

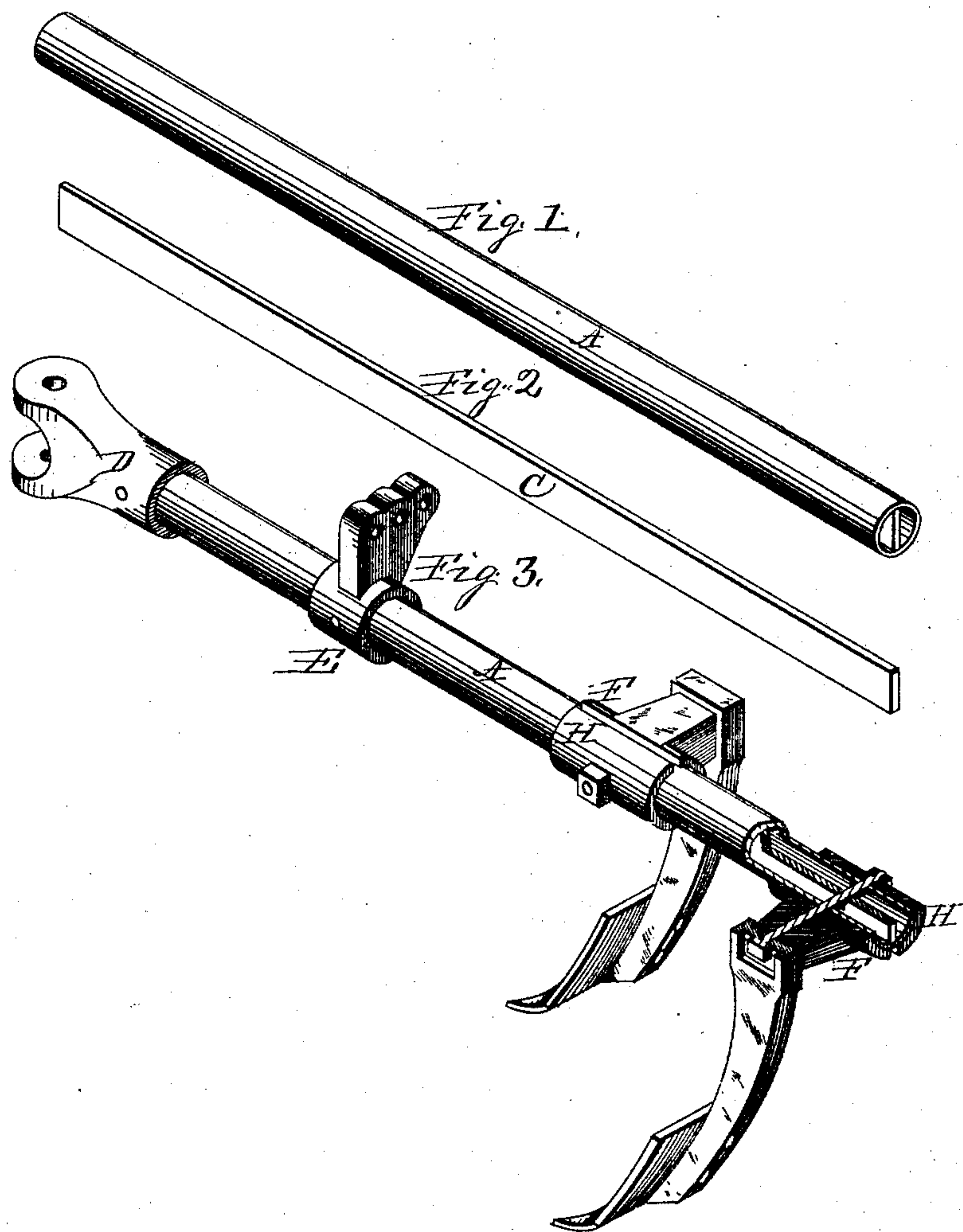
(No Model.)

J. H. JONES.

TUBULAR BEAM.

No. 327,949.

Patented Oct. 6, 1885



WITNESSES:

*A. O. Behel*  
*G. H. Behel.*

INVENTOR

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# UNITED STATES PATENT OFFICE.

JAMES HERVA JONES, OF ROCKFORD, ILLINOIS, ASSIGNOR TO EMERSON,  
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## TUBULAR BEAM.

SPECIFICATION forming part of Letters Patent No. 327,949, dated October 6, 1885.

Application filed January 27, 1885. Serial No. 154,117. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES HERVA JONES, a citizen of the United States, residing in the city of Rockford, in the county of Winnebago and State of Illinois, have invented a new and useful Improvement in Tubular Beams, of which the following is a specification.

This invention relates to the manufacture of metallic beams, and its object is to produce a light-weight beam of great strength.

The invention consists in the construction of a tubular beam, hereinafter fully described, and pointed out in the claims.

Figure 1 represents a tubular beam of greatest strength in one direction. Fig. 2 represents the core employed in the construction of the beam shown at Fig. 1; and Fig. 3 shows one application of my improved tubular beams employed in a cultivator.

In the figures, A represents a cylindrical wrought metallic tube of ordinary construction.

At C is represented a wrought metallic bar, rectangular in cross-section, and of suitable dimensions to enter the tube snugly. This bar C is driven or otherwise forced into the tube endwise, and serves to strengthen the tube, which latter receives additional outer re-enforces, as will be explained.

In the manufacture of cultivators I employ my improved re-enforce tubular beam as a drag-bar or shovel-beam, one form of which I have represented in the drawings at Fig. 3, in which I have employed the tubular beam re-enforced with the rectangular bar C. This form of the re-enforced tubular beam I prefer to employ in cultivators, for the reason that in this application the strain is mainly in a vertical direction and in the edgewise direc-

tion of the re-enforce inserted in the tube, and in the connection of the shovel-standards and other appliances necessary to the complete shovel-beam it is bored laterally to receive the required screw-bolts. These lateral borings are produced on the neutral line of the beam, and do not to any considerable extent lessen its sustaining power in a vertical direction, and to compensate for the material removed or the weakening of the beam by the lateral boring, and to give the beam additional strength laterally at the points subjected to lateral strains, I employ outside re-enforces consisting of tubular sleeves D and E and semi-tubular sleeves F and H, bored to coincide with the transverse bores in the beam and receive suitable bolts or pins to fix the parts securely in place. These outside re-enforces are substantially identical with like parts shown and described in my application for improvements in cultivators, filed in the United States Patent Office September 8, 1884, Serial No. 142,494.

I claim as my invention—

1. The combination, with a tubular re-enforced beam, substantially as described, of outer re-enforces embracing the beam and secured thereto, substantially as and for the purpose set forth.

2. A cultivator shovel or plow beam, consisting of a wrought metallic tube provided with a core re-enforce, of outer re-enforces consisting of tubular sleeves or segment-sleeves fixed to the re-enforced tubular beam, substantially as and for the purpose set forth.

JAMES HERVA JONES.

Witnesses:

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