S. E. Tuttle.

Raising Heavy Weights.

No 74173

Patented Feb. 4, 1868

Fig. 1

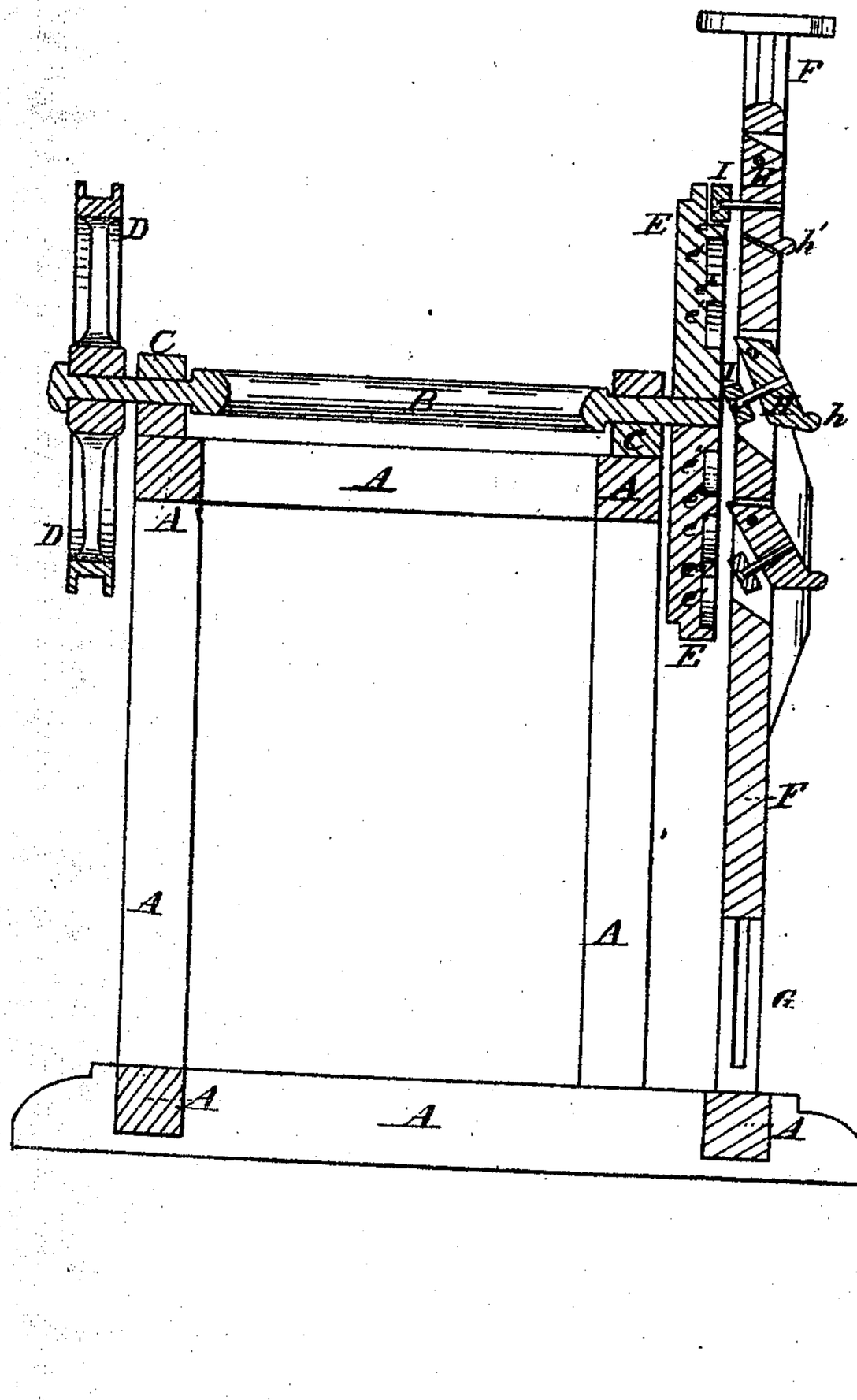
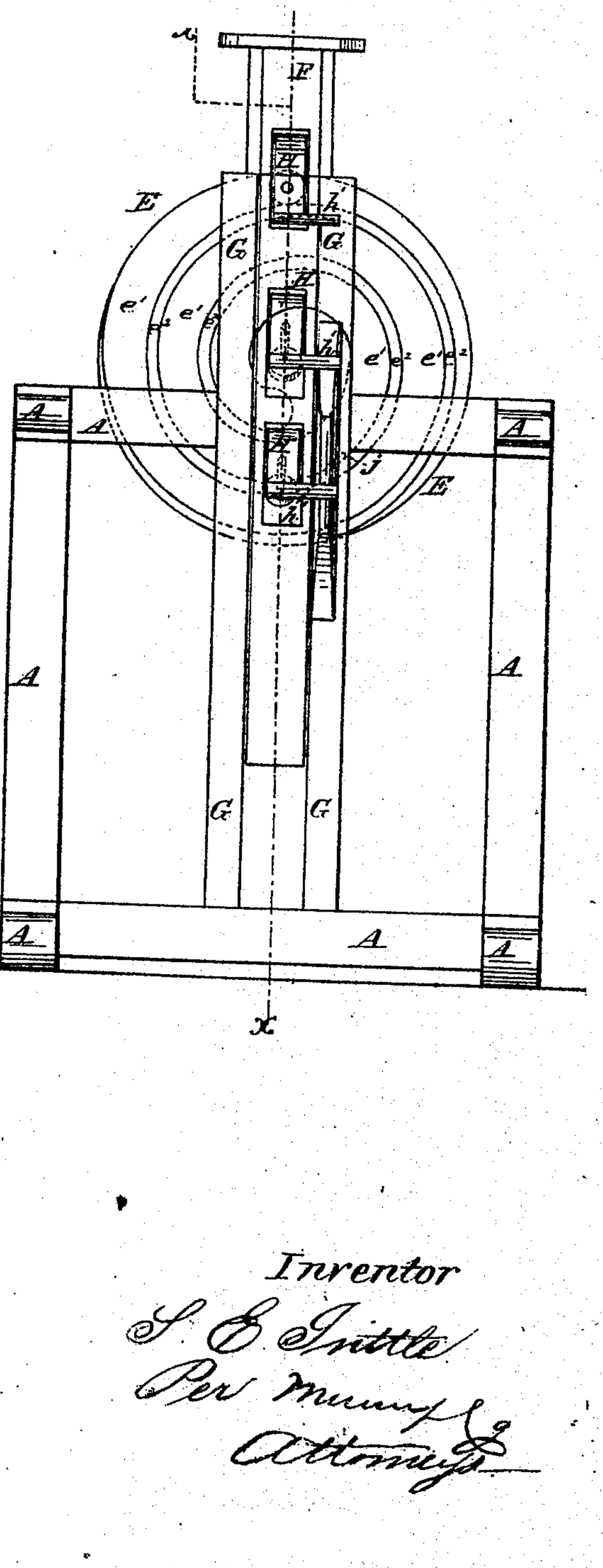


Fig. 2



Witnesses

Theo Engehe
Delton Fox

Inventor

S. E. Tuttle
Per Munn & Co
Attorneys

United States Patent Office.

S. E. TUTTLE, OF GENOA, NEVADA.

Letters Patent No. 74,173, *dated February* 4, 1868.

IMPROVEMENT IN APPARATUS FOR RAISING HEAVY WEIGHTS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, S. E. TUTTLE, of Genoa, in the county of Douglas, and State of Nevada, have invented a new and improved Machine for Raising Heavy Weights; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a longitudinal section of my improved machine taken through the line *x x*, fig. 2.

Figure 2 is a front view of the same.

Similar letters of reference indicate like parts.

My invention has for its object to furnish an improved machine by means of which heavy weights may be raised with a comparatively small outlay of power; and it consists in an improved machine formed by the combination of the shaft, the wheel having a spiral groove formed in its face, the toggle-blocks having friction-rollers attached to them, and the slide, or equivalent, to which they are pivoted with each other and with the guide-posts and frame of the machine.

A is the frame of the machine, which must be made of a strength proportioned to the weight of the objects to be raised or to the power to be exerted by said machine. B is a shaft, revolving in bearings, C, attached to the top of the frame A. To one end of the shaft B is attached a pulley, D, or gear-wheel by which power is applied to the shaft B. To the other end of the shaft B is attached the wheel E, having a spiral groove, e^1, cut in its face, and running from near the centre to the circumference of said wheel. The dimensions of the wheel E will depend upon the particular use to which the machine is to be applied, but for ordinary purposes I usually make it about two feet five inches in diameter. The groove e^1, which, on a wheel of this size, should be about three inches wide, begins about three inches from the centre and terminates at the circumference of said wheel. The flange e^2 between the coils of the groove e^1 is about one inch wide, so that one revolution of the wheel E will raise the weight four inches. F is a slide, that moves up and down in grooves formed in the inner sides of the guide-posts G, securely attached to the frame A. H are cast-iron blocks pivoted in slots in the slide F. The ends of the blocks H are bevelled, as shown in fig. 1, so as to allow the said blocks H to swing outward, so as to prevent them from passing in too far, and so that in raising the weight their upper ends may bear against the solid part of the slide F, and rlieve the pivoting-pin from the strain. I are friction-wheels, pivoted to the rear side of the blocks H by bolts passing through said wheels and blocks, as shown in fig. 1. The wheels I are of such a size as to enter the groove e^1 in the face of the wheel E, and the wheels I and blocks H are at such a distance apart that when one wheel reaches the highest part of the wheel E, the next one will have entered the groove e^1 at the centre of the wheel E. The wheels I are kept away from the face of the wheel E until they have reached the proper point to enter the groove e^1 by a flange, J, attached to the guide-post G, and having its ends inclined, as shown in fig. 1. As the slide F moves upward, the flange or arm h' formed upon or attached to the blocks H, strikes against the flange J, which lifts the said block and wheels away from the wheel E, and holds them away until they have reached the proper point for the said wheel to enter the groove e^1. If desired, the blocks H may be attached to an endless chain or to a wheel, guides being used to keep the said blocks in proper position with reference to the wheel E.

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

1. An improved machine formed by the combination of the shaft B, the wheel E having a spiral groove, e^1, formed in its face, the blocks H having friction-wheels, I, attached to them, and the slide F, or equivalent, with each other, and with the guides G and frame A, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the flanges J and h' with the guide G and blocks H, substantially as herein shown and described and for the purpose set forth.

S. E. TUTTLE.

Witnesses:

MOSES TEBBS,

HEMAN DOYLE.