(No Model.)

J. KAMM & J. KAISER.

HOISTING MACHINE.

No. 353,564. Patented Nov. 30, 1886.

Fig. 1.

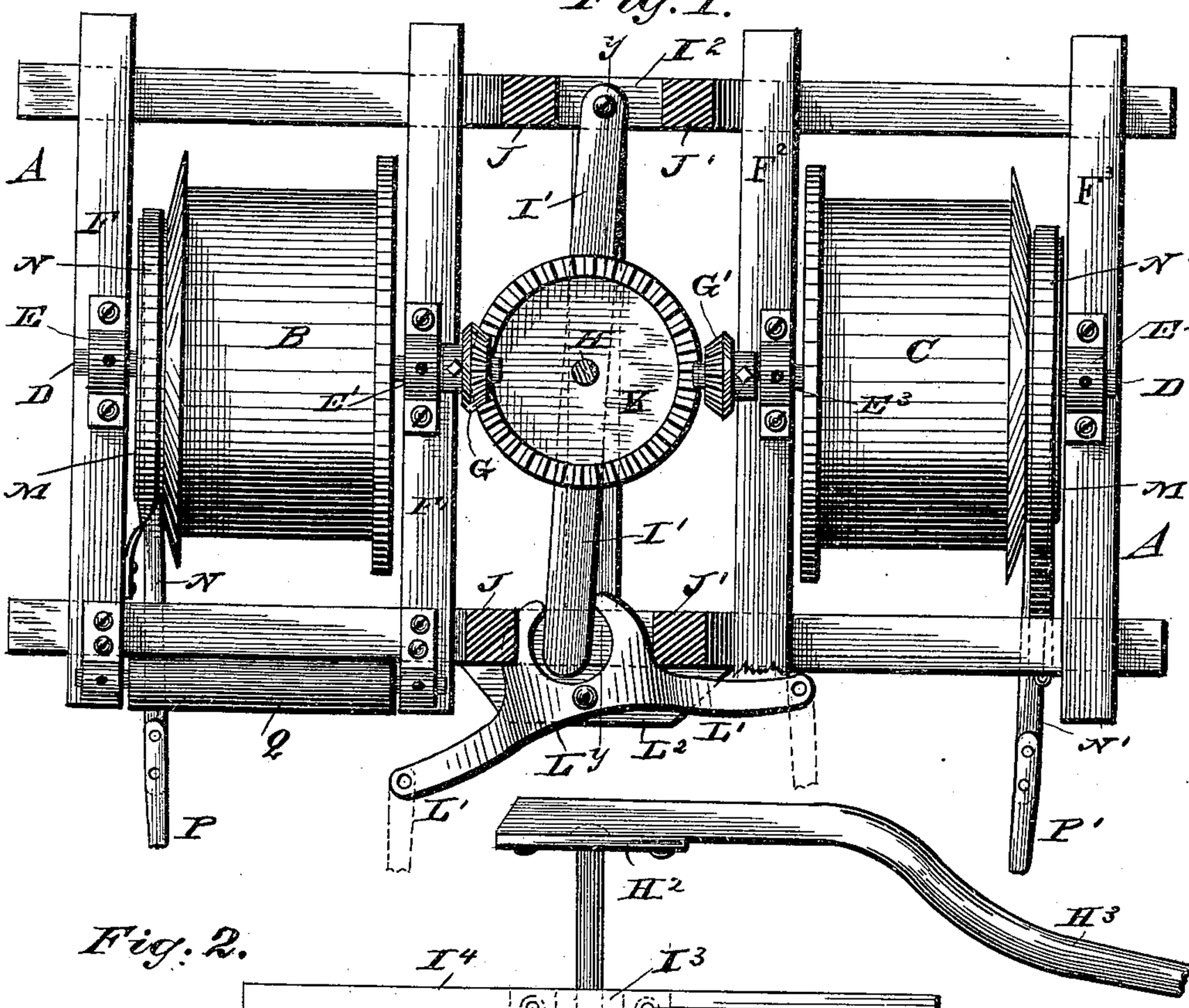
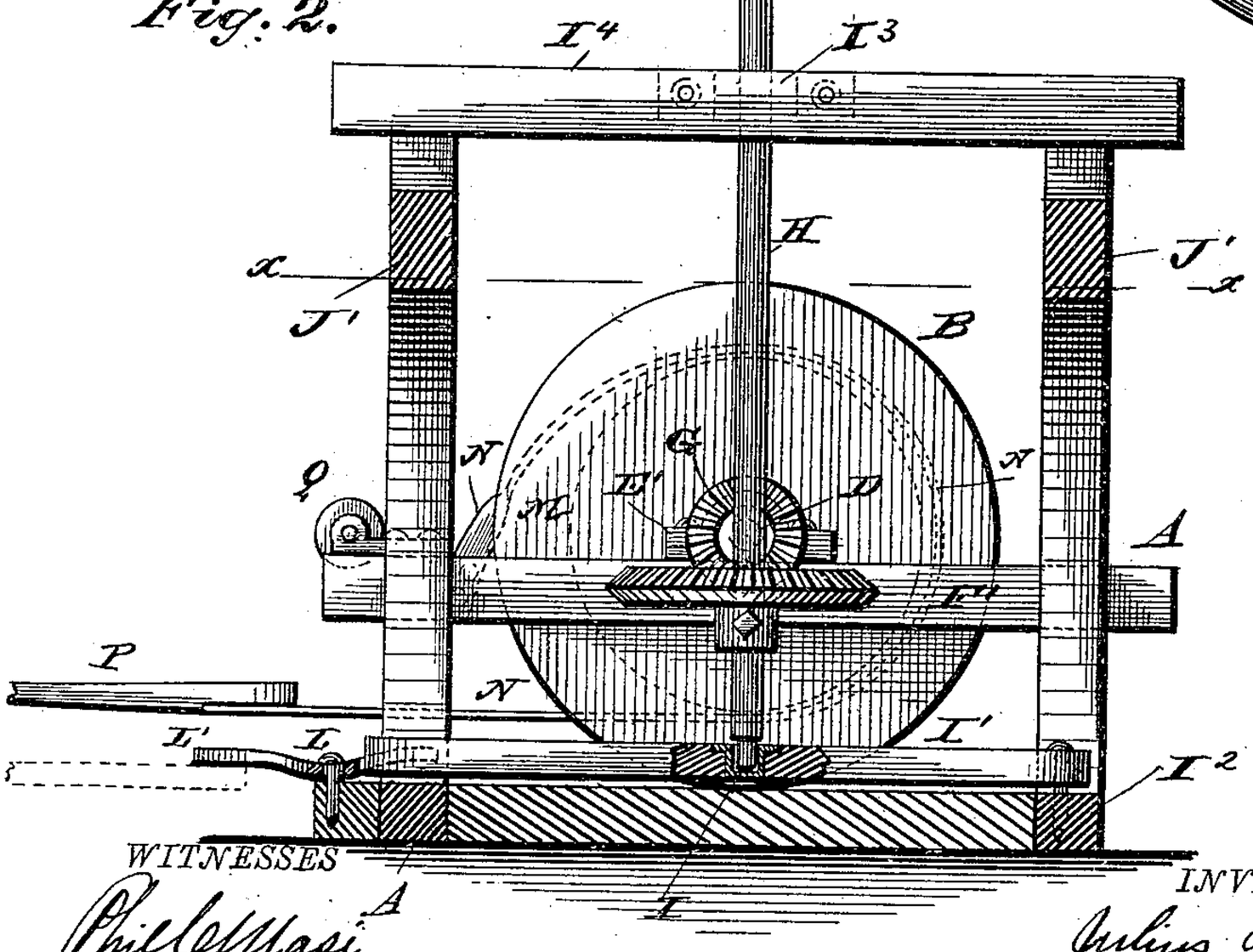


Fig. 2.



WITNESSES

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JULIUS KAMM AND JOSEPH KAISER, OF HIGHLAND, WISCONSIN.

HOISTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 353,564, dated November 30, 1886.

Application filed July 22, 1886. Serial No. 208,746. (No model.)

To all whom it may concern:

Be it known that we, JULIUS KAMM and JOSEPH KAISER, citizens of the United States, residing at Highland, in the county of Iowa and State of Wisconsin, have invented certain new and useful Improvements in Hoisting-Machines; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a horizontal section on the line *x x*, Fig. 2. Fig. 2 is a transverse vertical section on the line *y y*, Fig. 1.

Our invention relates to hoisting-machines designed for use at mine-shafts and other places; and it consists in the construction and novel combination of parts, as hereinafter described, and pointed out in the claims.

Referring by letter to the accompanying drawings, A designates the double frame of the machine, which is provided with two flanged hoisting-drums, B and C, which are mounted on separate shafts, D D′, the said shafts being supported in bearing-boxes E E′ and E^2 E^3 on the upper faces of the longer upper parallel beams, F F′ and F^2 F^3, of said double frame A.

The shafts D and D′ are provided with miter-pinions G G′ on their inner ends, and these miter-pinions G G′ are removably keyed upon the ends of said shafts D and D′, so that pinions of larger diameters may be substituted for the smaller pinions, in order that the hoisting-drums may be caused to revolve more slowly when desired, said drums being revolved more rapidly when the smaller miter-pinions are used.

H designates the vertical driving-shaft, which is stepped at its lower end in a bearing, I, in the shifting lever I′, the latter being fulcrumed at its rear end upon the upper face of the rear sill, I^2, of the main frame A, at the middle of said sill I^2. The driving-shaft H is journaled some distance below its upper end in a box, I^3, secured to the transverse girder I^4 on the upper ends of the inclined upwardly-projecting beams J J′, which extend up from the middle portion of the double frames.

K designates the driving-wheel, which is made vertically adjustable on the vertical driving-shaft H, so that the changes on the drum-shaft, from the larger to the smaller miter-pinions, and vice versa, may be made when desired to increase or slacken the speed of the revolving drums. At its upper end the vertical driving-shaft H is provided with a half-box, H^2, in which the sweep H^3 is secured, said sweep being designed to be operated by horse-power. In front of the free end of the shifting lever I′ a double lever, L, having rearwardly-extending curved jaws L′ L′, is fulcrumed upon the upper face of a projecting timber, L^2, secured to the front sill of the frame A, the jaws L′ L′ of said lever L being adapted to engage the end of the shifting lever I′, so that the driving-wheel K may be thrown into and out of engagement with the miter-pinions of either drum at pleasure.

The outer faces of the revolving drums B and C are provided with integral annular projections M M′, which are nearly encircled by metal strap-brakes N N′, one end of each of said brakes being connected to the front of the frame A, and then passed back over and around the projections M M′ and brought forward and connected with the brake-rods P P′, which extend to the shaft or hole and are connected there to pivoted levers, which are designed to be worked at the shaft by a person landing therefrom.

The handles which are connected to the rods that shift the shifting lever are attached to a frame located at the hole or shaft. The brake-rods which are connected to the brakes also extend to the frame at the hole or shaft, and are operated by the foot of the person landing to permit the descent of the cage for the next person.

The roller Q, secured to the frame in front of one drum, is to guide the rope in passing over the drum. The frame is strongly and properly braced to give it greater security.

The brake-rods and the hoisting-ropes are to work in troughs, so that the horse can pass over them without interfering with them.

Having described this invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination, with the main frame and the flanged hoisting-drums provided with the miter-gears on the inner ends of their shafts, of the vertical shaft provided with the driving-gear thereon, the shifting lever, the double lever engaging the shifting lever, and the brake for controlling the drums, substantially as specified.

2. The combination, with the double frame provided with the two flanged hoisting-drums having miter-gears on the inner ends of their respective shafts, of the vertical shaft provided with the driving-wheel thereon and stepped at its lower end in a seat in the shifting lever, the brakes engaging the projecting disks on the hoisting-drums, and the double lever engaging the shifting-rods, substantially as specified.

3. The combination, with the frame and the drums, of the vertical shaft provided with the driving-wheel adapted to engage alternately the pinions on the drum-shafts, the shifting lever, the double lever connected by rods to a lever, and the brakes, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

JULIUS KAMM.
JOSEPH KAISER.

Witnesses:
J. F. GRACE,
GEO. NIEBUR.