

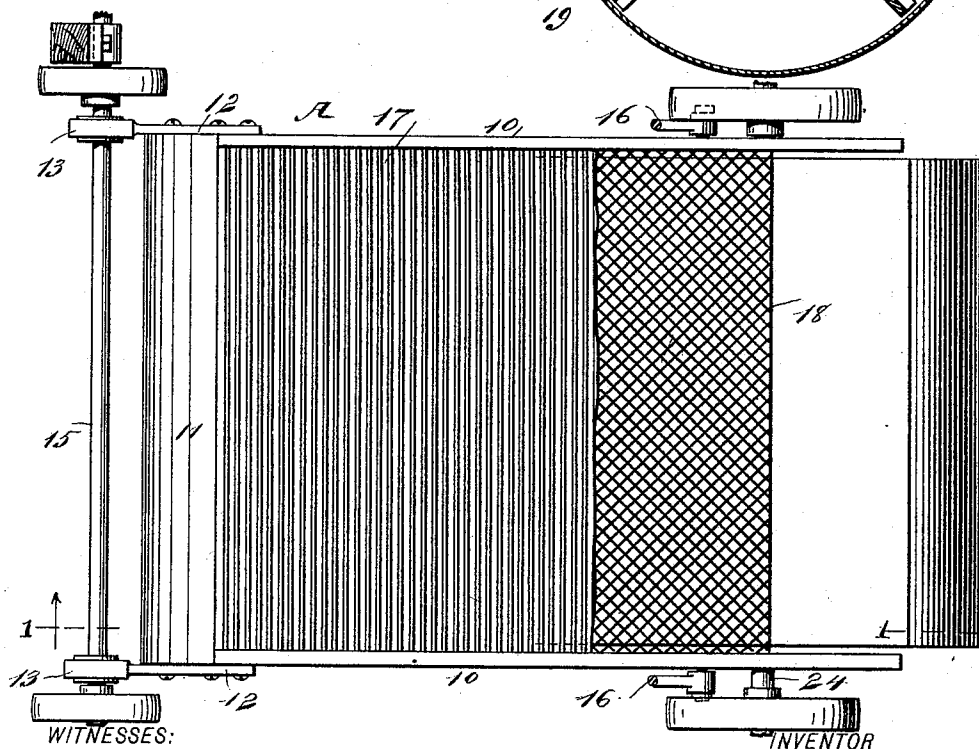
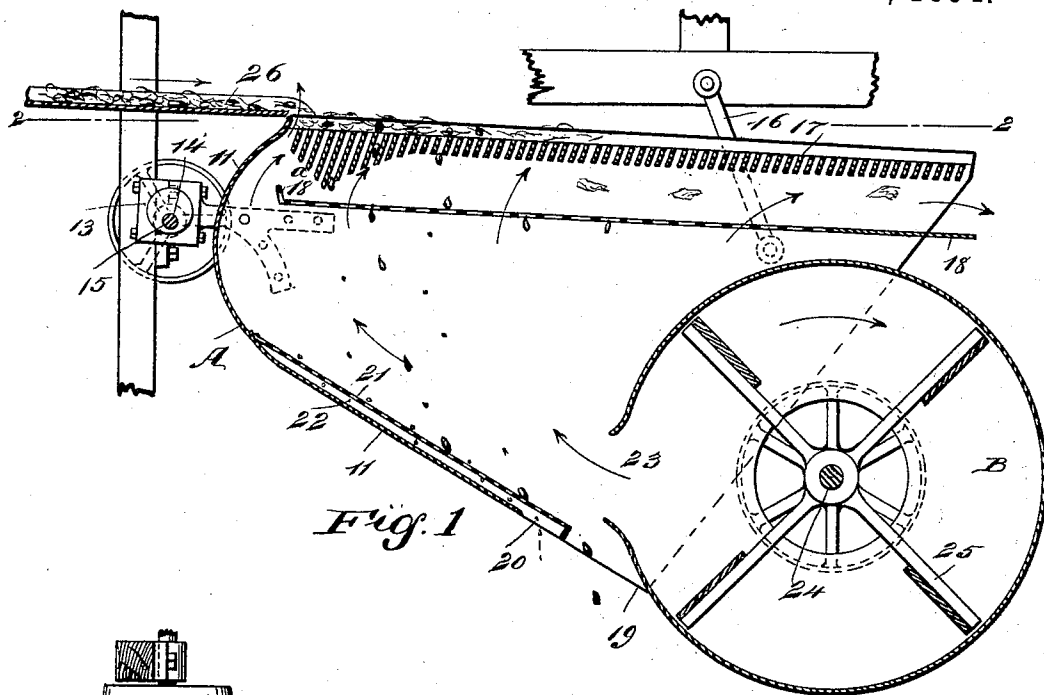
(No Model.)

G. F. CONNER.

SHOE ATTACHMENT FOR THRASHING MACHINES.

No. 530,090.

Patented Dec. 4, 1894.



WITNESSES:

John A. Bingham
C. Sedgwick

Fig. 2

INVENTOR

G. F. Conner
BY *Munn & Co*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

GEORGE F. CONNER, OF WATERTOWN, SOUTH DAKOTA.

SHOE ATTACHMENT FOR THRASHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 530,090, dated December 4, 1894.

Application filed March 9, 1894. Serial No. 502,995. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. CONNER, of Watertown, in the county of Codington and State of South Dakota, have invented a new and Improved Shoe Attachment for Thrashing-Machines, of which the following is a full, clear, and exact description.

My shoe attachment is so constructed and arranged that a blast of air is directed through the falling grain in such manner that it not only extends and acts throughout the entire attachment but is directed with superior force upon that point of the first or initial screen where the grain is usually thickest.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a longitudinal vertical section through the attachment, the said section being taken essentially on the line 1—1 of Fig. 2; and Fig. 2 is a plan partly in section.

In carrying out the invention the frame A of the mill or shoe comprises suitable side pieces 10 and a combined front and bottom board or plate 11, the said combined board or plate being somewhat forwardly curved or cylindrical at the forward end of the shoe, the bottom inclining decidedly downwardly and rearwardly, whereby the rear end of the frame of the shoe, which is open, is considerably wider in a vertical direction than the forward end. The frame of the shoe is adapted to have a rotary movement at its forward end, and an oscillating movement at its rear end. Therefore brackets 12, are projected from each side of the frame at its forward end, which brackets carry boxes 13, receiving eccentrics 14 located upon a driving shaft 15, driven in any suitable or approved manner from the driving mechanism of the thrasher, the shaft being likewise journaled upon any convenient portion of the thrasher frame. The oscillating movement is imparted to the rear portion of the frame of the shoe through the medium of links 16, which are pivoted at one end to the frame of the ma-

chine, and pivotally attached at their opposite ends to the rear side portions of the shoe frame.

A riddle 17, is located in the upper portion of the shoe frame, and this riddle is preferably constructed of a series of slats placed edgewise, as is best shown in Fig. 1. The slats at the forward end of the riddle are graduated in width in such manner as to decrease in width forwardly and rearwardly from an exceedingly wide slat located near the forward end of the said riddle. Thus two inclined planes are formed at this end of the riddle upon its bottom surface, which inclined planes meet, forming somewhat of a V. The remainder of the slats are of equal width, and the upper portions of all the slats are upon the same level.

Below the riddle 17 a second riddle 18, is located in the frame of the shoe, the second riddle being in the nature of a sieve, and its sides are secured firmly in the sides of the frame. The second or lower riddle 18 does not extend to the front portion of the frame, but does extend beneath the inclined planes on the bottom of the upper riddle; and the forward end of the lower riddle 18, is preferably provided with an upwardly and forwardly extending flange 18*. The lower riddle 18, is carried outward a considerable distance beyond the rear end of the shoe frame, and the outwardly projecting portion of this riddle need not be perforated, but is preferably plain, being adapted to conduct chaff, or other matter which will not pass through the sieve or second riddle, out from the shoe.

The frame is provided with two openings in its bottom, a large opening 19, through which the cleaned grain is adapted to drop, and a second opening 20 through which the dirt and other foreign matter screened from the grain find an exit. This division is effected by locating upon the bottom of the frame a screen 21, the opening 19 being at the rear of the rear end of this screen, and the opening 20 forward of its rear end, while a suitable space 22 is provided between the bottom of the frame and its screen.

A fan casing B, is fixed to any suitable support at the rear of the shoe, a portion of which casing extends within the shoe; and the said fan casing is provided with an opening

23, whereby air may be forced into the shoe in an upwardly and forwardly direction a suitable distance above its bottom. A shaft 24, is passed through the fan casing, journaled 5 and driven in any approved manner, and upon this shaft within the casing a suitable fan 25 is mounted.

It will be understood that the upper and lower riddles 17 and 18 are given an inclination downward from the forward in direction 10 of the rear end of the shoe; and in operation, the material thrashed by the machine is delivered upon the upper face of the upper riddle 17 through the medium of a trough 26, table, 15 belt or its equivalent, as shown in Fig. 1. Owing to the peculiar motion imparted to the shoe, namely, a rotary motion at the front and reciprocating motion at the rear, the material 20 be fed over the same in direction of the rear of the shoe. It is obvious likewise that the bulk of the thrashed material will rest over that portion of the upper riddle containing the inclined under surface. Therefore, it is desirable 25 that the blast of air should be passed through the riddle at this point with considerable force, and in the operation of the fan the air therefrom, while it will escape upward through both of the riddles 17 and 18 and out through 30 the rear of the shoe, will be compelled to pass between the forward portion of the shoe frame and the forward flange of the lower riddle, and being confined at this point the air will pass through the wider portion of the upper 35 riddle, or that part at which the bulk of grain is located, with increased force, and therefore will relieve the grain, while in bulk, of considerable of its chaff.

The blast of air will thoroughly clean the 40 grain after it falls from the second or inner riddle 18, relieving it of any light foreign material adhering to it, and the grain in falling upon the screen 21 will be relieved of any material in powdered form that may adhere 45 to it, which will escape through the opening 20, while the cleaned grain will drop through the lower opening 19.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent—

1. In a fanning mill or shoe attachment to 50 thrashing machines, the combination, with a shoe, a driving mechanism imparting to the forward end thereof a rotary movement, the rear portion of the shoe being link supported, 55 and a fan, the casing of which has an outlet into the rear lower portion of the shoe, of an upper riddle adapted to receive the material to be cleaned, the said riddle at its receiving point having its under face carried downward 60 in substantially angular form, a second riddle located beneath the upper riddle and extending beneath the forward portion of the upper riddle but terminating short of the forward end of the shoe frame, whereby a blast of air 65 while passing through both riddles throughout substantially their entire length, will be directed with great force through the forward portion of the upper riddle, as and for the purpose set forth. 70

2. In a fanning mill or shoe attachment to 70 thrashing machines, the combination, with a shoe, a driving mechanism imparting to the forward end thereof a rotary movement, the rear portion of the shoe being link-supported, 75 and a fan, the casing of which has an outlet into the rear lower portion of the shoe, of an upper riddle adapted to receive the material to be cleaned, said riddle at its receiving point having its under face carried downward in 80 substantially angular form, a second riddle located beneath the upper riddle, extending beneath the forward portion of the upper riddle and terminating short of the forward end of the shoe frame, a screen located in the bottom 85 portion of the shoe in such manner as to form a space between the screen and bottom, said space being provided with an outlet forward of the lower end of the said screen, and the outlet for the cleaned grain being rearward 90 of the lower end of said screen, as specified.

GEORGE F. CONNER.

Witnesses:

GEO. SHELDON,
FRED. E. GRANT.