

No. 677,176.

Patented June 25, 1901.

S. J. COCHRAN.
KNOCKDOWN CAMP STOVE.

(Application filed Nov. 13, 1900.)

(No Model.)

2 Sheets—Sheet 1.

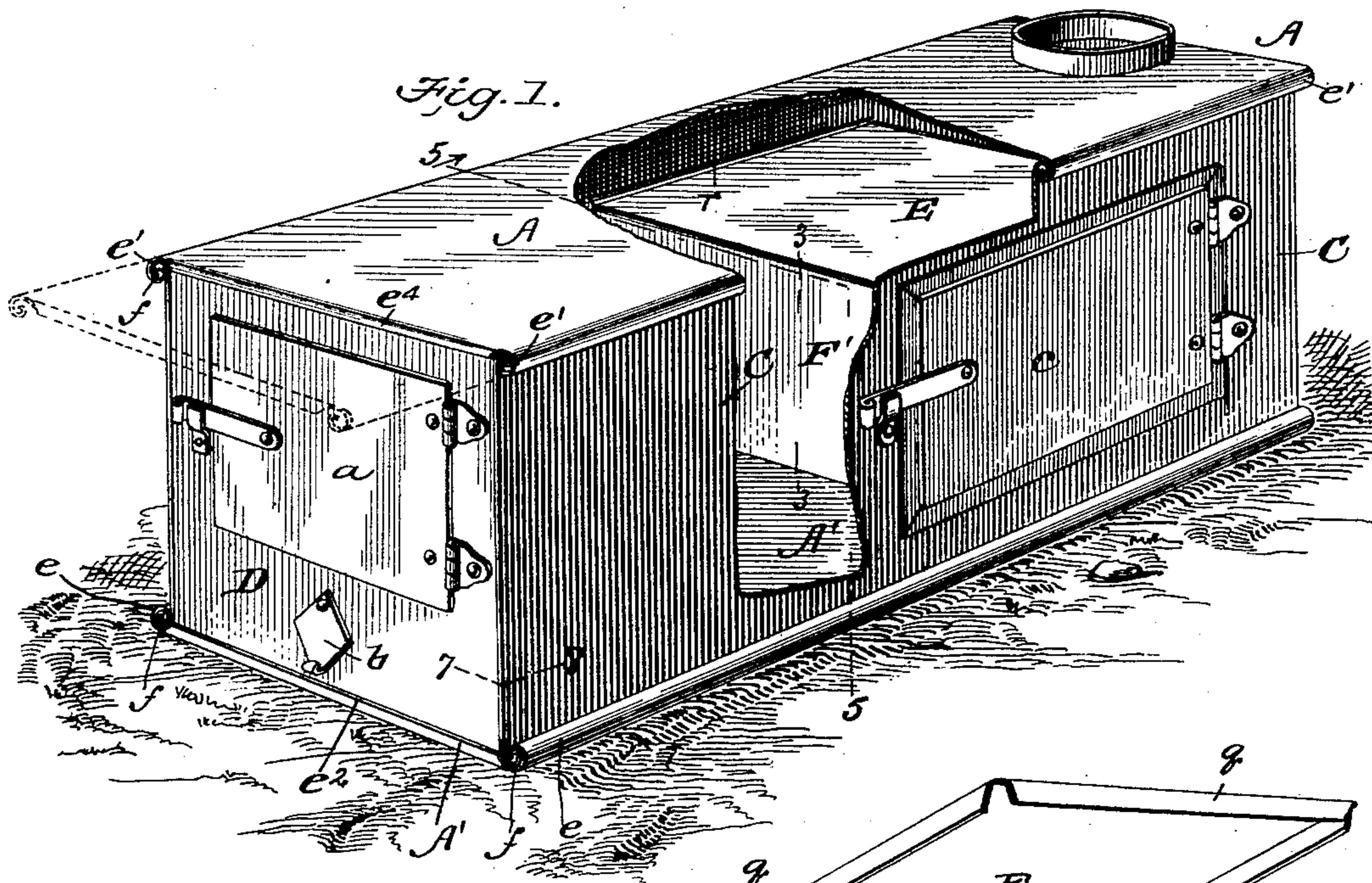


Fig. 3.

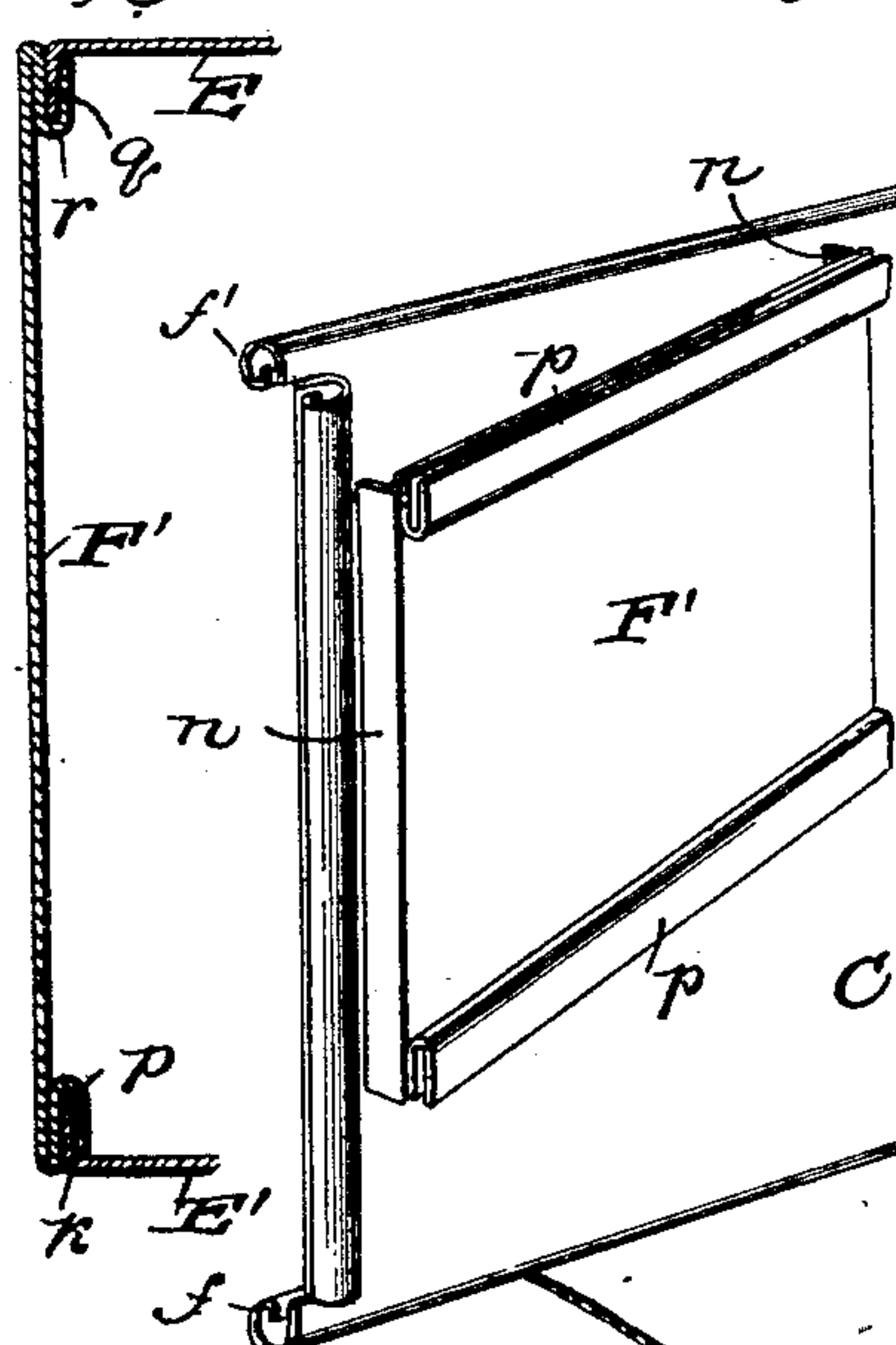
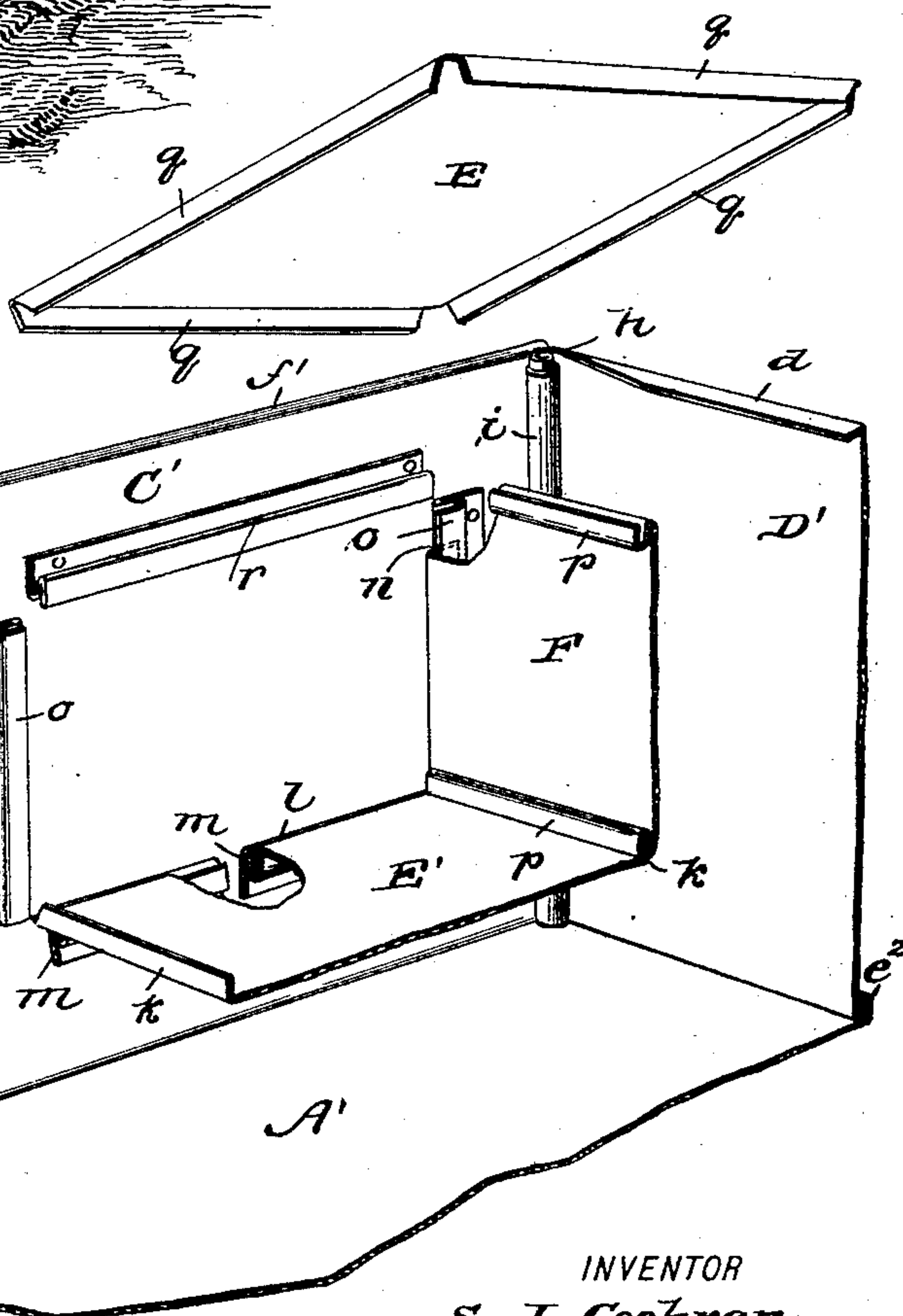


Fig. 2.



WITNESSES:

M. S. Clondell.
Amos W. Hart

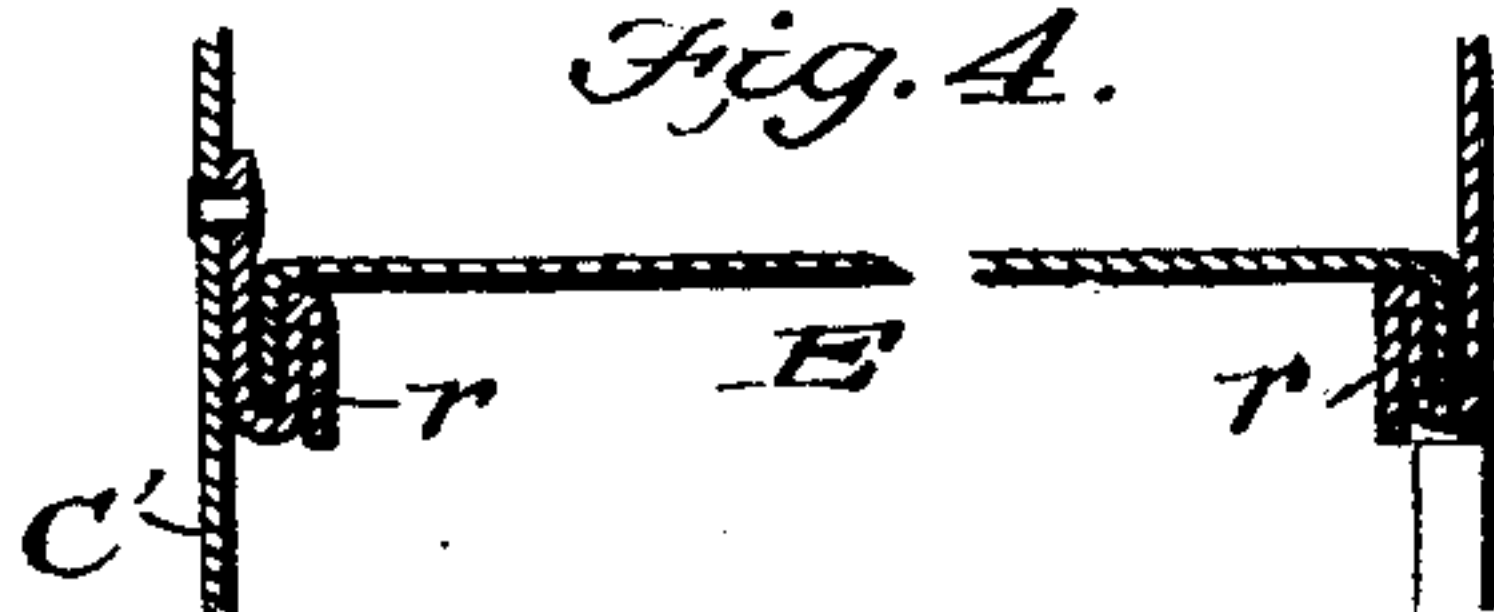
INVENTOR

S. J. Cochran.

BY *Munn & Co.*

ATTORNEYS

Fig. 4.



No. 677,176.

Patented June 25, 1901.

S. J. COCHRAN.
KNOCKDOWN CAMP STOVE.

(Application filed Nov. 13, 1900.)

(No Model.)

2 Sheets—Sheet 2.

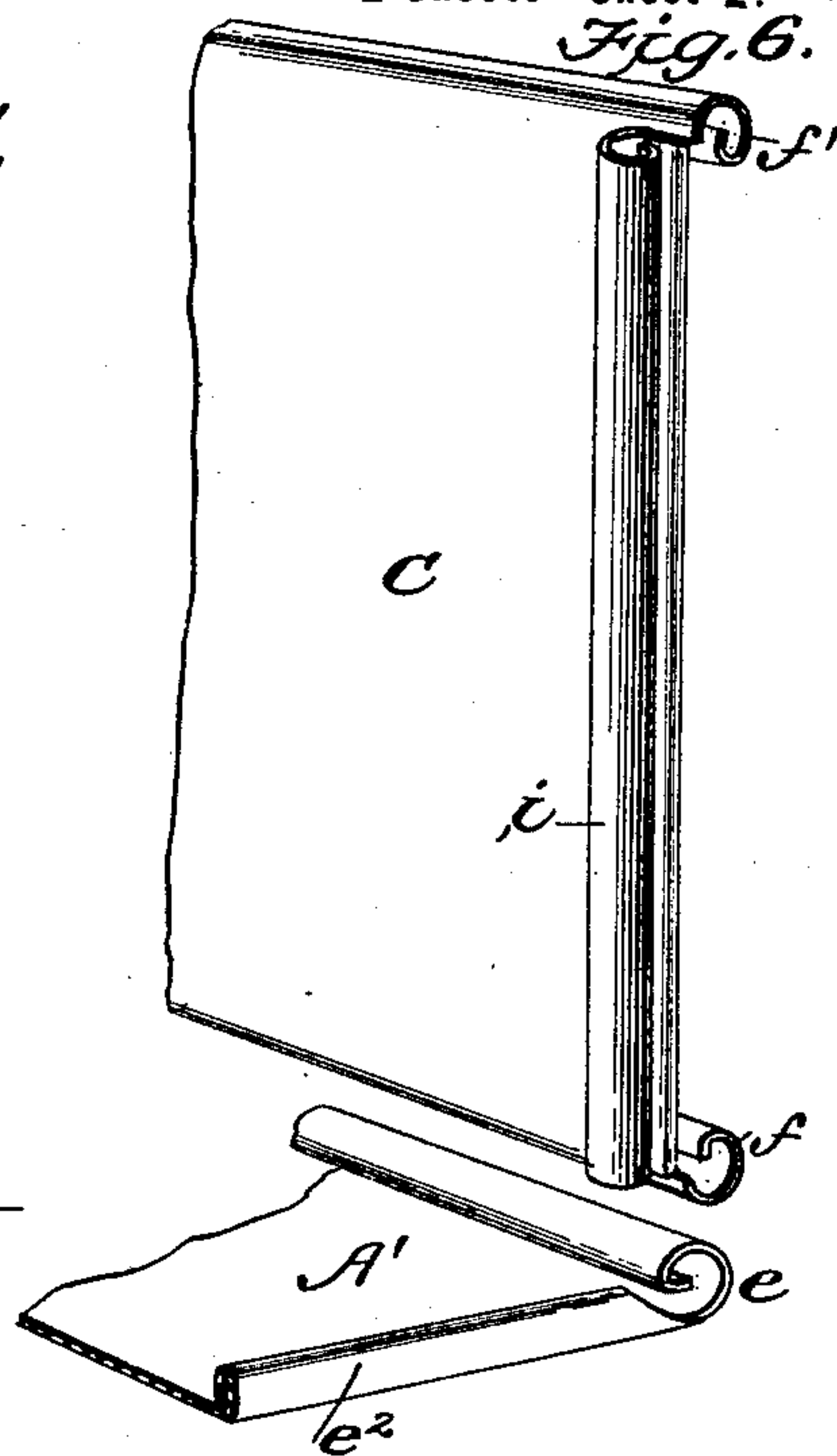
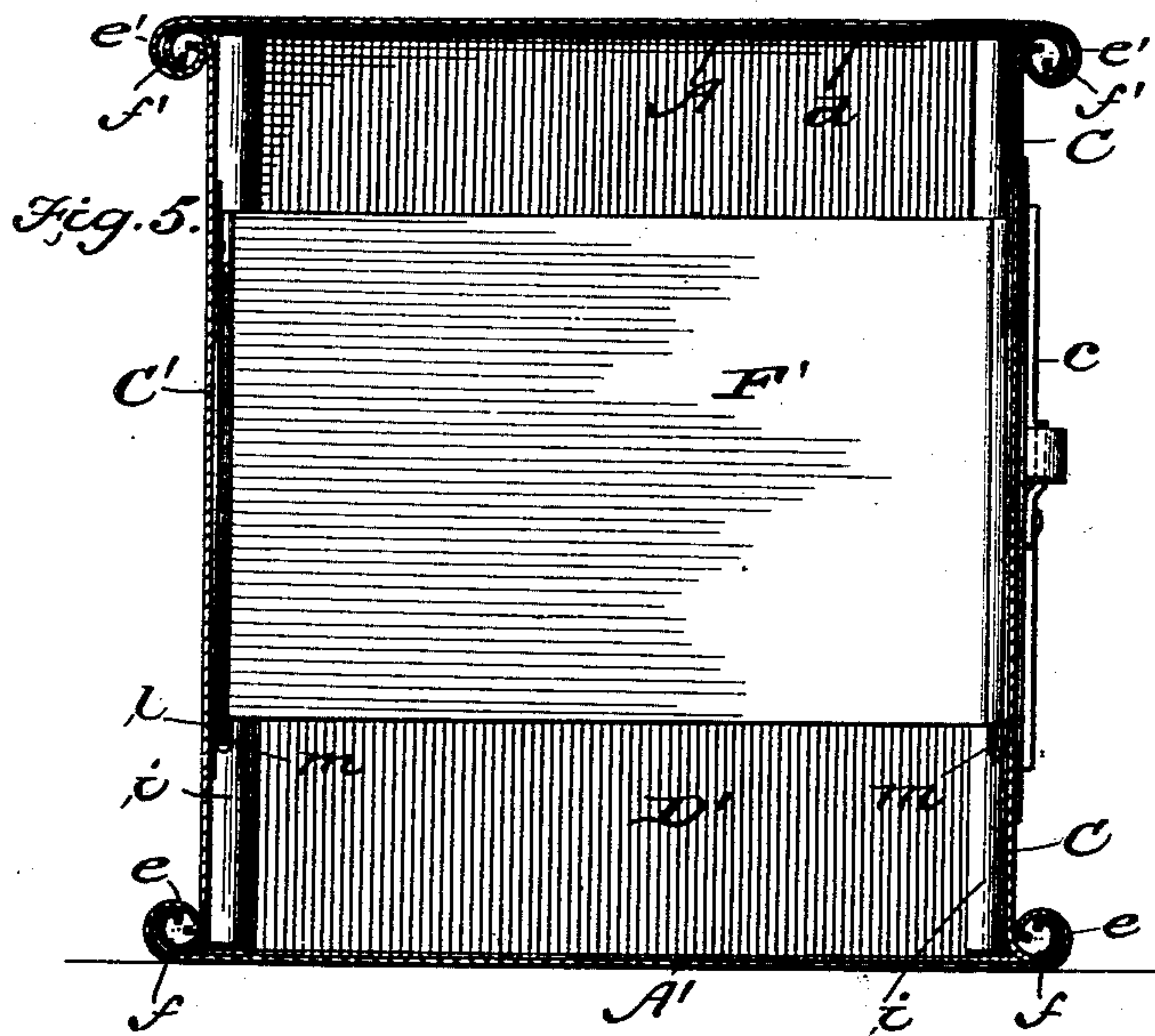


Fig. 7.

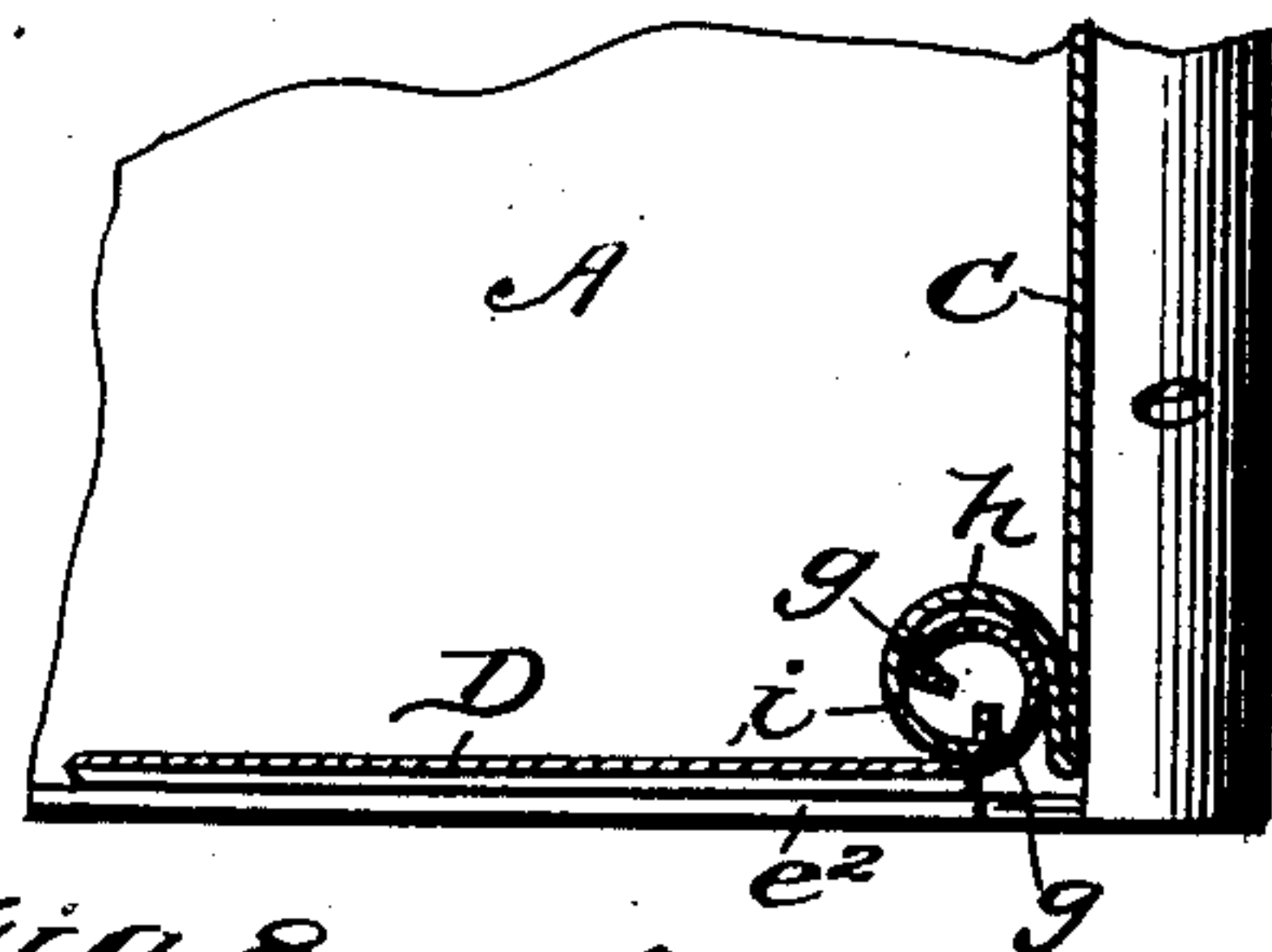
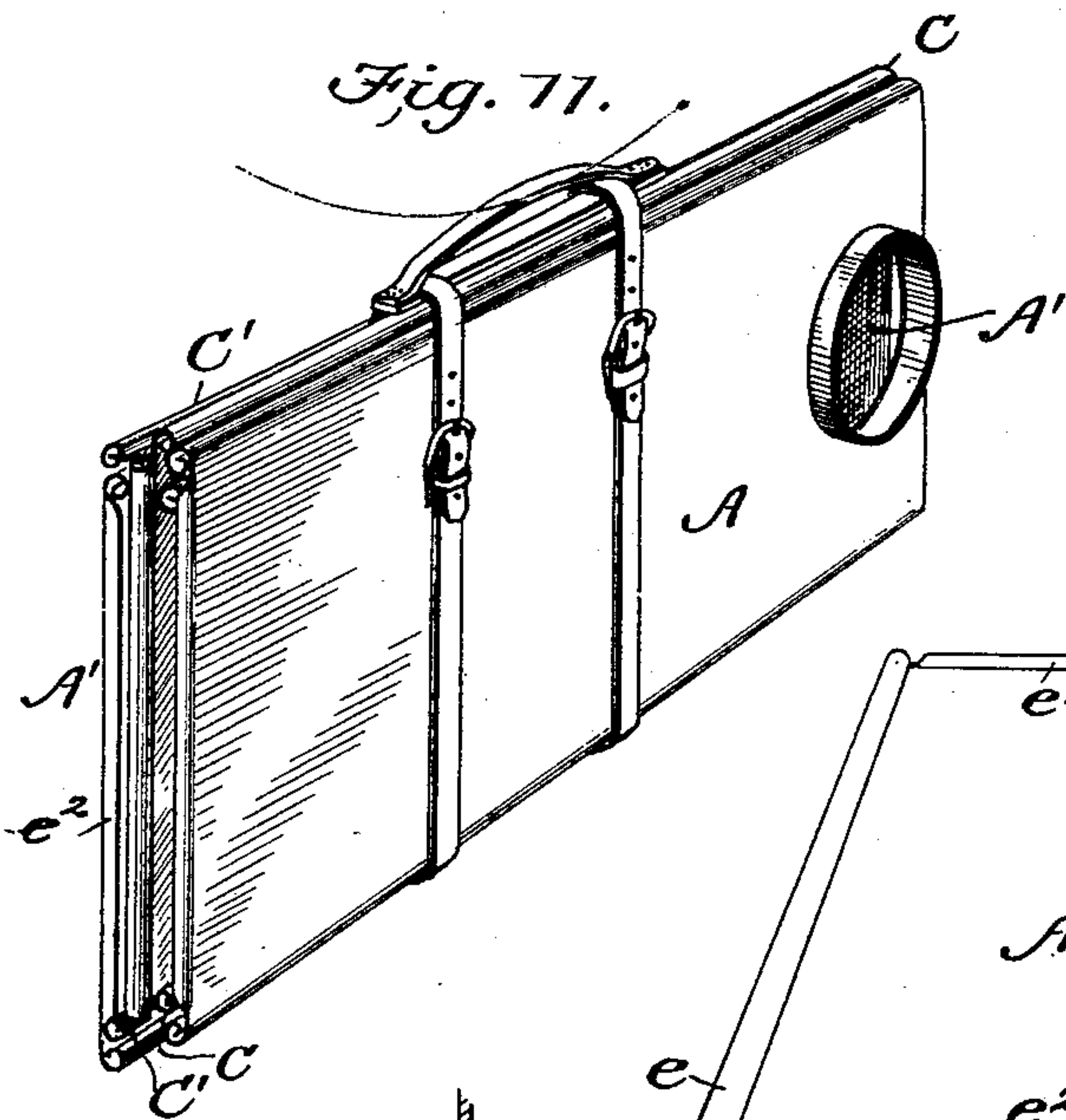
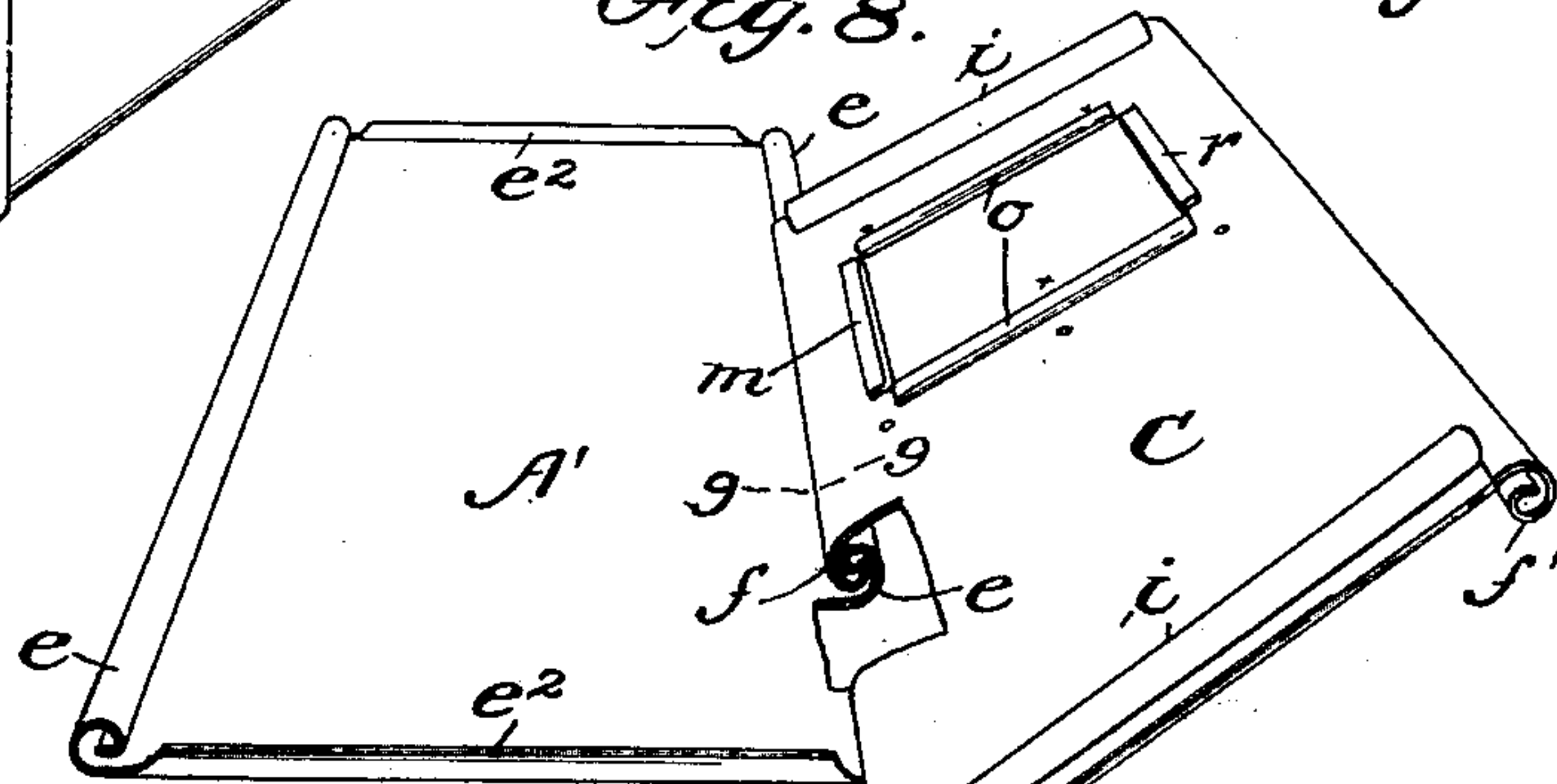
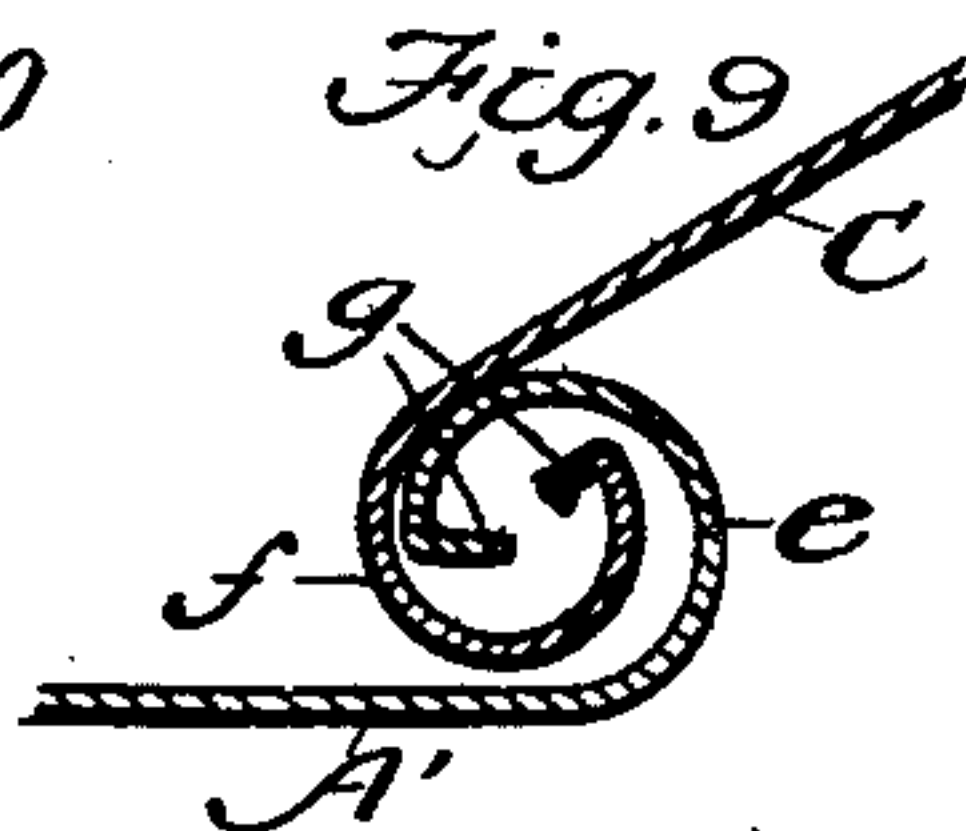
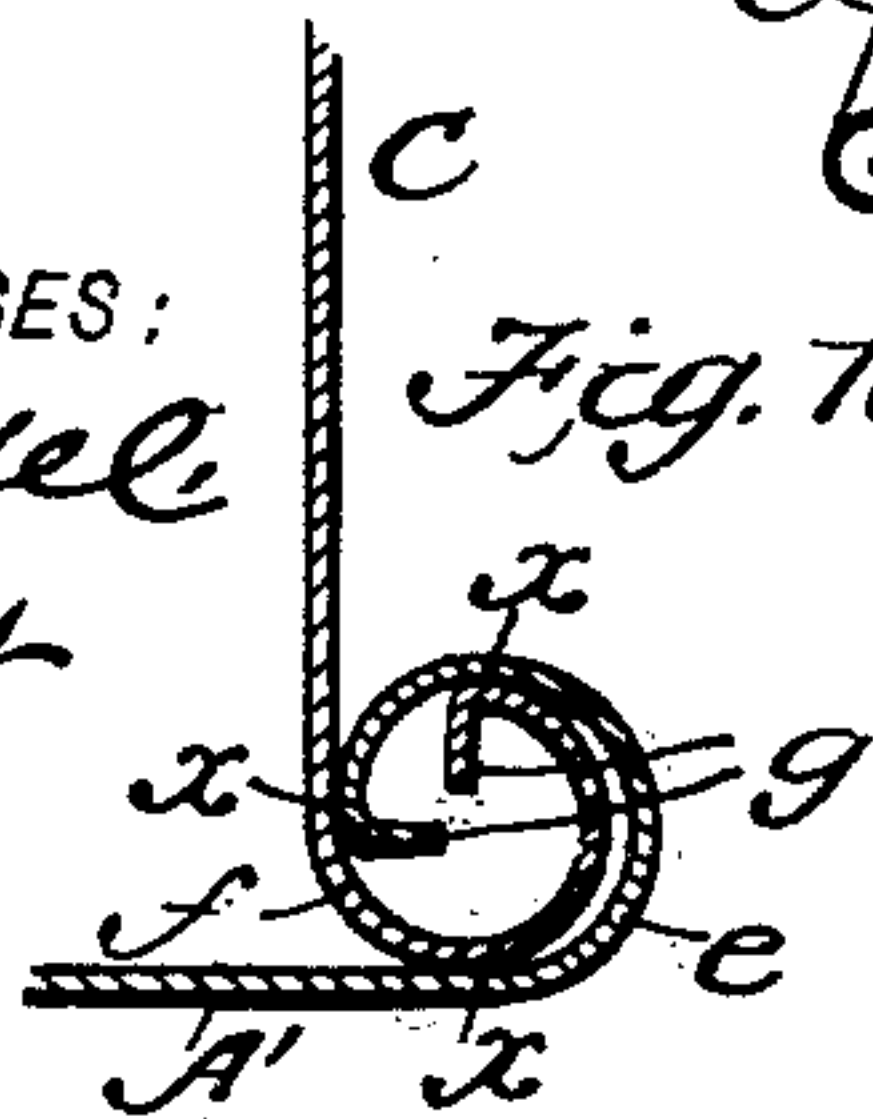


Fig. 8.



WITNESSES:
M. B. Bloude
Amos Hart



INVENTOR
S. J. Cochran
BY *Munn & Co.*

ATTORNEYS

UNITED STATES PATENT OFFICE.

STEPHEN J. COCHRAN, OF SILEX, MISSOURI.

KNOCKDOWN CAMP-STOVE.

SPECIFICATION forming part of Letters Patent No. 677,176, dated June 25, 1901.

Application filed November 13, 1900. Serial No. 36,370. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN J. COCHRAN, residing at Silex, in the county of Lincoln and State of Missouri, have made certain new and useful Improvements in Knockdown Camp-Stoves, of which the following is a specification.

The chief qualities for a knockdown stove for use of miners, prospectors, hunters, fishermen, and campers generally are the following: It must be cheap, light, yet strong and durable, and adapted to be easily and quickly set up and taken apart and to be folded compactly or in small space and capable of heating and cooking with high efficiency.

My improved stove consists of a body within which is arranged the oven or baking-chamber. The body of the stove is composed of six separable parts—sides, ends, top, and bottom—which are connected by sliding joints. The body of the oven is composed of four parts—top, bottom, and sides—which are supported by and between the sides of the body, the said sides forming the ends of the oven. The detachable connection between the parts of the oven and stove-body is constructed upon the principle of tenon and mortise. The formation of the joints between the several separable parts of the stove embodies the novelty of my invention.

In the accompanying drawings, Figure 1 is a perspective view of my improved stove, part being broken out to show interior construction. Fig. 2 is an interior perspective view showing parts of the oven detached from each other and from the body of the stove. Fig. 3 is an enlarged vertical section on the line 3 3, Fig. 1, the same showing the joints on the sides of the oven. Fig. 4 is a vertical section showing the top joints at the ends of the oven. Fig. 5 is a vertical cross-section on line 5 5 of Fig. 1. Fig. 6 is a perspective view of the ends of the bottom and one of the sides of the stove detached. Fig. 7 is a horizontal section on line 7 7 of Fig. 1. Fig. 8 is a perspective view illustrating the position of the bottom and one of the sides of the stove when being slid together or detached. Fig. 9 is an enlarged cross-section on line 9 9 of Fig. 8. Fig. 10 is an enlarged cross-section of the same parts as shown in Fig. 9, but showing them in the normal position. Fig. 11 is a perspec-

tive view of the stove knocked down and packed for transportation or storage.

All parts of the stove are constructed of sheet metal. The body A is oblong and rectangular and composed of six separable parts—to wit, the top A and bottom A', two sides C C', and two ends D D'. (See Fig. 2.) The front end is provided with a hinged door *a* for introduction of fuel and a valved opening *b* for admission of air, while the side C has an oven-opening provided with a hinged door *c*. The construction of the joints by which the said parts are detachably connected is as follows: As shown in several figures, the top, bottom, and sides of the stove are connected by rolls or approximately cylindrical joints. Thus, as shown prominently in Figs. 1, 5, 6, and 8, the side edges of the top A and bottom A' are rolled inward in the form of cylindrical spirals *e*, the same being open on the inner side, while the side edges of sides C and C' are rolled outward and form approximately similar spirals *f* and *f'*. The spirals *f* and *f'* of the sides C and C' are, however, made slightly smaller than those, *e*, of the top A and bottom A', so that one may be slid into the other, *e*, as shown best in Figs. 5, 9, and 10. From inspection of Fig. 9 it will be seen that if a side C be held at an angle to the bottom A' the roll *f* will slide easily into the roll *e*, and when the side C is raised to the vertical, as shown in Fig. 10, the rolls press together and form a tight joint. In other words, the rolls *f* are in close contact with the outer rolls *e* at the points *x*. The elasticity of the rolls, whereby they are enabled to contract or expand laterally, obviously enables them to be easily connected and disconnected, whatever the angle at which the parts may be to each other.

The rolls *e' f'*, formed on the top A, and the upper edges of the sides C and C' are similarly constructed, and the elasticity of the same allows the top A to be slid on or off (see dotted lines, Fig. 1) with great facility, yet at the same time a duly close joint is formed.

As shown in Figs. 2, 6, and 7, the sides C C' and ends D D' are also connected by slidable roll-joints, similarly to the top, bottom, and sides. The end edges of the sides D D' are turned inward, and their spirals *h' h*, which also turn inward, are smaller than the spirals

i of the sides, so that they may slide into the latter. The rolls *i* of the sides C and C' are formed by bending the ends of the latter inward and then curving them reversely. The rolls *h* of the ends D D' are also eccentric or contracted laterally and form close elastic joints with the rolls *h* *h*'.

The angular lip *g*, (see Figs. 7, 9, and 10,) forming the terminal edges of the several rolls, serves to stiffen and strengthen the former, so that they resist blows or pressure that would otherwise indent, bend, or distort the rolls.

The oven is formed of four parts—to wit, the top E, bottom E', and sides F F'. The bottom E (see Figs. 2 and 3) has upturned side flanges *k* and downturned end flanges *l*, the latter entering sockets *m*, (see Figs. 1, 3, and 8,) formed by strips on the sides C C' of the stove-body.

The oven sides F F' have outturned end flanges *n*, Fig. 2, which enter sockets formed in strips *o* on the sides C C'. The top and bottom edges *p* of the oven sides F and F' are bent inward and downward and then upward, thus forming practically S-shaped curves. The side flanges *k* of bottom E' enter the lower sockets *p* of the sides F F'. The top E of the oven has downwardly-bent flanges *q* (see Fig. 2) on all sides, and these enter the upper sockets *p* of the sides F and F' and also the sockets *r* (see Figs. 2 and 8) on the inner sides of the stove-body. Thus the oven top, bottom, and sides are all detachably connected, so as to form a close chamber and hold and brace the stove sides C and C' stiffly in due position.

It should be stated that the edges of the stove side C surrounding the opening therein are bent inward and then outward, as shown in Fig. 8, to form the sockets *l*, *o*, and *r* for reception of the flanges of the bottom E', sides F F', and top E of the oven, as before described. In other words, the said sockets are formed integrally with the stove side C instead of being formed by separate strips, as on the opposite stove side C'.

It will be seen that the oven-body is so located in the stove-body as to leave a free space beneath, behind, and above it, so that it will be duly heated on all sides.

The bottom A' of the stove-body has verti-

cal upturned flanges *e*², and when the ends D and D' are pushed down into place, as in Fig. 1, they fit against the inner sides of said flanges *e*², and thus form a duly close joint. The ends of the said flanges *e*² are cut away, as shown best in Fig. 8, to allow the rolls *f* of the sides C and C' to be slid into the rolls *e* of the bottom A'. The top A is also provided with a pendent flange *e*⁴, Fig. 1, which closes against the front end D when the top is slid into place. The top edge of the rear end D' has an inturned horizontal flange *d*, Fig. 2, that lies in contact with the top when the latter is in place.

To put the stove together, lay bottom A' flat, lay sides C C' flat, rolls *f* down, and slide them into engagement with bottom A' while held flat or inclined, as in Fig. 8. Raise said sides to vertical position and slide ends D D' down into position. Next place the bottom E', sides F F', and top E of oven in position and then slide on the stove top A.

What I claim is--

1. A knockdown stove whose top, bottom, and sides are constructed of elastic material and have side rolls formed of cylindrical spirals which are adapted for slidable engagement and exert elastic pressure on each other when engaged, substantially as shown and described.

2. A knockdown stove having its top and bottom provided with side rolls formed by truly cylindrical spirals, and sides having smaller spirals which are made slightly eccentric and thus adapted to slide into and form a close friction-joint with the said cylindrical spirals, substantially as shown and described.

3. The combination, with the sides of the stove-body having sockets *m*, *o*, *r* attached, the top socket *r*, opening upward the oven bottom E', flanged as described, and the two oven sides F, F' having top sockets *p*, of the oven top E, having pendent flanges *q* on its four sides, which are adapted to fit in the aforesaid fixed sockets *r* and sockets *p* of the oven sides, as described.

STEPHEN J. COCHRAN.

Witnesses:

A. B. ROBEY,
DAYTON H. MUDD.