

(No Model.)

P. C. HAYES.
THILL COUPLING.

No. 569,131.

Patented Oct. 6, 1896.

Fig. 1.

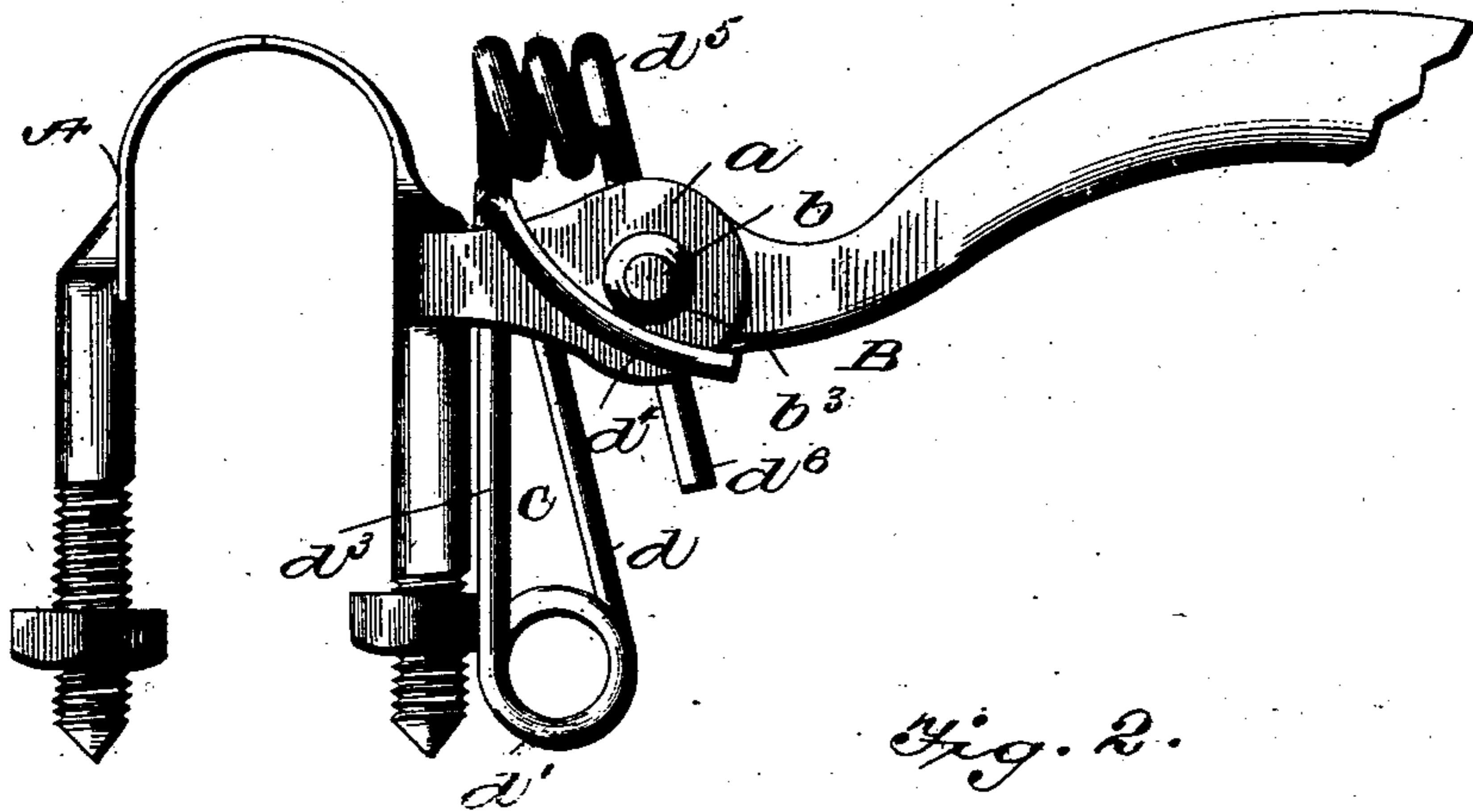


Fig. 2.

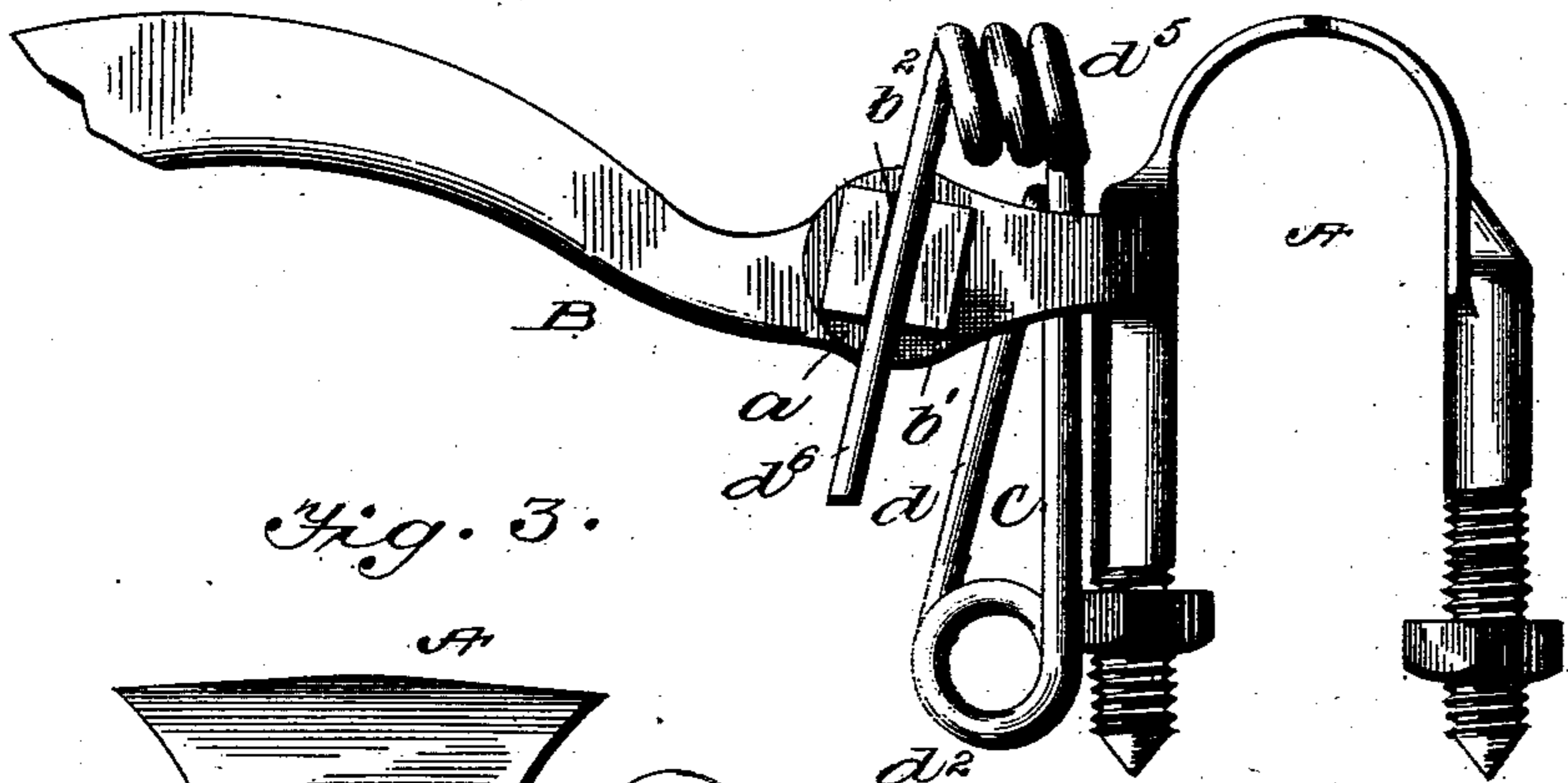


Fig. 3.

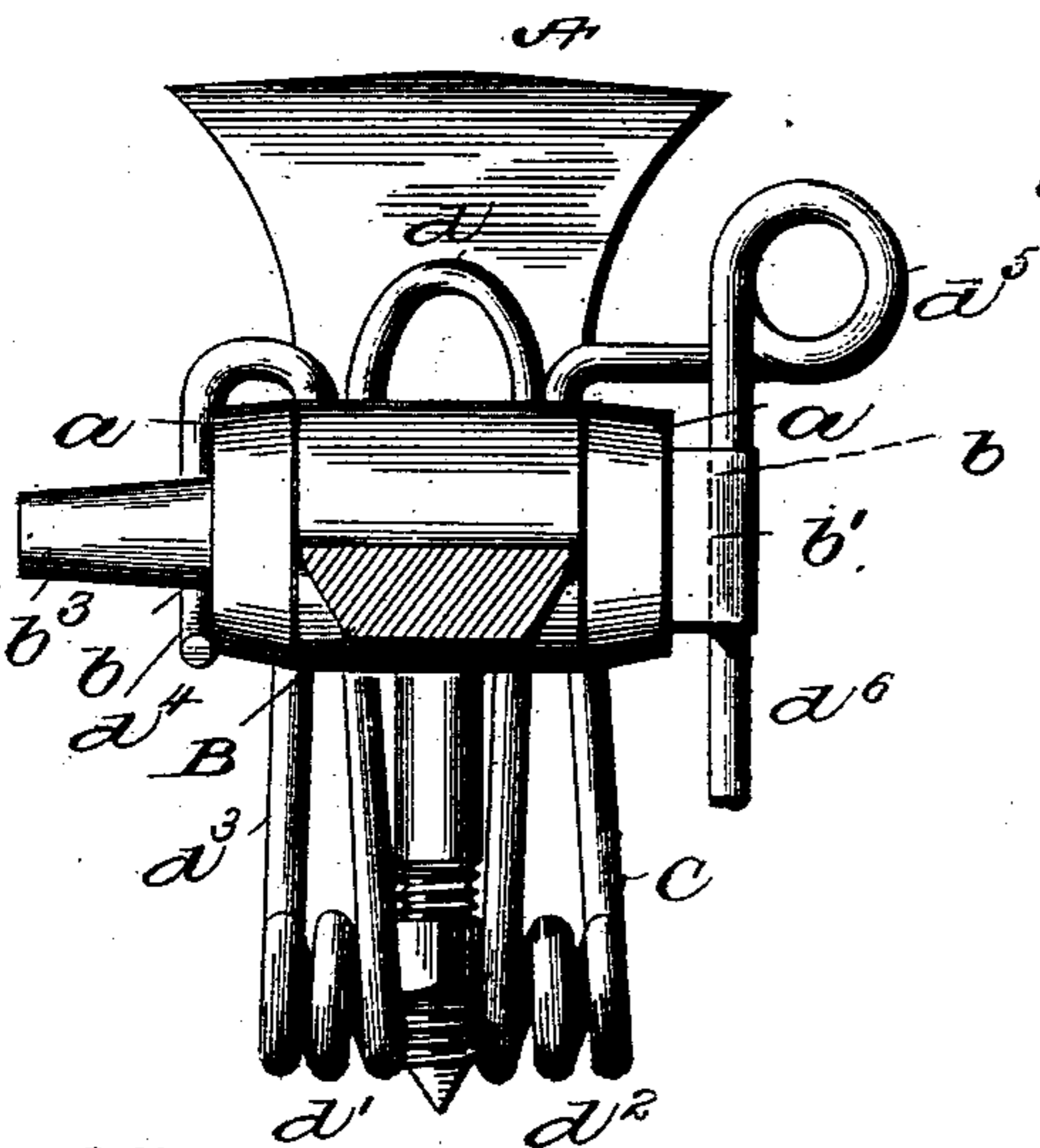
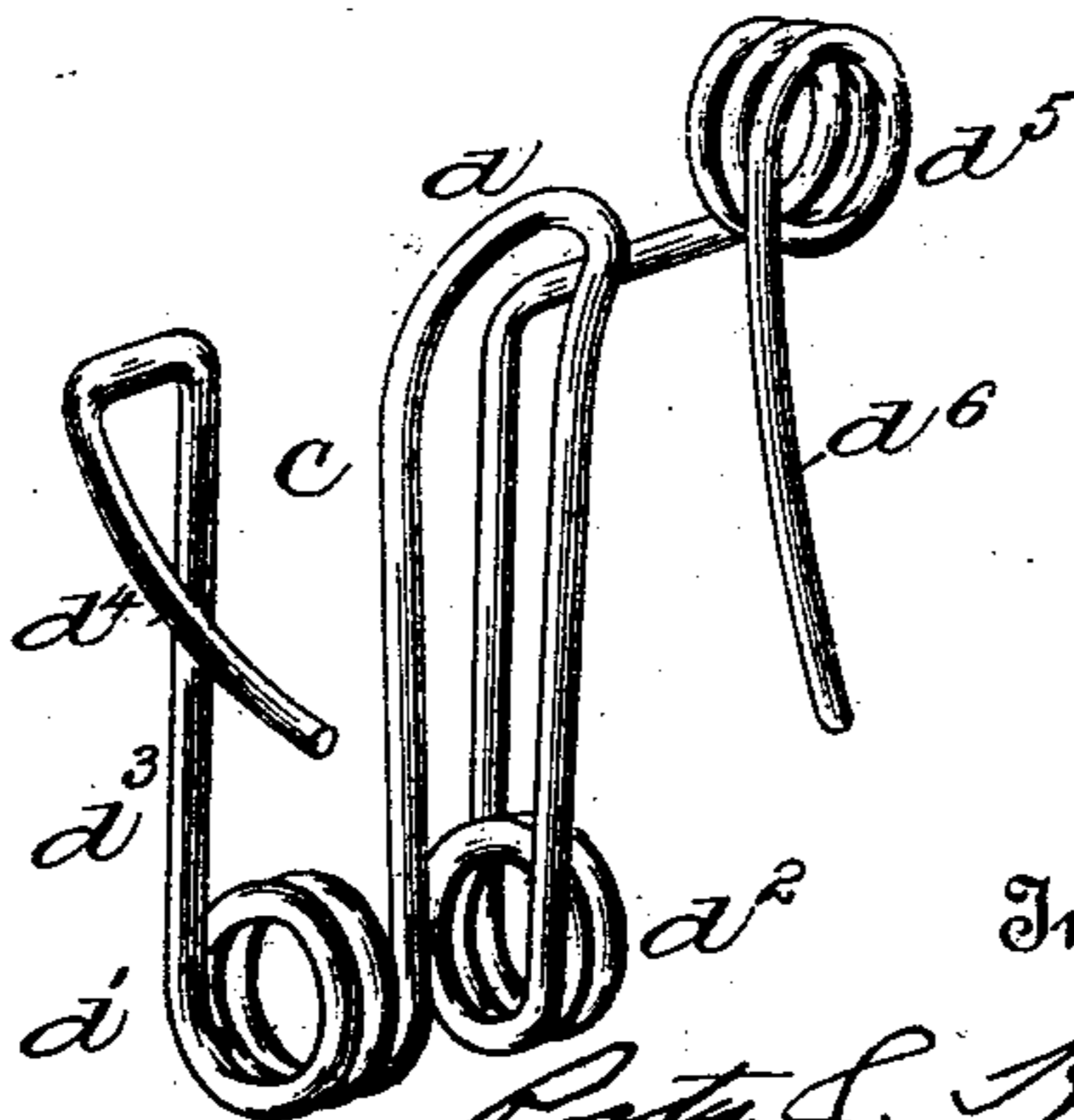


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

PORTER C. HAYES, OF BURGH HILL, OHIO, ASSIGNOR OF ONE-HALF TO
SAMUEL W. SIGLER, OF SAME PLACE.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 569,131, dated October 6, 1896.

Application filed January 4, 1896. Serial No. 574,339. (No model.)

To all whom it may concern:

Be it known that I, PORTER C. HAYES, of
Burgh Hill, in the county of Trumbull and
State of Ohio, have invented certain new and
5 useful Improvements in Thill-Couplings; and
I do hereby declare the following to be a full,
clear, and exact description of the invention,
such as will enable others skilled in the art to
which it appertains to make and use the same.

10 This invention contemplates certain new
and useful improvements in thill-couplings
and antirattlers.

The object of the invention is to provide a
simple and improved form of spring serving
15 the double purpose of preventing rattling of
the thill-iron and holding the pivot-bolt in
place without the use of a nut thereon.

The invention will be hereinafter fully set
forth, and particularly pointed out in the
20 claim.

In the accompanying drawings, Figures 1
and 2 are opposite side views. Fig. 3 is a
front elevation. Fig. 4 is a view of the spring.

Referring to the drawings, A designates the
25 clip, of ordinary construction, from which ex-
tend ears *a*, said ears being provided with
coincident holes, through which and a corre-
sponding hole in the thill-iron B is passed a
pivot-bolt *b*. The head *b'* of this pivot-bolt
30 is provided with a transverse groove *b²*, while
the other end, *b³*, of said bolt is of tapered or
conical form. It is not threaded, as one of
the objects of the invention is to dispense
with the use of a binding-nut.

35 C designates a spring designed to serve the
combined office of preventing rattling of the
thill-iron and holding the pivot-bolt in place.
This spring comprises a central bowed por-
tion *d*, which normally bears tightly against
40 the pivot end of the thill-iron, extending at
its lower end to form two coils *d'* *d²*. From
the coil *d'* the wire *d³*, of which the spring is
composed, is elongated or extended upwardly
between the ears *a* and bent down over one

of said ears and then curved forwardly, as at 45
d⁴, so as to bind against the conical end of
the bolt. The tension of this bent end of the
spring aids in holding the bolt in place. From
the coil *d²* the wire is likewise extended up-
wardly between the ears *a* and then bent out- 50
wardly and wound to form a third coil *d⁵*,
from which the wire is extended downwardly
to form a perpendicular arm *d⁶*, which fits
snugly in the groove of the bolt-head. In
this way the bolt is firmly held in place as 55
against rattling or loosening, the spring en-
gaging said bolt at both ends. The coil *d⁵* is
of sufficient tension to hold the arm *d⁶* in the
grooved head. Thus it will be seen that I
have provided an extremely simple form of 60
spring serving the combined purpose of an
antirattler and bolt-holder. The two lower
coils give to the central portion of the spring
sufficient elasticity to prevent rattling of the
thill-iron, while the third or upper coil serves 65
to bind the downwardly-extending arm
against the bolt-head.

I claim as my invention—

The combination with the clip having par-
allel ears, the thill-iron, and the bolt having 70
its head provided with a transverse groove,
of the spring having a curved or bowed por-
tion located between said ears, two lower
coils, and upward extension passed over one
of said ears and having a bent or curved end 75
bearing against the periphery of one end of
said bolt, said spring at its other end being
extended upwardly and twisted to form a
third coil from which extends a downwardly-
projecting arm designed to fit in the groove 80
of said bolt-head, substantially as set forth.

In testimony whereof I have signed this
specification in the presence of two subscrib-
ing witnesses.

PORTER C. HAYES.

Witnesses:

E. B. TAYLOR,
GEO. W. UPTON.