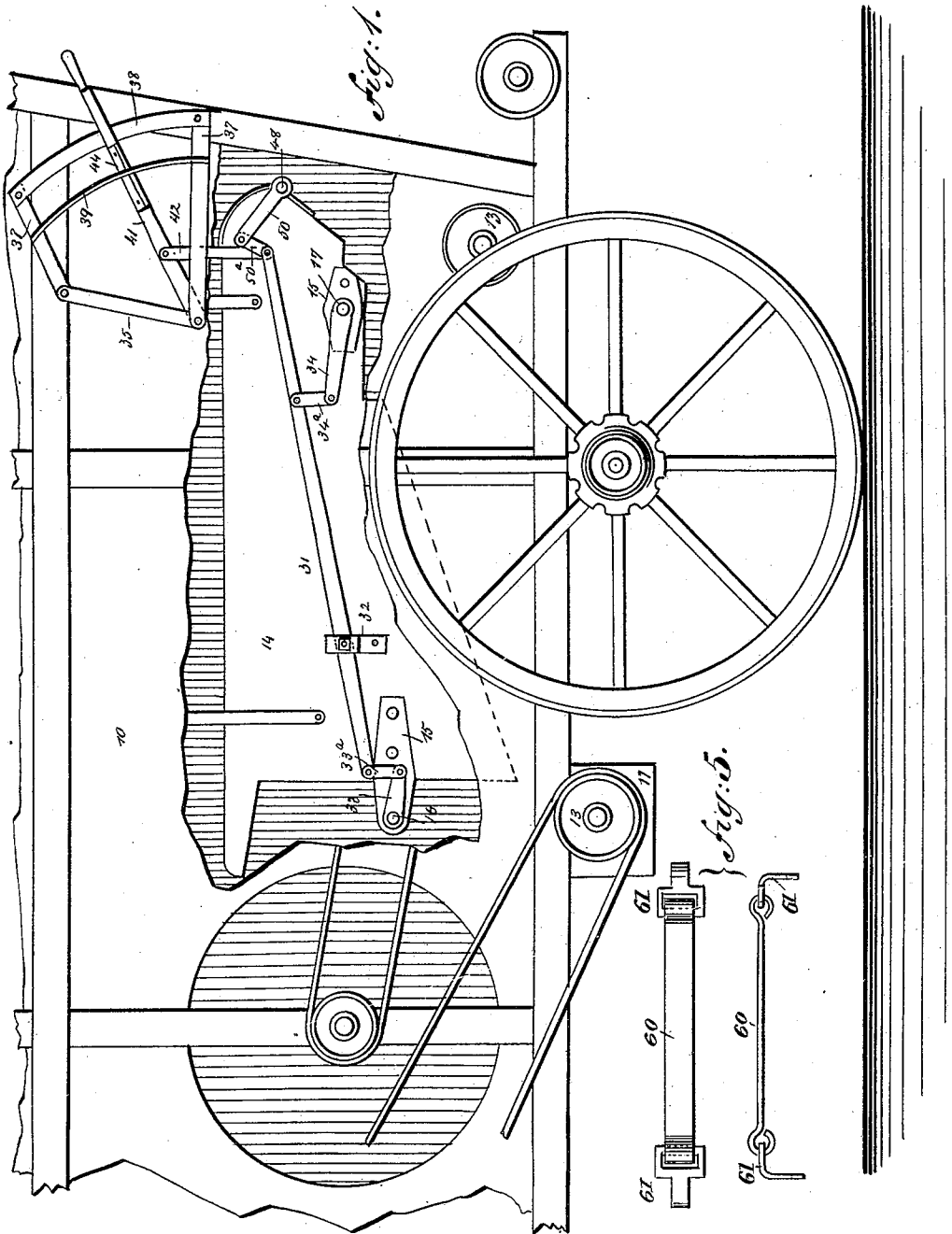
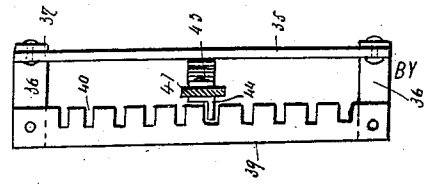
(No Model.) 2 Sheets—Sheet 1.

W. K. DODD.

ADJUSTABLE SIEVE ATTACHMENT FOR THRASHING MACHINES.

No. 405,018. Patented June 11, 1889.





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ADJUSTABLE SIEVE ATTACHMENT FOR THRASHING MACHINES.

No. 405,018. Patented June 11, 1889.

Fig: 2.

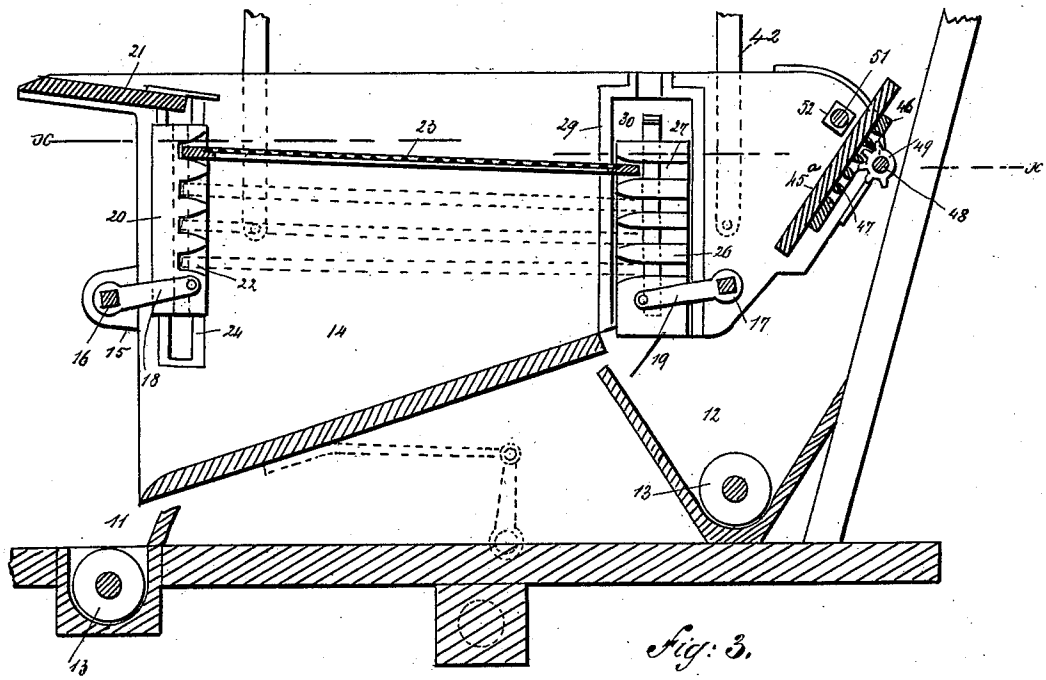


Fig: 3.

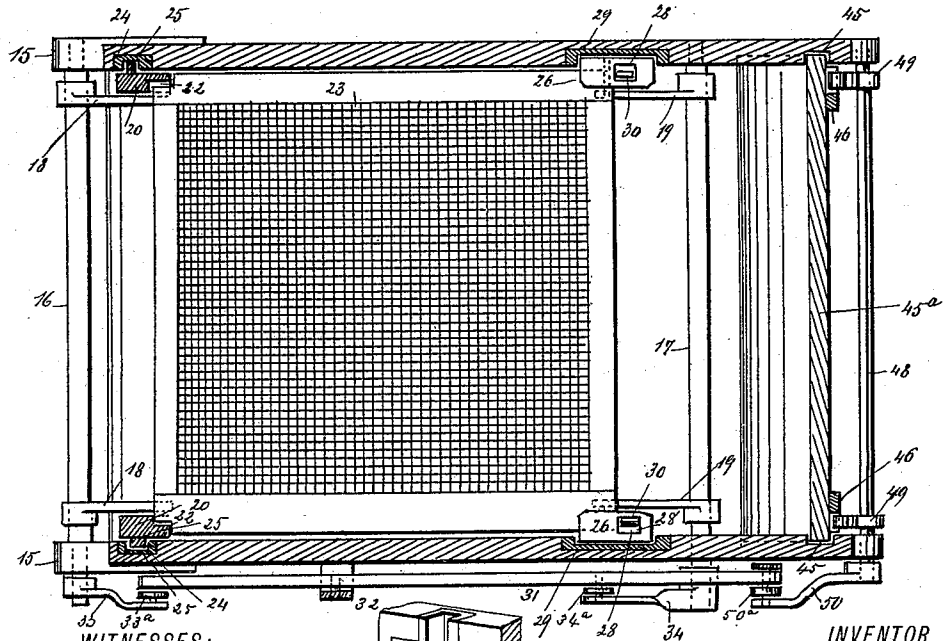
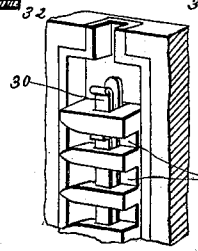


Fig: 6.



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ADJUSTABLE SIEVE ATTACHMENT FOR THRASHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 405,018, dated June 11, 1889.

Application filed February 26, 1889. Serial No. 301,168. (No model.)

To all whom it may concern:

Be it known that I, WILY K. DODD, of Marengo, in the county of Iowa and State of Iowa, have invented a new and Improved Adjustable Sieve Attachment for Thrashing-Machines, of which the following is a full, clear, and exact description.

My invention relates to an adjustable sieve attachment for thrashing-machines, windmills, elevators, and other machines wherein sieves are required, and has for its object to provide a simple and effective means whereby the sieves may be regulated, moved, adjusted, or shifted, as the particular sort of work in hand may require, while the machine is in motion.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter more 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 of reference indicate corresponding parts in all the views.

Figure 1 is a partial side elevation and sectional view of a thrashing-machine having my improvement applied thereto. Fig. 2 is a partial vertical section through the machine and a full section through the shoe of the same. Fig. 3 is a section on line *x x* of Fig. 2. Fig. 4 is a transverse section through the adjusting-lever, taken above the rack; and Fig. 5 is a front and an edge view of a link adapted to connect the adjusting and tilting levers and permit the shoe to have a side shake. Fig. 6 is a detail view to better show the spring-key and parts with which it operates.

As the device is especially adapted for use in connection with thrashing-machines, I have illustrated the attachment as applied thereto.

In carrying out the invention the body of the machine 10 may be of any well-known construction, being shown as provided with a forward and a rear receiver 11 and 12, each receiver being furnished with a suitable conveyer 13.

Above the receiver a shoe 14 is held, which shoe may be capable of a longitudinal or of a transverse movement, as in practice may be found desirable. Upon the sides of the shoe, at both ends, metal bearings 15 are secured, in which a forward and a rear shaft 16 and 17 are respectively journaled, the said shafts being rectangular in cross-section throughout their length, with the exception of the portion passing through the bearings.

To the forward shaft 16 an inwardly-projecting horizontal arm 18 is attached at or near each end within the shoe, and the rear shaft 17 is similarly provided with arms 19, as best shown in Fig. 2.

Two perpendicular slides 20 are located beneath the delivery-board 21 of the shoe, one slide being provided at each side of the said shoe capable of a vertical movement. The slides 20 are preferably made of cast or malleable iron, and in the inner edge of each of the slides a series of notches or grooves 22 are produced, extending transversely of the inner face to a point near the outer side edge, the inner end walls of which grooves are flared in opposite directions, as is also best illustrated in Fig. 2. The grooves are adapted to receive one end of the sieve or sieves 23, and are made to flare, or are essentially wedge-shaped, in order that the frames of said sieves may not bind when the slides are moved up and down.

In attaching the slides to the shoe a longitudinally-grooved metal boxing 24 is introduced into the latter, and a guide-lug 25 is formed integral with the slide capable of movement in the said boxing, as best illustrated in Fig. 3. Two other slides 26 are located at the rear of the shoe, which slides are preferably provided with straight notches 27, extending from side to side, and also a vertical channel 28, extending from the top to within a short distance of the bottom. The rear slides are held to reciprocate in a grooved boxing 29, secured in the side of the shoe in similar manner to the forward boxing 24, and the forward and rear slides are connected to the respective front and rear shafts 16 and 17 by the arms 18 and 19. When the sieves 23 have been inserted in the grooves or notches of the slides, they are retained in position by a spring-key 30, passed downward into the vertical channels of the forward slides, the boxing 29 being extended to the top of the shoe to permit the key to be raised or lowered with the slide.

A tilting-lever 31 is fulcrumed upon one

side of the shoe by means of a bolt and a keeper 32, as best illustrated in Fig. 1, the fulcrum of the said tilting-lever being between the center and the forward end. The forward end of the tilting-lever 31 is connected with the forward shaft 16 by means of a pivoted link 33^a engaging an arm 33 on the end of the shaft 16. Between the center and the rear end of the tilting-lever the shaft 17 is connected therewith by a link 34^a engaging in similar manner an arm 34 on the end of shaft 17.

Upon the body of the thrashing-machine a metal skeleton frame 35 is rigidly secured, the lower end of which frame is parallel with the body 10, the rear edge being convexed and formed to produce a rack, as illustrated in Fig. 4. This is accomplished by carrying the rear ends in the direction of the body and out therefrom to form a shoulder 36 and an arm 37, projecting at a right angle from the said shoulder.

To the outer face of the arms 37 a guide-bar 38 is securely bolted, and upon the shoulders 36 a plate 39 is attached, provided upon the inner face with a series of transverse notches 40. In the angle of the frame produced by the intersection of the forward end with the base an adjusting-lever 41 is pivoted, connected by a vertical link 42 with the rear extremity of the tilting-lever 31. The adjusting-lever 41 is provided upon the inner face with a spring 43, adapted to bear against the guide-bar 38 of the rack, and upon the outer face of the lever an angle-strip 44 is secured, one member of which strip is normally kept in contact with one of the notches 40 of the rack by the said spring 43, as clearly illustrated in Fig. 4.

In the rear end of the shoe diagonally-opposed grooves 45 are produced, in which grooves a tail-board 45^a is inserted. Upon the outer face of the tail-board 45^a, at each end, a plate 46 is securely attached, provided with a series of transverse grooves, whereby teeth 47 are formed, as best illustrated in Fig. 2.

Near the top of the shoe, at the end, a shaft 48 is journaled in suitable bearings, having secured thereon opposite each of the toothed plates 46 a mutilated pinion 49, the teeth of which pinion are adapted to mesh with the teeth of the plate, whereby, when the shaft 48 is manipulated, the tail-board may be either raised or lowered. A corresponding movement is imparted to the tail-board with the slides by a link-connection 50^a between an arm 50 on one end of the shaft and the rear end of the tilting-lever. Parallel with the forward base of the tail-board a rod 51 is secured in the shoe, carrying burrs 52 at each end—one outside and the other inside of each side of the shoe—which burrs serve to regulate the movement of the tail-board in its groove, inasmuch as the side-boards of the shoe are securely held a given distance apart.

It will be readily understood that by moving the adjusting-lever either up or down in the skeleton frame the sieves may be raised or lowered by reason of the vertical movement imparted to the slides through the medium of the tilting-lever 31. When it is desired to remove the tail-board, the link-connection 50^a between the shaft 48 and the tilting-lever 31 is detached from the latter, and the shaft is revolved until the smooth surface of the gear is opposite the toothed plate of the tail-board, whereupon the tail-board may be readily withdrawn from the shoe. The sieves may now be removed by withdrawing the binding-keys 30 from the rear slides. The adjusting-lever is then manipulated to throw the sieves upward as far as they will go at the rear end, whereupon the top sieve may be pulled out from the rear between the rod 51 and the shaft 48. The bottom sieve is then removed, and finally, by means of the adjusting-lever, the slides are lowered sufficiently to permit the next two sieves to be readily removed. This operation is repeated when the sieves are to be placed in position again.

In replacing the tail-board the bottom notch in the toothed plate 46 is made to engage with the first tooth of the pinions 49, whereupon it may be readily carried down to position.

In Fig. 5 a swing strap or rod 60, having a hinge 61 at each end, is illustrated, adapted to be substituted for the link-connection 50^a when the device is attached to a shoe having a side shake.

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

1. The combination, with the shoe of a grain-separator, of a front and rear shaft journaled therein, front and rear vertical slides connected to the said shafts, having grooves in their inner faces, a sieve, a tilting-lever connected with the front and rear shafts, and an adjusting-lever linked to the tilting-lever, substantially as shown and described.

2. The combination, with the shoe of a grain-separator, of a front and rear shaft journaled therein, front and rear vertical slides connected to the said shafts, having grooves in their inner faces, a sieve, a tilting-lever connected with the shafts, an adjusting-lever linked to the tilting-lever, and a tail-board operated from the tilting-lever simultaneously with the slides, all combined for operation substantially as shown and described.

3. The combination, with the shoe of a grain-separator and a front and rear shaft journaled therein, of slides connected to the front shaft, having transverse grooves in the inner face, rear slides attached to the rear shaft, also provided with transverse grooves in the inner face and with a vertical channel, a sieve, a spring-key inserted in the said channels, a tilting-lever connecting the shafts, and an adjustable lever linked to the tilting-lever, all combined for operation substantially as shown and described.

4. The combination, with a grain-separator, a front and rear shaft journaled therein, a tilting-lever connecting the said shafts, and an ad-

justing-lever linked to the tilting-lever, of forward slides having transverse grooves in their inner faces attached to the forward shaft, rear slides provided with transverse grooves, and an intersecting vertical channel attached to the rear shaft, sieves horizontally held in the grooves of the front and rear slides, and a spring-key capable of insertion in the channel of the rear slides, and a contact with the rear end of the sieves, substantially as shown and described.

5. The combination, with a grain-separator, a front and rear shaft journaled therein, a tilting-lever connecting the said shafts, and an adjusting-lever linked to the tilting-lever, of forward slides having transverse grooves in their inner faces attached to the forward shaft, rear slides provided with transverse grooves, and an intersecting vertical channel attached to the rear shaft, sieves horizontally held in the grooves of the front and rear slides, a spring-key capable of insertion in the channel of the rear slides and of contact with the rear end of the sieves, and a tail-board held to slide in the shoe, operated from the tilting-lever simultaneously with the movement of the slides, substantially as shown and described.

6. The combination, with the shoe of a grain-separator, front and rear shafts journaled therein, a tilting-lever connecting the said shafts, and an adjusting-lever linked to the tilting-lever, of front slides attached to the forward shaft, provided with a grooved inner face, rear slides attached to the rear shaft, provided with a transversely-grooved inner face and a vertical intersecting channel, a sieve, a spring-key capable of insertion in the channel of the rear slides, a sliding tail-board provided with racks upon the under surface, a shaft journaled in the shoe to the rear of the tail-board, provided with mutilated pinions capable of engagement with the racks, and a detachable connection between the pinion-shaft and the tilting-lever, all combined for operation substantially as and for the purpose specified.

WILY K. DODD.

Witnesses:
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J. SCHUCHERT.