3 Sheets--Sheet 1.

C. H. WILLIAMS.

Dies for Making Car-Coupling Pins.

No. 140,980. Patented July 15, 1873.

Fig: 1.

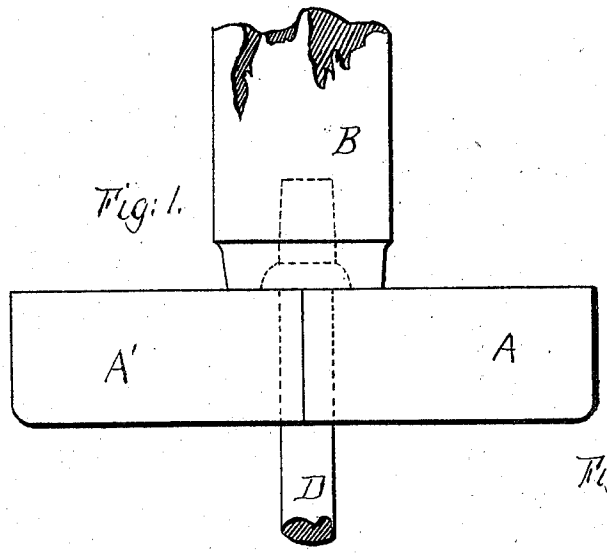


Fig: 2.

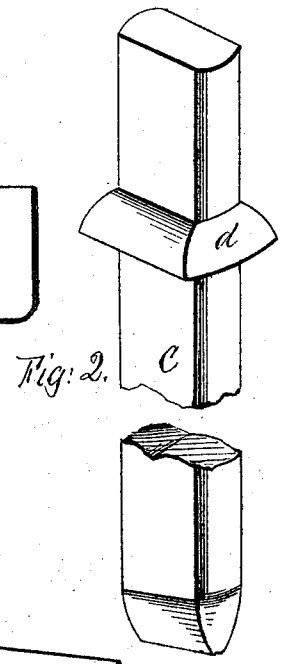
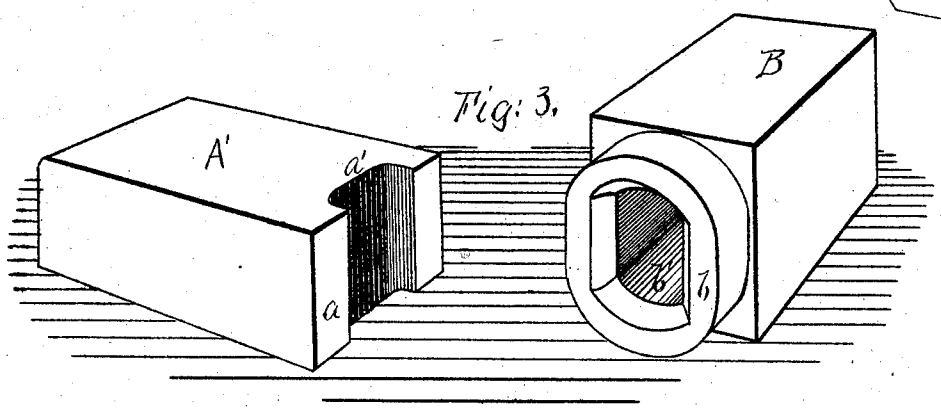


Fig: 3.



Witnesses.
Edwin James.
H. V. Gordon.

Inventor.
Charles H. Williams.
per J. E. & Holmead.
Attorney.

3 Sheets--Sheet 2.

C. H. WILLIAMS.

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Fig. 4.

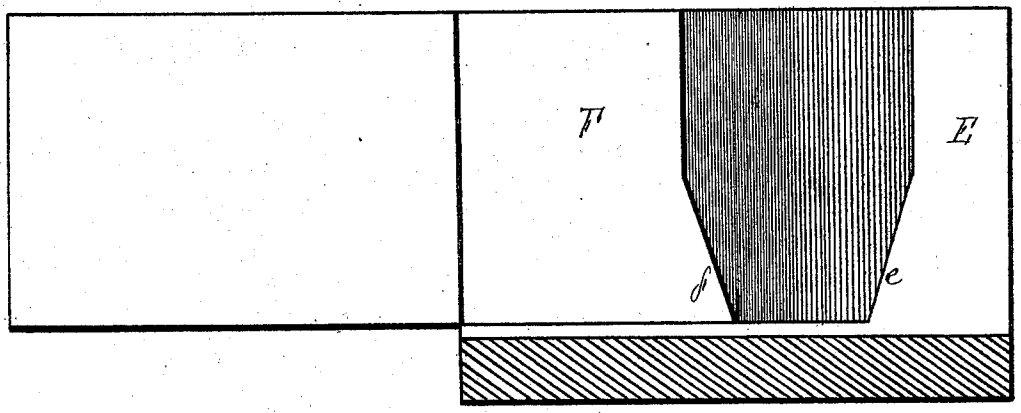
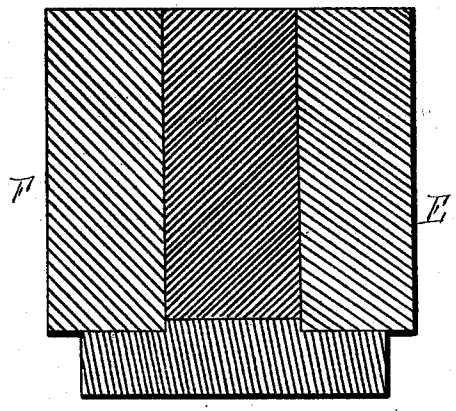


Fig. 5.



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R. D. Gordon

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3 Sheets--Sheet 3.

C. H. WILLIAMS.

Dies for Making Car-Coupling Pins.

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Fig: 6

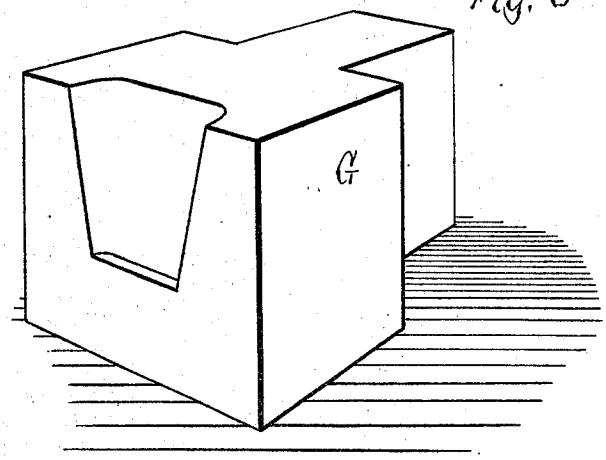
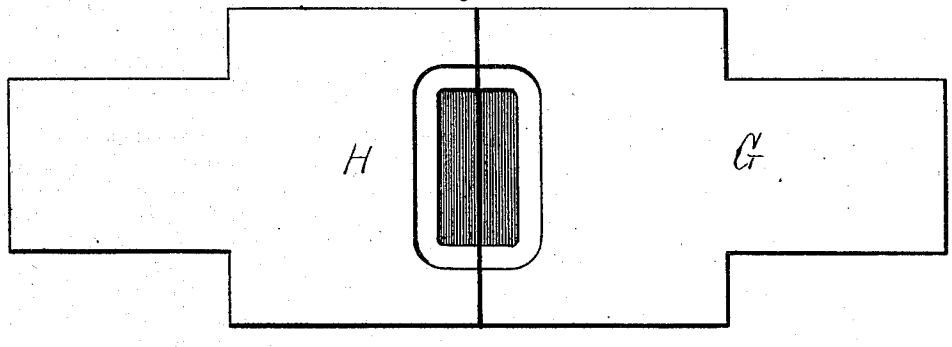


Fig: 7.



Witnesses.
Edwin James
R. V. Gordon.

Inventor.
Charles H. Williams,
per J. E. D. Holmead
Attorney.

UNITED STATES PATENT OFFICE.

CHARLES H. WILLIAMS, OF CLEVELAND, OHIO.

IMPROVEMENT IN DIES FOR MAKING CAR-COUPLING PINS.

Specification forming part of Letters Patent No. **140,980**, dated July 15, 1873; application filed May 21, 1873.

To all whom it may concern:

Be it known that I, CHARLES H. WILLIAMS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Dies for Making Coupling-Pins, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing and the letters of reference marked thereon making part of this specification, in which—

Figure 1 is a side view of the clamping-dies, heading-die, and pin. Fig. 2 is a perspective view of the pin. Fig. 3 is a perspective view of the clamping and heading dies. Fig. 4 is a vertical sectional view of the pointing-dies. Fig. 5 is a longitudinal sectional view of Fig. 4. Fig. 6 is a perspective view of one of the pointing-dies. Fig. 7 is a top-plan view of the pointing-dies.

The object of my invention is to furnish, as a new article of manufacture, a flat or rectangular coupling-pin for railroad cars having rounded edges, and which is provided with a continuous collar, pressed from the bar of metal of which the pin is composed, thus forming the pin and collar out of the same bar, and which produces a pin heretofore unknown to the trade. Formerly this class of pins have either simply had shoulders at their edges, or, when formed with a collar, it has invariably been welded on, and which process of welding is both expensive and troublesome. The great advantage of a collar over a shoulder is that, no matter what the form of the opening through the draw-head may be, or whether any portion of the same is broken away or not, the collar always causes the pin to drop and rest with a true vertical bearing.

The nature of my invention consists in securing in a suitable machine pressing and swaging dies, the form, configuration, and arrangement of which are such that through their action on an ordinary flat or rectangular bar of merchantable iron a continuous collar is pressed out on the shank of the pin, and which terminates in either a square or rounded edge, and then through the action of the swaging-dies to so press the lower section of the flat pin as to leave it with a tapering point, and thus, as has been said, furnish, as a new article of manufacture, a flat coupling-pin for railroad cars with rounded edges, and provided with a tapering point, and having a continuous collar surrounding the entire shank of the pin, and all formed out of the same piece or bar of metal.

The construction and operation of my invention are as follows: As there is nothing novel in the arrangement and construction of the machine with which I propose to operate the dies, it being, in all respects, the same as that illustrated in my patent of December 13, 1870, No. 110,179, in the accompanying drawings I have only shown the improved dies, and to which my claims are restricted. On Sheet 1 are shown the dies that form the collar. A A′ are the clamping-dies, and B the pressure or heading die. One of these dies, A, is stationarily secured in the machine, and the other, A′, is movable, and is to be so secured as to allow of its traveling toward and receding from the stationary die in such manner as to always insure of its working in the same plane therewith and on a true horizontal line. These dies A A′ are counter parts of each other, and their recessed faces *a a* are of the form shown in Fig. 3, and when so brought together that their recesses *a′ a′* meet or register, an opening or slot is left, the configuration of which is exactly that of the pin C, Fig. 2. The function of these dies A A′ is simply to receive and secure the bar for the action of the heading die, and not designed in any manner to change the form or outline of the bar. B is the heading-die, and is also secured so as to travel with a horizontal movement, but on a line at right angles to that on which the movable-die A′ travels. The recessed face of this die throughout its main section is such as to permit of the die passing over the head of the bar or pin D, and is in outline precisely similar to the opening or slot formed by the dies A A′ when their faces meet. This socket-opening in the die B terminates in an enlarged or flaring cavity, *b*, so formed as to impart to the collar *d* the configuration shown in Fig. 2. These dies A, A′, and B are secured and relatively so operate that the die A′ is constantly being moved to and fro to clamp the cut bar and release the same after the collar has been formed thereon. The heading-die B is also relatively so connected with the dies A A′,

and these latter so clamp the bar, as to leave such a section thereof projecting beyond their surfaces *a a* that on the forward movement of the die B, when the head of the socket *b'* strikes the end of the bar, sufficient metal shall be left to develop the collar *d*, the cavity *b* forming the upper rounded section thereof, and the faces *a a* of the dies A A' forming its lower or flat surface.

The collar having been thus formed, I will now proceed to describe the operation of pointing the pin. On Sheet 2 are shown the dies which accomplish the first stage of the process, and in which E is a stationary box-die, and F a movable or traveling die. The form and configuration of their pressure-faces *e f* are inclined or wedge-shaped, and swage the lateral faces of the bar into a form that corresponds thereto, and which leaves the flat face of the shank of the pin still parallel throughout. On Sheet 3 are shown the dies that perform the second stage of the pointing process and finish the pin, and in which G is a stationary die, and H is a traveling die. These dies are counterparts of each other, and their pressure-cavities are of the form shown. The bar, after having its lateral faces swaged, is subjected to the swaging action of these dies, and which imparts the desired taper to the lower section of the flat faces of the bar, and which, in connection with the dies E F, gives to the pin the desired point. These dies are all secured in any suitable machine, and are so arranged as to operate as described.

As I have before said, there being no feature of novelty about the machine I propose using, and my invention being confined entirely to the dies, I have only shown these and described their relative arrangement and operation.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination of the dies E F G H, constructed as shown, and relatively arranged to operate in such manner as to impart or give a tapering point to a coupling-pin made from a flat bar of iron having rounded edges, substantially as described.

2. The combination of the clamping or griping dies A A' and the heading-die B for developing the collar and the dies E F and G H for pointing the pin, the whole being constructed and arranged to operate substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

C. H. WILLIAMS.

Witnesses:

EDWIN JAMES,

JOS. T. K. PLANT.