

H. A. HEMPEL.
Printers' Furniture.

No. 145,800.

Patented Dec. 23, 1873.

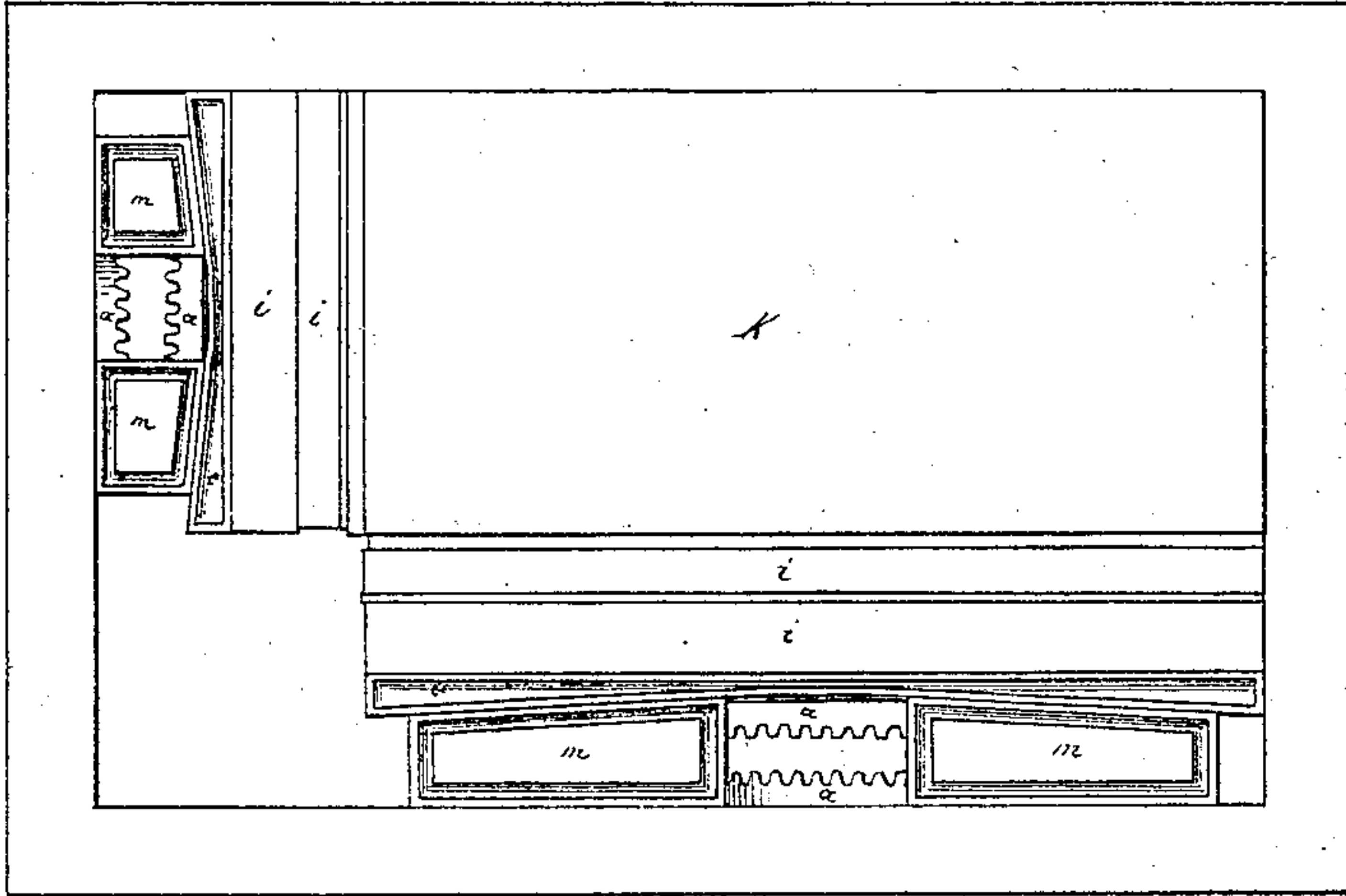


Fig. I.

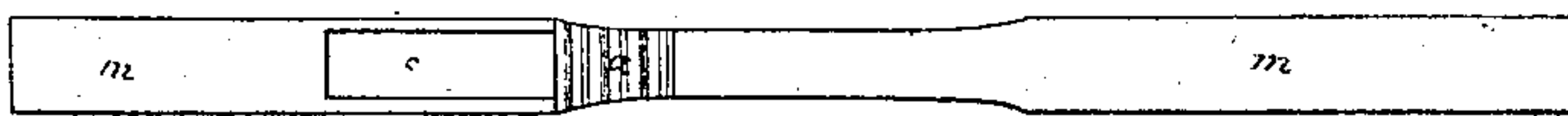


Fig. II.

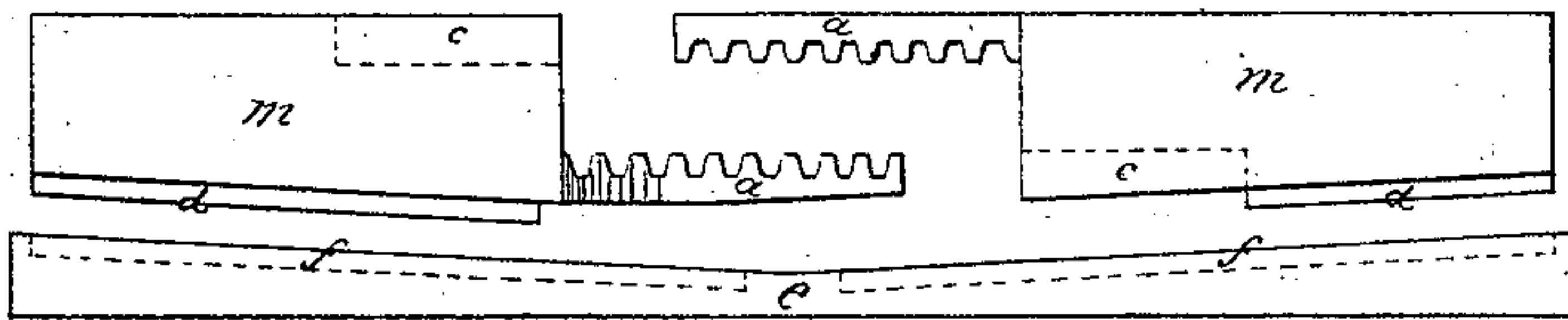


Fig. IV.

Fig. III.

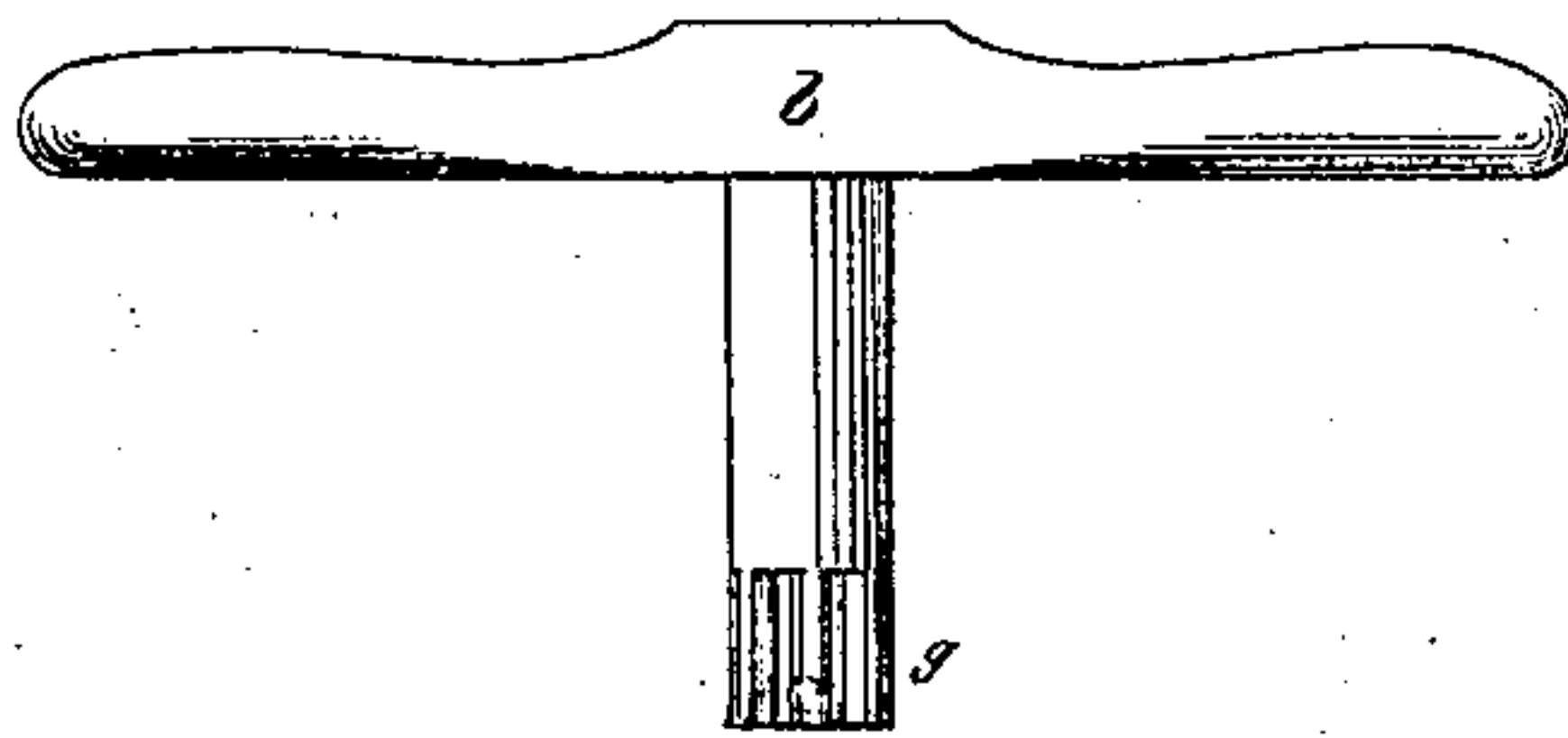


Fig. V.



Fig. VI.

Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY A. HEMPEL, OF ST. JOSEPH, MISSOURI.

IMPROVEMENT IN PRINTERS' FURNITURE.

Specification forming part of Letters Patent No. **145,800**, dated December 23, 1873; application filed August 27, 1873.

To all whom it may concern:

Be it known that I, HENRY A. HEMPEL, of the city of St. Joseph, Buchanan county, State of Missouri, have invented certain Improvements in Quoins for Locking-Frames, of which the following is a specification:

My invention is an improvement in the class of quoins consisting of wedge-shaped blocks combined with an inclined bar or frame; and it consists in two quoins, straight on one side and inclined on the other, and provided with rack-bars or toothed arms, with which a pinion or gear-wheel engages in such a way as to move said quoins simultaneously toward or from each other, the arrangement being such that, when the pressure on one quoin is greater than on the other, the rapidity of movement of the one encountering less pressure will be accelerated until the pressure is equalized.

Figure 1 is a plan view of a form locked up by means of my improved quoins. Fig. 2 is a side view of one of the quoins. Fig. 3 shows the entire locking apparatus, the several parts being slightly separated to better show their construction. Fig. 4 is a cross-section of one of the quoins and the double-inclined frame or bar. Figs. 5 and 6 show the lever-key and pinion.

The quoins *m m* are straight on the side which is next the type in the form, and inclined on the other, which works in contact with the inclined bar or frame *e*. Rack-bars or toothed arms *a a* project from their con-

tiguous and wider ends, the arrangement being such that there is sufficient space between the bars to receive a pinion or gear-wheel, *g*, which is attached to the lever-key *b*, and preferably formed in one piece with it. A recess, *c*, is formed in each of the adjacent ends of the quoins to receive the arm *a* of the opposite quoin. The means of connection between the bar *e* and the quoins are a dovetailed rib, *d*, and a groove.

The operation is as follows: The form being placed in the chase, and the quoins arranged, as in Fig. 1, between the form and double-inclined bar *e*, the pinion is engaged with the rack-bars, and turned by means of the key *b*, which causes the quoins to move from each other simultaneously and up the inclines *f*. If the pressure be unequal, the quoin on which it is the less will naturally move faster than the other, and thus quickly wedge itself more firmly between the contiguous incline *f* and the form, restoring thus the equilibrium of pressure.

I claim—

The combination of the quoins *m* and *m*, provided with rack-bars *a a*, the pinion *g*, and double-inclined frame or bar *e f*, substantially as shown and described, to operate as specified.

HENRY A. HEMPEL.

Witnesses:

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