C. R. SOULE.

Making Rake Teeth.

No. 15,195. Patented June 24, 1856.

Fig. 1.

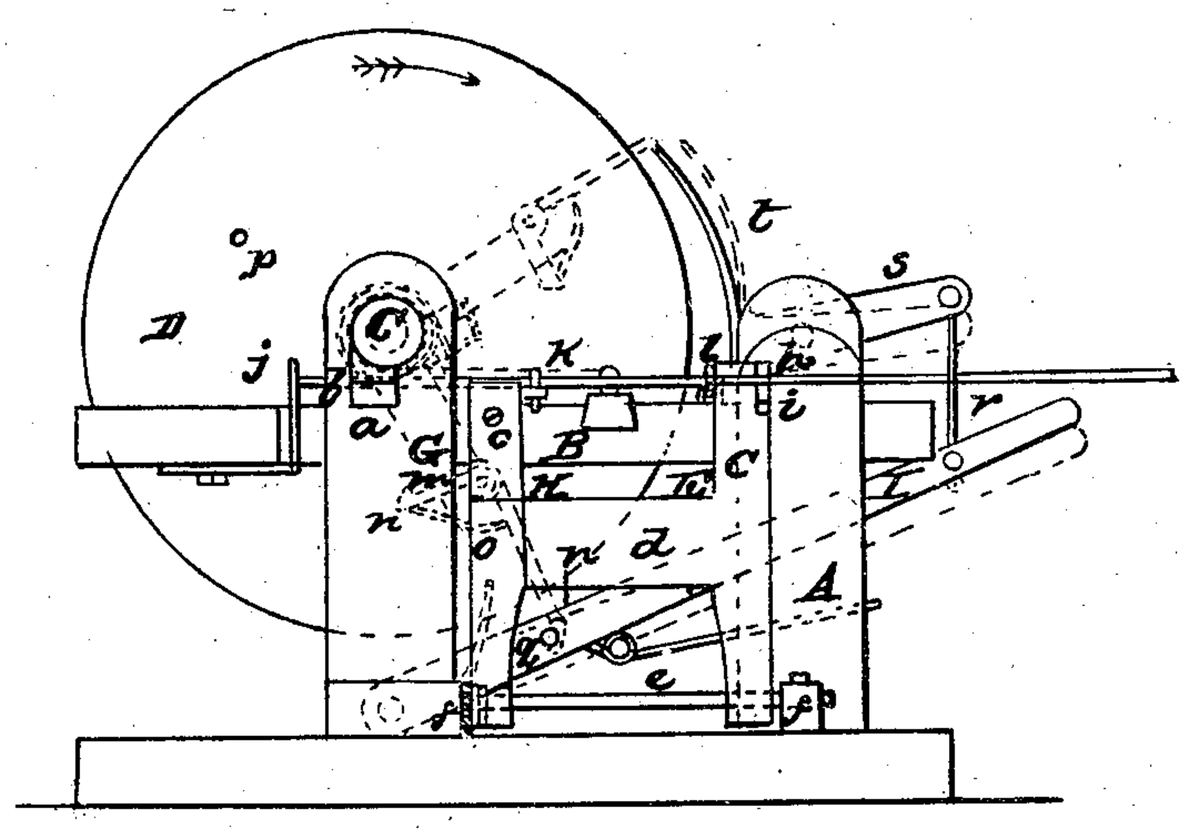
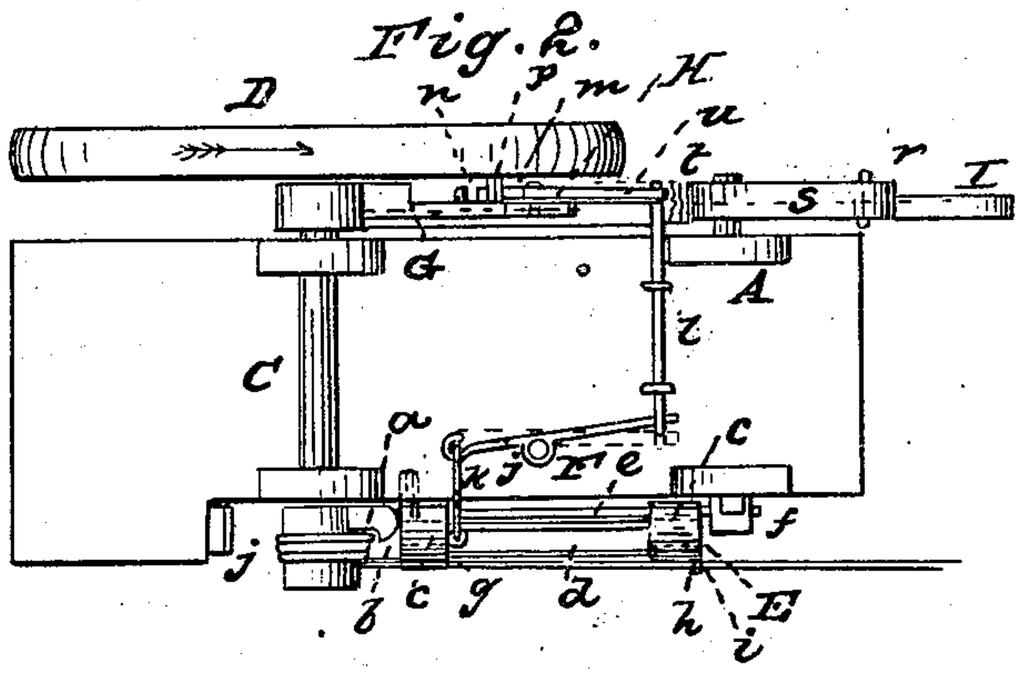


Fig. 2.



N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

CHARLES R. SOULE, OF FAIRFIELD, VERMONT.

IMPROVED MACHINE FOR MAKING RAKE-TEETH.

Specification forming part of Letters Patent No. **15,195**, dated June 24, 1856.

To all whom it may concern:

Be it known that I, CHARLES R. SOULE, of Fairfield, in the county of Franklin and State of Vermont, have invented a new and Improved Machine for Making or Forming Wire Teeth for Horse-Rakes; 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, making a part of this specification, in which—

Figure 1 is a side view of my improvement. Fig. 2 is a plan or top view of the same.

Similar letters of reference indicate corresponding parts in the two figures.

My invention consists in a peculiar arrangement of parts for bending or forming the coil in the wire.

A represents a rectangular frame, in the upper part of which a horizontal bed or platform B is placed, and C is a shaft, which is placed in the upper part of the frame A, the shaft being placed transversely over the bed or platform and having a pulley D placed loosely upon it at one end. To the opposite end of the shaft there is attached a projection *a*, the outer end of which is hooked or curved, so as to form a step or groove *b* on its outer side, as shown clearly in Fig. 2.

E represents a frame formed of two uprights *c c*, connected by a cross-bar *d*. The lower end of this frame works upon a rod *e*, the ends of which are fitted in cleats or projections *f f* on the base of the frame A. One of the uprights *c* has a plate *g* attached to its upper end, said plate being grooved on its upper edge. A plate *h*, having a step *i* on its outer side, is attached to the upper end of the other upright *c*.

F represents a lever pivoted at *j* to the bed or platform B. One end of this lever is connected by a rod *k* to one of the uprights *c* of the frame E, and a rod *l* is attached to the opposite end of the lever F, said rod being fitted in guides on the bed or platform and projecting a short distance beyond the edge of the bed or platform.

To the end of the shaft C and adjoining the pulley D there is attached an arm G, said arm having a right-angled lever H pivoted to it. The shorter arm *m* of the lever H has a catch *n* at its outer end, and a spring *o*, which is attached to the outer end of the arm G, bears against the outer end of the arm *m* of the lever H. On the inner side of the pulley D there is a pin *p*.

I represents a treadle or lever, which is attached to the frame A, said treadle having a pin *q* on its outer side. The outer end of the lever I is connected by a rod *r* with an arm *s*, which is pivoted to the upper end of the frame A. An upright spring *t* is attached to the end of the arm *s*.

The operation is as follows: The wires of which the teeth are formed are cut of the proper length, and are placed one at a time upon the grooved plate *g* and step *i*, the end of the wire bearing against a step *j*, (see Fig. 1,) the wire being shown in blue. The treadle or lever I is then depressed by the attendant or operator and the pulley D is rotated by means of a belt in the direction indicated by the arrow, and the pin *p* on the side of the pulley D will strike against the catch *n*, and the arm G and shaft C will be rotated with the pulley D. As the shaft C rotates, the projection *a* at the end of said shaft will bend the wire and cause it to coil around the end of the shaft, and the upper part of the frame E will be gradually moved out from the frame A in consequence of the wire being wound around the shaft. As the upper part of the frame E moves outward, the rod *l* will be shoved outward considerably beyond the platform or bed B in consequence of the rod *k* acting upon the end of the lever F, and when these turns or coils of the wire have been formed on the shaft C the rod *l* will be sufficiently beyond the edge of the bed or platform for the longer arm *u* of the lever H to catch against it. The pin *p* on the pulley D will consequently slip past the catch *n* on the shorter arm *m* of the lever and the pulley will rotate, while the shaft C will remain stationary. When this takes place, the elasticity of the rake-tooth or the wire, caused by the coil or winding of the wire upon the shaft C, will throw up the arm G, and the longer arm *u* of the lever H will catch upon the upper end of the spring *t*. The wire or rake-tooth is then removed from the shaft C, another wire is fitted in the machine, and the operation repeated.

The above machine is extremely simple, works rapidly, and is not expensive to manufacture.

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

The shaft C, with loose pulley D and G and projection *a*, attached and used in connection with the frame E and lever F, with rod *l* attached, and the lever I, connected with arm *s*, having the spring *t* attached, the arm G having the lever H secured to its end, the above parts being arranged and operating as shown, for the purpose specified.

CHARLES R. SOULE.

Witnesses:
JOSEPH A. SOULE,
SARAH E. SOULE.