

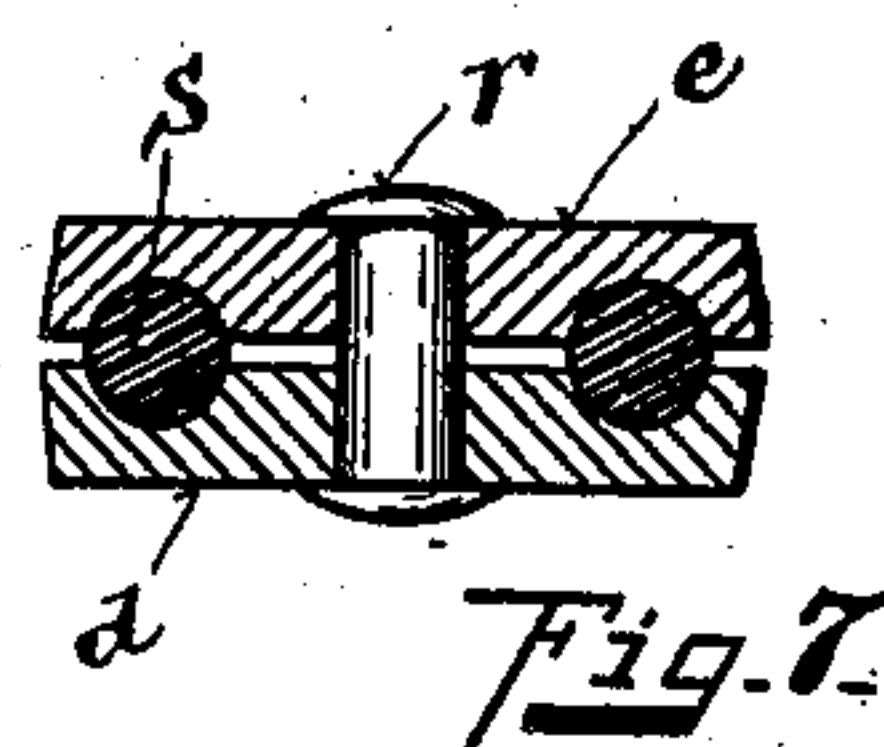
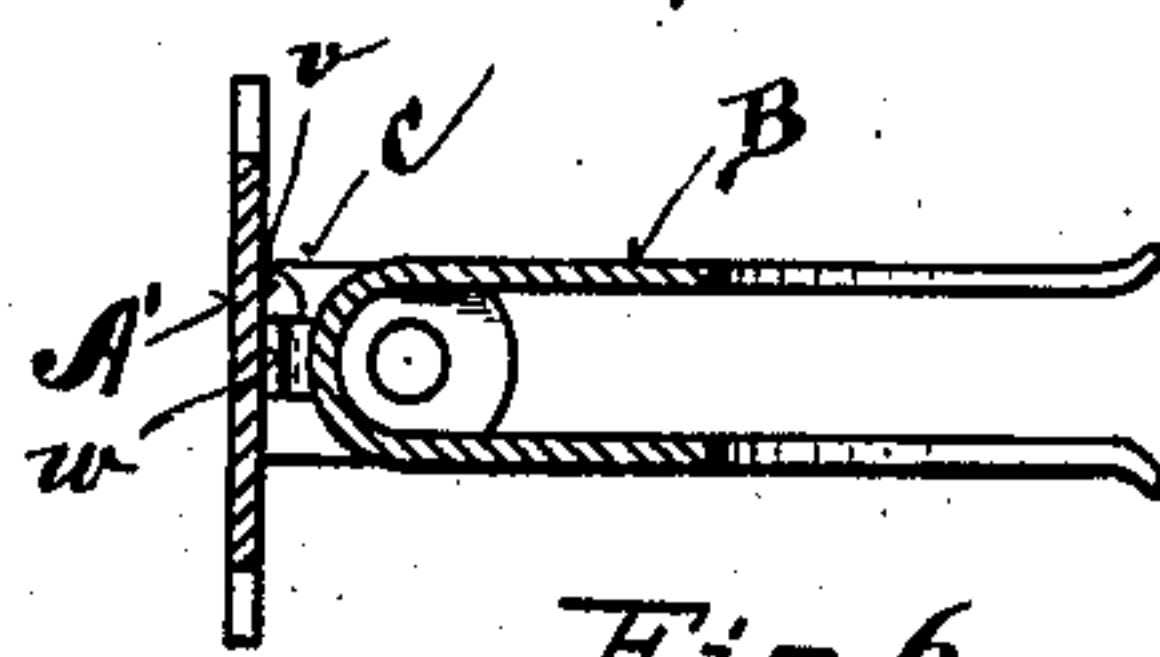
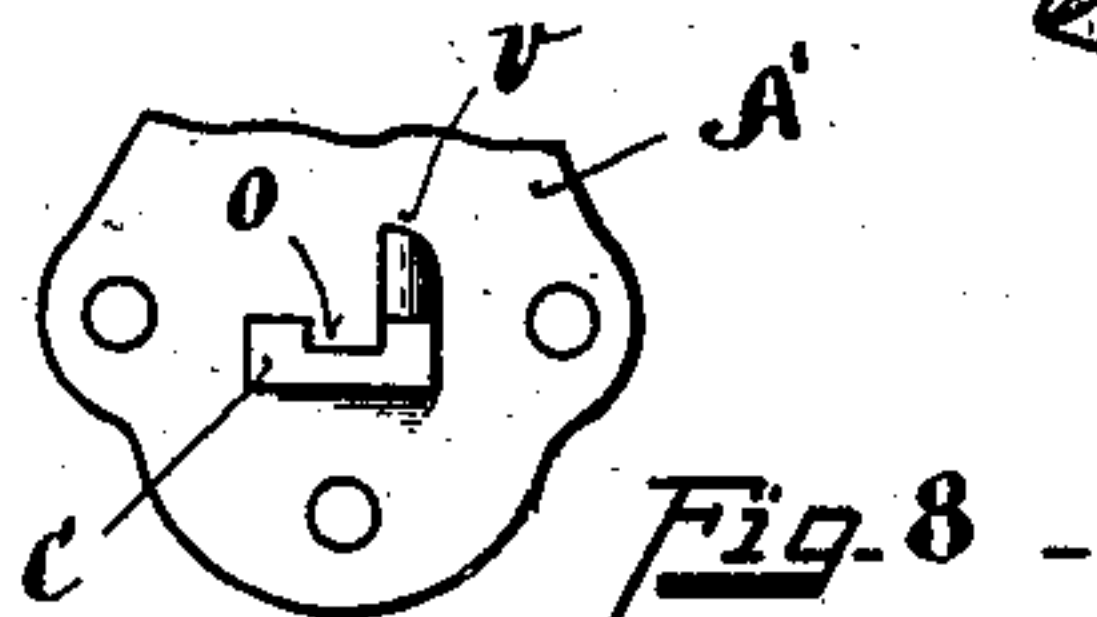
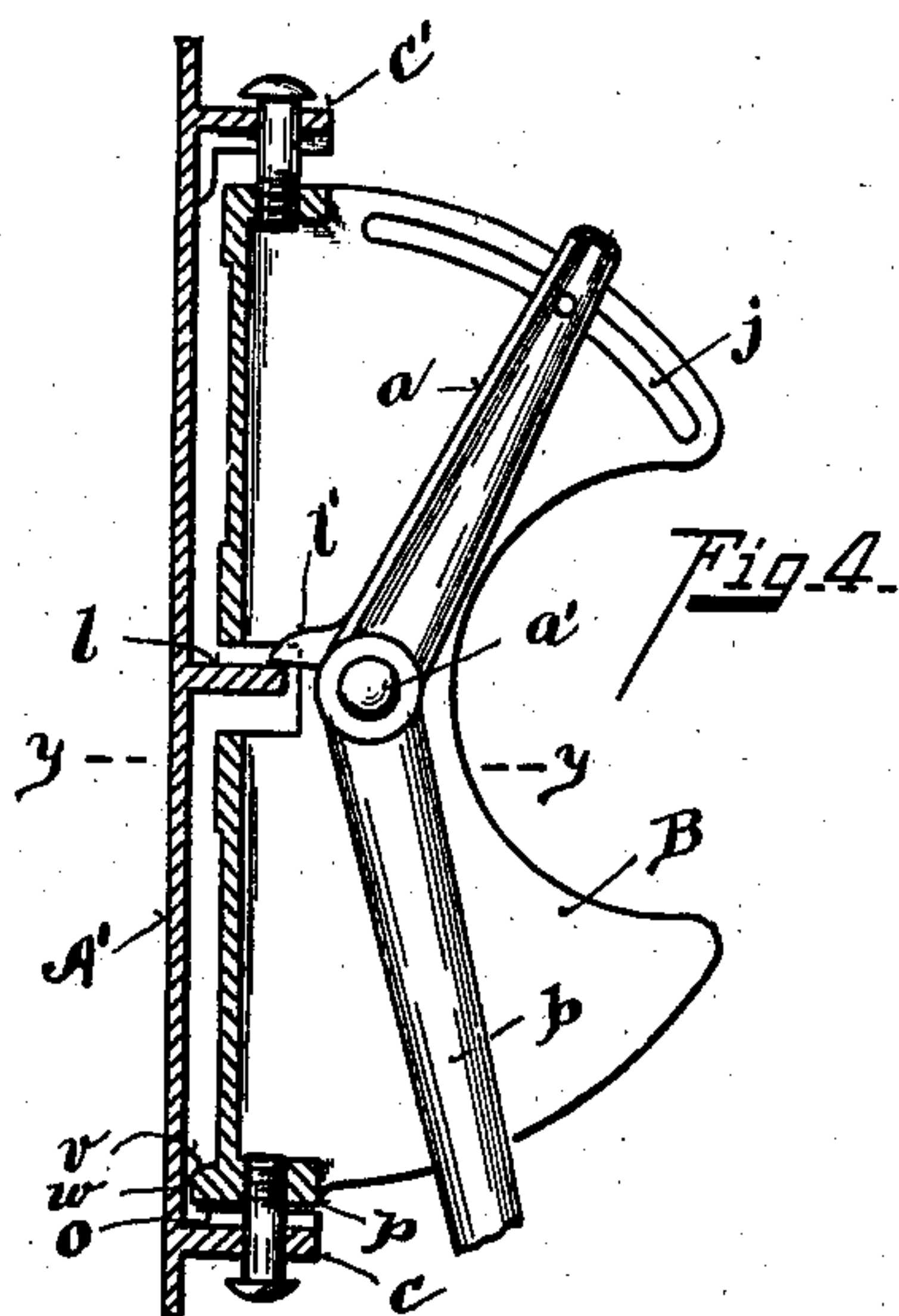
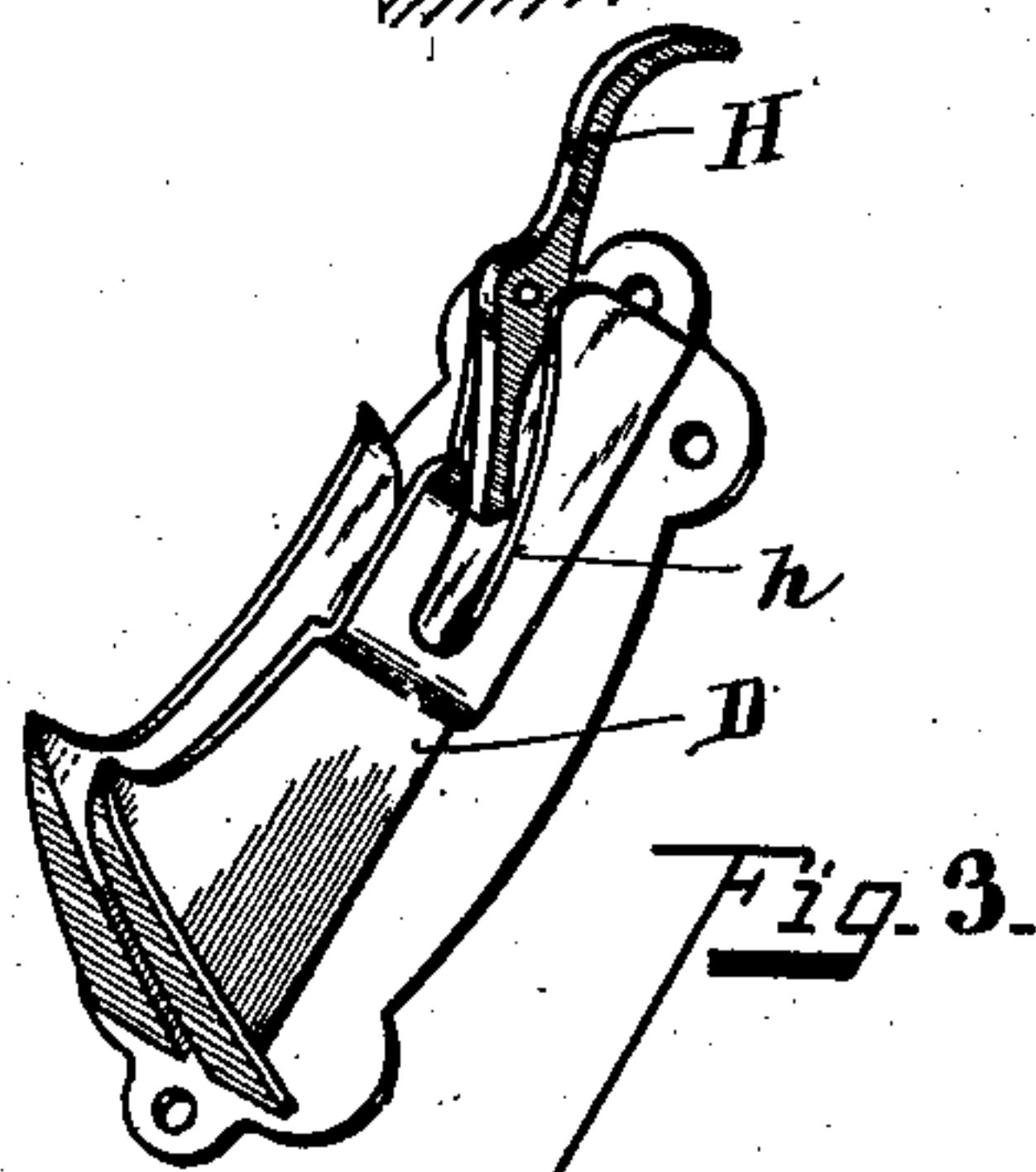
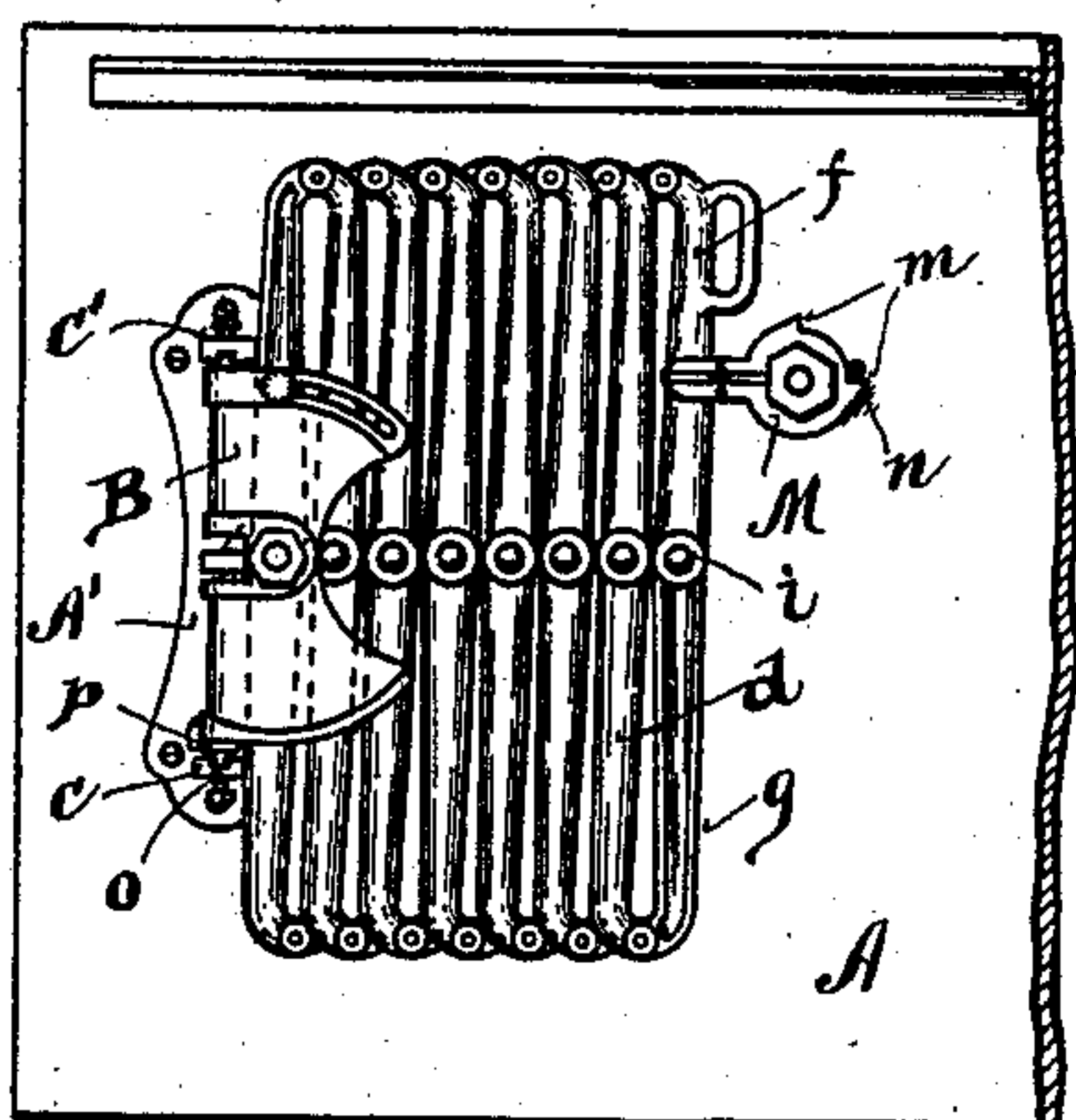
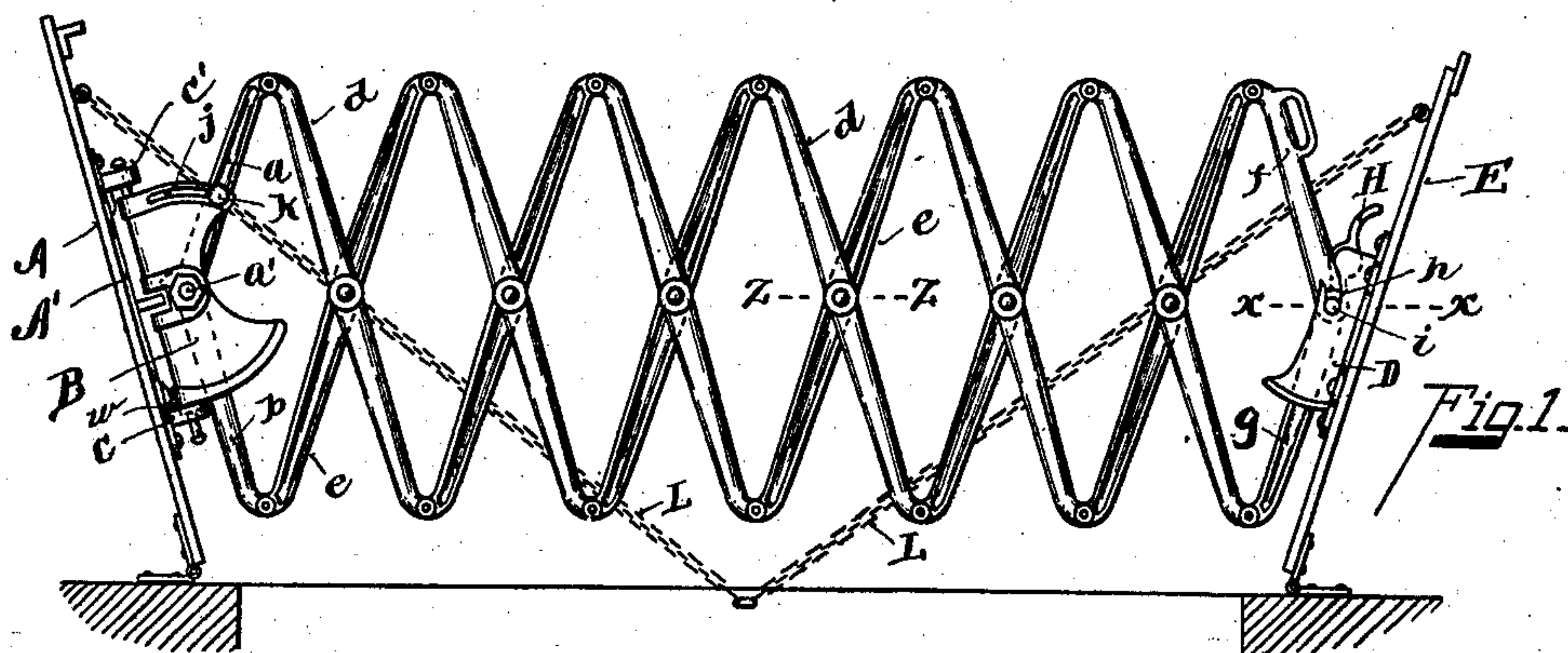
No. 700,436.

DE WITT C. MEEKER.
DOOR GUARD.

Patented May 20, 1902.

(Application filed Jan. 12, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

DE WITT C. MEEKER, OF CINCINNATI, OHIO.

DOOR-GUARD.

SPECIFICATION forming part of Letters Patent No. 700,436, dated May 20, 1902.

Application filed January 12, 1901. Serial No. 43,040. (No model.)

To all whom it may concern:

Be it known that I, DE WITT C. MEEKER, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Door-Guards, of which the following is a specification.

My invention relates to a guard for that class of doors which when opened out leave an exposed trap or opening constituting an element of danger, such as doors of cellars, freight and elevator chutes, and numerous other doors involved in this class.

My guard is adapted to be applied to the inside of a door and expanded into position to cover a gap of greater or less dimension.

The features of my invention will be more fully set forth in the description of the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a front elevation of my door-guard in position for use. Fig. 2 is a view showing the guard in its folded position upon the inside of a cellar-door. Fig. 3 is a perspective view of the shield-lock. Fig. 4 is a central vertical section through the hinge. Fig. 5 is a section on line *x x*, Fig. 1. Fig. 6 is a section on line *y y*, Fig. 4. Fig. 7 is a sectional view of the central link connection on line *z z*, Fig. 1. Fig. 8 is a front elevation of one of the hinge-supports.

My guard consists of a series of extensible and folding link-bars which when extended form a vertical gate or barrier spanning the space exposed by the opening of the door. The two end links are each made of half-length, as will be seen by reference to Fig. 1 of the drawings.

A represents one of the hinged doors, to which is secured a door-plate A', provided with lugs *c c'*, to which is pivoted a U-shaped guard-hinge B. Within the limbs of this guard-hinge the half-links *a b* are pivoted to a pivot-bolt *a'*. The ends of these links are pivoted, respectively, to connecting-links *d e* of the series. The opposite end of the link-guard is likewise composed of two half-links *f g*, which are pivoted to a common center bolt *i*. This bolt is extended so as to form lugs which engage notches *h*, formed in the rigid shield D, which is in turn rigidly se-

cured to the door E. In order to form stops to limit the movement of the extensible bar, hinge B is provided with a curved slot *j*. *k* represents a pin secured to the link *a* and traveling in said slot *j*, thus limiting the movement of the links and distributing the strain to the two opposing doors. This form of hinge embracing the links a considerable distance each side of the center forms a guide as well as a support for the extended links. In the preferred form of construction the hinge B is notched, so as to pass over a lug *l*, projecting from the door-plate A'.

l' represents a lug on the link *a*, which assists in supporting the weight of the collapsible door-guard and removing the strain partially from the hinge B and forming a support for the door itself. The shield D on the door E supports the free or extreme end of the guard, thereby making a rigid support for the links when extended.

H represents a locking-catch hinged to the shield D, so as to lock the extensible guard or gate and prevent its accidental disengagement.

L represents stay-chains secured to the cellar-door and attached to a central staple, so as to prevent undue strain upon the guard when open.

In order to secure the extensible gate or guard in its position on the door A, I provide a pivoted catch M, having on its periphery stops *m*, which are adapted to engage with a pin *n* to hold the catch in its respective positions.

In order that the gate or guard when extended shall be relieved of tendency to swing on hinge B, I provide the following instrumentalities: When the links are fully extended, the lug *l'* on the link-section *a* has passed out of engagement with the lug *l* on the door A, which allows the hinge B to drop down and rest upon the lug *c'*. This lug is provided with side guides *o*, between which the lug *p* on hinge B drops, and thus holds the hinge from turning on the center pivot, the hinge B having a vertical movement on its pivot-point. This drop feature is important to lock the gate when extended against lateral swinging movement, which is accomplished automatically by merely extending the gate.

v represents a lug upon the door-plate A', and *w* a lug upon the hinge B. This prevents the guard when closed from swinging outward, but does not interfere with the inward

5 swing of the guard.

In order to lock the gate more effectively in its extended position, the guide-pin *k* is threaded into the link *a* and the head thereof serrated, so that it may be easily turned

10 to clamp the link against the side of the hinge B.

In order that the central pivot-bolts of the link system may be made firm and strong, as well as to secure their easy movement, I provide the following instrumentalities: Fig. 7

15 represents a cross-section taken through the center bolt or rivet *r* on line *z z*, Fig. 1, *d e* representing the links, *r* the center bolt, *s* a brass ring which is inclosed in an annular

20 cavity on the inner faces of the links or bars *d e*, all the joints throughout the series of links being constructed in this manner and made of brass to prevent rusting or sticking

25 of the parts. The links are shown of concavo-convex form, as most economical; but the joint-sections of the link are flattened upon

each side to make better bearings and to allow the bolt-heads to rest flush upon the links,

as shown in Fig. 7.

30 Having described my invention, I claim—

1. In a safety gate or guard for hatchway-

doors, a gate or guard attached to a door at

one end, and a hook having parallel sides

adapted to engage with the other end of said

35 guard, substantially as set forth.

2. In a safety gate or guard for hatchway-

doors, a brace hinged thereto, and a folding

gate or guard pivoted at one end to said

brace near its center, said gate being carried

40 by the brace, substantially as set forth.

3. In a door-guard, a hinge attached to the

door, a lazy-tongs gate pivoted to said hinge

by the end pivot of its central line, and means

for engaging the free end of the gate when

45 extended, substantially as specified.

4. In a door-guard, a hinge attached to a

cellar-door, a lazy-tongs gate, the central end

pivot of which is pivoted to said hinge, and

a catch fixed to said cellar-door adapted to

engage the outer end of the gate when col- 50
lapsed and folding inwardly against the door,
substantially as specified.

5. In a door-guard, a hinge attached to a
cellar-door, a folding gate pivoted to the
hinge, and means attached to the door adapt- 55
ed to engage the hinge and limit the lateral
swing of the gate, substantially as specified.

6. In a door-guard, a hinge attached to the
door a folding gate pivoted to said hinge, a
lug attached to the door adapted to be en- 60
gaged by the link-bar when the gate is folded
in and released when the gate is extended,
whereby the hinge slides in its bearings, and
devices attached to the door and hinge re-
spectively adapted to interlock when the gate 65
is swung to its central position and extended
outwardly, substantially as specified.

7. A door-guard consisting of an extensi-
ble gate pivoted to a hinge which is in turn
pivoted to a swinging door, and means con- 70
nected to said hinge and door whereby the
hinge is dropped automatically and locked
against the hinge action, when the gate is ex-
tended, substantially as specified.

8. In a door-guard, a swinging door, a hinge 75
attached thereto, a lazy-tongs gate, the cen-
tral joint of the first link-sections of said gate
being pivoted to said hinge, means on the
said door for engaging and retaining the free
end of the gate when contracted and folded 80
inward against the side of said door, and
means on the opposite door for engaging and
retaining the free end of the gate when ex-
tended across the aperture to be guarded,
substantially as specified. 85

9. In a door-guard, a plate, a guard-hinge
attached thereto, composed of oppositely-
projected limbs, a folding gate pivoted be-
tween the limbs of said hinge, and interlock- 90
ing devices on said plate and hinge adapted
to engage when the gate is swung to a prede-
termined position, substantially as specified.

In testimony whereof I have hereunto set
my hand.

DE WITT C. MEEKER.

Witnesses:

OLIVER B. KAISER,

PEARL MCMICHAEL.