

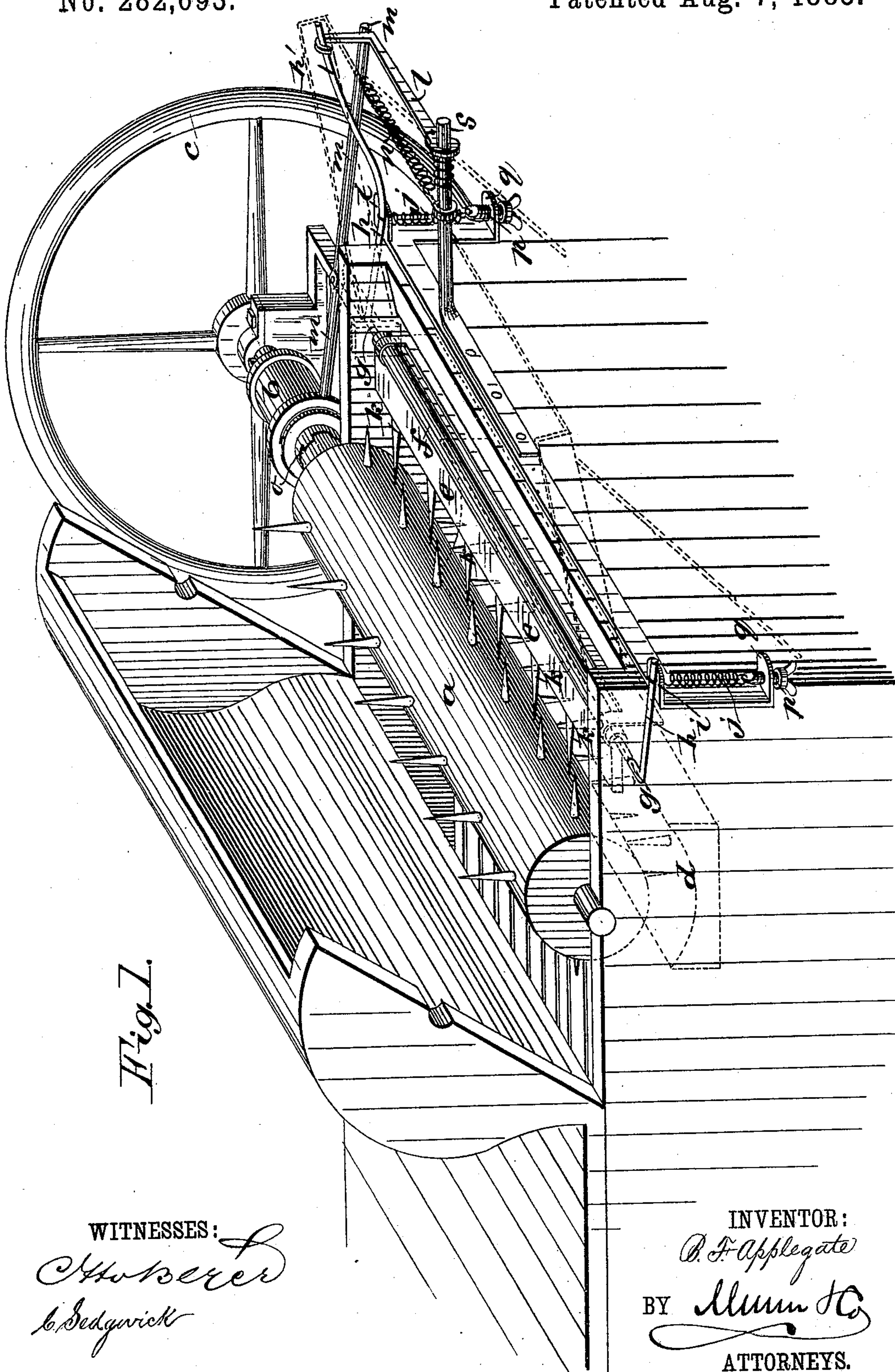
(No Model.)

2 Sheets—Sheet 1.

B. F. APPLGATE.  
THRASHING MACHINE.

No. 282,693.

Patented Aug. 7, 1883.



WITNESSES:

*Chas. W. W. W.*  
*C. Sedgwick*

INVENTOR:

*B. F. Applegate*

BY

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ATTORNEYS.

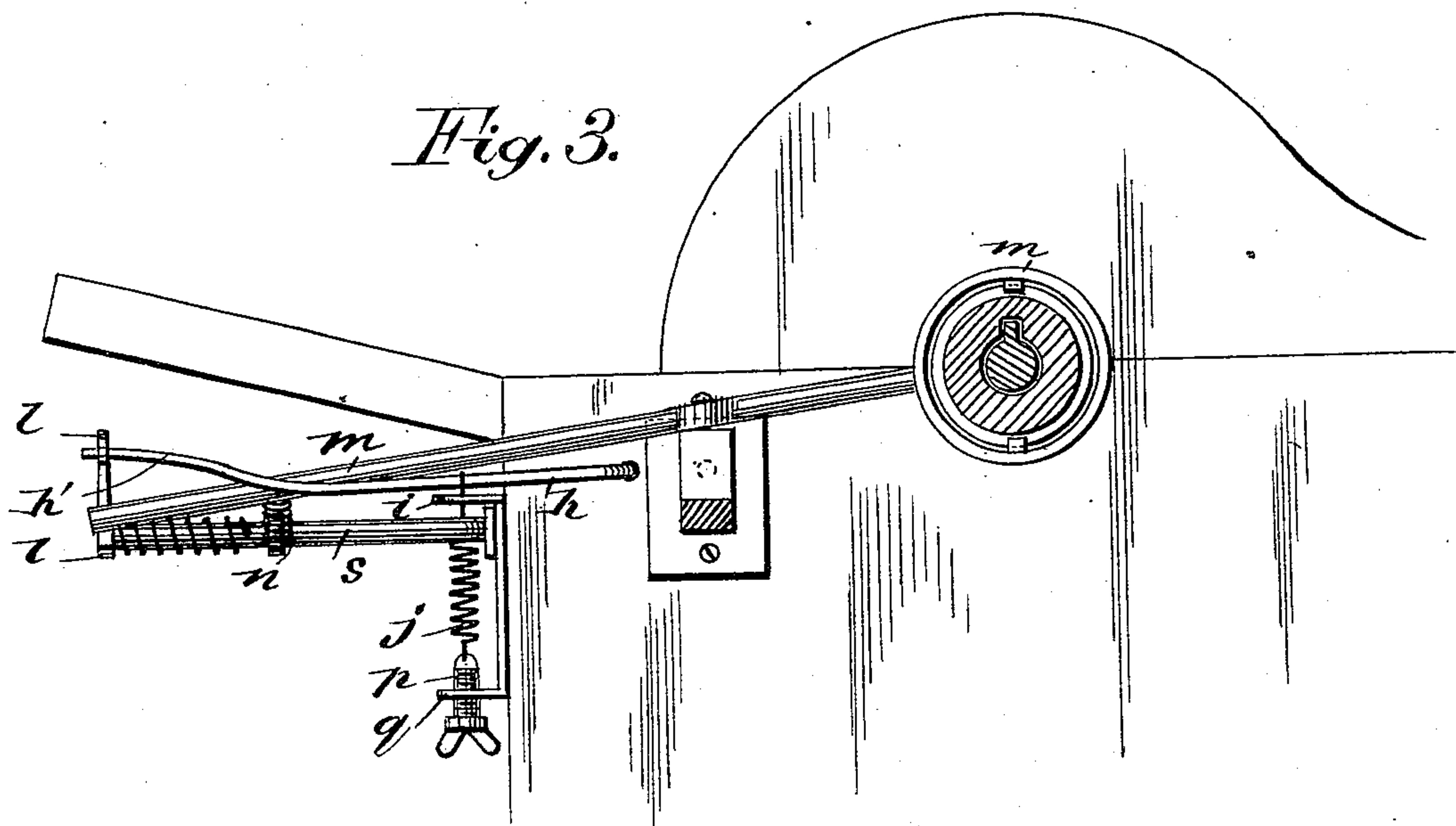
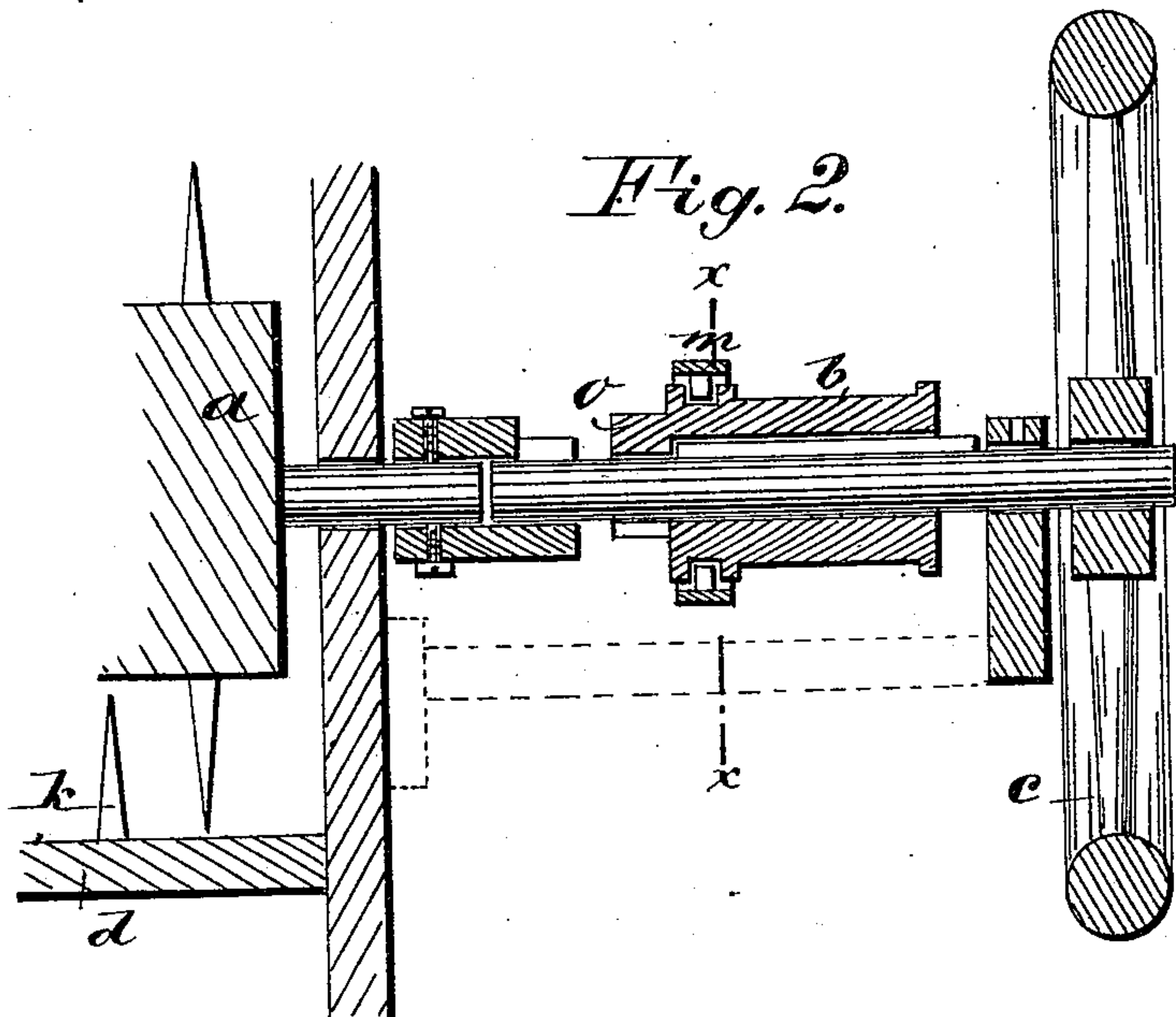
(No Model.)

2 Sheets—Sheet 2.

B. F. APPLGATE.  
THRASHING MACHINE.

No. 282,693.

Patented Aug. 7, 1883.



WITNESSES:

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INVENTOR:

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# UNITED STATES PATENT OFFICE.

BENJAMIN F. APPLGATE, OF NEW ALBANY, INDIANA, ASSIGNOR TO HIMSELF AND BENJAMIN F. LAGEL, OF SAME PLACE.

## THRASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 282,693, dated August 7, 1883.

Application filed April 30, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN F. APPLGATE, of New Albany, in the county of Floyd and State of Indiana, have invented certain new and useful Improvements in Thrashing-Machines, of which the following is a full, clear, and exact description.

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

Figure 1 is a perspective view of the thrashing-cylinder and concave portion of the machine, the case therefor, and the adjuncts representing my invention. Fig. 2 is a detail of the clutch-regulating wheel and part of the cylinder and concave in section on the line of the cylinder-shaft. Fig. 3 is a transverse section, on the line *xx* of Fig. 2, through the cylinder-shaft, with part of the case and the clutch-tripping mechanism in side elevation.

A thrashing-machine cylinder, *a*, is required to run at a high speed of about twelve hundred revolutions per minute, for which a high-speed belt is employed on a small pulley, *b*, whereon the adhesion of the belt cannot be sufficient to drive the cylinder positively without too much tension of the belt, and consequently too much friction of the journals for economical use of the power. Moreover, light tension of the belt is sufficient for driving the cylinder properly, except in the matter of the irregularities which occur by the slipping of the belt, which frequently happens from various causes, as the accumulation of dust on it, a slight shower of rain, slight overfeeding of the grain, and other causes, from which it will be seen that no matter how well the engine or other power may be regulated by a balance-wheel, governor, or other device, the cylinder will be subject to changes which cannot be prevented by such means of regulation. I therefore propose to apply a balance-wheel regulator, *c*, directly to the cylinder-shaft, the momentum of which will continue the speed of the cylinder during the lapses of the belt, and thus effect much steadier motion.

For automatically detaching and stopping the cylinder to protect it from damage by

stones, wood, iron, or other hard substances happening to be mixed in the straw, I make the upper front section of the concave *d* to consist of a bar, *e*, attached at its front or outer edge to a shaft, *f*, that has journal-bearings *g* in the sides of the case, from each end of which an arm, *h*, projects forward to the front of the case, where they rest on supports *i*, on which they are held by springs *j*, which have sufficient power to hold the upper teeth, *k*, of the concave against the stress of the cylinder in the regular performance of its work, while the straw is free of any hard and solid substances; but the tension of the said springs is to be such that when any such substances do accidentally enter with the straw the teeth *k* will be pressed down so as to raise arms *h*, one of which has an extension, *h'*, which is thereby made to raise a setting and tripping latch, *l*, from the clutch-shifting lever *m*, so that the spring *n* will swing said lever, and thereby disconnect the clutch *o*, by which the pulley *b* is connected to the cylinder, and thus instantly stop the cylinder to allow the obstructing substance to be removed, and thus protect the machine and the attendant from harm. The tension of the springs *j* is to be adjusted by adjusting-screws *p* in the brackets *q*, to which said springs are connected. The setting and tripping latch *l* is pivoted on a stud, *s*, projecting from the front of the thrashing-machine case, and the spring *n*, which shifts the lever *m*, is also connected to said stud.

When the machine is cleared of the matters to be removed, the springs *j* will pull the arms *h* down and the teeth *k* up, and the latch *l* will fall and engage the clutch-lever *m* when it is shoved out to clutch the driving-pulley and the cylinder together.

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

1. The combination, in a thrashing-machine, of a yielding concave section, a trip-latch connected therewith, a thrashing-cylinder, the cylinder-shaft, the driving-pulley, the driving-belt, a clutch, and a spring-pressed shifting-lever which is set by the said trip-latch and released by the yielding section of the

concave and said trip-latch, substantially as described.

2. The combination of the cylinder *a*, the cylinder-shaft, the driving-pulley, a clutch-connection, the pivoted yielding section *e* of the concave, arms *h*, rests *i*, springs *j*, trip-latch *l*, spring *n*, and the clutch-lever *m*, one

of said arms *h* having an extension, *h'*, connected with the trip-latch, substantially as described.

BENJAMIN F. APPLEGATE.

Witnesses:

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BENJAMIN F. LAGEL.