S. K. PADEN.

Improvement in Hoisting Apparatus.

No. 124,380. Patented March 5, 1872.

Fig. 1.

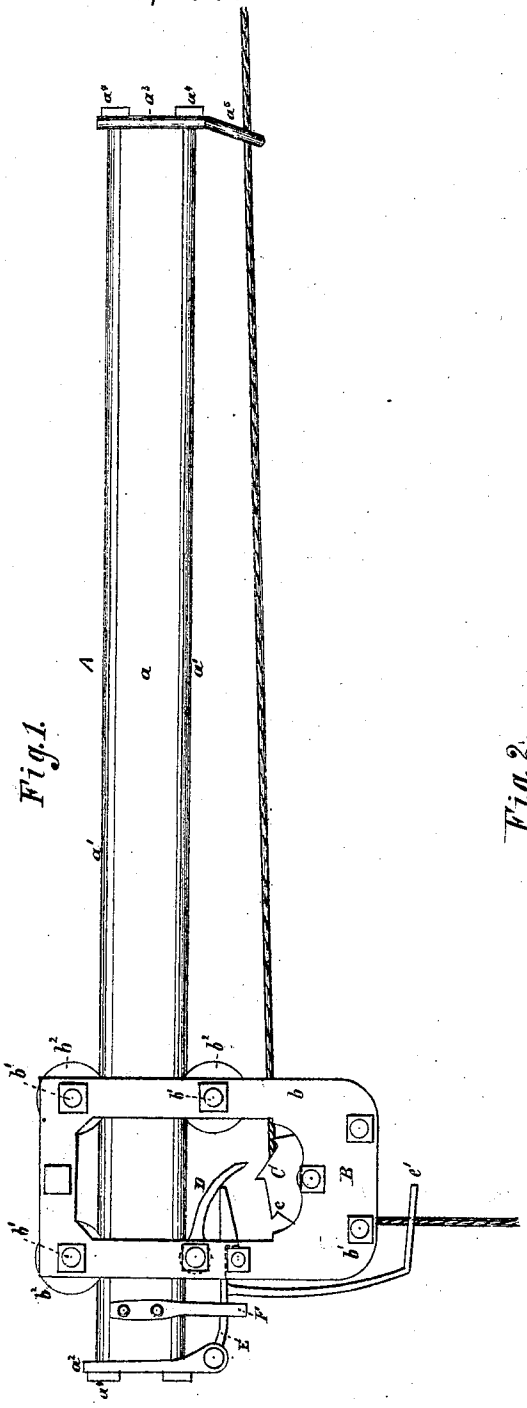
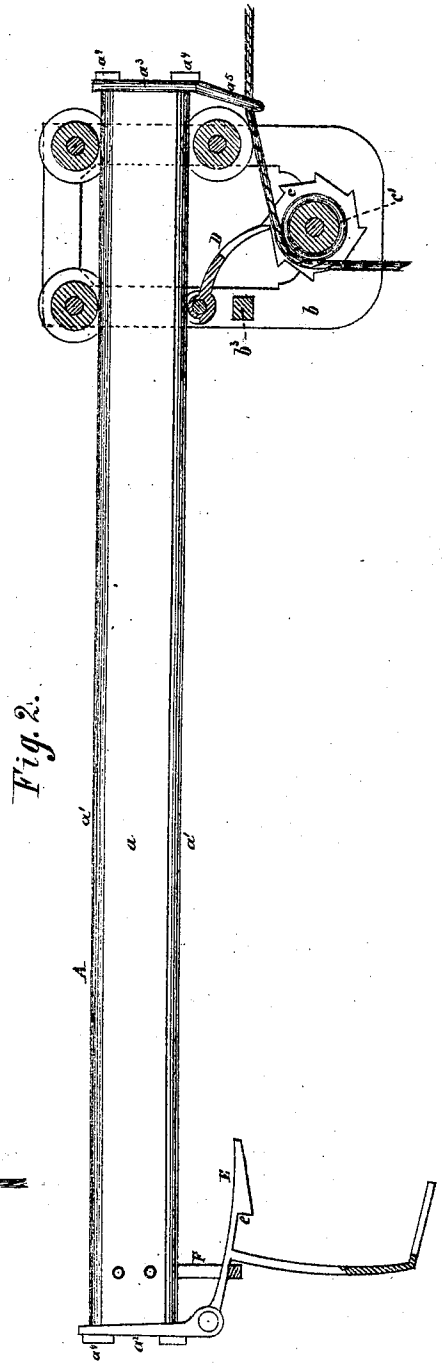


Fig. 2.



Witnesses:

G. Mathy.

Galon C. Lemon

Inventor:

Samuel K. Paden

Per Munn & Co

Attorneys.

UNITED STATES PATENT OFFICE.

SAMUEL K. PADEN, OF PULASKI, PENNSYLVANIA, ASSIGNOR TO HIMSELF, SAMUEL FOLTZ, CHARLES C. SANKEY, AND JOHN MILLER.

IMPROVEMENT IN HOISTING APPARATUS.

Specification forming part of Letters Patent No. 124,380, dated March 5, 1872.

Specification describing an Apparatus for Hoisting and stowing away hay or long feed, invented by SAMUEL K. PADEN, of Pulaski, in the county of Lawrence, and State of Pennsylvania.

The invention will first be fully described, and then clearly pointed out in the claims.

Figure 1 is a side elevation of my hoisting mechanism, showing the carriage locked, but the pulley unlocked. Fig. 2 is a vertical, longitudinal, and sectional elevation of the same, showing the carriage transferred and standing over the hay-mow.

A represents the supporting and track bar of the apparatus. This consists of a light flat wooden strip, *a*, provided with a transversely-curved strap of iron, a^1, on each side. These iron straps are threaded at each end, and confined to the wood by clamps a^2 a^3 and nuts a^4. They subserve two purposes, since they not only constitute the track over which the carriage travels, but also re-enforcements to the flat strip of wood. In consequence of this construction I am enabled to employ a very light, portable, and easily-handled bar, which is, however, possessed of great strength. B is the carriage, which consists of two plates, *b b*, held together by bolts b^1, and provided with friction-pulleys b^2 b^2 b^2. C is the lifting-pulley, arranged centrally between the plates *b*, and near the bottom of carriage. It has both flanges *c c* inwardly curved and ratcheted on their peripheries, while the center is encircled by a rubber ring, *c'*, to create friction on the lifting-rope. D is a double pawl, pivoted above the pulley, and serving as a detent to prevent backward rotation of said pulley. The friction-pulleys b^2 b^2 and the iron track-straps a^1 a^1 are correspondingly constructed, and the bar A is inclined upwardly from the lock-end, and is held on the sides between the plates *b b*, and on top and bottom between the friction-pulley b^2 and the pivot of pawl. Only sufficient play is allowed to the carriage to enable it to move freely and without retardation from closeness of parts. On a downward projection of clamp a^2 is pivoted a lock-bolt, E, shouldered at *e*, and provided with the downward and inclined and bifurcated extension *e'*. F is a pendent loop, which regulates the maximum downward fall of the pawl, and b^3 a rectangular cross-bar between the plates *b b*, over which the shoulder *e* catches. a^5 is a loop on the downward projection of clamp-piece a^2.

The mode of operation is as follows: The rope to which the fork is attached extends up to the left of lifting-pulley, between it and the bolt b^1. It then passes around and over said pulley to the right, when it is extended to and through loop a^5, and to the horse, windlass, or other power used for operating it. Let the carriage be locked and the lifting-pulley be unlocked, as shown in Fig. 1 of drawing, and the weight of the fork will unwind the rope and let it down upon the hay. This draft-rope is provided with a knot near the fork, which strikes the prongs of extension *e'*, lifts the bolt E, and unlocks the carriage. The latter is at once actuated by the power to move up the inclined track and supporting-bar A; but, as soon as it leaves the bolt E, the pawl at once locks the lifting-pulley C. The carriage being transferred to that part of the mow intended, the lifting-pulley is held by the horse and the pawl from rotating in either direction until the load is emptied. This being done, the horse is returned, and the carriage, by its own gravity, moves down the inclined bar A. The square cross-bar b^3 now strikes the end incline of bolt E, lifts it and the double pawl, and then allows the shoulder *e* to fall over it and lock the carriage.

Thus it will be perceived that this locking device, for both carriage and pulley, is entirely automatic, is effected with absolute certainty, and operates with great facility.

Having thus described all that is necessary to a full understanding of my invention, what I esteem to be new, and desire to secure by Letters Patent, is—

1. The curved iron straps a^1 a^1 and intermediate wooden strip *a*, held coincidently together by the clamps at each end, as described,

to form a light, strong, and cheap supporting-rail for the traveling carriage of a hoisting apparatus.

2. The bolt E *e*, combined with the cross-bar b^3 of carriage and the pawl D of ratchet-pulley, as described, so that the carriage will be always locked when the pulley is unlocked, and vice versa.

The above specification of my invention signed by me this 9th day of January, A. D. 1872.

S. K. PADEN.

Witnesses:
SOLON C. KEMON,
THOS. D. D. OURAND.