JAMES H. SWETT.

Improvement in the Manufacture of Spikes.

No. 125,349. Patented April 2, 1872.

Fig. 1.

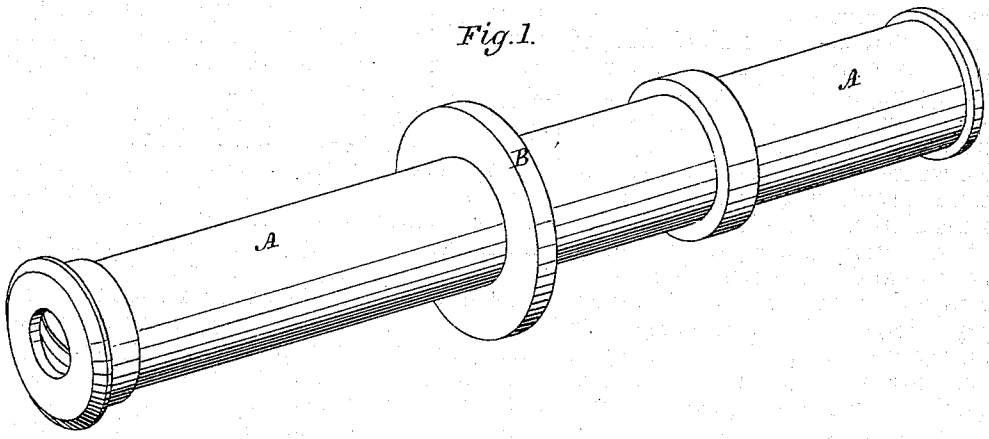
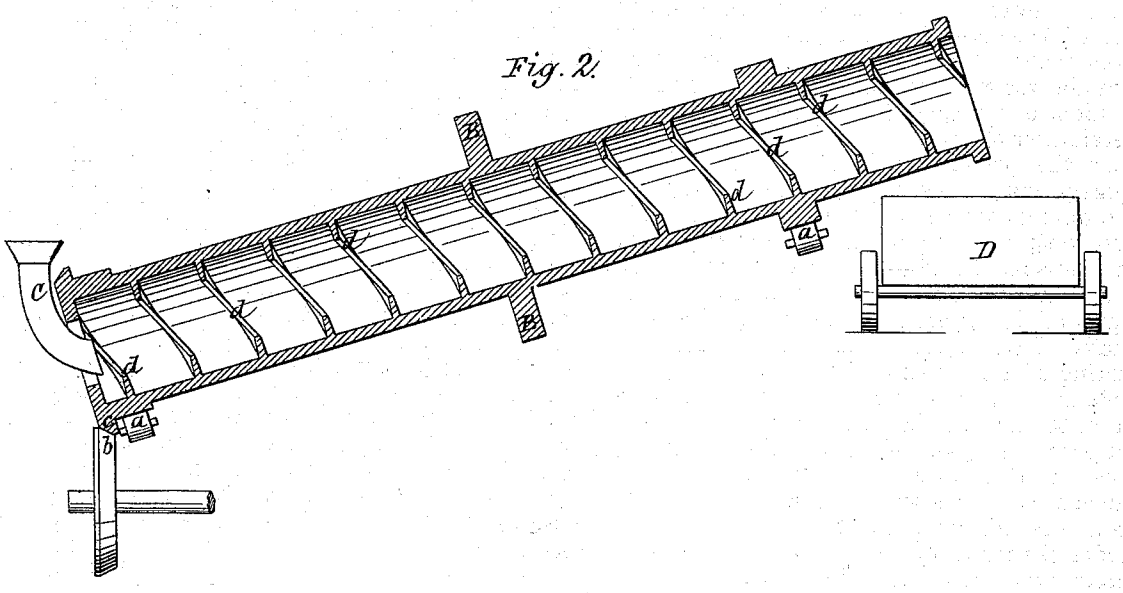


Fig. 2.



Witnesses.

Wm. G. Underwood

Edmund Masson.

Inventor.

James H. Swett.

By atty A. B. Stoughton.

UNITED STATES PATENT OFFICE.

JAMES H. SWETT, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN THE MANUFACTURE OF SPIKES.

Specification forming part of Letters Patent No. 125,349, dated April 2, 1872.

To all whom it may concern:

Be it known that I, JAMES H. SWETT, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful improvements in apparatus for carrying away tumbling-spikes, &c., from the machine where they are made; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 represents in perspective a screw-conveying cylinder, in and by which the spikes are taken away and tumbled for wearing off fins and sharp edges. Fig. 2 represents a section through the screw-conveying cylinder, and the several appliances by which the carrying-cylinder is made effective for its purpose.

I am aware that a screw and screw-cylinder has been used for raising and moving many substances. I of course lay no claim to such cylinder for such purpose in general or independent of its special use and appliance, as hereinafter stated.

In the present mode of making railroad spikes—viz., by feeding the rods directly from the rolls to the spike-machine, so as to make and work them up at one and the same heat into finished spikes—it is necessary to have the spike-machines on what is termed the "ground floor," because the furnaces must be there. Besides, the weight and consequent jarring of a spike-machine, as well as of the rolls and the machinery for driving them, require them to be placed on the "ground floor" for permanency and stability. But a difficulty attends this location of a spike-machine, inasmuch as it is inconvenient to remove the spikes from the machine, and if allowed to remain under the machine produce such a heat as to make it very uncomfortable for the attendants.

The object of my invention is to overcome the difficulties attendant upon spike-machines so placed and worked on the "ground floor" where the heating-furnaces must be, in which the iron is heated out of which the spike-rods or spikes are made, and which accumulate so fast and throw off such an intense heat, by applying and using in connection with a spike-machine a screw-conveyer, which receives the hot spikes as they drop from the machine, and carries them away therefrom, and also elevates them high enough to be dropped from the upper end of the cylinder into what is termed an "iron wagon," car, or other wheeled conveyance, by which they may be removed from the mill. Another object gained by the use of such a conveying-cylinder is the tumbling of the spikes *in transitu* from the machine where they are made to the car or wagon by which they are carried away, for the purpose of wearing off fins and sharp edges, which are apt to cut the hands of the users or in handling them.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawing.

A represents an ordinary screw-elevating cylinder, made of metal, and which is rotated by a belt, chain, or other device applied to the pulley B thereon. The cylinder may rest upon friction-rolls *a a*, so as to be more easily rotated with its load of spikes, and at its lower end it has a beveled flange, *c*, which rests and turns against a bevel-faced supporting-wheel, *b*, so as to keep the cylinder from working downward, as it would naturally do, when loaded and carrying the spikes upward. The spikes, as fast as made and delivered from the spike-machine, drop into a spout or conductor, *e*, which carries them into the interior of the cylinder. The spiral or screw flanges *d* on the interior of the cylinder take and carry the spikes to the top of the cylinder, and drop them out or over into an iron wagon or car, D, by which they may be removed from the mill.

The spikes, as they are thus taken away and carried up by the cylinder, are tumbled so as to wear away all fins or sharp edges or corners, which are apt to cut the hands of those handling them. And that this tumbling may go on while the spikes are carried up by the rotation of the cylinder, said cylinder is, and must be, without a central shaft, and hence revolved by power or gearing applied externally to the shell or jacket of the cylinder, as described. And because of the absence of such central shaft, by or through which an end support or bearing could be given to the cylinder, other means must be resorted to, and the revolving support *b* is introduced. The cylinder carries a very heavy load, and without the revolving or turning end support would so bear upon its other peripheral supports as to cut, wear, or produce great friction. It can-

not have a central shaft and radial supporting-arms, as such elevating screw-cylinders ordinarily have, because these would interfere with the raising and tumbling, inasmuch as they would throw back the spikes, and so prevent them from advancing on the screw-thread or spiral flange in the cylinder.

I claim—

In combination with a spike-machine, the device herein described and shown, consisting of the hollow shaftless cylinder A, gear B, friction roller *a*, beveled collar *c*, and beveled supporting-roll *b*, all as described and shown.

JAMES H. SWETT.

Witnesses:
J. H. WILLIAMS,
H. D. ROLFE.