

G. HOLCOMB.
Thrashing-Machine.

No. 223,914.

Patented Jan. 27, 1880.

Fig: 1.

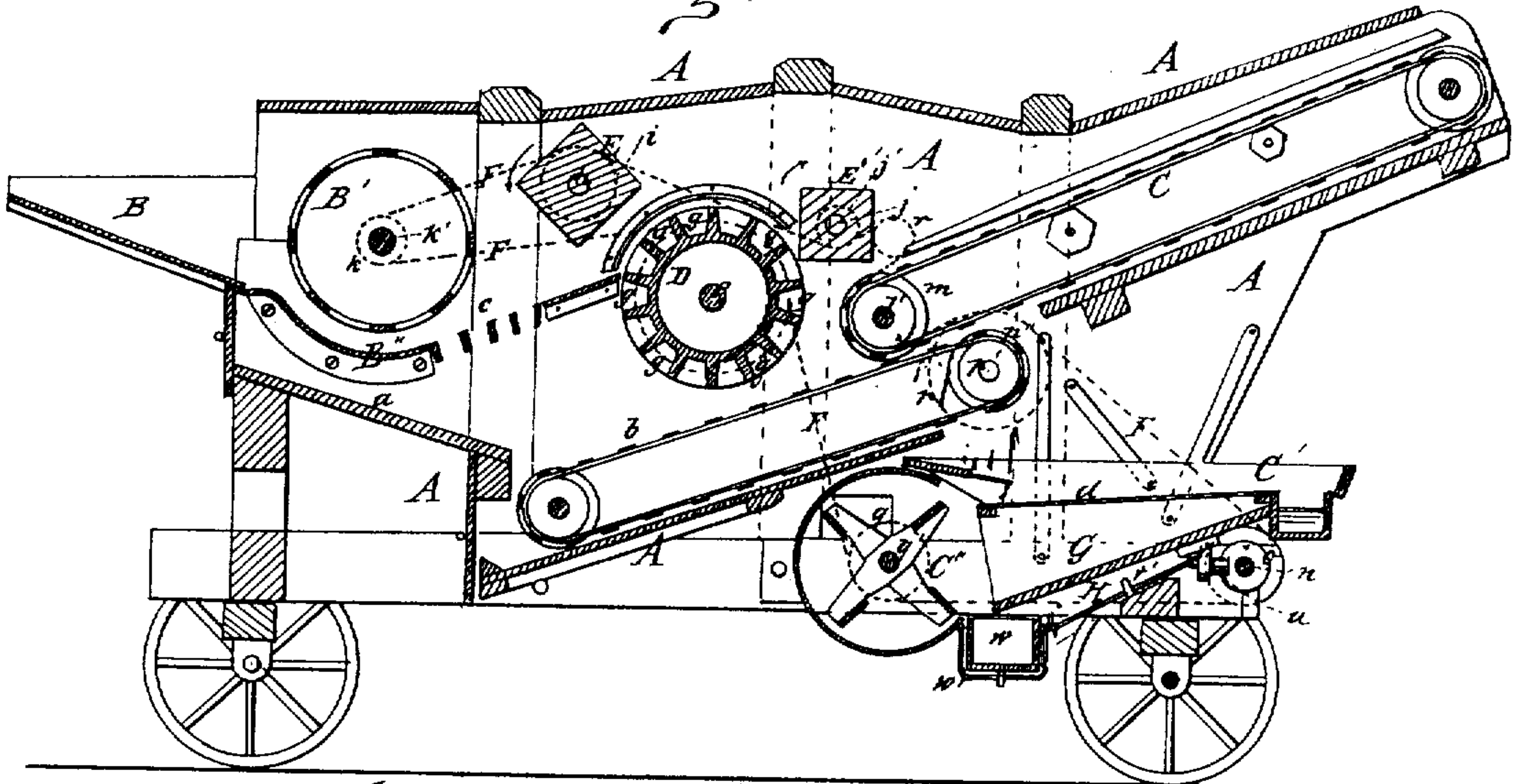


Fig: 2.

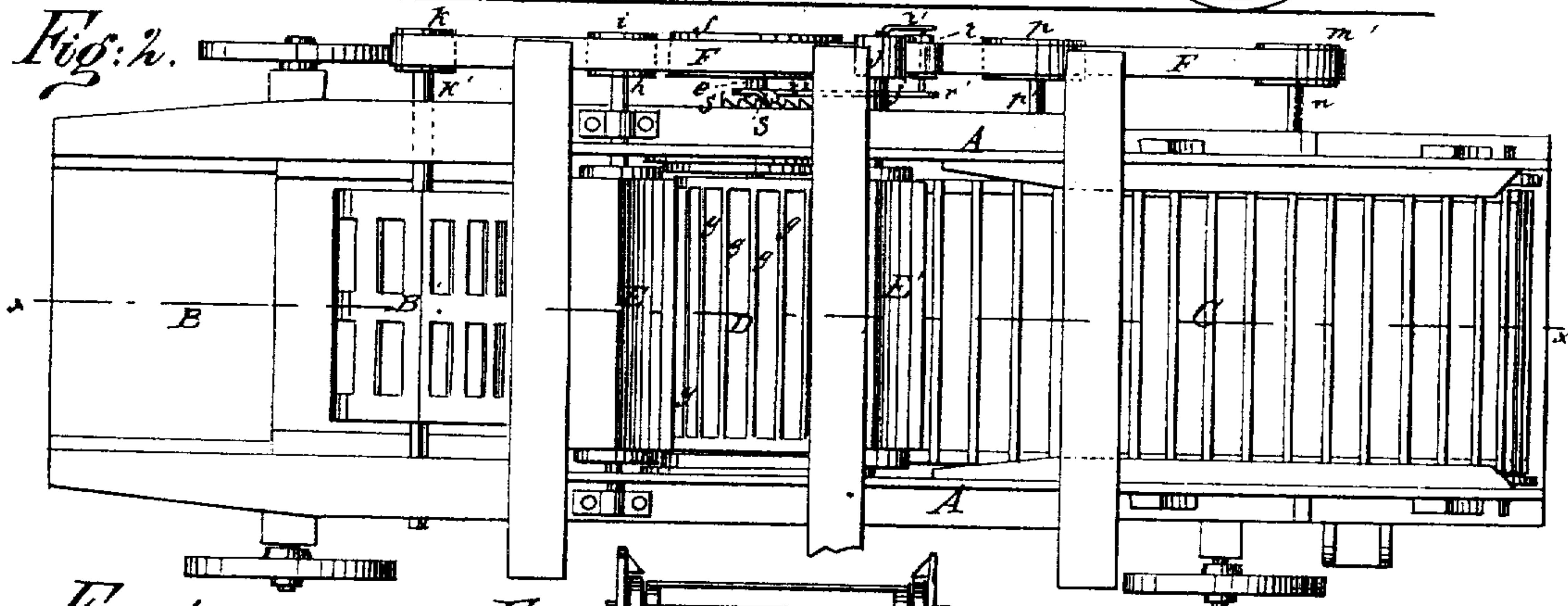
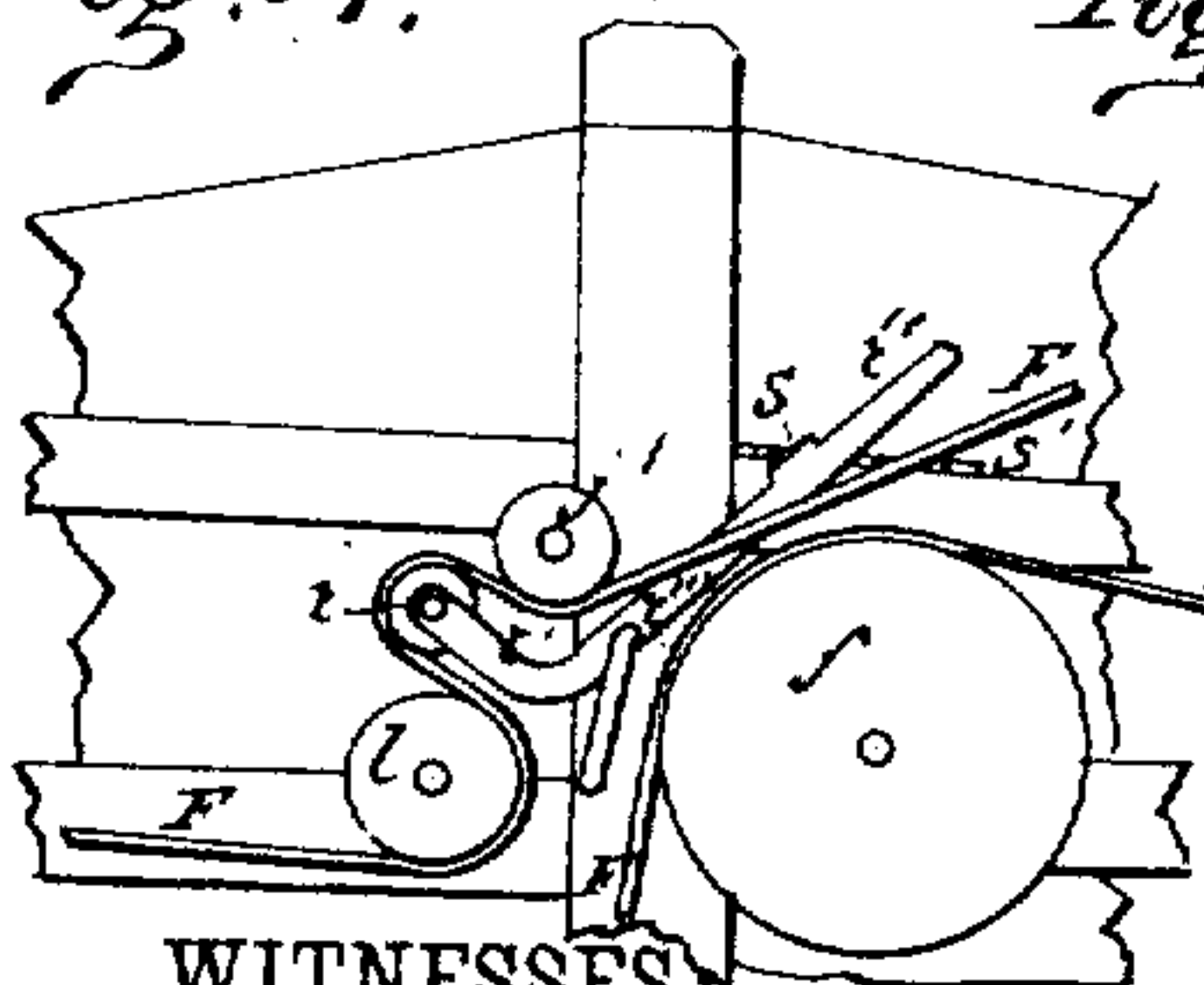


Fig: 4.



WITNESSES:

Chas. N. A. A.
C. S. S. S.

Fig: 3.

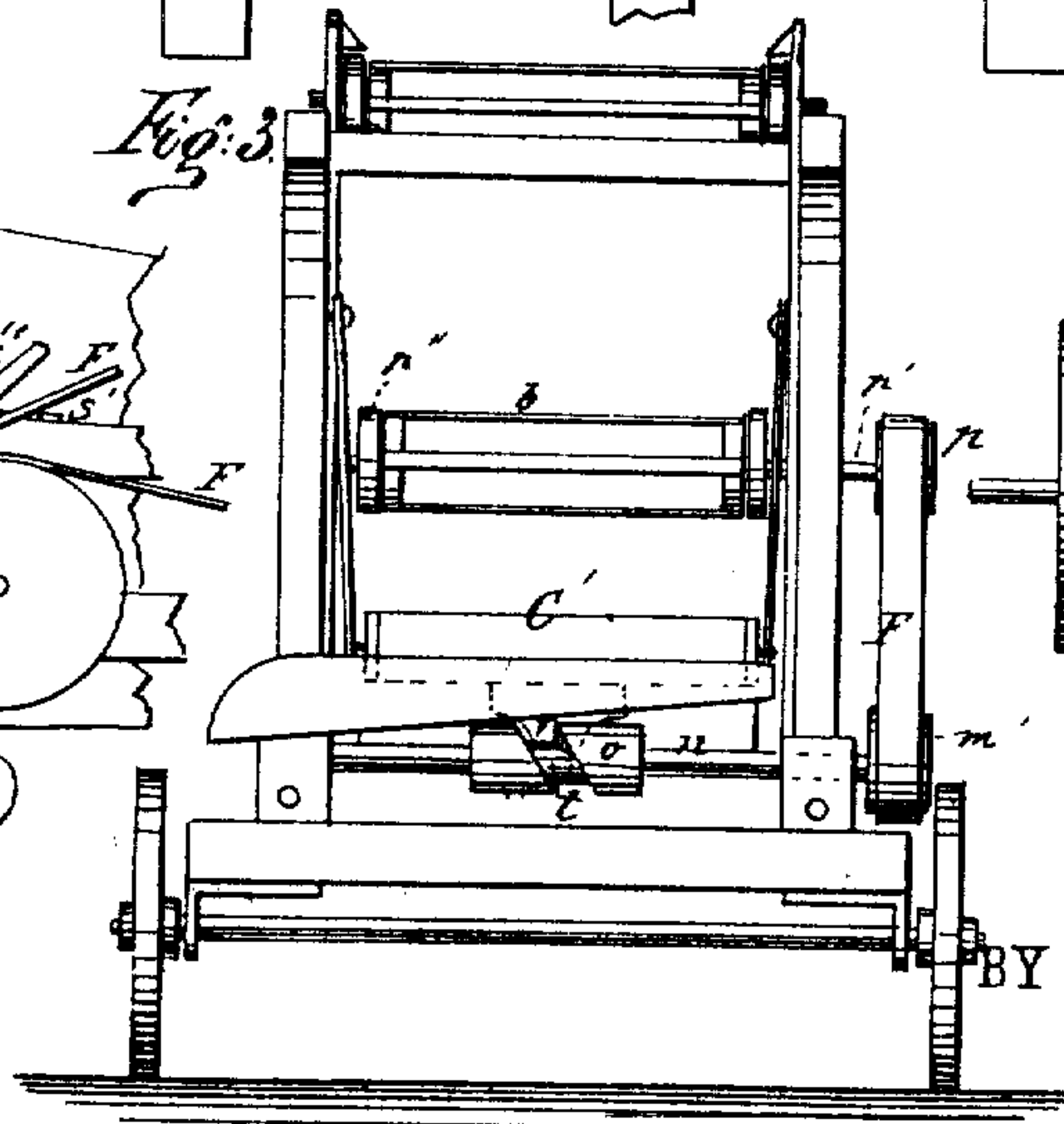


Fig: 5.



INVENTOR:

G. Holcomb
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ATTORNEYS.

UNITED STATES PATENT OFFICE.

GUSTAF HOLCOMB, OF STILLWATER, MINNESOTA.

THRASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 223,914, dated January 27, 1880.

Application filed October 1, 1879.

To all whom it may concern:

Be it known that I, GUSTAF HOLCOMB, of Stillwater, in the county of Washington and State of Minnesota, have invented a new and useful Improvement in Thrashing-Machines, of which the following is a specification.

My invention relates specifically to improvements in the grain and straw carrying mechanism of thrashing-machines.

Referring to the drawings, Figure 1 is a vertical longitudinal section of a thrashing-machine provided with my improvements, taken on line *x x* of Fig. 2. Fig. 2 is a top plan of the thrasher with the top plates of the case removed. Fig. 3 is a rear end elevation of the thrasher, showing the fan-shoe and its operating device. Fig. 4 represents the pulleys and the belt running over the same to give motion to the cylindrical carrier and separator, one of the beaters, and the endless-apron straw-carrier; and Fig. 5 is a modified construction of revolving carrier and separator.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A is the casing of the thrasher. B is the feeding-chute. B' is the cylinder. B'' is the concave plate under the cylinder. *a* is the apron under the concave plate, inclined to the grain-rake *b*. *c* is the grating behind cylinder B', through which the grain falls and over which the straw passes. C is the endless-apron straw-carrier. C' is the shaking-shoe of the separator, with its sieve or riddle *d*, and C'' is the fan or blower, forming part of the separator. All of said parts are constructed and arranged and operate the same as in the ordinary well-known thrashing-machine.

D represents the revolving cylindrical carrier and separator fixed to a shaft, *e*, held in suitable bearings in the sides of the casing A of the thrasher, and having on its projecting end, on one side, a pulley, *f*.

The separator and carrier is interposed between the grating *c* and the straw-carrier C, and in its cylindrical surface are pockets *g*, made lengthwise of the cylinder, and arranged either parallel to the axis thereof, as in Figs. 1 and 2, or spirally, as in Fig. 5.

E is a square beater fixed to a shaft, *h*, journaled in the casing of the thrasher parallel to the separator and carrier D, and forward of

said separator and carrier and over the grating *c*. On the end of shaft *h*, projecting through the casing, is a pulley, *i*, in line with pulley *f*.

E' is another beater fixed to the shaft *j*, journaled in the casing parallel to separator and carrier D, and between said carrier and the straw-carrier C, and at a proper height to allow the straw to pass over it from D, and thence fall to the straw-carrier C.

On the end of shaft *j* is a pulley, *j'*, in line with pulleys *f* and *i*. *k* is a pulley on the end of shaft *k'* of the cylinder B'. *l* is a pulley on the end of shaft *l'* of the drum *m*, around which the straw-carrier C is passed. *m'* is a pulley on the end of shaft *n* under the shoe C', which carries a cam, *o*, to give the vibrating motion to the shoe, as will be described presently. *p* is a pulley on the end of shaft *p'* of the drum or reel *p''* of the grain-rake *b*, and *q* (indicated by dotted lines in Fig. 1) is a pulley on the end of shaft *q'* of the fan C''. *r* is a friction-pulley pivoted between jaws *r'* of the lever *r''*, fulcrumed at *r'''*, said lever having a knife-edge, *s*, in position to engage a rack, *s'*.

A belt, F, runs from pulley *k* of the cylinder B' to pulley *i*, thence to pulley *j*, thence over friction-pulley *r*, thence to pulley *l*, thence to pulley *p*, thence around pulley *m'*, back to pulley *q*, from thence over pulley *f*, back around pulley *k*, so that the motion given to the cylinder B' is communicated by the belt F, through the several pulleys *i*, *j*, *l*, *p*, *m'*, *q*, and *f*, respectively, to beaters E E', drums *m* *p''*, cam *o*, fan C'', and cylindrical separator and carrier D, while by means of the lever *r''* and friction-pulley *r* the belt can be tightened when necessary. The operation of this part of my invention is as follows: The grain and unthrashed heads that fail to pass through the grating *c* pass, with the straw, over said grating to separator and carrier D. The beater E, (which revolves toward D, as indicated by the arrow,) beating the straw and forcing it to D, tends to shake out the grain and unthrashed heads, and when the straw passes over the separator and carrier D to beater E' (which revolves away from D, as indicated by the arrow) it is lifted up and thoroughly shaken. The straw is then carried over the said beater E' and dropped on the straw-carrier C, whence it is carried away from the machine in the usual way.

By the beating of the straw by the beater E, the shaking given to it in passing over revolving separator and carrier D, and by the lifting and shaking given to the straw by the beater E' the grain and unthrashed heads in the straw are most thoroughly shaken out, and, falling into the pockets *g*, they (the said grain and unthrashed heads) are carried around by the said separator and carrier and dropped out of the said pockets to the grain-rake *b*, whence they are carried to the separator in the usual manner.

To give motion to the shoe C', I make use of the cam *o'* on shaft *n*, to which motion is given by belt F through pulley *m'*. The groove *t* in the said cam engages a stud, *u*, fixed in an ear, V, depending from the bottom of the shoe, whereby, as the cam revolves, the stud, following the said groove, is vibrated, and this motion is communicated to the shoe C'.

The grain-spout *z* is held in hangers *w'*, pivoted to the bottom timbers of the frame of the thrasher, immediately under the lower end of the apron G, in the usual manner, so that the

said grain-spout is capable of receiving a slight vibratory motion. This motion is communicated to it from the shoe by a pitman, H, pivoted at its upper end to the ear V, and at its lower end to the grain-spout *z*. Midway between its pivotal connections the pitman is held under a loop or staple, V', which serves as a fulcrum, so that as the shoe is vibrated the pitman is turned on its fulcrum V', and in turn vibrates the grain-spout, for the purpose of causing said grain-spout to deliver the grain that falls into it from the apron G.

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

The combination, with the thrasher and straw-carrier, of an intermediate rotary cylinder, D, closed at both ends, and having longitudinal pockets *g*, and the square beaters E E', all arranged as shown and described.

GUSTAF HOLCOMB.

Witnesses:

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