

(No Model.)

2 Sheets—Sheet 1.

J. W. NORCROSS.  
PULLEY BLOCK.

No. 246,541.

Patented Aug. 30, 1881.

Fig. 1.

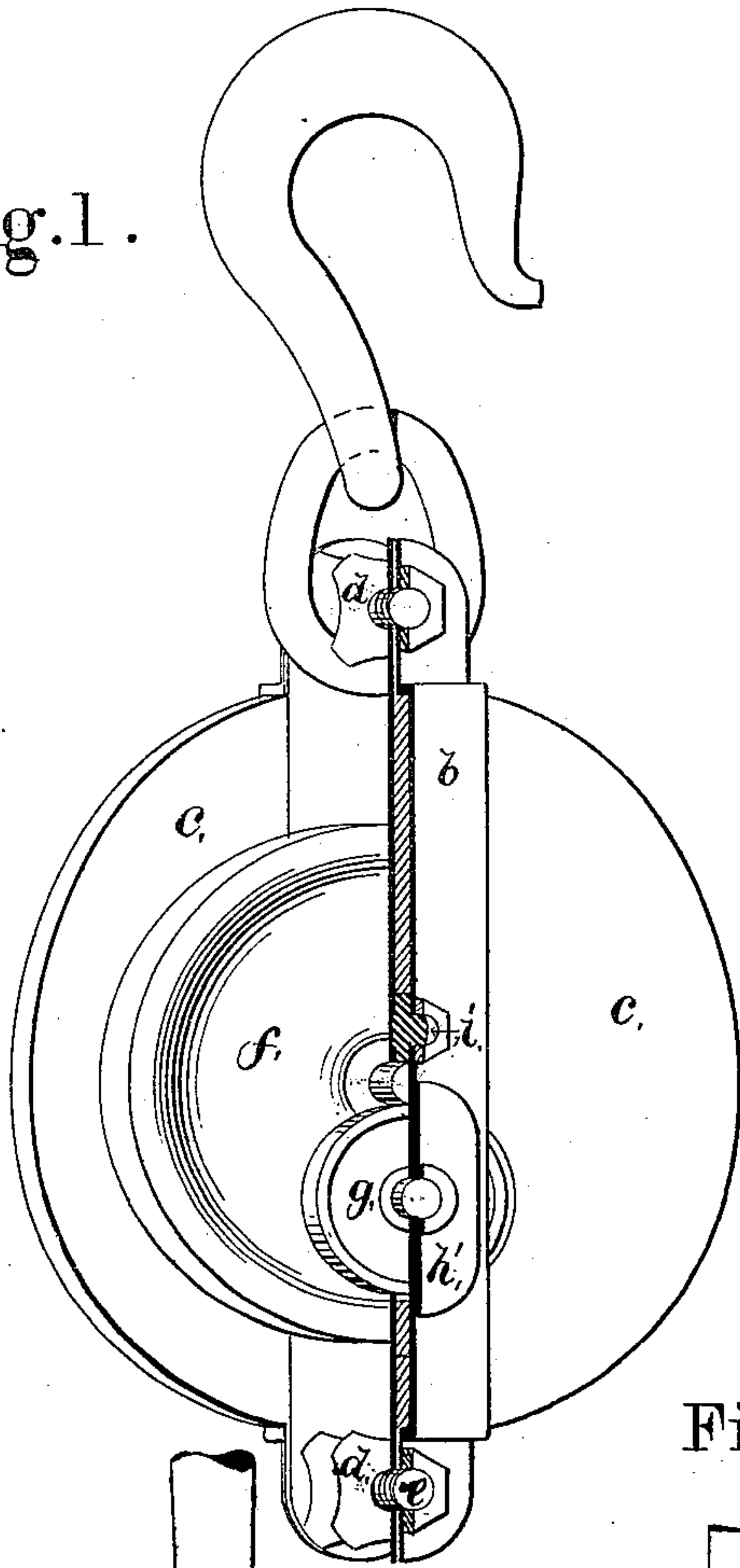


Fig. 2.

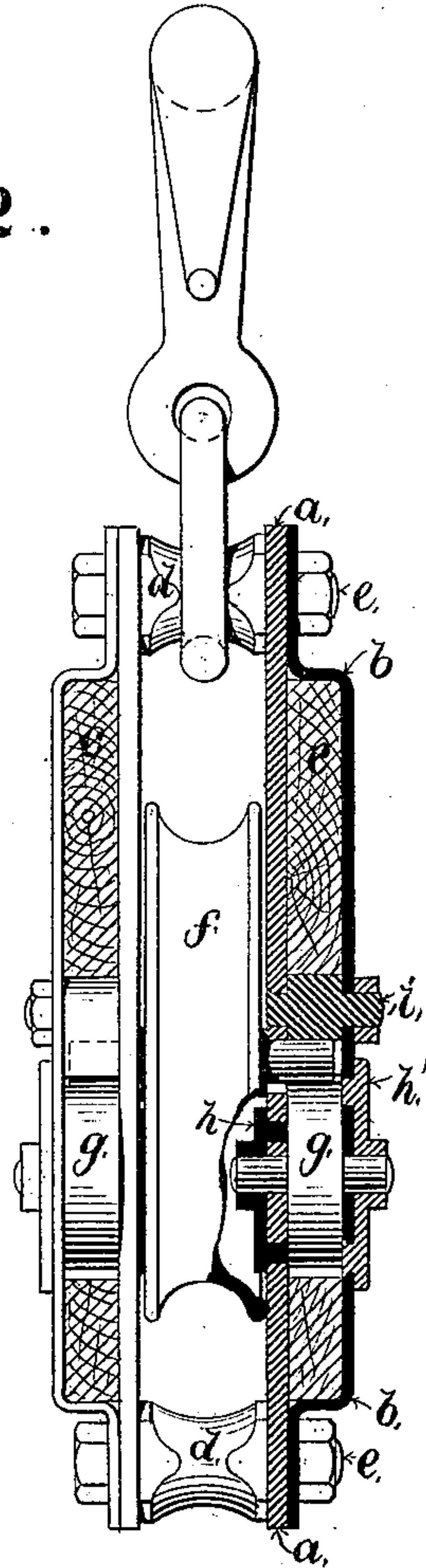


Fig. 4.

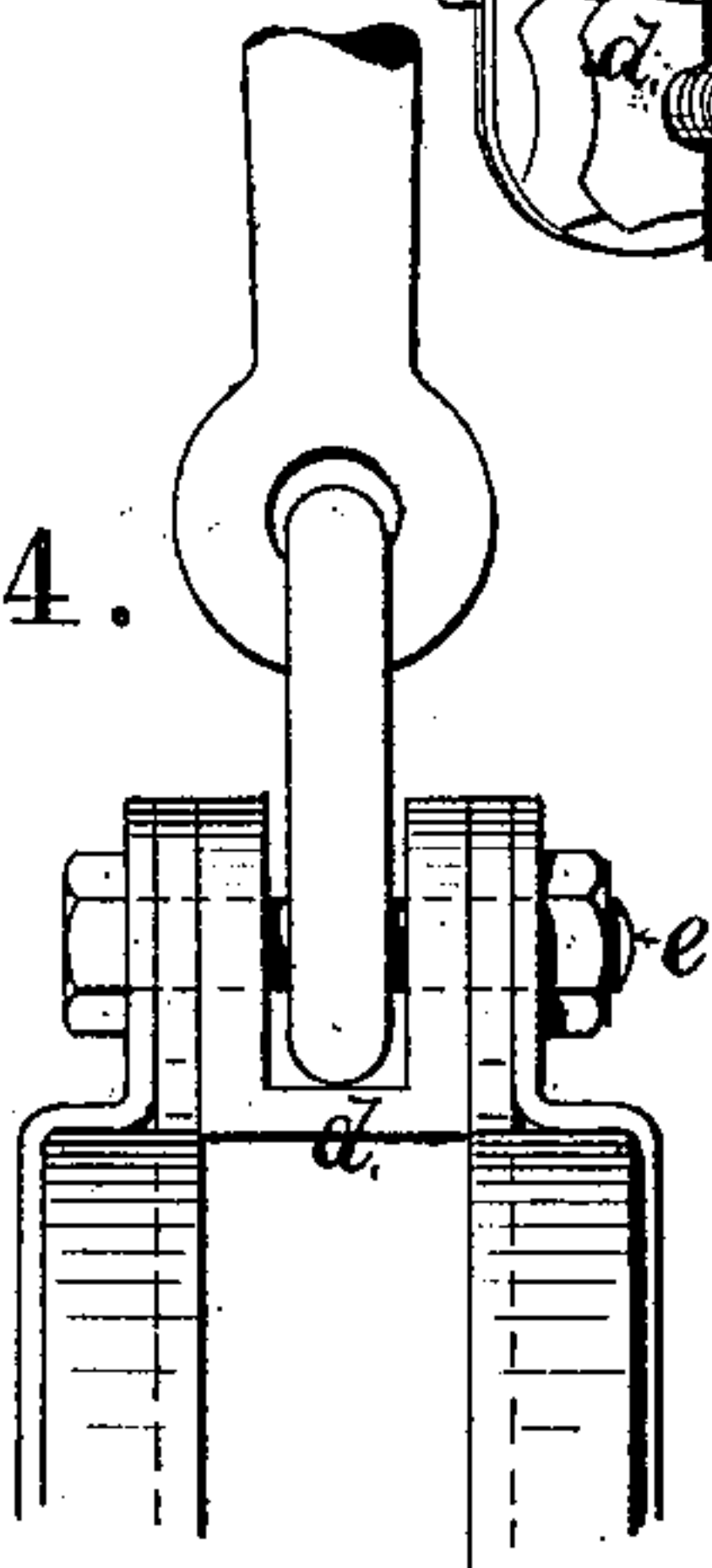


Fig. 3.

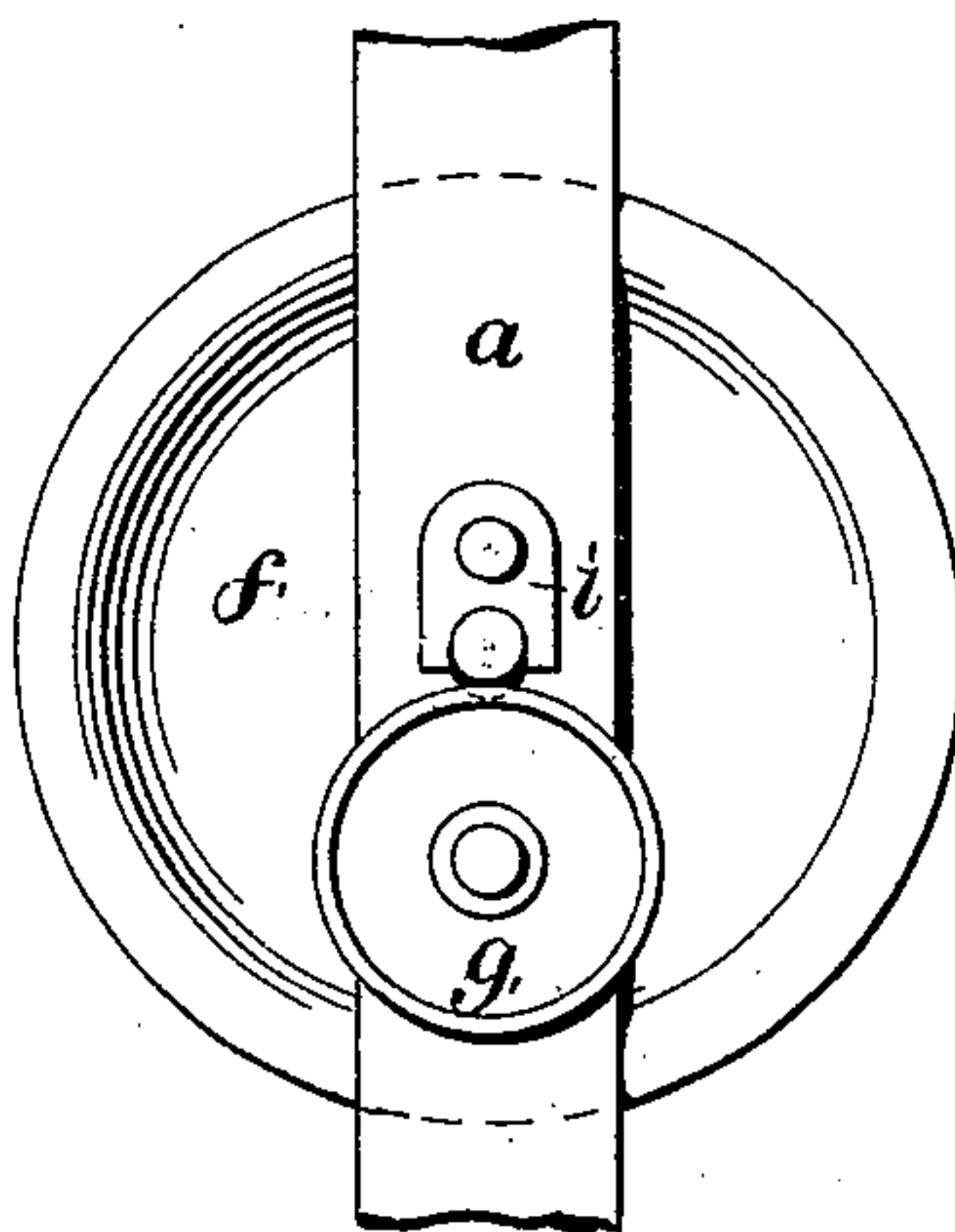
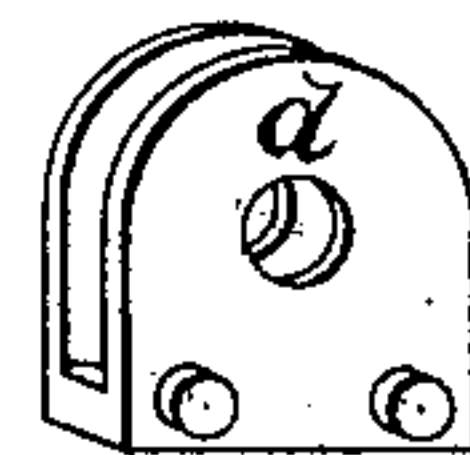


Fig. 5.



WITNESSES:

*J. A. Miller Jr.*  
*Wm. L. Cook.*

INVENTOR:

*Joseph W. Norcross*  
*by Joseph A. Miller*  
*att'y*

(No Model.)

2 Sheets—Sheet 2.

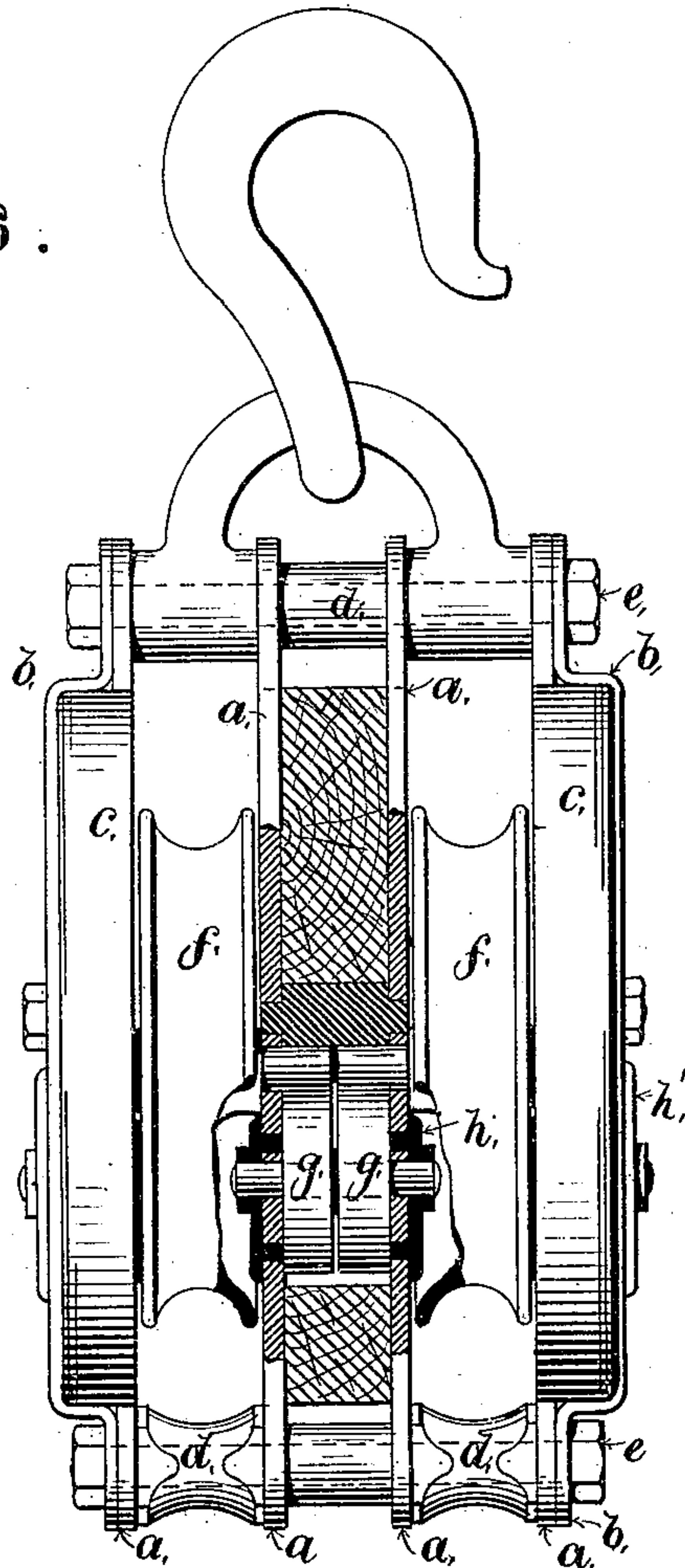
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Fig. 6.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOSEPH W. NORCROSS, OF BOSTON, MASSACHUSETTS.

## PULLEY-BLOCK.

SPECIFICATION forming part of Letters Patent No. 246,541, dated August 30, 1881.

Application filed February 15, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH W. NORCROSS, of the city of Boston, county of Suffolk, and State of Massachusetts, have invented a new and useful Improvement in Pulley-Blocks; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to that class of pulley-blocks in which wooden cheek-pieces are provided on their inner and outer faces with metal strips, which are connected together at their upper and lower ends by transverse pins or bolts, and at or near their middle portions form the bearings or supports for the axial pin of the sheave.

My improvements are embodied in the pulley-blocks illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a single pulley-block, one-half of the front cheek or side being shown as cut away. Fig. 2 is a sectional view of the same. Fig. 3 is an enlarged view, showing the axle-bearing for the pulley. Fig. 4 is a view of the upper end of the block, showing the manner in which the two sides of the block are secured together. Fig. 5 is a perspective view of the distance-piece shown in Fig. 4 placed between the sides. Fig. 6 is a view, partly in section, of a double pulley-block.

The object of this invention is to simplify the construction, increase the strength of pulley-blocks, and to facilitate the separating of the blocks for repairing, cleaning, or oiling.

In the drawings, *a a* are straight straps, provided at each end with holes. These straps are placed on the inner side of the cheeks *c c*, and form, when connected, a strong strap-link and the main support of the pulley-bearings.

*b b* are bent straps secured at the ends to the straps *a a*, and passing around the cheeks *c c* on the outside.

*d d* are distance-pieces placed between the straps *a a*, and *e e* are bolts provided with nuts, by which the blocks are secured firmly together and the straps, the cheeks, or sides

united to form a strong and durable pulley-block, which can be readily separated by removing the nuts from the bolts *e e*, and as readily put together, all strain being resisted by the straight straps *a a*.

*f f* are the pulleys, and *g g* the anti-friction wheels on which the axle of the pulley rests. To give to the axles of the wheels *g g* a long bearing, the bushing *h* is secured on the straps *a a* by casting the bushing with two projecting pins, which, passing through holes in the straps, are riveted on the inside. The bushing *h'* is secured in the same manner to the strap *b*, and thus a long bearing secured. The bushings *h* and *h'* are preferably made of bronze or other suitable metal to resist wear and reduce friction.

The straps *a* and *b* are secured together by means of the stay *i*, which is riveted into the strap *a* and secured to the strap *b* by a nut. The cheek or side *c* is thus more firmly held in place. The stay *i* also forms the thrust-bearing for the axle of the pulley *f*, and in a double block is riveted to both of the straps *a a* in the central cheek, as is shown in Fig. 6.

The cheeks or sides *c c* are made of wood to form guides for the rope and prevent shaving or injuring the same; but all the strain is taken up by the metal straps. When any part requires repairing or oiling, the block can be quickly taken apart and the repairs made, and as all the parts for blocks of a given number or size are made after standard gages, the various parts can be kept in stock, and single, double, or triple sheave-blocks can be made up at any time by simply bolting the parts together.

It will be observed by referring to Fig. 6 that each sheave or pulley has an axle independent of the axle of the other sheave. This allows the sheaves to turn independently of each other.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A pulley-block combining in its structure the inner straps, *a a*, the outer straps, *b b*, the wooden cheeks *c c*, interposed between said straps, the end bolts passing through all the

straps and connecting them together, and a sheave having an axial pin extending through the inner straps, but not through the outer straps, substantially as shown and described.

- 5 2. In a pulley-block, the combination of the inner straps, *a a*, the outer straps, *b b*, the wooden cheek-pieces *c c*, interposed between the straps, with the stays *i*, passing through

and connecting the inner and outer straps, substantially as described. 10

In witness whereof I have hereunto affixed my name.

JOSEPH W. NORCROSS.

Witnesses:

J. A. MILLER, Jr.,

WM. L. COOP.