(No Model.)

W. J. SMITH.

HAY STACKER.

No. 492,059. Patented Feb. 21, 1893.

FIG_1_

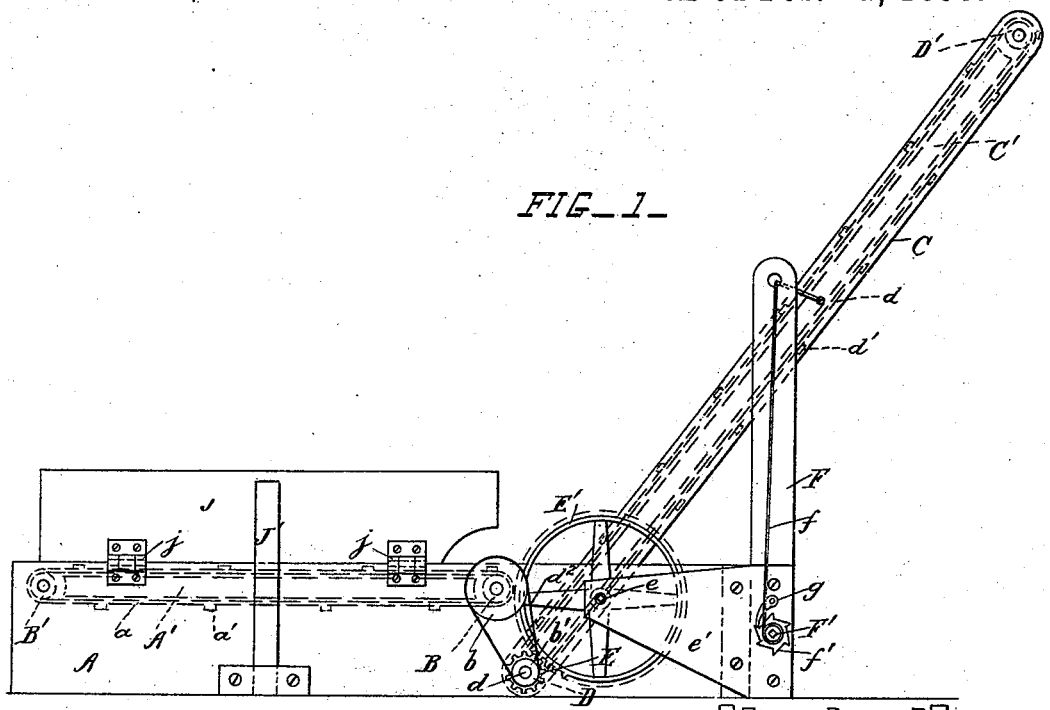

FIG_3_

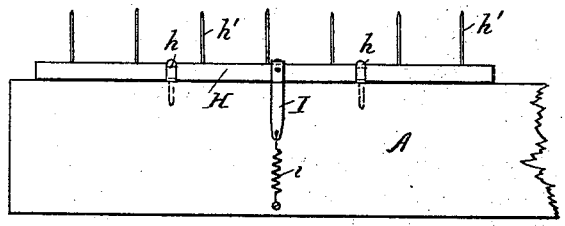

FIG_2_

WITNESSES

Walter C. Allen

John Cullen

INVENTOR

W. J. Smith

by Herbert W. J. Jenner.

Attorney

UNITED STATES PATENT OFFICE.

WILLIE J. SMITH, OF ELLIS, MISSOURI.

HAY-STACKER.

SPECIFICATION forming part of Letters Patent No. 492,059, dated February 21, 1893.

Application filed November 8, 1892. Serial No. 451,331. (No model.)

To all whom it may concern.

Be it known that I, WILLIE J. SMITH, a citizen of the United States, residing at Ellis, in the county of Vernon and State of Missouri, have invented certain new and useful Improvements in Hay-Stackers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to hay stackers; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings: Figure 1 is a side view of the hay-stacker. Fig. 2 is an end view of the same. Fig. 3 is a detail view of the retaining teeth looking at the opposite side of the machine from the view shown in Fig. 1.

A are the side frames of the conveyer, and A′ is the distance piece secured horizontally between the two frames.

B B′ are the rollers of the conveyer, and *a* are the endless belts or chains which pass around the said rollers and are provided with cross slats *a′* for moving the hay over the surface of the distance piece A′. The roller B has a driving pulley *b* secured on its projecting end outside the frame.

C are the sides of the elevator, the lower ends of which are pivoted to the sides of the conveyer, and C′ is the distance piece secured between the two sides C.

D D′ are the rollers of the elevator, and *d* are the endless belts or chains which pass around the said rollers and are provided with cross slats *d′* for engaging with the hay and causing it to move up the elevator. The shaft *d* of the roller D passes through the trunnions which pivot the elevator to the conveyer frames, and E is a toothed pinion secured on the end of the said shaft. A pulley *b′* is also secured on the end of the shaft *d*, and d^2 is a belt which connects the pulleys *b* and *b′*, so that the conveyer and elevator are operated simultaneously.

Any equivalent driving devices may be used instead of a belt, such as a drive chain or toothed wheels, for instance.

E′ is a toothed wheel gearing into the toothed pinion E, and secured upon the shaft *e* which is journaled in the frame of the conveyer and in the bracket *e′* secured to the said frame. The end of the shaft *e* is square so that it may be connected to a horse-power or other motor.

F are uprights secured to the ends of the conveyer frames on each side of the elevator, and *f* are cords or chains which pass through holes in the tops of these uprights. These cords are wound upon the shaft F′, which is journaled in the conveyer side frames under the elevator. The free ends of the cords are connected to the elevator sides so that the elevator may be raised or lowered about the shaft *d*—as a center by turning the shaft F′. The ends of the shaft F′ are square so that handles may be slipped on to turn it, and *f′* is a ratchet wheel secured on the said shaft. A pawl *g* is pivoted to the bracket *e′* and engages with the ratchet wheel, so that the elevator may be held in any desired position.

G is an inclined platform leading up to the top of one of the side frames A.

H is a horizontal bar journaled in the bearings *h*, secured to the side frame A at the top of the platform G, and *h′* are teeth projecting from the said bar. I is a flexible band secured to the said bar, and *i* is a spring connecting the said band with the frame below the platform, and operating to hold the teeth in a substantially vertical position.

J is a board hinged to the opposite side frame A, at the top, by the hinges *j*, and J′ is a spring secured to the side frame and holding the said board in a substantially vertical position.

The hay-rake with the hay is pushed up the inclined platform and the hay turns the teeth *h′* and the board J to the positions indicated by the dotted lines in Fig. 2. The teeth permit the rake to be moved back down the platform and retain the hay on the conveyer, and the board J re-assumes its vertical position and insures the hay being evenly distributed over the elevator. The motion of the driving devices carries the hay along the conveyer and up the elevator, and forms it into a stack.

What I claim is—

1. In a hay-stacker, the combination, with a conveyer, and an inclined platform leading up to it, of a bar journaled at the top of the said platform and provided with teeth, and a

spring normally holding the said teeth raised and permitting them to be turned forward over the conveyer by the hay, substantially as set forth.

2. In a hay-stacker, the combination, with a horizontally-arranged conveyer, of a retaining-board hinged to the top of one of the side frames of the conveyer, and a spring normally holding the said board in a substantially vertical position, to keep the hay on the conveyer.

3. In a hay-stacker, the combination, with a conveyer, of a bar journaled at the top of one of the side frames and provided with teeth and a spring operating to hold the said teeth in their raised position, and a board hinged to the opposite side frame and provided with a spring operating to hold it in its raised position, whereby the hay is retained on the conveyer and distributed evenly over its surface, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIE J. SMITH.

Witnesses:
WILLIAM BERRY,
THOMAS WALDRON.