

Making Fifth Wheels.

No. 62,584.

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IMPROVED SWAGE.

The Schedule referred to in these Letters Patent and making part of the same.

TO WHOM IT MAY CONCERN:

Be it known that we, JAMES WILLIAMS and ISAAC SHORT, both of Amelia, Clermont county, Ohio, have invented a certain new and useful Improvement in Swages; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Our improvement relates to a new and useful construction of swages, the same being particularly designed for the manufacture of that part of the carriage gear commonly known as the "fifth wheel," the said swage enabling us to produce such wheels in a more rapid and economical manner than heretofore, and with greater uniformity, symmetry, and strength.

Figure 1 is a perspective view of a swage embodying our improvements, the jaws of the swage being shown in their opened condition.

Figure 2 is a horizontal section of the same at the line $x x$.

Figure 3 is a vertical section at the line $y y$, the swage being represented in its closed condition and holding two heated clips between its jaws.

Figure 4 represents a fifth wheel in a partially finished condition.

The swage consists of a horizontal bed-plate, A, from which rises vertically the anvil B. This bed-plate and anvil we prefer to be cast in one piece. The anvil B, instead of being a uniform thickness throughout its entire length, is increased in width at b and b' , for a purpose which will be hereafter explained. C and D are two movable jaws, whose extended bases, $c d$, rest upon the upper face a , of the bed-plate A, and said movable jaws are provided with a series of horizontal swages, $E E' E''$, $F F' F''$, and of vertical ones $e e' e''$, $f f' f''$, the vertical ones being merely a continuation of the horizontal ones, and these swages may be of different sizes, as shown in fig. 1. The jaws C and D are decreased in thickness at $c' c''$ and $d' d''$, and said diminution corresponds with the increased width $b b'$ of the anvil B, in order that the vertical sides of the jaws and anvil may fit snugly together when the lever J is elevated. The anvil B and jaws C D are traversed horizontally by two stout bars, G H, and one of the ends of said bars may be provided with heads, $g h$, so as to bear upon the outside of the jaw D, or these ends of the bars may be secured to this jaw, while the other ends of said bars receive a fulcrum pin, i , which traverses the cam or eccentric I, the latter being operated by the lever J. This provision of the bars G H and cam I, enables the two jaws to be advanced simultaneously toward the anvil B, by simply elevating the lever J, and as soon as said lever is depressed, the springs K k , K' k' , act to open the jaws as shown in figs. 1 and 2.

The swage is operated in the following manner: The two clips, L L', (see fig. 3,) are first formed with the shanks $l l'$, and are united to a bar, M, by means of the rivet N, after which the clips, bar, and rivet are heated and placed in the swage in such a position that the said shanks $l l'$ of the clips rest upon the anvil B, and within the swages $E' F'$, while the clips proper occupy the space between the inner faces of the jaws C D and the anvil B. The lever J is now elevated and the action of the cam I, attached to the end of said lever, compels the two movable jaws C D to advance simultaneously toward the anvil, thereby retaining the clips L L' between the sides of the anvil and the vertical swages $e' f'$. The operator then proceeds to weld the shanks $l l'$ of the clips, the bar M, and the rivet N, into one compact mass, which operation is the work of but a few moments, and after the clips and bar have been thus united, the end m of said bar is again heated and the bar is forged on to one end of a ring, O, and another bar with its accompanying clips having been attached to the outer end of the ring O, the other ends of said clips are then screw-threaded for the engagement of the customary nuts, and the fifth wheel is complete. This mode of manufacturing fifth wheels is a great saving of time and labor, as twice the quantity of wheels can be produced in a given time with the same number of hands, besides which the clips are united in a more secure manner, and present a more finished appearance. An inferior modification of our device may consist of the anvil B, and only one of the movable jaws C or D, and the bars G H and cam I may be omitted, and screws substituted for them. In a still inferior modification the office of the anvil B may be filled by an iron rising vertically from a hole in the anvil, the jaws on either side being closed by an eccentric or lever and opened by a spring.

We claim as new herein, and of our invention—

1. A swage consisting of the bed-plate A, fixed anvil B, movable jaws C D, and grooves E e F f, all arranged and operating in the manner herein set forth.
2. In combination with the anvil B, and movable jaws C D, we also claim the bars G H, cam I, and springs K k K' k', or their mechanical equivalents, as and for the purpose set forth.

In testimony of which invention, we hereunto set our hands.

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Witnesses:

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