

(No Model.)

C. J. EVERHARD.

BIER.

No. 256,472.

Patented Apr. 18, 1882.

Fig. 1.

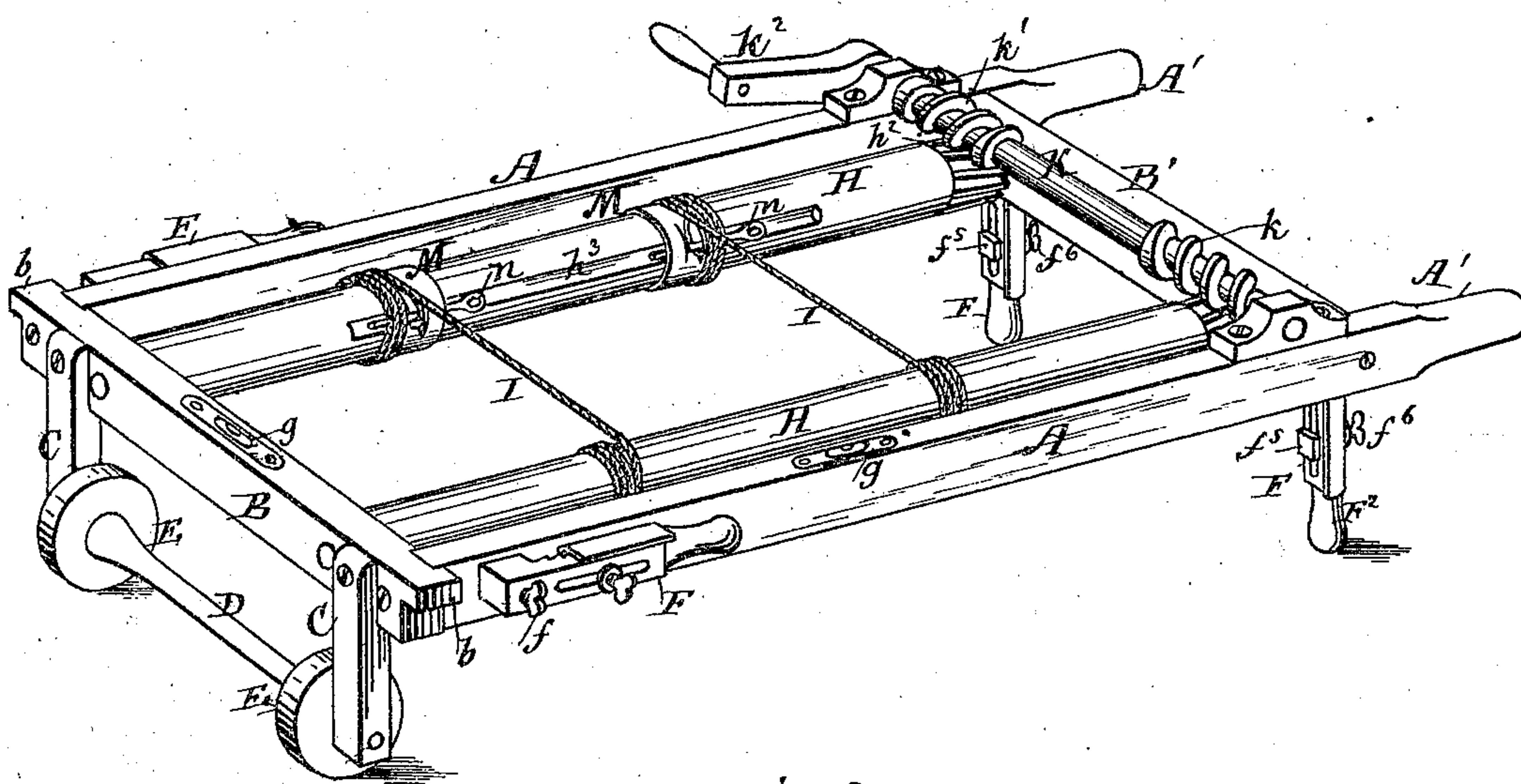


Fig. 2.

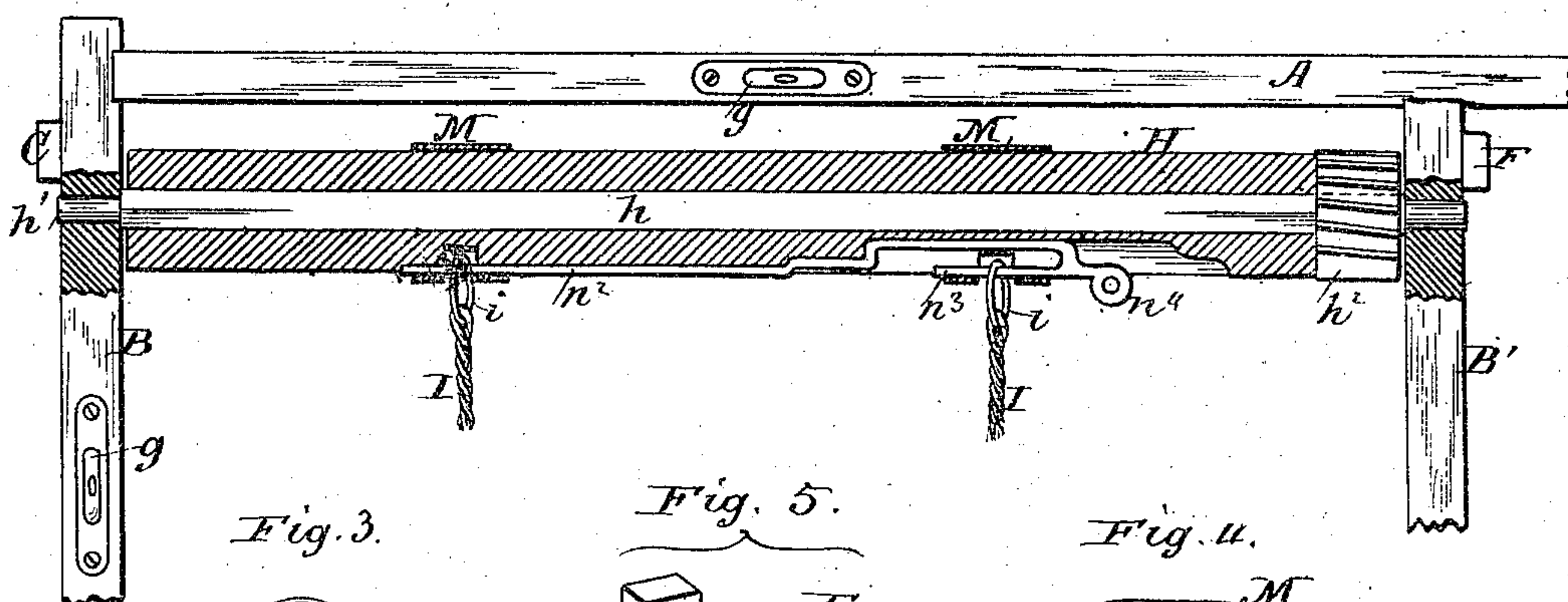


Fig. 3.

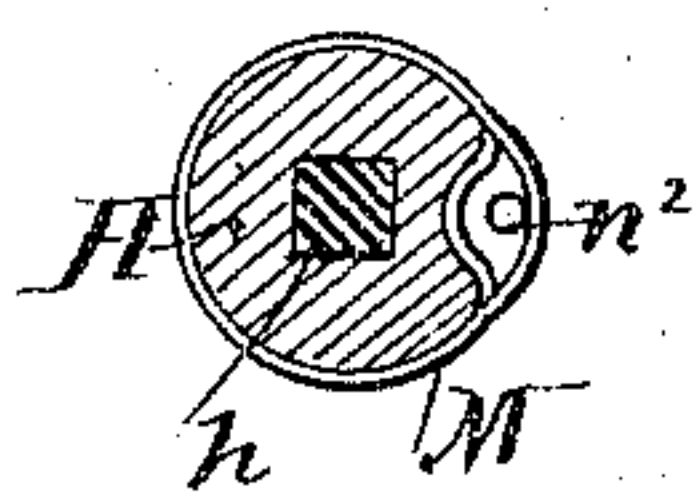


Fig. 5.

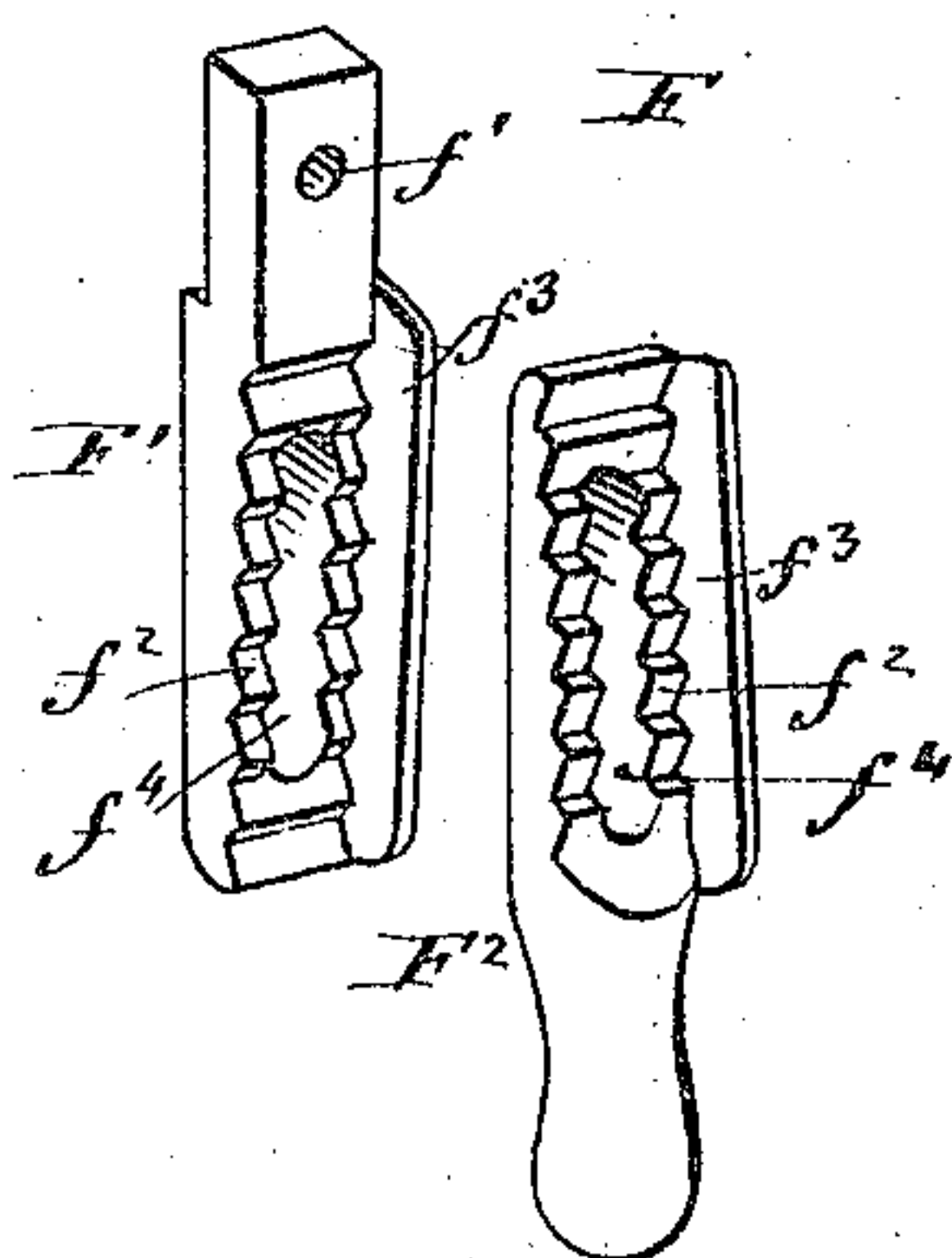
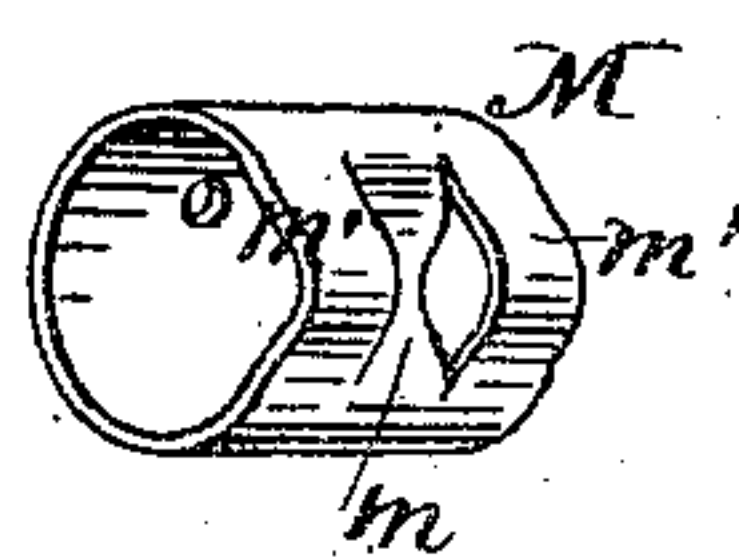


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

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BIER.

SPECIFICATION forming part of Letters Patent No. 256,472, dated April 18, 1882.

Application filed January 14, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. EVERHARD, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Biers, of which the following is a specification.

My invention relates to improvements in biers, by means of which coffins can be lowered into a grave by one man turning a crank connected with shafts from which ropes are suspended; and the objects of my improvements are, first, to provide the device with gears that will be noiseless in their operation; second, to provide the bier with wheels upon which it may be easily transported; third, to provide the same with longitudinally-adjustable legs to adapt it to rest evenly on side hills, and with spirit-levels to adjust it in position; and, fourth, to provide means for promptly disconnecting the ropes from the side shafts of the device. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the bier. Fig. 2 is a top view of a portion of the frame with one of the rope-winding shafts in section. Fig. 3 is a transverse section of one of the shafts. Fig. 4 is a perspective view of one of the timbles used upon the rope-winding shaft. Fig. 5 is a perspective view of the two halves forming one of the adjustable legs.

In said drawings, A represents the two side rails of the frame, terminating at one end into handles A', the transverse rails being shown at B and B'.

To the rail B are secured two pendent arms, C, through the lower end of which the ends of the axle D pass in suitable bearings. Upon the axle D are placed two wheels, E, adjoining the arms C, each wheel being preferably capable of rotating on the shaft independently of the other, and in this manner the forward part of the bier is supported.

To the rear rail, B', two legs, F, are secured. To render these legs longitudinally adjustable they are made of two parts, F' and F², the part F' being secured to the rail at f', while the lower end of the part F² is intended to rest upon the ground. Each part F' and F² is provided with racks f², adapted to interlock with

the other, and with a side flange, f³, adapted to rest against the side of the other and keep parts F' F² in line. They are also provided with longitudinal slots f⁴, to receive a bolt, f⁵, capable of passing through both slots at once, and said bolt is provided with a thumb-nut, f⁶, whereby the parts F' F² are securely united together to form legs of any suitable length to correct any unevenness in the surface of the ground, and render the top of the bier perfectly level over graves made in the sides of steep hills. To facilitate this accurate adjustment, similar extensible legs, F, are secured to the ends of the side rails adjoining the wheels E. These legs are pivoted upon a bolt, f, provided with a thumb-nut, so that they can be folded either alongside of the rails, as shown in Fig. 1, or with their free end toward the front, and be used as handles for the bier. In the latter position they abut against the under side of the ledges b, projecting from the ends of the rail B. As it is desirable that the surface of the bier should be perfectly level to keep the coffin in its descent from rubbing against the sides of the excavation and loosening gravel, &c., there is secured in the side and end rails spirit-levels g, to indicate which end or side of the apparatus should be raised or lowered.

The transverse rails B and B' form the bearings for the shafts H, around which are wound the ropes I, used to sustain and lower a coffin. These shafts are made of wood, and are provided with a central rod, h, of square iron, extending preferably the whole length of the shaft, and forming the journals h' for the latter. Upon one end of each square rod h is placed a cog-wheel, h², having its cogs inclined, and adapted to mesh noiselessly with a worm formed upon or secured to the transverse shaft K. Said shaft, carrying a right-hand worm, k, and a left-hand worm, k', will rotate at the same time, but in opposite directions, both shafts H. The shaft K passes through bearings secured to the side rails, and is provided with a crank and handle, k², to rotate the same. One end of the ropes I may be secured permanently to one of the shafts H, or by means of snap-hooks attached to said shaft; but it is desirable that the other end of the ropes should be easily detached from the shaft by the per-

son turning the crank after the coffin has been lowered. For this purpose there is secured to one (or both) of the shafts two or more thimbles, M, having a portion of their periphery formed with two transverse cuts. The metal between these cuts is either removed or depressed inward at *m* to form two loops or bands, *m'*, on each side thereof, to retain a pin or bolt, *n*, used to secure one end of the ropes. Distinct pins *n* may be used, as shown in Fig. 1, and they may be connected by a string secured to their end loops, and said string may extend to a point adjoining the operator; but I prefer to use a single rod, *n*², as shown in Fig. 2, one end of said bolt securing one of the ropes, while the other rope is retained by a pintle, *n*³, projecting from the side of said rod. Both ropes can thus be released by a short pull upon the loop *n*⁴. There are shown only two thimbles, M; but a greater number can be used, so that the ropes may be secured at more or less distance apart, to sustain coffins of different lengths, and the rod *n*² should have a corresponding number of pintles, *n*³. A long straight rod may be used to pass through all the thimbles. It can then be introduced or removed from one end of the shafts. Said shafts are provided with longitudinal grooves *h*³, for the reception of the rope-retaining rods, and in the ends of the ropes are secured metal links *i*, that can be easily introduced into the central recess *m* of the thimbles, and receive the locking pins or rod used for the purpose of connecting the ropes to the shafts.

This bier, being provided with wheels, can be easily transported by the sexton of a cemetery or other person from the place where it may be kept over a newly-made grave, and its legs adjusted to obtain a perfectly level top, and the ropes being wound upon the shafts, as shown in Fig. 1, the device is in proper condition to receive a coffin, and when the latter has been deposited upon the stretched ropes it can be lowered noiselessly and easily by a single person.

I am aware that prior to my invention rope-carrying rollers of biers have been con-

nected by transverse shafts having cog-wheels thereon, and have been operated by means of a crank. I am also aware that tripods have been provided with adjustable legs, and that said tripods, as well as the frame of other devices, have been provided with spirit-levels. I therefore do not claim, broadly, such a combination; but,

Having now fully described my invention, I claim—

1. A bier composed of a rectangular frame, two rolls connected by ropes, and mechanism for rotating said rolls, with an axle and supporting-wheels, E, placed under and connected with one end of said frame, substantially as and for the purpose described.

2. The combination of the rectangular frame of a bier, two rolls pivoted thereto, and carrying thimbles and worm-pinions, with a transverse shaft carrying right and left hand worms meshing with the pinions on said rolls, substantially as and for the purposes described.

3. The combination, with the frame of a bier, of legs therefor capable of longitudinal adjustment, and adapted to be folded against the sides of said frame, substantially as and for the purpose described.

4. The combination of the frame of a bier, with legs made in sections and provided with interlocking racks, flanges, and slots, and a thumb-nut, substantially as and for the purpose described.

5. The combination of the frame of a bier, shafts H, and thimbles having a central recess, *m*, with ropes provided with links *i*, and a rod adapted to pass through said links and under the thimbles, substantially as and for the purposes set forth.

6. The combination of the frame of a bier, provided with longitudinally-adjustable legs, with spirit-levels secured to the rails of said frame, substantially as and for the purpose described.

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Witnesses:

CORA A. EVERHARD,
OTTO P. EVERHARD.