

J. G. PERRY.

Hay Cutter.

No. 39,242.

Patented July 14, 1863.

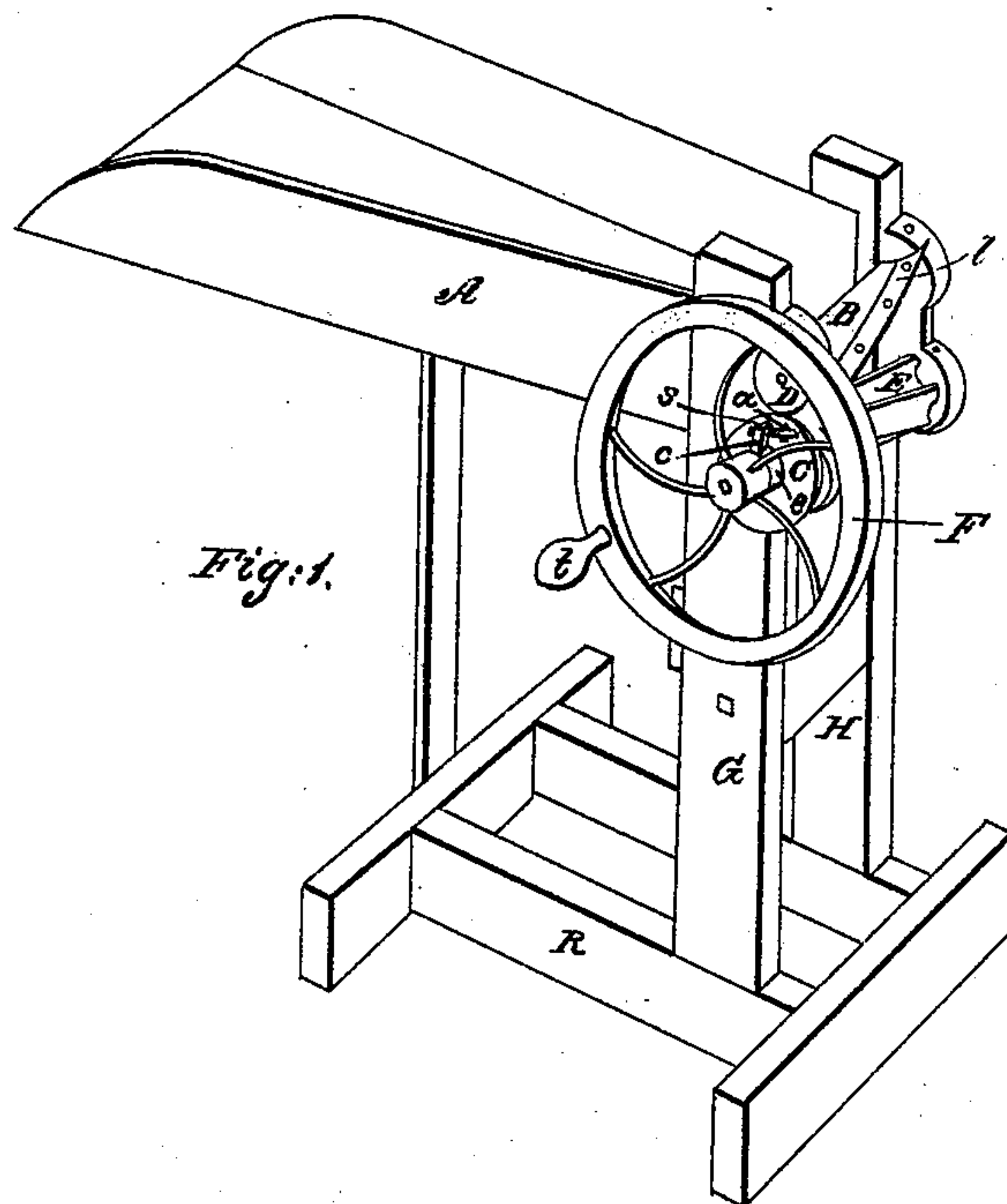


Fig: 1.

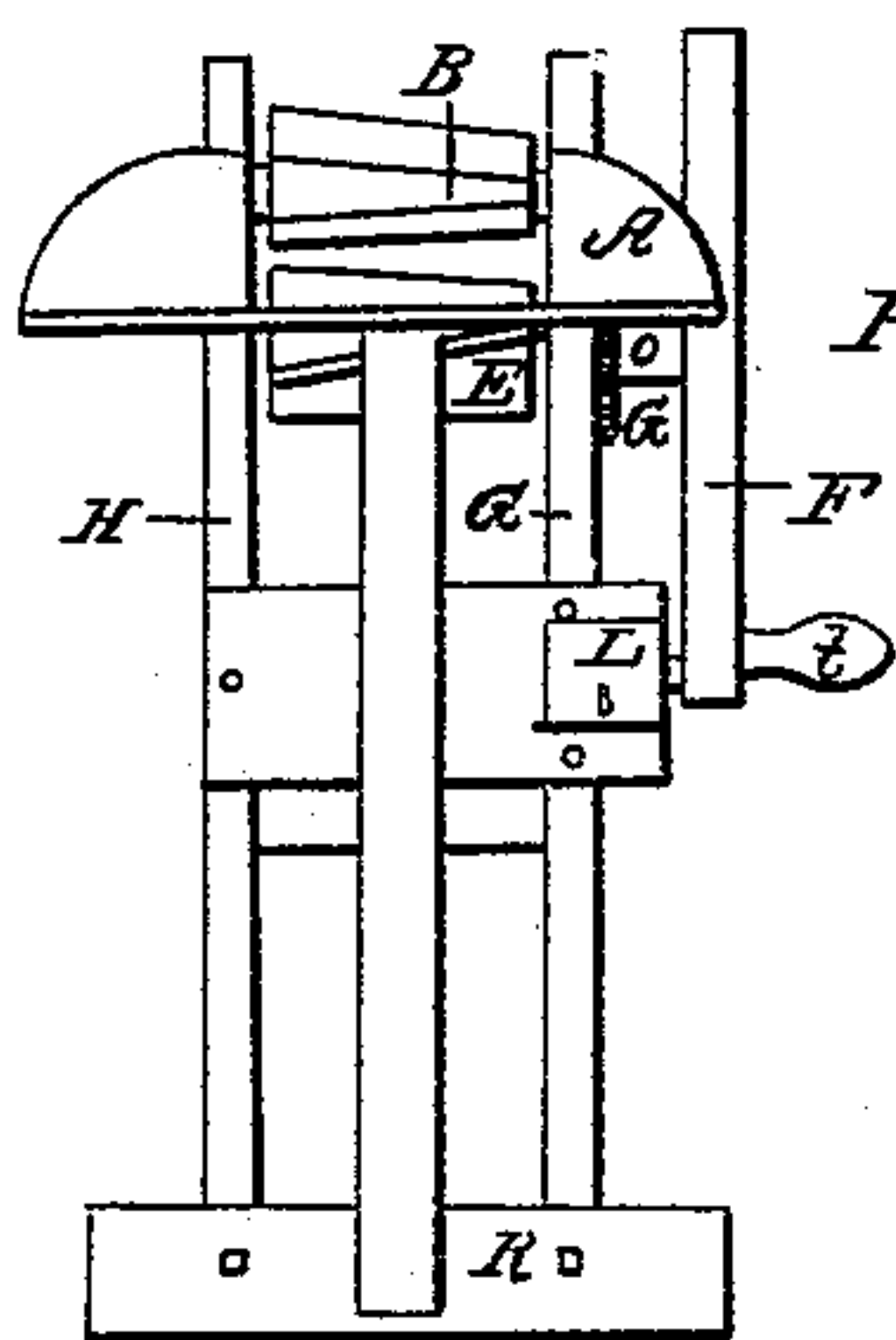


Fig: 4.

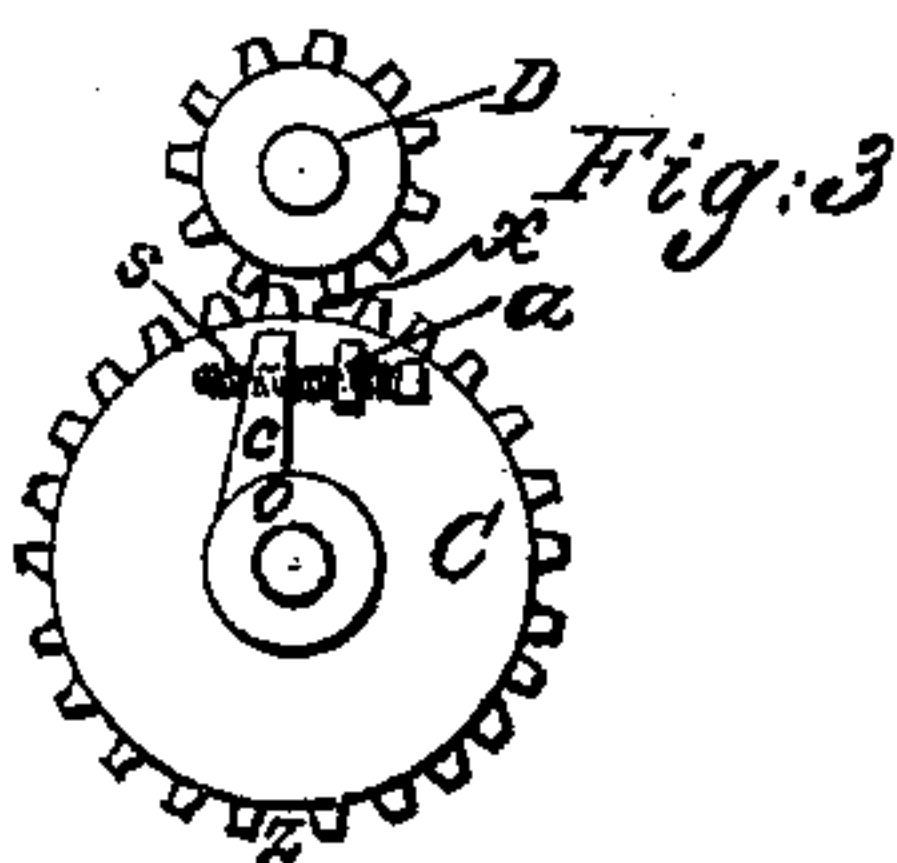


Fig: 3.



Fig: 2.

Witnesses:

O. H. Perry  
John E. Perry

Inventor:  
John G. Perry.

# UNITED STATES PATENT OFFICE.

JOHN G. PERRY, OF SOUTH KINGSTOWN, RHODE ISLAND.

## IMPROVEMENT IN HAY-CUTTERS.

Specification forming part of Letters Patent No. **39,242**, dated July 14, 1863; antedated May 13, 1863.

*To all whom it may concern:*

Be it known that I, JOHN G. PERRY, of South Kingstown, in the county of Washington, in the State of Rhode Island, have invented new and useful Improvements in Machines for Cutting Hay, Straw, or Fodder, commonly called "Hay-Cutters"; and I do hereby declare that the following is a full and correct description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, the same letters being used to denote the same parts in all the figures.

Figure 1 is a perspective view of the machine. Fig. 2 is a vertical cross-section of the cylinders. Fig. 3 shows the arrangement of the gearing with the adjusting-screw. Fig. 4 is a back elevation of the machine, showing the lock.

The construction is as follows: A frame of the usual form, consisting of a base-frame, R, with three uprights, one at the rear end supporting the middle, and two at the front supporting the end of a horizontal tapering trough, which is to hold the hay, straw, or fodder to be cut. Two spiral-flanged cylinders, B E, are placed across the end of the trough A, and turn in bearings attached to the two uprights G H. The most important feature of these cylinders is that one of them, B, has a smaller number of flanges than the other, and is driven faster, so as to make its flanges cut by each of the flanges on the other in succession, the line of the cut through the hay being square down across the direction of the feed-motion, and, as the flanges of one move faster than those of the other, a shearing drawing cut is made between them that enables it to do the work much easier. It is necessary that the cylinders should be so controlled as to oblige the flanges of the one having the smaller number to cut close to the front edge of the flanges of the other. This is accomplished by means of the two gear-wheels C D, which are required to be in the same proportion to each other (in number of teeth) as the number of the flanges of the two cylinders are—that is, if there are twice as many flanges on one cylinder as there are on the other the gear-wheel on that shaft must have twice as many teeth as the other. The gear-wheel D is secured to its shaft, but the wheel C is not fastened directly to the shaft it is on, but is driven by an arm,

c, projecting from a hub, o, which is secured to the shaft. The connection between this arm and a stud, a, on the wheel C is a screw, s, by turning which the arm and stud will be drawn toward each other or pushed apart. Thus the wheel C may be turned on its shaft and the flanges of the two cylinders adjusted with regard to each other. This, as the machine is self-sharpening, enables the operator to bring the flanges so as to cut close together, as they wear away by use. The gear-wheel D has a large tooth, z, and the other has two vacancies, z z, to receive it. This is to facilitate the putting the cylinders together correctly. The amount of spiral given to the flanges is in the inverse proportion to their number. The cylinder having the smaller number of flanges should have them made most spiraling.

L is a safety-lock attached to the standard G, so that its bolt when thrown out catches on or into the balance-wheel or crank F, so as to prevent it from turning. This is to prevent children from playing with and injuring themselves by the machine, which they often do, and to caution others. The flanges of the cylinder B may have steel knives l l secured to them (as represented in the drawings) to do the cutting, or the edges of the flanges themselves may be chilled or hardened, so as to make cheap and durable cutters.

The operation of the machine is as follows: The hay, straw, or fodder to be cut is put into the trough A, and the fly-wheel being turned by the handle t the hay, &c., is drawn in between the flanges and cut off as they pass by each other, and, as before stated, the flanges of one cylinder going faster than the other, a shearing drawing cut is made down square across the direction of the feed-motion, which severs the hay, &c., with great facility.

Having thus described my hay, straw, or fodder cutter I claim,

1. The combination of the adjusting-screw S, gears D C, and hub o with the cylinders, for the purpose herein set forth.

2. The combination of the lock with the hay-cutter, substantially as herein described, and for the purpose set forth.

JOHN G. PERRY.

In presence of—

O. H. PERRY,  
JOHN E. PERRY.