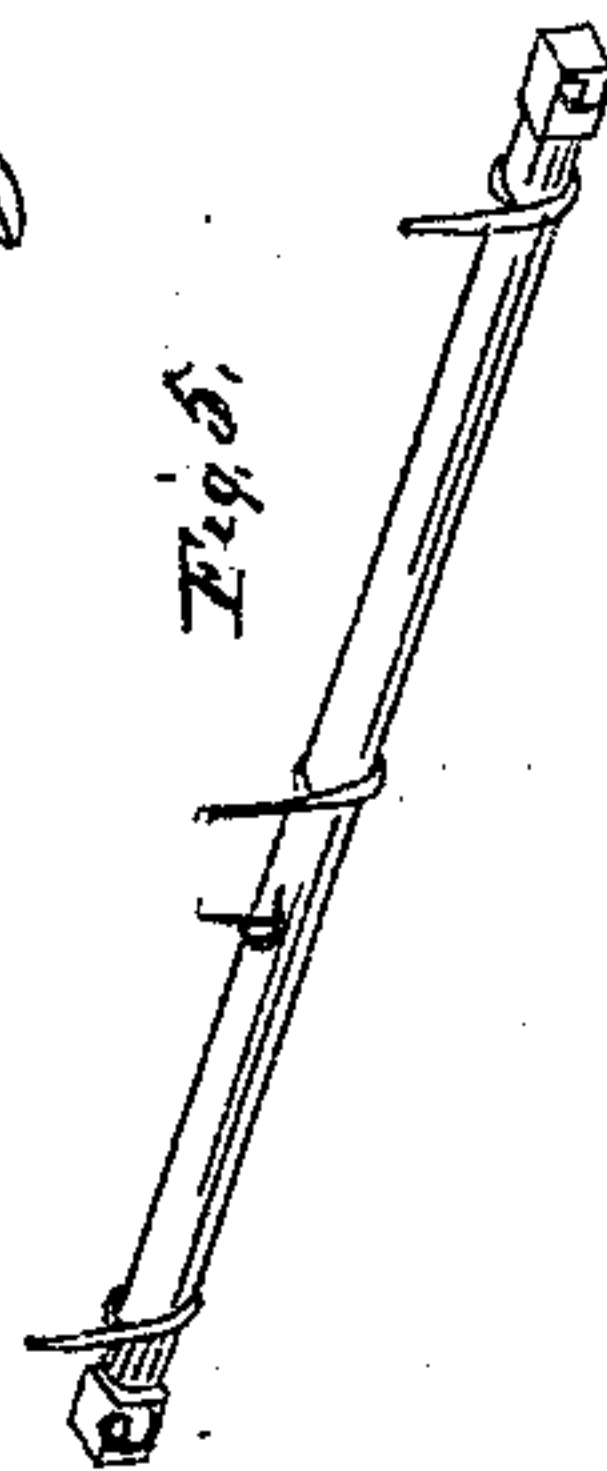
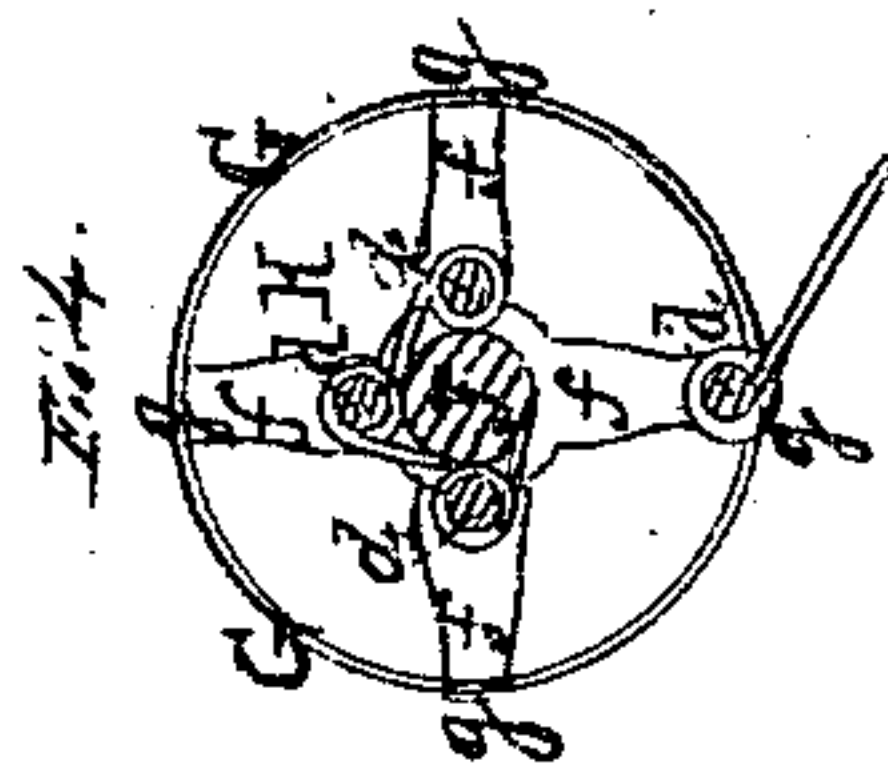
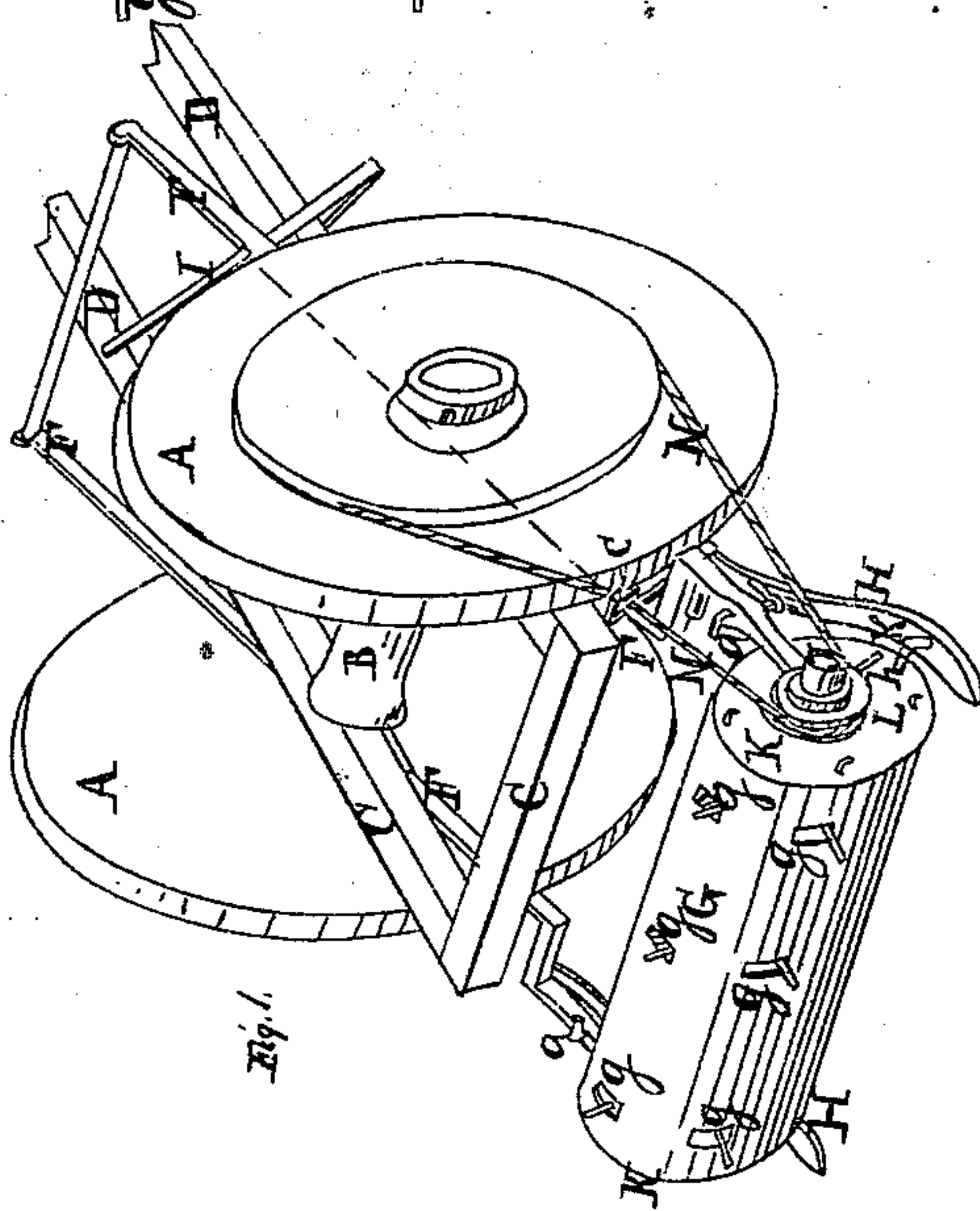
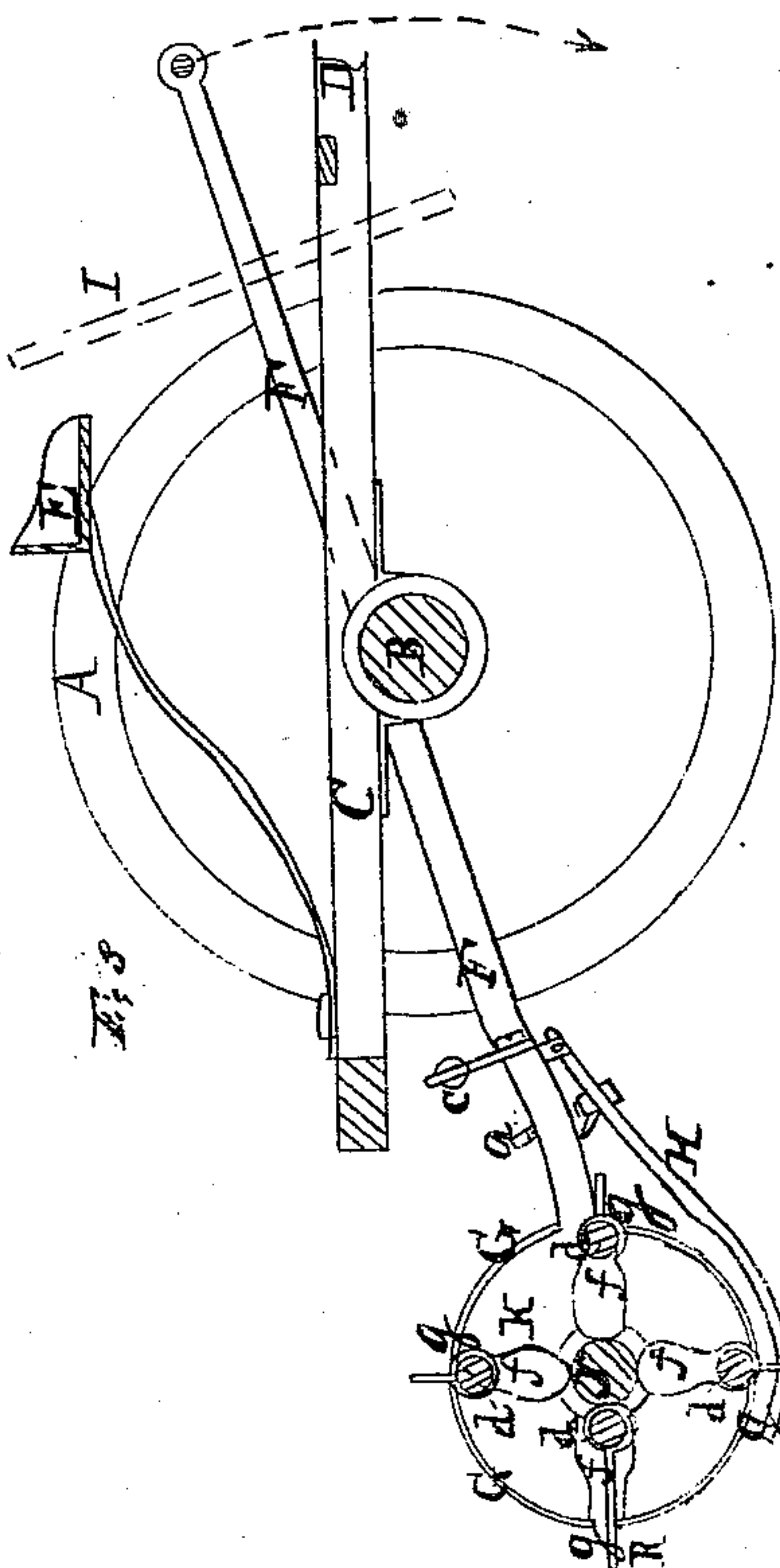
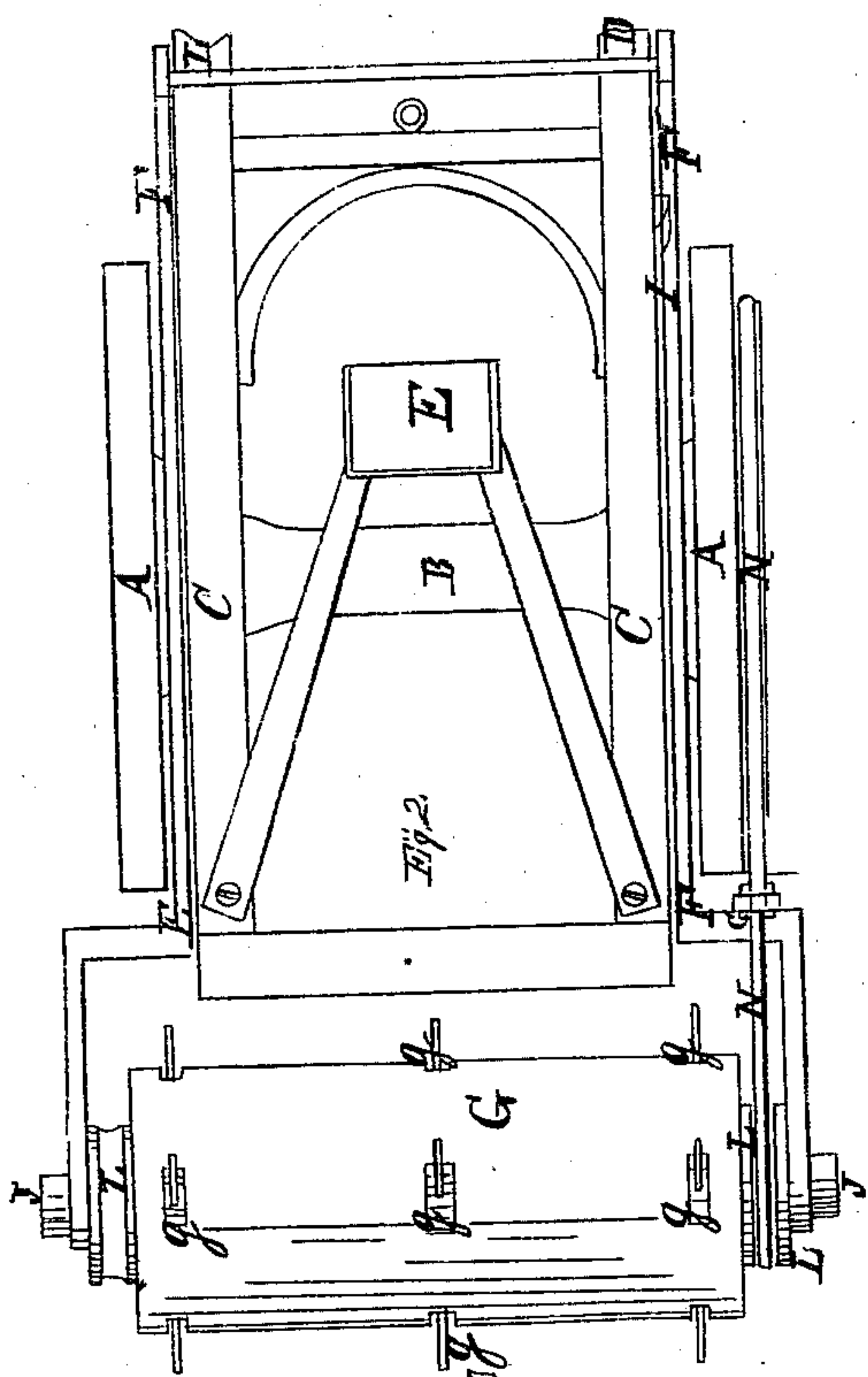


# J.C. Stoddard, Hay Spreader.

No. 24,588

Patented June 28 1859



Witnesses  
J. M. Coombs  
W. H. Hays

Inventor  
J. C. Stoddard



# UNITED STATES PATENT OFFICE.

J. C. STODDARD, OF WORCESTER, MASSACHUSETTS.

## IMPROVEMENT IN MACHINES FOR MAKING HAY.

Specification forming part of Letters Patent No. 24,588, dated June 28, 1859.

*To all whom it may concern:*

Be it known that I, J. C. STODDARD, of Worcester, in the county of Worcester and State of Massachusetts, have invented an Improved Hay-Maker and Horse-Rake Combined; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, and to the letters of reference marked thereon, of which—

Figure 1 represents a perspective view of the machine arranged for making hay. Fig. 2 is a plan view of the machine. Fig. 3 is a vertical section taken through the machine from front to rear, showing an interior view of the raking arrangement with the parts all arranged in their proper relation for making hay. Fig. 4 is a cross-section of the cylinder containing the rakes, showing them in the position when the machine is to be used for a horse-rake. Fig. 5 is a perspective view of one rake-head and its teeth detached from the cylinder.

The nature of my invention consists in a peculiar construction of the raking apparatus within a drum, so that the entangling of the hay about the tines is effectually obviated, and so that the rakes can be readily arranged within the cylinder and the machine converted into a horse-rake, as hereinafter described and represented.

The rakes are applied to a carriage, which is composed of two wheels, A A, revolving upon an axle-tree, B.

C is the frame of the carriage, which is carried out to form the thills D D, and to the frame are fixed two springs proceeding up a suitable distance above the frame and supporting the driver's seat E.

F F are two arms or levers, having their fulcrum outside of the frame C upon the axle-tree B, which proceed out in front of the frame a suitable distance to be operated by the foot of the driver. These levers are carried out in rear of the machine, and serve as bearings for the rake drum G, which constitutes a part of my invention. The rear ends of the levers are supported by two adjustable shoes, H H, which are pivoted to the right-angular portion of the levers, and have screw-bolts *a a* passing through the necks of the shoes H, and through the levers. The screw-bolts are provided with right-

and-left screws for fixing the shoes in any desired position with relation to the raking-drum G.

I is a spring-arm provided with a wedge-piece on its outer surface, which forms a latch and holds the levers, with the rakes, free from the ground when it is necessary to cease the operation of the machine, and by simply drawing this arm so as to relieve the latch the drum drops upon the ground by its own gravity, and the raking commences. An arrangement may be attached to the front of the platform and placed under the control of the driver for holding the raking-drum in a fixed position during the operation of raking or making hay; but this will be optional in the construction and use of the machine, and not necessary to describe.

The drum for carrying the rakes is composed of a shaft or axle, J, and two cylinder-heads, K K, fixed to the axle near its ends. The axle projects out from either side of the heads K, and rests in bearings formed on the ends of levers F F. Between these bearings and the drum-heads K on the axle J are two pulley-wheels, L L, keyed to the axle, and over which pass bands N, which are carried over large driving-pulleys on the sides of wheels A A. These bands are kept tight around the pulleys by an adjustable friction-wheel, c, fixed to the levers, and under which the bands pass. Only one of these bands may be necessary for rotating the drum, and only one is shown in the drawings. The drum-heads K are surrounded by a sheet-metal cylinder, G, and the rakes are inclosed within this cylinder. These rakes, or the rake-heads *d*, have square portions *e* formed on either end, as clearly shown by Fig. 5 of the drawings, and these fit into slots *f f* on the inside of either drum-head K, which are enlarged near the axle J, so as to allow the square portions *e e* to turn therein. The rakes are all placed within these slots, between the two drum-heads, so that their tines or teeth will project through slots *g g* in the cylinder P. They are then fixed in their positions by pins which pass through the heads and into their ends, and in these positions the machine is used for hay-making, and the advantage is as follows: The cylinder serves as a perfect guard to prevent the hay from entangling itself in the tines of the rake, and thereby stop the rotation of the

rakes, as is frequently the case with the machines in use. At the same time the proper elasticity of the teeth is preserved and the hay more thoroughly separated. At the same time by this arrangement I am enabled to convert a hay-making machine into a hay-rake by a simple change of the parts as follows: The tines of one rake are made much longer than those of the others, as represented by Figs. 3 and 4, R being the rake having the long teeth, which is fixed in the position shown by Fig. 3 when used for making hay and in the position indicated by Fig. 4 when adapted to raking only, the other rake-teeth being closed up around the axle and held in this position by any suitable device. The motion of the cylinder is here regulated by a

pin, *h*, projecting from the pulley L, which strikes the hooked piece *k* on the shoe H, and prevents the cylinder from turning. The arms F F are used to raise and lower the cylinder to relieve the rake of its load.

What I claim, and desire to secure by Letters Patent, is—

Arranging the rakes in radial slots between the two drum-heads K and fixing them therein, so as to serve the purpose of a hay-making, and, by a simple change, a hay-raking machine, substantially in the manner herein set forth.

J. C. STODDARD.

Witnesses:

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MICH. HUGHES.