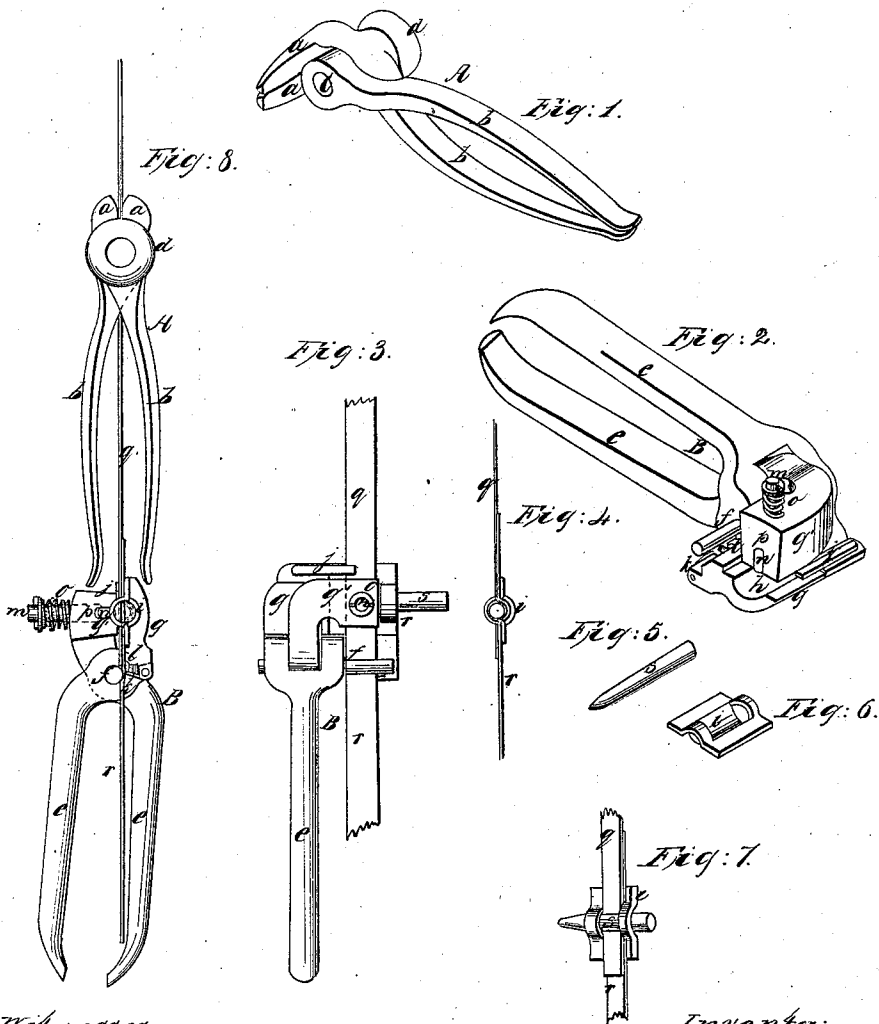


E. A. Jeffery,
Applying Locks to Bale-Hoops,
N^o 24,464. Patented June 21, 1859.



Witnesses
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E. A. JEFFERY, OF CORNING, NEW YORK.

IMPROVEMENT IN TOOLS FOR FASTENING BALE-HOOPS.

Specification forming part of Letters Patent No. 24,464, dated June 21, 1859.

To all whom it may concern:

Be it known that I, E. A. JEFFERY, of Corning, in the county of Steuben and State of New York, have invented a new and useful Implement or Device for Applying Locks to Bale-Hoops; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the pliers and hammer which form a part of my invention. Fig. 2 is a perspective view of the pliers and die, which also form a portion of the same. Fig. 3 is a side view of the pliers and die. Fig. 4 is an edge view of the lock ends of bale-hoop with a lock applied, securing the ends together. Fig. 5 is a detached perspective view of the pin of a hoop-lock. Fig. 6 is a detached perspective view of the socket of a hoop-lock. Fig. 7 is a perspective view of a hoop-lock applied to and receiving the two ends of a hoop together. Fig. 8 is a side view of all the parts composing the invention applied to their work.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and useful implement or device for applying to bale-hoops a lock for which Letters Patent were granted to me bearing date December 21, 1858.

The object of the within-described invention is to facilitate the application of said locks to the ends of the hoops, and enabling the ends of the hoops to be drawn toward each other with considerable force commensurate with the strength of the operator, so that the hoops, when locked, may fit snugly to the bale before the same is relieved from the pressure of the press.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, Figs. 1 and 8, represents a pliers and hammer combined. This device may be of malleable cast-iron and formed of two jaws, *a*, attached to the ends of crossed handles *b*, which are secured together by a fulcrum-pin, *c*. One of the jaws *a* has a protuberance, *d*, opposite or in line with the fulcrum-pin *c*, said

protuberance being so formed that it may serve as a hammer. This is clearly shown in Fig. 1.

The combined pliers and hammer may be of medium size, not exceeding in length and weight an ordinary hand-hammer.

B, Figs. 2, 3, and 8, represent a combined pliers and die. This device is also formed of two crossed handles, *e e*, connected together by a fulcrum-pin, *f*, and having two curved jaws, *g g'*, as shown in Figs. 2 and 3. The jaw *g* has its inner or face side made concave longitudinally, as shown at *h*, corresponding to the convexity of the outer side of the socket *i* of my hoop-lock, so that the socket *i* may be fitted in the concave *h*. This will be clearly understood by referring to Figs. 2, 4, and 6.

To the jaw *g* a spring, *j*, is attached, under which the flange of the socket passes. This spring secures the socket *i* in the concave *h*, or prevents it from causally moving therein when required to be adjusted in it. The fulcrum-pin *f* of the pliers and die projects beyond one of the handles *e*, and is parallel with a spring-jaw, *k*, which is secured in the lower part of the jaw *g*, and has a spring, *l*, bearing against it, said spring having a tendency to keep the jaw *k* forced downward the full extent of its movement and somewhat below the center of the fulcrum-pin *f*. (See more particularly Fig. 8.) The jaw *g'* has an arbor, *m*, passing through it, said arbor having a cross-bar, *n*, at its inner end, which bar is equal in length to the socket *i*. On the arbor *m* a spiral spring, *o*, is placed, said spring having a tendency to keep the cross-bar *n* within a recess, *p*, in the inner side of the jaw *g'*. (See Figs. 2 and 8.)

The above-described parts comprise the whole of the invention, which is used as follows: After the bale is fully compressed and while in the press-box under pressure the sheet-metal hoops are placed around it. The operator grasps the pliers and hammer A in one hand and seizes the upper part, *g*, of a hoop, and at the same time with the other hand seizes the other end, *r*, of the hoop with the pliers and die B, the pliers of the latter device being formed of the extended portion of the fulcrum-pin *f* and the jaw, *k* which grasps the end *r* of the hoop as the device B is shoved

upward. The two devices therefore are moved toward each other simultaneously, and the ends *g r* of the hoop are made to overlap each other directly over the socket *i*, which was previously fitted in the concave *h* and retained in proper place by the spring *j*. The operator then closes the jaws *g g'* by pressing toward each other the handles *e e*, and the ends of the hoop are firmly retained. The operator is then enabled to relinquish the grasp on the end *g* of the hoop, and uses the device A as a hammer, driving inward the arbor *m* and cross-bar *n*, the latter bending the overlapped ends of the hoop into the socket *i*, as shown in red, Fig. 8, the bar *n* and concave *h* serving as a swage or die. The operator then, by using the device A as a hammer, drives the pin *s* through the socket *i*, and thereby secures the two ends of the hoop together.

By this invention it will be seen that the

work of applying my hoop-lock may be very expeditiously performed and the hoops drawn snugly around the bale.

The device A may be dispensed with and an ordinary hammer and pliers—two separate tools—used instead; but the device A is preferable.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The employment or use of the combined pliers and die B, constructed and arranged substantially as and for the purpose set forth.

2. The combination of the pliers and hammer A with the pliers and die B, arranged for joint operation substantially as described.

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