S. H. GILMAN.

Bale-Tie.

No. 198,976. Patented Jan. 8, 1878.

Fig 1.

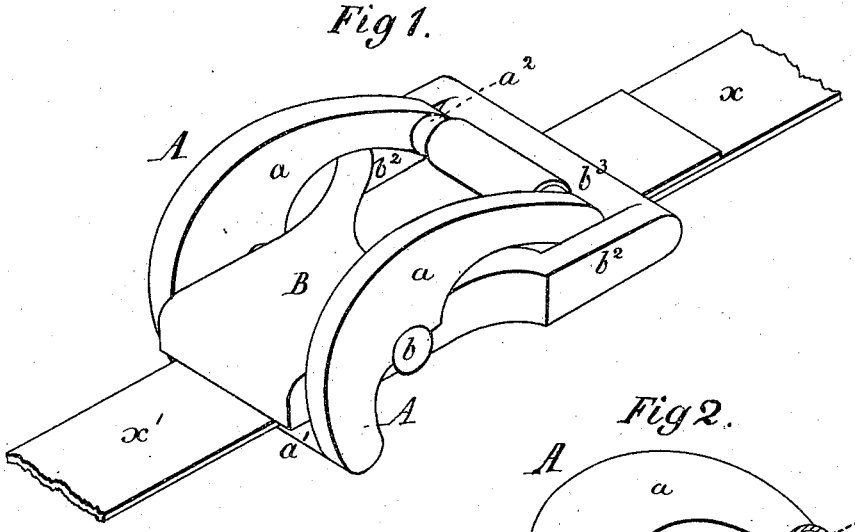


Fig 2.

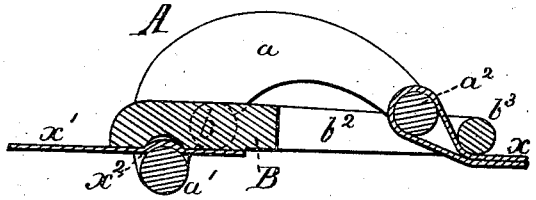


Fig 3.

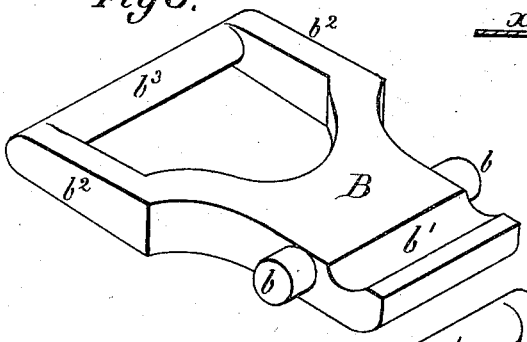
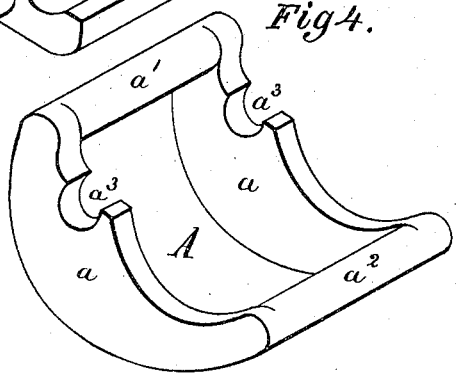


Fig 4.



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UNITED STATES PATENT OFFICE.

SAMUEL H. GILMAN, OF NEW ORLEANS, LOUISIANA.

IMPROVEMENT IN BALE-TIES.

Specification forming part of Letters Patent No. **198,976,** dated January 8, 1878; application filed December 19, 1877.

To all whom it may concern:

Be it known that I, SAMUEL H. GILMAN, of the city of New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and useful Improvement in Bale-Ties, which improvement is fully set forth in the following specification and accompanying drawings, in which latter—

Figure 1 is a perspective view of one of my improved bale-ties as it appears when locked. Fig. 2 is a longitudinal vertical central section of the same. Figs. 3 and 4 are perspective views of two interlocking jaws, which constitute the tie-plates.

My invention consists of certain constructions, combinations, and arrangements of parts, hereinafter fully described and specifically claimed, whereby a self-locking band-tie for bales is produced, which has a very powerful double gripe and can with great ease be repeatedly locked and unlocked.

In the drawings, A represents an oblong frame, consisting of two parallel curved side pieces, a, and two parallel connecting-pieces, a^1 a^2, between which latter the side pieces a are provided with open fulcrum-bearings a^3, at a greater distance from a^2 than a^1. B represents a clamp-plate of suitable width so as to fit into the frame A, and having two trunnions, b, which fit the bearings a^3 of the said frame. Near the said trunnions the plate B is provided with a groove, b^1, which is directly opposite the connection a^1 when the tie is put together. This groove forms a concave seat for the bar a^1 to seat itself in.

At the opposite end the plate B is forked, as at b^2, and the so-formed two arms b^2 are finally united by a transverse connection, b^3, the opening between the arms b^2 being sufficient to admit that part of the frame A which has the connection a^2 constructed upon it.

By this construction, in connection with the tension of the band, a compound-lever tie of great holding capabilities is produced, whereby the leverage-strain of the band, as at x, upon the tie at one of its ends, as at a^2, causes the tie at the other end, as at a^1, to indent and firmly bite upon the band, as at x^2, with an increased leverage-power.

Operation: The two parts A and B of the bale-tie are united by inserting one end of the plate B between the frame A, so that the trunnions b enter into the bearings a^3, and the cross-bar a occupies a position below the groove b^1, as shown in Figs. 1 and 2.

The band x is next so bent around the connecting-bar a^2 that in passing to and from it it also passes beneath the connection b^3 of the clamp-plate B.

The band x is now ready to be pulled tight around the bale, and after this is done the free end x^1 of the band is placed between the connection a^1 and the grooved portion b^1. The tightening hold on the band is now released, whereupon the strain of the bale causes the band to pull the connections a^2 and b^3 toward each other, thereby forcing the connection a^1 and the grooved portion b^1 together with great power, as their leverage is only a small fraction of the leverage of the connections a^2 and b^3.

The aforesaid free end x^1 of the band x, which is flat when introduced into the tie, is now bent and partly forced into the groove b^1, and thereby receives a transverse indentation, x^2, as shown in Fig. 2, which, in conjunction with the great clamping force exerted upon it, constitutes a "bite" upon the part x^1 of the band sufficient to resist any strain which the bale exerts to withdraw the end x^1 from the tie.

To open the tie, it is only necessary to insert a small bar or other suitable instrument horizontally between the arms b^2 and the curved side pieces a and pry them apart, whereupon the bite upon the band at x^2 will be released.

Having described my invention, what I claim is—

1. The combination of the bale-tie pieces A and B, provided with a fulcrum, b, and connections a^2 b^3, clamping-groove b^1, and connection a^1, substantially as and for the purpose set forth.

2. A compound lever-griping cotton-bale tie, having two jaws, which are connected together, and are provided, respectively, with cross-bars, as at a^2 and b^3, said tie having one end of the cotton-bale band passed around its bar a^2 and under its bar b^3, and the other end of said band being griped between the jaws of the tie, substantially as and for the purpose described.

SAMUEL HIDDEN GILMAN.

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