[47.]

A. L. Chubb

Sulky Horse Rake

No. 119,320. Patented Sep. 26, 1871.

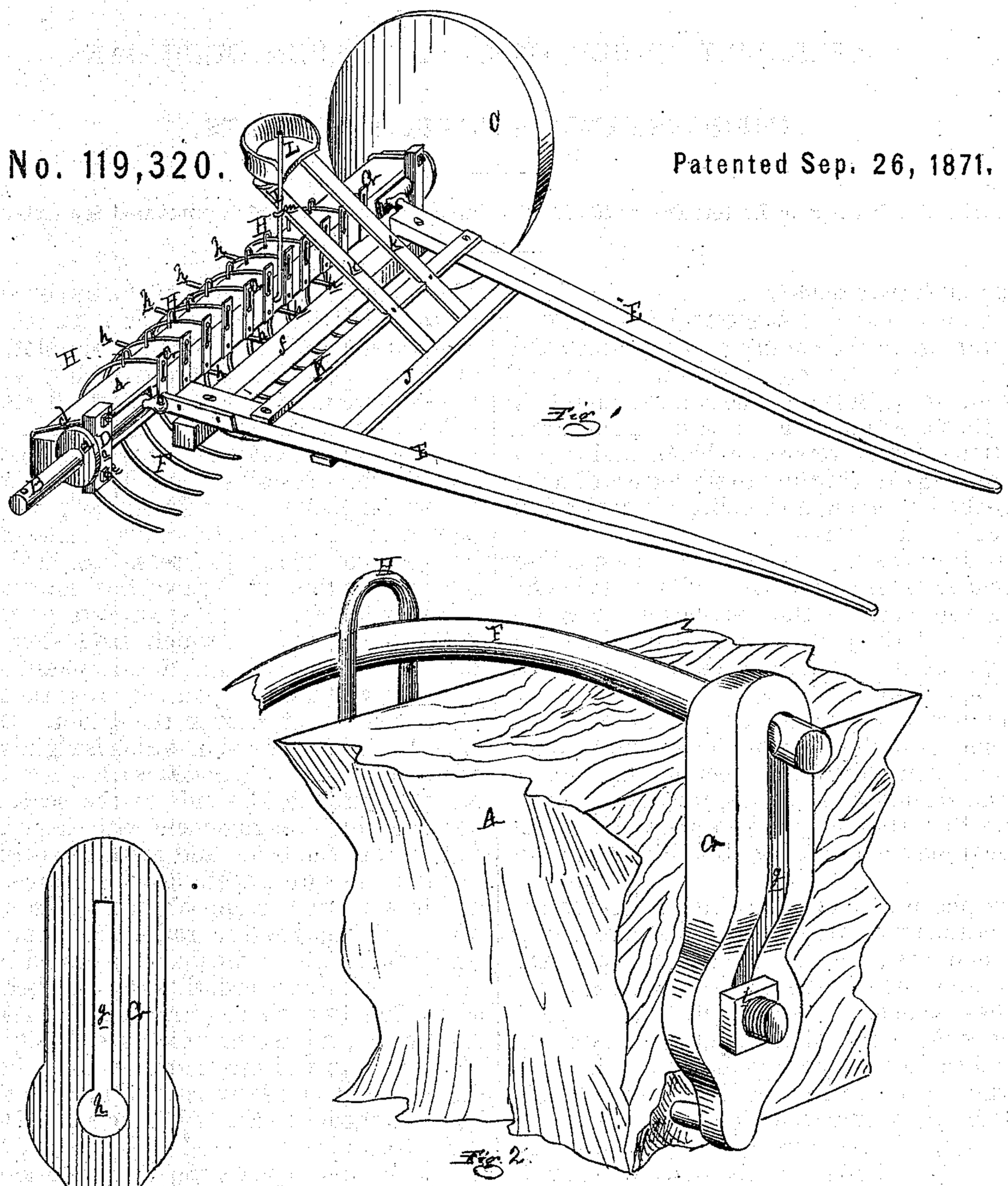

Fig. 1

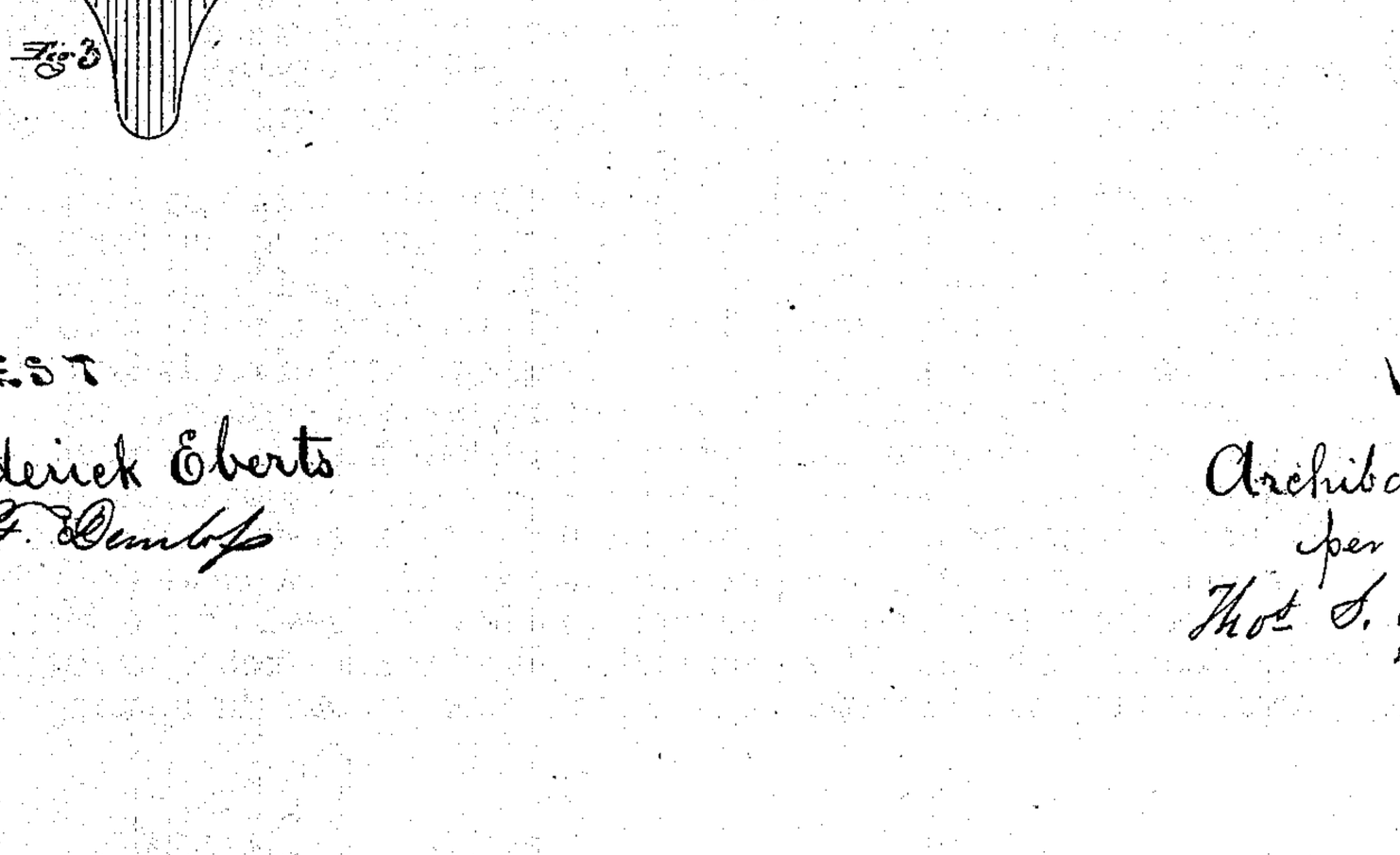

Fig. 2.

Fig. 3

ATTEST

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119,320

UNITED STATES PATENT OFFICE.

ARCHIBALD L. CHUBB, OF GRAND RAPIDS, MICHIGAN.

IMPROVEMENT IN HORSE HAY-RAKES.

Specification forming part of Letters Patent No. 119,320, dated September 26, 1871; antedated September 11, 1871.

To all whom it may concern:

Be it known that I, ARCHIBALD L. CHUBB, of Grand Rapids, in the county of Kent and State of Michigan, have invented a new and useful Improvement in Sulky Horse-Rakes; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 shows my invention in perspective. Fig. 2 shows an enlarged view of my device for securing the teeth to the axle-beam. Fig. 3 is a plan view of the plate by means of which the upper ends of the teeth are secured to the front side of the axle-beam.

The nature of this invention relates to certain improvements in the construction of sulky horse-rakes; and consists in the peculiar manner in which the spring-teeth are secured to the axle-beam, so that they may have a certain amount of vertical play without any liability to turn or roll.

In the accompanying drawing, A represents an axle-beam, preferably made of wood, to which, at each end, are secured the steel or iron axle-arms B, upon which the traction-wheels C rotate. These axle-arms are straight rods, each provided near the center of its length with a flange, *a*, which forms a shoulder against which the hub of the wheel rests. The clips D are secured upon the axle-beam A, and the shafts E are secured to the beam. To the girt *f*, which secures the rear ends of the shafts to each other, are secured the clearing-teeth *h*, which project rearward from said girt under the axle-beam. F is a series of curved teeth, projecting to the rear of said beam and downward in the form shown, and they are secured to the said beam as follows: It will be noticed that these teeth are round, and it is desired that they may be so attached to the beam that they may have a certain vertical motion, while, at the same time, they may be prevented from rolling or turning. To accomplish this end I secure a plate, G, to the beam by means of screws *i* or any other suitable device, so that said plate will be held rigidly in position. This plate is provided with a slot, *g*, terminating in a hole, *h*, through which one of the bolts or screws *i* is inserted to secure the plate to the beam. This slot is considerably narrower than the diameter of the tooth. Just back of the upper end of the tooth it is flattened or notched until the flattened or squared part will freely enter the slot, the head of the tooth being inserted in the hole *h* and passed through the same until the flattened part will pass into the slot *g*. After the tooth is inserted the plate may be secured to the beam, as hereinbefore described, and the tooth will have a vertical movement without any tendency to turn or roll in the plate. H is a series of guides, by means of which the teeth are held in their relative positions in their vertical movements. I is a seat for the driver, secured to proper risers *k*, the lower ends of which are fastened to the forward shaft-girt J, and thence, passing upward and rearward, rest upon the cross-tie K, which forms also a foot-rest for the driver. L is a rod or stake, the lower end of which is rigidly secured to the axle-beam A; and *m* is a hook, or its equivalent, secured to the side of the seat, and it is designed, by its engagement with the rod or stake L, to retain the beam and teeth in position.

After the spring-teeth have gathered the hay, and it is desired to deposit in a windrow, the operator disengages the rod L from the hook *m*, when the weight of the driver, assisted by a push of the rod L frontward, tilts the axle-beam in the same direction, thereby raising the rake-teeth. As the clearing-teeth, which are rigidly secured to the rear girt of the shafts, as hereinbefore described, project rearward, the rake-teeth, rising between them, are cleared of the hay. The driver then draws back the rod and re-engages it with the hook, and repeats the operation as often as the rake-teeth become loaded. The object of allowing the vertical motion of the rake-teeth is to assist them in conforming to the inequalities of the ground.

Instead of the plate with slot, as described, for preventing the tooth from turning therein, two plates might be employed, each made in the form of an L, the lower parts turned toward each other, thereby forming a slot between the vertical parts. I consider my plate preferable to this, or to any known equivalent therefor, by means of which the notched or flattened part of the tooth may be grasped and held in position; or a rectangular opening may be made in a plate of any form large enough to allow the head of the tooth to pass through, and after the notched or flattened part of the tooth has entered the opening it may be

partially closed by means of another plate or cover, which may be secured to the axle-beam by screws or bolts through both plates.

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

1. The spring-teeth F, constructed as described, in combination with the plate G and the axle-beam A, all constructed and operated substantially as described and shown, for the purposes set forth.

2. The guides H, in combination with the plate G, axle-beam A, and spring-teeth F, all constructed, arranged, and operated substantially as described and shown, for the purposes set forth.

ARCHIBALD L. CHUBB.

Witnesses:

THOS. S. SPRAGUE,

M. STEWART.