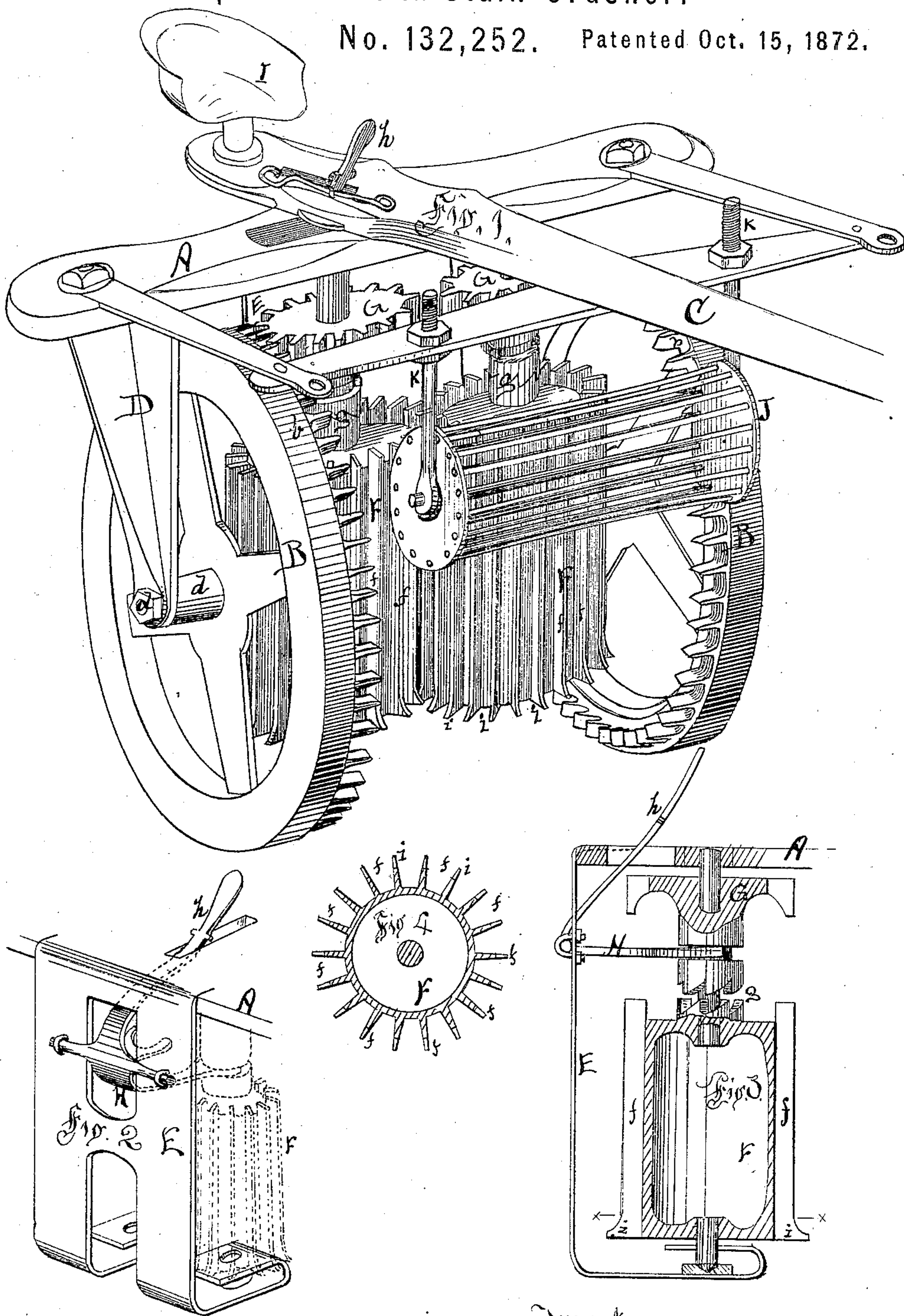


M. D. CHEEK.
Improvement in Stalk-Crusher.

No. 132,252. Patented Oct. 15, 1872.



Witnesses

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MOSES D. CHEEK, OF MEMPHIS, TENNESSEE.

IMPROVEMENT IN STALK-CRUSHERS.

Specification forming part of Letters Patent No. 132,252, dated October 15, 1872.

To all whom it may concern:

Be it known that I, MOSES D. CHEEK, of Memphis, in the county of Shelby and State of Tennessee, have invented a new and useful Improvement in Machines for Crushing Cotton-Stalks, &c.; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, in which—

Figure 1 is a perspective view of machine; Fig. 2 is a rear perspective of the hanging brackets; Fig. 3 is a vertical section of the crushing-roller; and Fig. 4 is a cross-section of the same on line *x x*.

This machine is intended to crush and break the standing and dry stalks of the cotton-plant, so that the same may be more readily burned in the field, or, if preferred, turned under by the plow; and it consists, mainly, of a pair of longitudinally-ribbed cylinders meshing with each other and mounted upon a suitable frame, which is carried upon wheels, and is provided with suitable means for the attachment of a team. During the propulsion of said machine along a row of cotton-plants the stalks are successively caught and passed between said cylinders, and thereby broken and crushed to such a degree that they may thereafter be conveniently drawn into piles for burning or turned under and be buried by the plow.

That others may fully understand my invention I will particularly describe the way I propose to construct it, without, however, intending to limit myself to the precise construction shown, nor to its application for crushing cotton-stalks, because the same machine will operate in a manner equally satisfactory in crushing corn-stalks, &c.

A is a strong frame mounted upon the wheels B B. The tongue C serves the usual purpose for attaching the team and guiding the machine. I place the legs D beneath the ends of said frame, and mount the axle-spindles *d* at the lower ends of said legs, so as to raise the frame A sufficiently high to accommodate the crushing-cylinders beneath it. A hanging frame, E, is suspended from the frame A, and depends therefrom nearly to the surface of the ground. Said hanging frame is bifurcated toward the lower end, and the two parts of the same are bent forward to support the steps for

the shafts of the crushing-cylinders F F, whose upper ends turn in boxes secured to the frame A. The crushing-cylinders are provided with their longitudinal ribs *f f*, with intervening spaces considerably exceeding in width the thickness of the said ribs, so that the crushed stalks will not clog or jam the crushing-cylinders. When said cylinders are in working position these ribs and spaces interlock or mesh with each other in the manner of cog-gear, though motion is not thereby transmitted from one to the other. On the shafts of said cylinders there are cog or spur pinions G, which mesh with driving-gear *b* upon the inner side of each wheel B, respectively, and the crushing-cylinders are thereby revolved independently of each other while the machine is moving forward in a straight line. When, however, the machine is moving in a curved line, as while turning at the ends of the rows, &c., one wheel moves faster than the other, the crushing-cylinders would jam if the pinions G were rigidly fixed upon the shafts of the cylinders F. I therefore make said pinions loose upon said shafts and free to move up and down thereupon, and I provide them with ratchet-clutches, as shown at *g*, whereby, when raised up, they may revolve freely without turning their respective crushing-cylinders. When the wheels B revolve backward the inclined surfaces of the ratchets at *g* are brought in contact, and slide over each other without causing the crushing-cylinders to revolve. The same effect is produced when one wheel revolves faster than the other, as while turning a corner, motion being then communicated directly from one cylinder F to the other, the motion of the pinion of said other cylinder being at that time relatively backward. The pinions G are raised simultaneously out of gear with the crushers by means of a double-clutch lever, H, pivoted at the back of the frame E or A, and operated by the lever *h*, which extends up through the main frame to a point convenient to the foot of the driver when upon his seat I. As the machine approaches the stalks to be crushed, I desire said stalks to be bent forward so that the crushers shall seize it somewhat obliquely, not only to break it off with more certainty near the ground, but also to act upon it obliquely as it passes through the crushers. This prevents sudden strains and

jars upon the mechanism and prevents clogging the crushers, and distributes the labor of crushing each stalk over a greater or less portion of an entire revolution. I therefore attach a reel, J, to the forward part of my machine, which, when it comes in contact with the standing stalks, will cause them to be bent over forward, as described. The reel J is mounted at the ends of adjustable hangers K, so that the reel may be adjusted high or low, as required. The ribs *f* are elongated and turned outward, like toes, as at *i*, at their lower ends, so as more readily to gripe the stalk and draw it between the crushers. The cogs of the pinions G are extended downward at their outer edges so as to present an elongated face, which will not go out of mesh with the driving-gear upon the wheels B. Moreover, by constructing the cog-teeth of the pinion G in the manner¹ described, they will expel the mud and sand which will sometimes lodge between the teeth of the driving-gear on the wheel B.

Having described my invention, what I claim as new is—

1. The crushing-cylinders F F, constructed with longitudinal ribs and mounted in hangers beneath a main-frame mounted on wheels, which support and drive said cylinders, as set forth.
2. The freely-rotating reel J, mounted in adjustable hangers K K, and combined with the crushing-cylinders F F, as and for the purpose set forth.
3. In combination with the ribs *f* of the cylinders F, the projecting toes *i* to gripe and break the stalk, as set forth.
4. In combination with crushing-cylinders F F and crown-wheels B, the pinions G G, constructed with hanging or drooping teeth, as and for the purpose shown and described.

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Witnesses:

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