(Model.)

W. H. GOLDSBERRY.

FOLDING SQUARE AND SCALE HOLDER.

No. 285,405. Patented Sept. 25, 1883.

Fig. 1

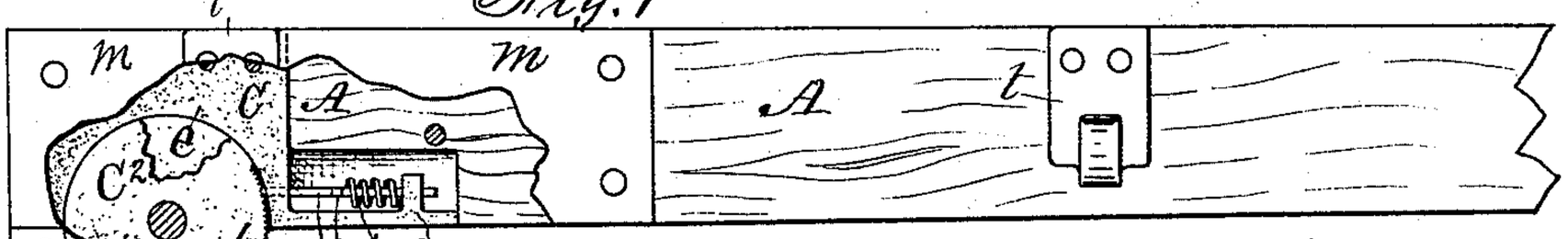

Fig. 2

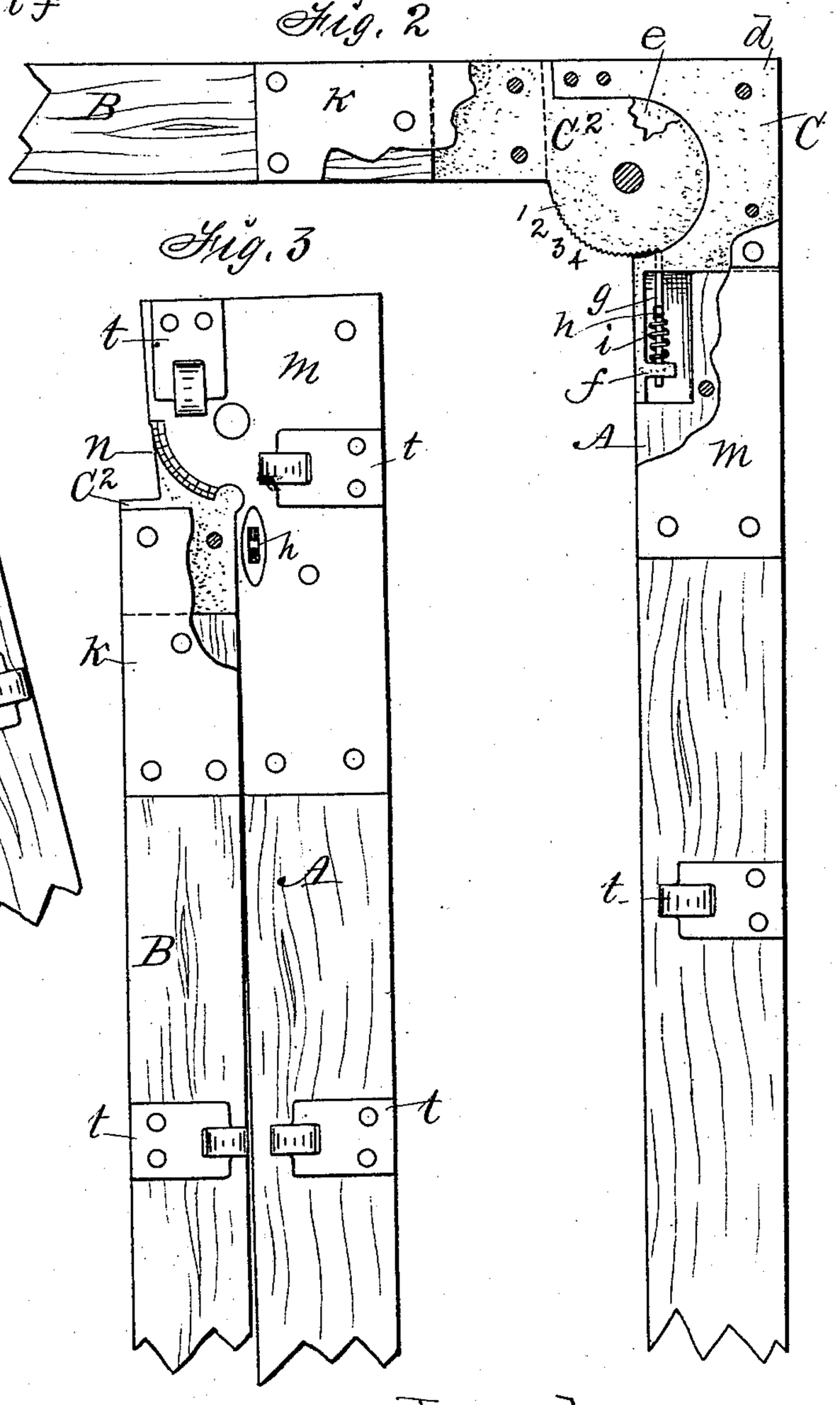

Fig. 3

Witnesses:
H. A. Stoltenberg,
D. S. Devin,

Inventor:
William H. Goldsberry,
By Thomas G. Orwig, Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM H. GOLDSBERRY, OF CEDAR RAPIDS, IOWA.

FOLDING SQUARE AND SCALE-HOLDER.

SPECIFICATION forming part of Letters Patent No. 285,405, dated September 25, 1883.

Application filed April 12, 1883. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM H. GOLDSBERRY, of Cedar Rapids, in the county of Linn and State of Iowa, have invented an Improved Folding Square, of which the following is a specification.

My invention consists in forming and combining a hinge-joint, a protractor, and an automatic locking device with the two arms of a square, as hereinafter fully set forth, in such a manner that the two arms can be readily folded into parallel position and automatically locked to promote convenience and safety in packing it away when not in use, and readily unlocked and distended to various angles relative to each other, and automatically locked in various positions when used as a protractor and square for drafting garments or for any other purpose for which protractors and squares are adapted to be used.

Figure 1 of my drawings is a top view of my joint and locking device. Fig. 2 shows my square open as required for use as a square. Fig. 3 shows it folded ready to pack away. Together these figures clearly illustrate the construction and operation of my complete invention.

A and B represent the arms of the square. They are preferably made of wood when designed for tailors' use.

C is the socket portion of my hinged joint, preferably made of cast metal. It has a square corner, *d*, at its outside edge, a cavity, *e*, adapted to receive the knuckle portion of the joint, and an extension, *f*, at its inner edge to support the bolt of my locking device.

g is a bolt that extends through perforations and bearings in the extension *f*, as required, to engage the knuckle of the joint and lock the two arms of the square in fixed positions.

h is a spur or catch fixed to the bolt to project up through a cavity in a covering-plate.

i is a coiled spring placed upon the bolt in such a manner that it will in its normal condition press the bolt *g* forward to engage the knuckle.

C^2 is the knuckle portion of my hinge-joint, adapted to be connected with the part C and to extend into the cavity *e* from the short arm B of the square, to which it is attached by overlapping plates.

1 2 3 4 represent a serrated edge, or notches formed in the curved portion of the knuckle, that comes in contact with the bolt *g* when the arm B is moved to or from the arm A.

k is a flat metal plate fitted on top of the end of the arm B to overlap the angular end of the metal casting C^2. A corresponding plate is fitted on the under side, and both the plates are riveted fast upon the end of the arm B and the angular end of the part C^2.

m is a flat metal plate fitted to the end of the arm A and the metal casting C. A corresponding plate is fitted to the under sides of the same parts, and both the plates are riveted fast to the arm A and the socket portion of the joint.

n is an extension and protractor formed integral with the plate *m* in such a manner that its curved edge will be concentric with the pivot and center *r* of the complete joint that extends through a perforation in the knuckle part C^2 and coinciding perforations in the plates *m n*.

s is a slot in the plate *m*, through which the catch *h* extends from the bolt *g*. By marking a scale of degrees on the protractor-surface *n* the short arm B can be readily set at any degree of angle desired relative to the long arm A.

t t are spring-catches fixed on the top surface of the square to clasp detachable measures or scales such as are used by tailors in drafting garments.

To open my square when folded and locked, I simply, by means of the projecting catch *h* of the bolt *g*, press the bolt away from the serrated or notched segment of the knuckle portion C^2, and then distend the hinge and move the arm B to any angle desired relative to the arm A, and allow the spring *i* to force the bolt into one of the notches in the segment or curved edge of the knuckle to thereby lock the joint and two arms rigidly together again. To adjust the arm B, or to fold it in parallel position with the arm A, I simply unlock the joint and then press it in the direction desired and allow it to be automatically locked by the spring and bolt.

I claim as my invention—

1. In combination with the arms of a square, the metal casting C, having a cavity for a joint-knuckle and an extension, *f*, to support a slid-

ing bolt, and the metal casting C^2, having a knuckle adapted to fit in the corresponding cavity of the said part C, and also a serrated or notched segment, 1 2 3 4, substantially as shown and described, for the purposes specified.

2. The joint-section C, having an extension and bolt bearing, *f*, the sliding bolt *g*, having a projection, *h*, and the hinged section C^2, having a serrated or notched segment, 1 2 3 4, arranged and combined with the arms of a folding square, substantially as and for the purposes set forth.

3. The improved folding square and protractor composed of the arms A and B, the metal joint-sections C and C^2, the locking device *f g h i*, the overlapping plates *k*, and the plates *m*, having an extension, *n*, and a protractor-scale, and a slot, *s*, in one of the said plates *m n*, substantially as shown and described, to operate in the manner set forth, for the purposes specified.

WILLIAM H. GOLDSBERRY.

Witnesses:

I. N. WHITTAM,

N. B. BLANCHARD.