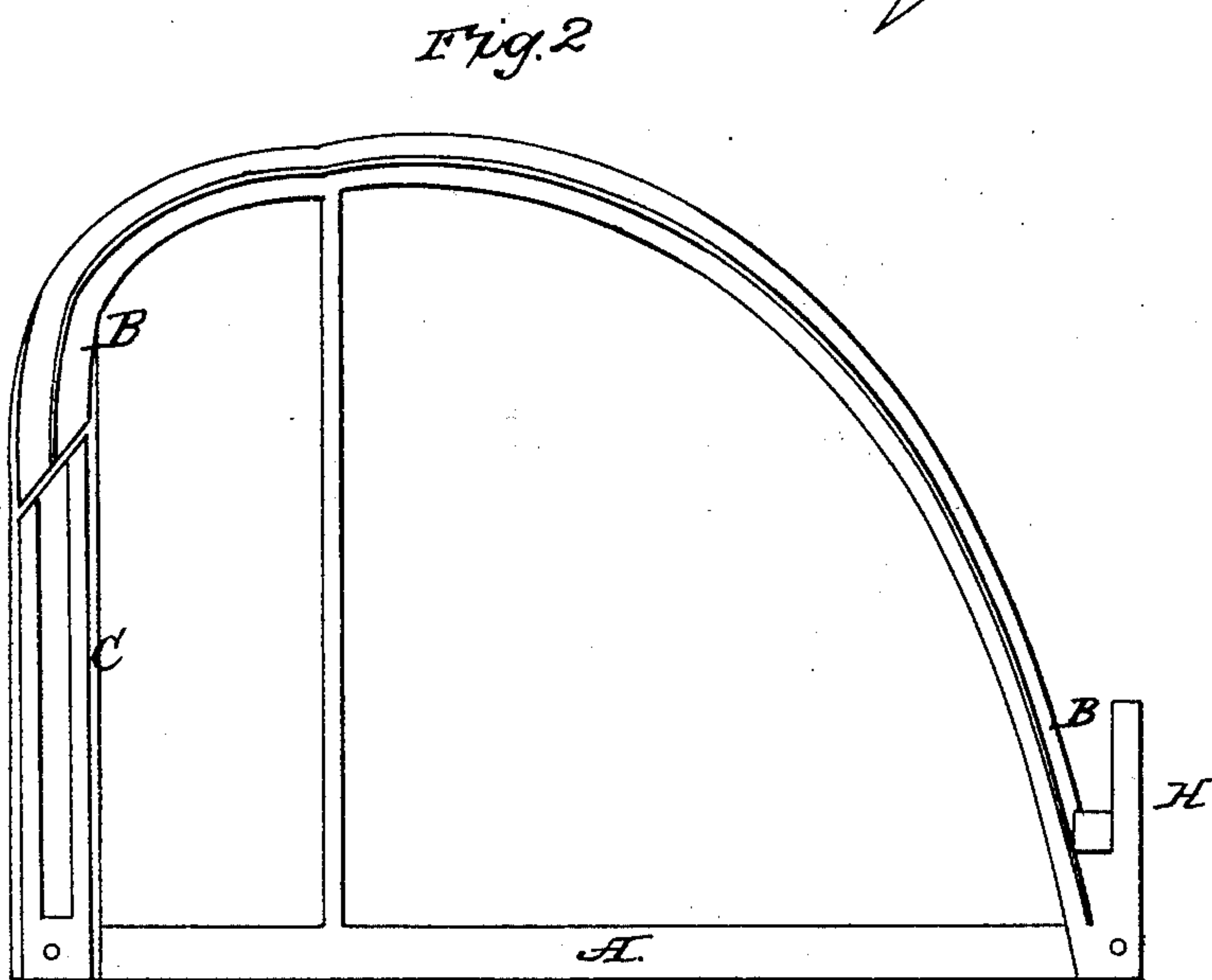
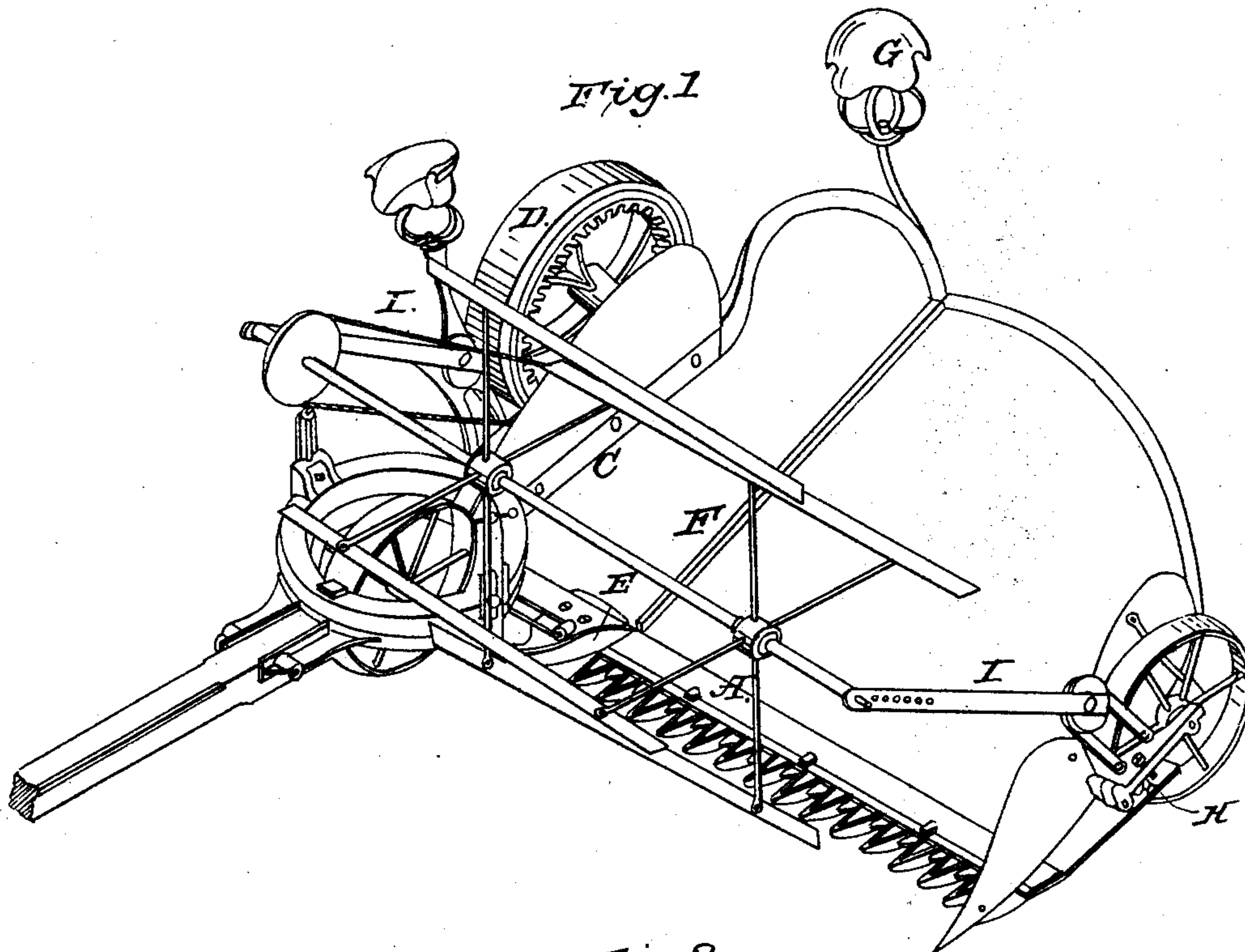


## Harvester Rake.

No. 20,275.

Patented May 18, 1858.





# UNITED STATES PATENT OFFICE.

CHAS. HOWELL, OF CLEVELAND, OHIO.

## IMPROVEMENT IN REAPING AND MOWING MACHINES.

Specification forming part of Letters Patent No. 20,275, dated May 18, 1858.

*To all whom it may concern:*

Be it known that I, CHARLES HOWELL, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in the Construction of Reaping and Mowing Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 represents a view in perspective of a machine constructed on my improved plan, and Fig. 2 a plan of the frame-work detached from the machine.

My invention relates to the frame-work of the machine.

Heretofore the frame has been formed by the union of a number of rectilinear pieces or beams in such manner as to form a quadrilateral or triangular machine, or a modification of the same, which, from the number of their square and angular corners, weakens the machine and renders it unfit to resist a sudden strain or wrench, such as frequently happens by coming in contact with an unseen stump or stone, without being twisted out of shape and otherwise seriously damaged, to prevent which builders have been compelled to resort to a system of bracing, which not only renders the machine costly, but heavy and unwieldy, to obviate all of which is the object of my improvement; and it consists in connecting the outer end of the finger-bar and rear end of the gear-block, or both ends of the finger-bar, by a single curved beam, somewhat in the manner of the curved side of the letter **D**. By this plan the frame is not only strengthened and rendered capable of resisting a sudden strain without injury, but is also much lighter than by any other known mode of constructing the frame-work of a reaping-machine.

To enable others skilled in the art to make, construct, and use my improvement, I will now proceed to describe it in detail.

The frame-work of the machine, as represented in the drawings, consists of three principal pieces—to wit, the finger-bar A, curved bar B, and gear-block C. In putting these together the front end of the curved bar B is bolted to that end of the finger-bar A next the standing grain, and its other end to the rear extremity of the gear-block C, which for this pur-

pose is halved, so as to overlap and form a strong connection. The front end of the gear-block is then securely bolted to the inner end of the finger-bar A, next the driving-wheel D. Thus secured together they resemble somewhat the shape of the letter **D**. At a point intermediate between the ends of the cutter—say in a line with the inside of the inner shoe or supporter, E, that connects the main frame with the truck-frame, and at right angles to the finger-bar—is bolted one end of a brace, F, whose other end is secured to the curved bar B. This brace serves to impart rigidity and strength to the machine, and acts as a support to the side of the platform used for the reception of the grain as it is cut. Between this brace and gear-block that part of the curved bar B is curved upward, so as to allow the machine to pass freely over the grain as it is deposited from the platform on the ground in gavels. The machine thus constructed—that is to say, with the curved bar B—is peculiarly adapted to that class in which the grain is deposited by the raker in an open space between the driving-wheel and platform, which enables him by one movement of his arms to discharge the grain as fast as it collects in sufficient quantities to form a sheaf, whereas if required to be discharged at the rear two motions would be necessary—one to collect and compress and the other to discharge.

The raker's seat G may be arranged in any suitable manner to effect this purpose; but I propose to locate him back of this open space and on the right side of the brace F, as he is then placed in a suitable position to rake easily and to throw the greater portion of his weight on the driving-wheel, thus insuring the efficient working of the knife by preventing the wheel from slipping.

The gear-block C, like the curved bar, is intended to be made of cast-iron, and of suitable thickness and shape for the support of the gearing of the machine, and which may be of any approved form.

The finger-bar may either be made of wrought-iron or steel, as the builder may deem best.

Instead of the curved bar and gear-block being made in separate pieces, the two may be cast in one; but the former mode is deemed preferable, as it requires less care in the preparation of the flasks, &c., and is less liable to

have flaws in the metal; but either is a great improvement over the old mode of framing the machine.

On the outside of the curved bar, and at the end next the standing grain, may be formed an arm, H, to which the outside standard, I, for the support of the reel is secured; the other, I', being secured to the outside of the gear-block; or, if deemed advisable, the outer standard may be secured directly to the curved bar without the intervention of an additional arm.

The machine thus constructed may either have the tongue to which the horses are attached secured to it directly by means of a hinge-joint or otherwise, or, as it is represented in the drawings, a truck-frame may be arranged in

the front of the machine, to which the tongue is attached.

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

Connecting the outer end of the finger-bar A with the gear-block C by means of a curved bar, B, constructed in the manner substantially as and for the purposes set forth, whether it forms a prolongation of the gear-block or otherwise.

In testimony whereof I hereunto set my hand.  
CHAS. HOWELL.

Witnesses:

P. HANNAY,

I. H. PHILLIPS.