

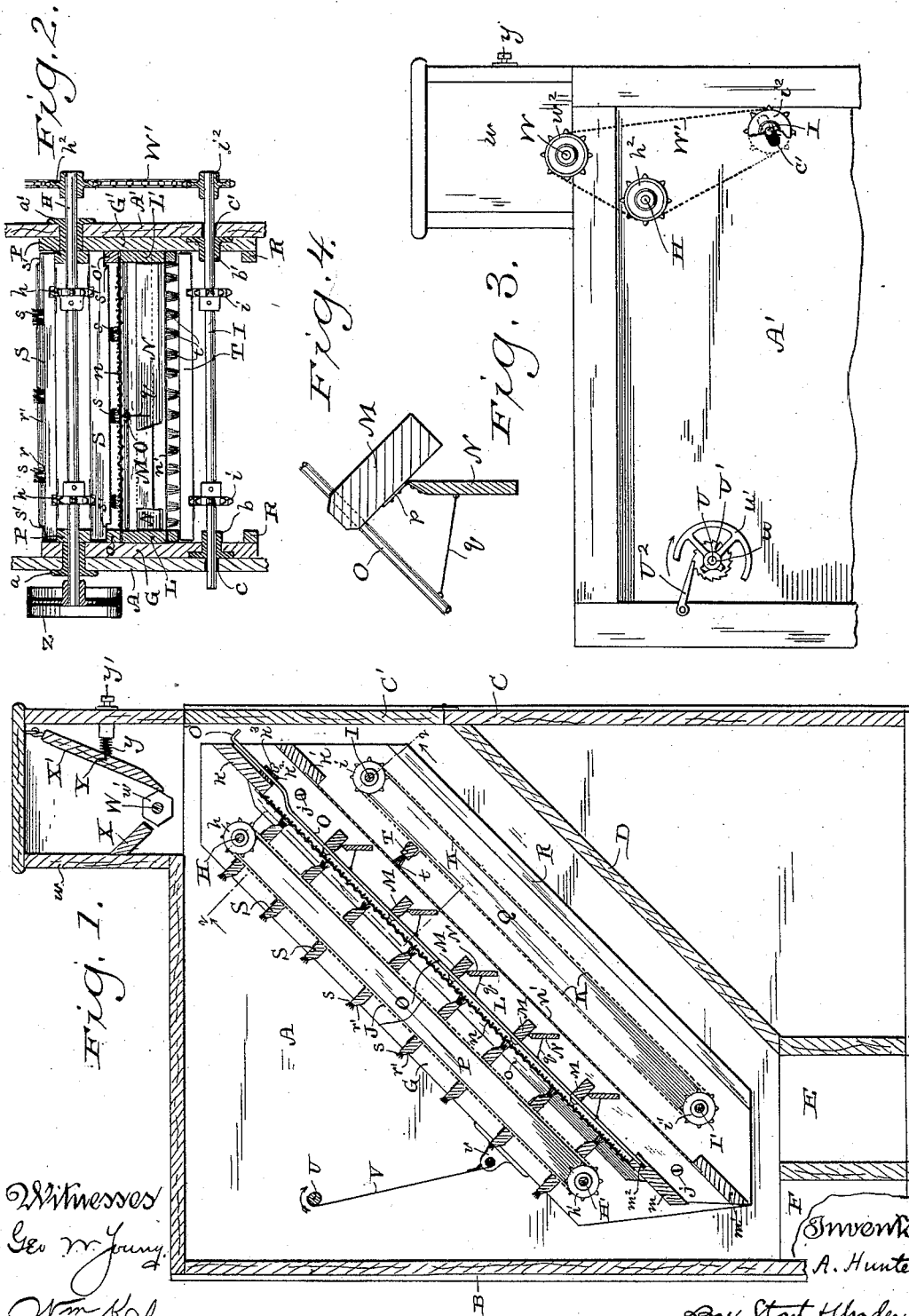
(No Model.)

A. HUNTER.

DEVICE FOR SCALPING WHEAT BREAKS, &c.

No. 423,258.

Patented Mar. 11, 1890.



Witnesses
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UNITED STATES PATENT OFFICE.

ANDREW HUNTER, OF MILWAUKEE, WISCONSIN.

DEVICE FOR SCALPING WHEAT-BREAKS, &c.

SPECIFICATION forming part of Letters Patent No. 423,258, dated March 11, 1890.

Application filed June 24, 1889. Serial No. 315,388. (No model.)

To all whom it may concern:

Be it known that I, ANDREW HUNTER, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Devices for Scalping Wheat-Breaks and Analogous Products; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to devices for scalping wheat-breaks and analogous products; and it consists in certain peculiarities of construction, as will be fully set forth hereinafter and subsequently claimed.

In the drawings, Figure 1 is a vertical longitudinal section through my improved machine, taken near the center thereof. Fig. 2 is a transverse section on the line 2 2 of Fig. 1. Fig. 3 is a partial side elevation, and Fig. 4 is a detail.

A A' represent the side walls of my machine, B the tail end, and C the head end.

D is an inclined cant-board leading to a spout E for the finer products, F being another spout for the tailings.

G G' represent the side boards of a movable frame located adjacent to the side walls A A' and fulcrumed on the boxes a a', which extend through both the side boards and side walls, as best shown in Fig. 2, and receive the transverse shaft H. Below these boxes there are other boxes b b', which only extend through the side boards G G', being set into the same, so that their heads are flush with the surface of the said boards next the side walls, and these latter boxes receive the transverse shaft I, are slots c c' in the said side walls permitting the said shaft I to pass therethrough and to have limited movement as the tail end of the side-board frame is moved up or down, as hereinafter described. The shaft H carries sprocket-wheels h h, and the shaft I carries like sprocket-wheels i i, connected by sprocket-chains J and K, respectively, with like sprocket-wheels h' and i', carried by shafts H' and I', respectively, at the tail end of the said side-board frame, which shafts H' and I' are mounted in boxes exactly like the boxes b b', already described, which only extend through the side boards flush with their surfaces next the side walls.

L L' represent the side boards of a double-

screen frame, which side boards L L' are fastened, as by screws j j, to the inner surfaces of the side boards G G' of the movable frame, and have transverse boards k k' at the head end and like transverse boards m m' at the tail end. Across the top of this frame is secured coarse wire-cloth n, and across the bottom of this frame is stretched a finer wire-cloth n', the upper wire-cloth being practically even with the top of the transverse boards k m and the lower wire-cloth even with the top of the other transverse boards k' m', and above the upper wire-cloth n there are side strips o o', secured to the top edges of the boards L L'.

M M represent series of transverse strips extending from one side board L to the other L' beneath the upper wire-cloth n, and at some little distance above the lower wire-cloth n' and to these strips are hinged, as shown best at p in Fig. 4, valve-strips N N, which are flexibly connected, as by cords q, to a valve-rod O, extending through perforations in the upper portions of the strips M, the tail end of this rod entering a recess m² in the transverse board m and the head end being bent and passing under the transverse board k through a box k³, having a set-screw k³ to fasten it after adjustment, and terminating in a handle O', accessible through the hinged part C' of the head end C of the machine.

P, Q, and R represent the stationary guide-strips for the wooden backs of the brushes to move on, the brush-backs S S S being attached to the chains J, and the brushes proper s s being set in recesses r r, formed at intervals in the inclined faces r' of said brush-backs S. These recesses r are so disposed that each brush-back will have only three or four (more or less) brushes s, and the next brush-back S will have an equal number, set so as to "break joints" with the foregoing, and so on, so that it takes practically the whole series of brush-backs to form an entire brush or scraper across the entire transverse surface of the screen. The chains K carry a single brush-back T, having series of brushes t along its entire length. The guide-strips P and the tops of the strips o o' are for the brush-backs S S, and the guide-strips Q R for the single brush T.

U is a shaft extending across the tail end

of the machine and projecting through the side wall A' and there receiving a hub *u*, carrying a ratchet-wheel U' and a hand-wheel *u'*, all rigid with the said hub, which in turn is rigidly secured to the said shaft U, there being a pawl U² secured to the outside of the wall A' for engagement with said ratchet-wheel, as shown in Fig. 3, and from this shaft U, by cords or chains V—one at each side of the machine adjacent to the inner surface of the side walls thereof—there is suspended the tail end of the described movable frame, the lower ends of the cords or chains V being secured to suitable lugs *v* on the side boards G G' of said movable frame, so that by turning the hand-wheel *u'* the tail end of the movable frame can be elevated or lowered by lifting the pawl U² and reversing the hand-wheel.

The feed-hopper *w* of my machine is provided with a feed-roller *w'*, whose shaft W projects through the side of the hopper and there carries a sprocket-wheel *w*², which is connected by sprocket-chain W' with sprocket-wheels *h*² and *i*² on the outer projecting ends of the heretofore-described shafts H and I, respectively. The feed-hopper *w* is practically the same as that shown in my prior application, Serial No. 295,868, filed January 9, 1889, showing, besides the feed-roller just named, a stationary guard X and a suspended feed-board X', governed by a guide-pin Y, spring *y*, and adjusting-screw *y'*, all as in said prior application.

Power is applied to my machine by means of a belt (not shown) applied to the pulley Z on the end of the shaft H opposite to the end which carries the sprocket-wheel *h*², this shaft being the drive-shaft.

The operation of my device will be readily understood from the foregoing description of its construction. The breaks or other material is fed into the hopper *w* and passes over the feed-roller *w'*, between it and the feed-board X', dropping upon the board *k* at the head end of the stationary frame secured to the movable frame, and thence runs down over the upper coarse screen *n*, the finer particles falling through said screen onto the finer screen *n'* beneath, when a still further separation takes place, the finer particles falling through this lower screen and the coarser particles on the two screens passing off over the boards *m* and *m'*, respectively, into the tailings-spout F, while the particles that pass through the lower screen *n'* drop onto the cant-board D and run into the spout E.

The object of the described adjustment of the tail end of the movable frame which carries the screens is to accommodate my machine for the different classes of material, whether hard or soft, which are to pass over said screens, as the softer the material the steeper the inclination at which the screens must be placed, and vice versa.

The purpose of the described arrangement of a continuous series of brush-backs with

inclined faces extending down nearly to the top of the upper screen is for controlling the flow of the material and preventing it from running off too fast, and the reason of placing the bristles at intervals in each brush-back is to avoid a complete stoppage of the flow of material at any one point, while at the same time the groups of bristles, taken collectively, form a complete brush for the entire surface of the screen.

The retarding of the flow of material over the lower screen *n'* is accomplished by means of the described valve-strips N, the degree of nearness of said valve-strips to said screen being governed by the rod O in the manner already described, said valve-strips being shown in Fig. 1 in their normal position, hanging vertically and with their lower edges quite near the screen *n'*; but if it be found that the flow is too greatly retarded thereby it is only necessary to push the rod O down farther toward the tail end, which action (by reason of the flexible connections *q* between said rod and valve-strips) will instantly and simultaneously raise all the said valve-strips, increasing the distance between their lower edges and the top of the screen, and in the event of a momentary increase in the amount of the material passing over said screen the said valve-strips, by reason of the described flexibility of the connections *q*, will raise and allow the material to pass and then instantly resume their former position by gravity.

The brush-backs S are shouldered at each end, as shown at *s'*, so that their inclined edges will project below the strips *o o'*, (the part cut away being so that there may be as little pressure as possible against the material on the screen *n*), and said thin edges will serve for retarding the material if it travels too fast in its downward passage over the screen, or to carry it downward if it is moving too slow, according to inclination of the movable frame and the nature of the material.

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

1. In a scalping device, the combination, with a frame carrying an inclined screen, of a series of transverse perforated strips extending across said frame above said screen, a series of valve-strips hinged to said transverse strips, a valve-rod extending through the perforations in the transverse strips, and flexible connections between said rod and said valve-strips, substantially as set forth.

2. In a scalping device, the combination of a frame carrying an inclined screen and stationary guide-strips, revolving shafts at each end of said frame carrying sprocket-wheels at each side, sprocket-chains uniting said sprocket-wheels at each side, and a series of transverse brush-backs shouldered at each end uniting said sprocket-chains and having

inclined or thin edges recessed at intervals for the insertion of bristles, substantially as set forth.

3. In a scalping device, the combination,
5 with the side walls of the main frame having perforations near the head end thereof and below these are slots, of boxes passed through the upper perforations, side boards suspended on said boxes just within the said side walls,
10 a drive-shaft passed through said boxes and across the machine, another shaft passed through the side boards across the machine and extending out through the described are slots, upper and lower shafts extending from
15 one side board to the other at the tail ends thereof, sprocket-wheels on all said shafts adjacent to the inner surfaces of said side boards, sprocket-chains connecting the upper head and tail sprocket-wheels, and like chains
20 connecting the lower head and tail sprocket-wheels at each side, the upper set of chains being connected by transverse brushes and the lower set of chains being connected by a

transverse brush, a stationary frame secured to the said side boards between the upper 25 and lower sets of chains and carrying stationary screens swept by said brushes, a ratchet-controlled shaft extending transversely across the tail end of the machine, flexible connections between said shaft and the said side 30 boards, a hopper having a feed-roller with projecting shaft, sprocket-wheels on the said shaft and on the adjacent ends of the drive-shaft and other shaft at the head end of the machine, and a sprocket-chain connecting the 35 said last-named sprocket-wheels together, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wis- 40 consin, in the presence of two witnesses.

ANDREW HUNTER.

Witnesses:

H. G. UNDERWOOD,
WM. KLUG.