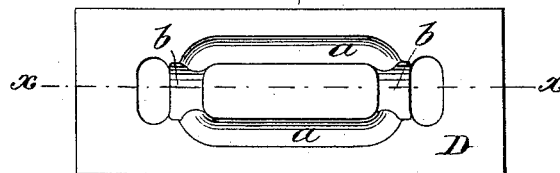
No. 422,175.

Patented Feb. 25, 1890.

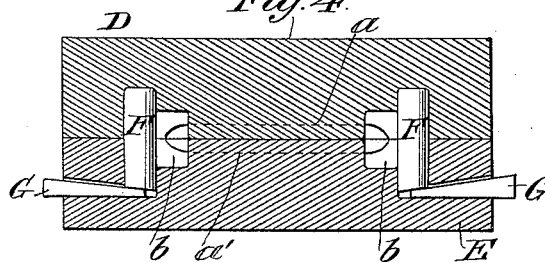
*Fig. 1.*



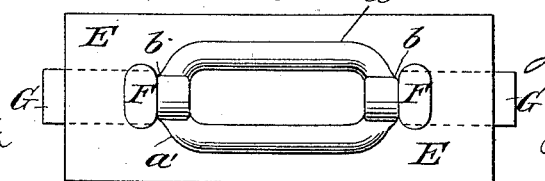
*Fig. 2.*



*Fig. 4.*



*Fig. 3.*



Witnesses:

O. Sundgren  
John Bicker

Inventor:  
James Bass  
by attorneys  
Pomeroy & Gould

# UNITED STATES PATENT OFFICE.

JAMES BASS, OF BROOKLYN, NEW YORK, ASSIGNOR TO MANNING MERRILL  
AND EDWARD W. MERRILL, BOTH OF SAME PLACE.

## DIE FOR MAKING TURN-BUCKLES.

**SPECIFICATION** forming part of Letters Patent No. 422,175, dated February 25, 1890.

Application filed June 14, 1889. Serial No. 314,305. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES BASS, of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful  
5 Improvement in Dies, of which the following is a specification.

My improvement relates more particularly to dies for striking up turn-buckles.

Turn-buckles are usually struck up in dies  
10 operated by a drop-hammer, and in the accompanying drawings I have illustrated such portions of a drop-hammer as may be used.

Figure 1 in the accompanying drawings illustrates such portion of a drop-hammer,  
15 showing dies arranged thereon embodying my improvement. Fig. 2 is a bottom plan of the upper portion of the die. Fig. 3 is an upper plan of the lower part of the die. Fig. 4 is a vertical section of both portions of the die,  
20 taken on the line *x x*, Fig. 2.

Similar letters of reference designate corresponding parts in all the figures.

A designates the base of the drop, and B the uprights.

25 C designates a hammer arranged to move up and down between the uprights B.

D designates the upper portion of a die, in this instance secured in the hammer C.

E designates the lower portion of a die. In  
30 the portions D E of the die are recessed cavities *a a'* of such shape that when a piece of metal of proper size and form is placed upon the lower portion or E of the die and the hammer is allowed to fall the metal will be  
35 struck up into the form of the turn-buckle. The end portions of the turn-buckle, which are formed by the cavities marked *b* in the two portions of the die, are enlarged to provide for the formation of the longitudinally-  
40 extending apertures in which other portions of the turn-buckle are to be received.

Heretofore in stamping up the turn-buckles these enlarged end portions have spread out to an undue and detrimental extent at the  
45 ends of the cavities. It has been found, also, that when struck up the turn-buckle would adhere to one or the other portion of the die, and be so tightly held by friction as to require considerable force in its removal. In

order to avoid these difficulties I employ the  
50 following arrangement:

F designates movable stops extending vertically into suitable apertures formed in the lower portion E of the die and having a frictional engagement therewith. These apertures are directly at the outer ends of the cavities in which are formed the enlarged portions or heads of the turn-buckle. The stops F present substantially straight smooth surfaces to said apertures and form the outer  
55 or end walls of the latter. They also extend for a considerable distance above the upper surface of the portion E of the die. In the upper portion or D of the die are formed suitable apertures at the ends of the cavity  
60 in said portion, which apertures receive the stops when the upper portion of the die is brought down.

When the piece of metal has been placed in proper position and the upper portion of  
70 the die has been brought down, the head portions of the turn-buckle are upset against the stops F, and are prevented by the latter from spreading endwise. The metal is also condensed, and the outer ends of the heads of  
75 the turn-buckles are given a smooth finished surface. The frictional resistance offered by the stops F is such as to prevent the upper portion of the die from withdrawing the turn-buckle from the lower portion, and the turn-  
80 buckle will therefore always stay in the lower portion of the die. It can be easily removed therefrom by raising the stops F. This latter operation can be accomplished in any  
85 suitable manner; but I have shown a convenient means for raising the stops, consisting of wedges G, extending into suitable apertures in the portion E of the die and beneath the stops. By properly operating the wedges the stops will be readily raised.

90 What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a die comprising two portions having recesses or cavities conforming to the shape of the articles sought to  
95 be formed, of vertically-extending adjustable stops constituting the end walls of both said cavities when the two portions of the die have

been brought together, substantially as specified.

2. The combination, with a die comprising  
two portions having recesses or cavities con-  
forming to the shape of the article sought to  
be formed, of vertically-extending adjustable  
stops forming the end walls of both said cavi-  
ties when the two portions of the die have

been brought together and having a frictional  
engagement with one of said die portions, so  
substantially as specified.

JAMES BASS.

Witnesses:

FREDK. HAYNES,  
JOHN BICKET.