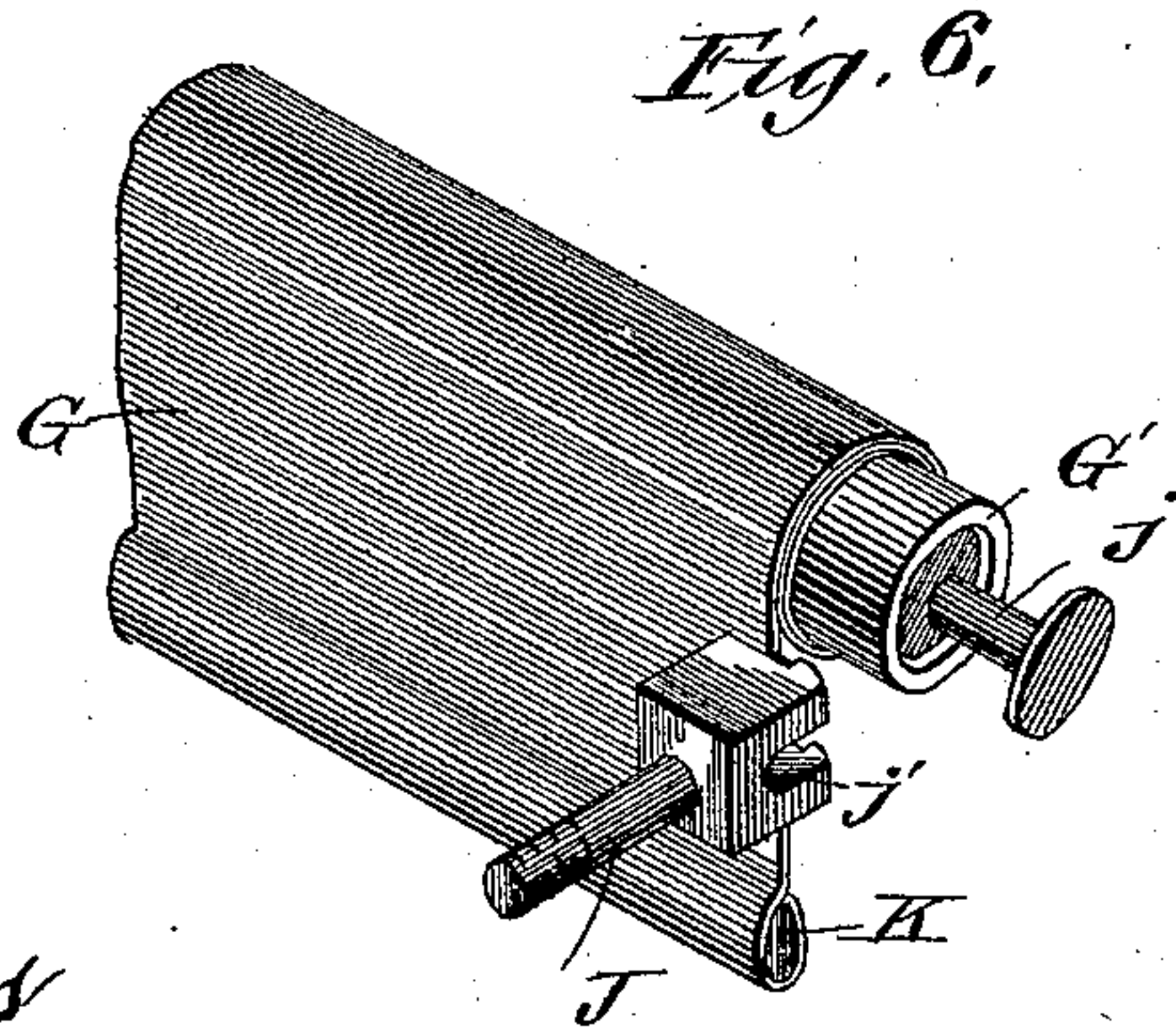
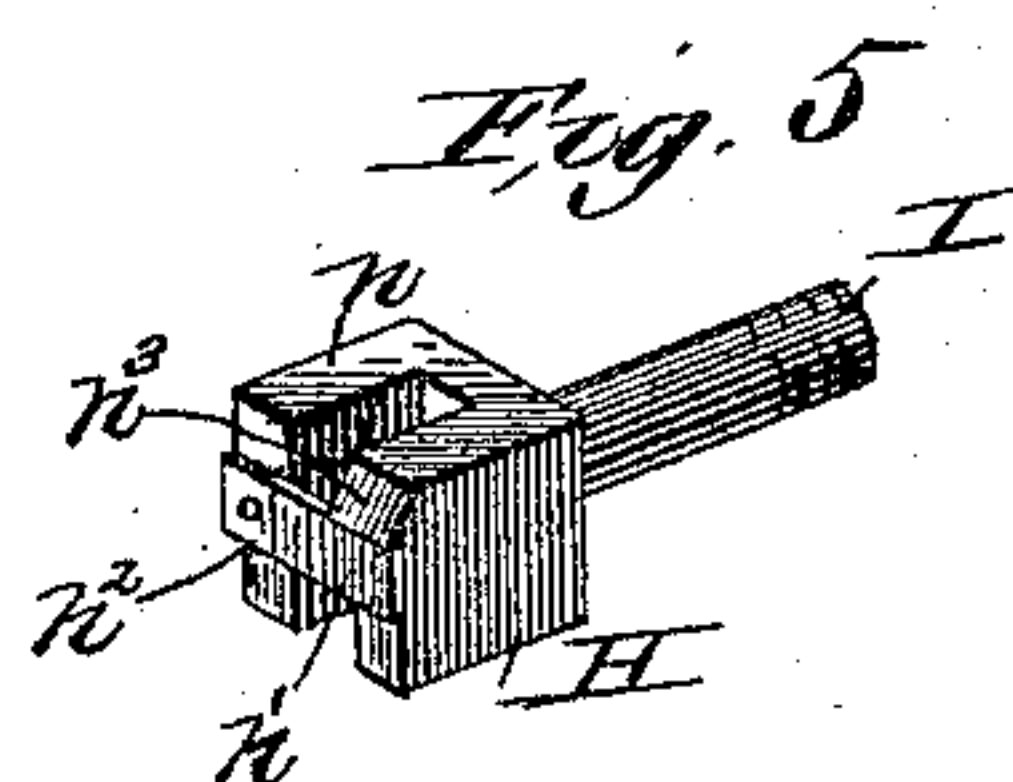
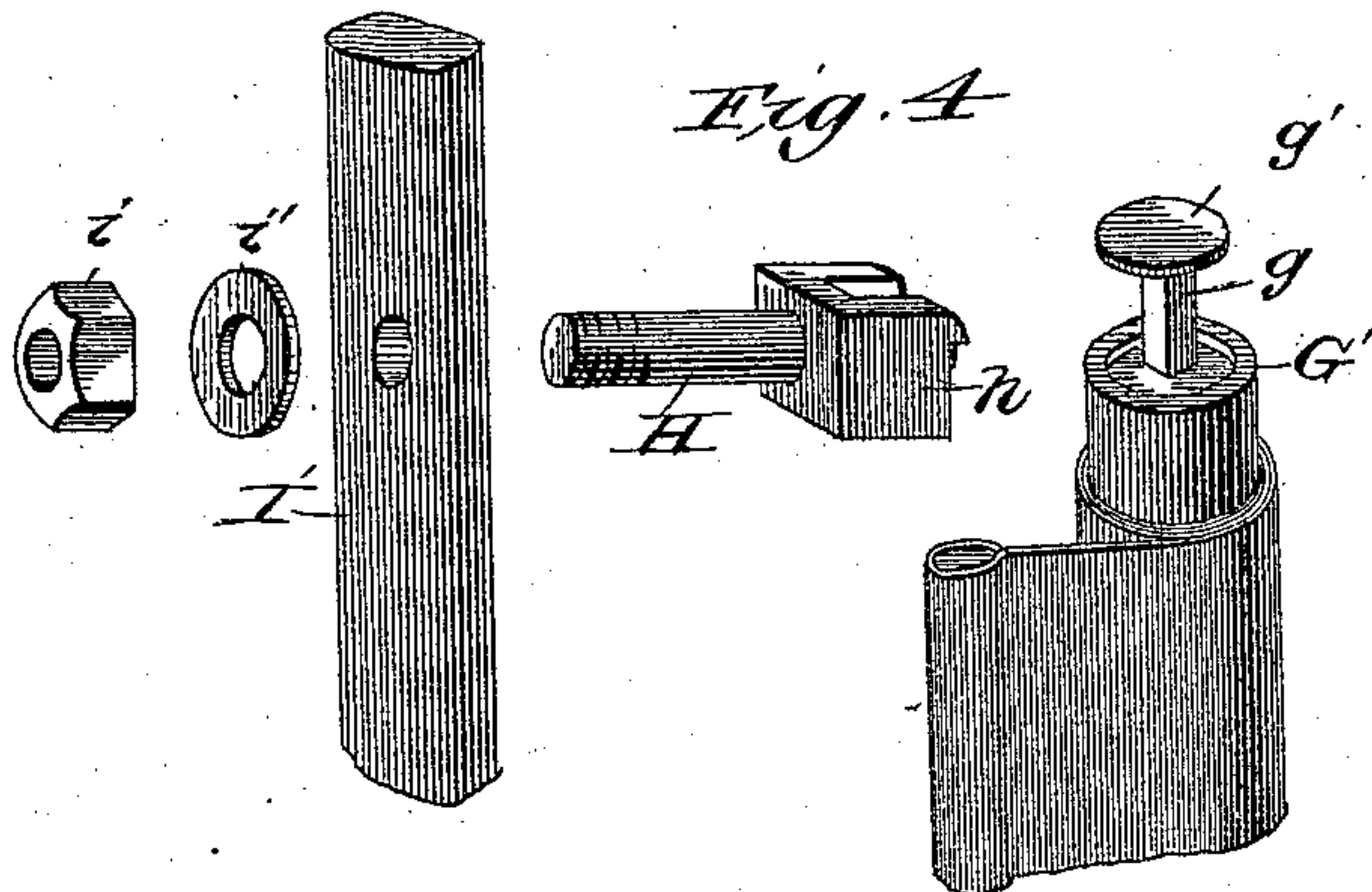
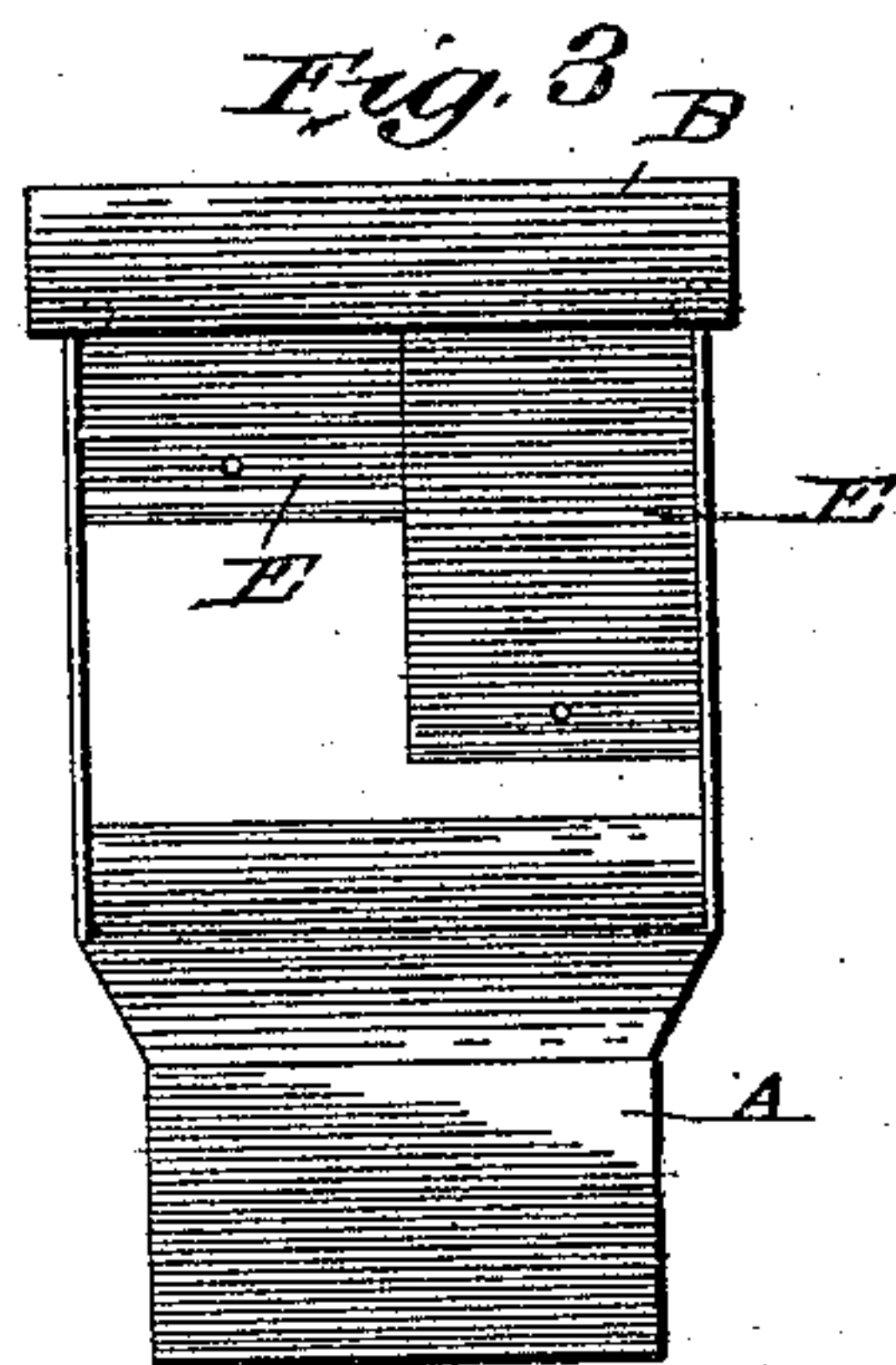
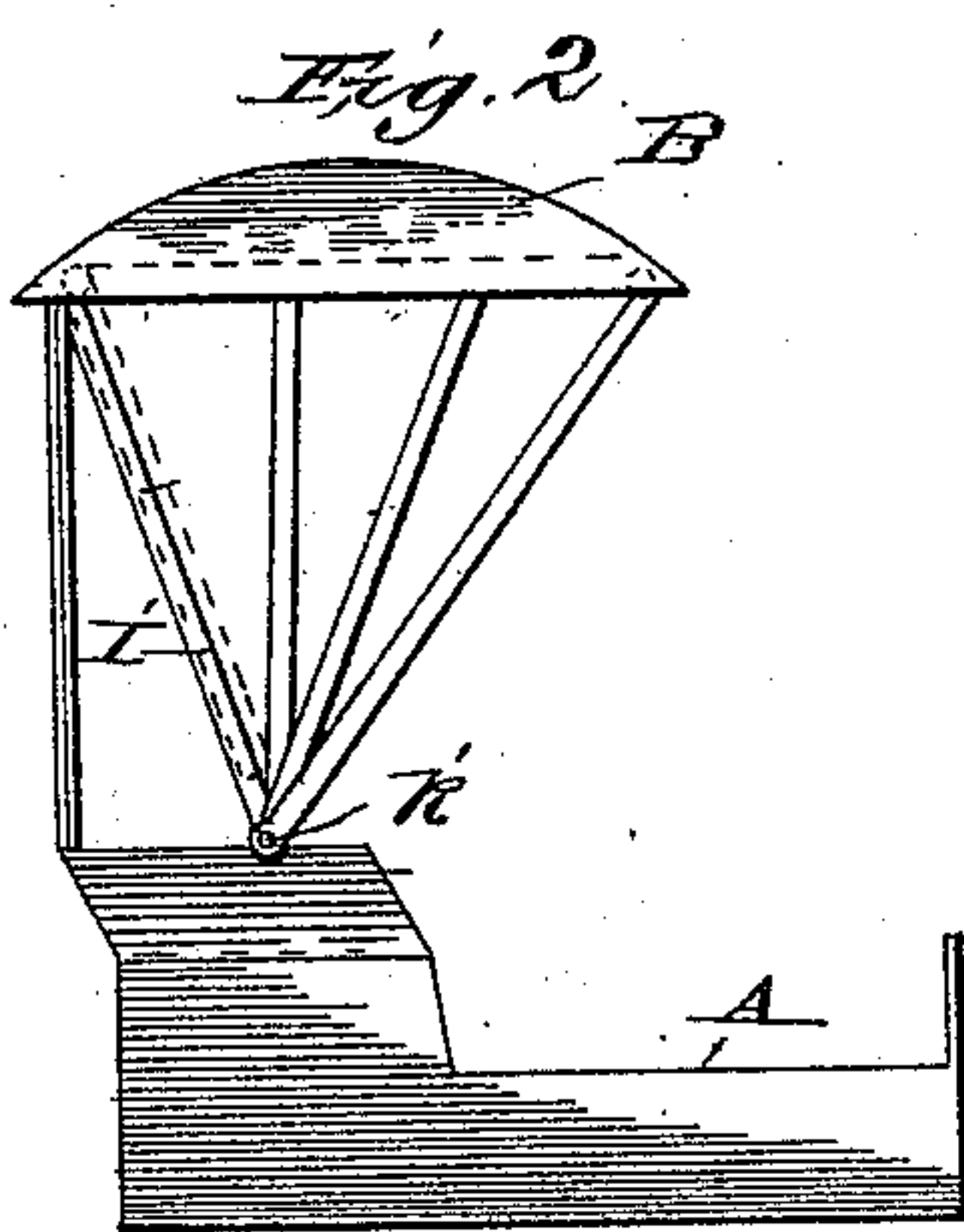
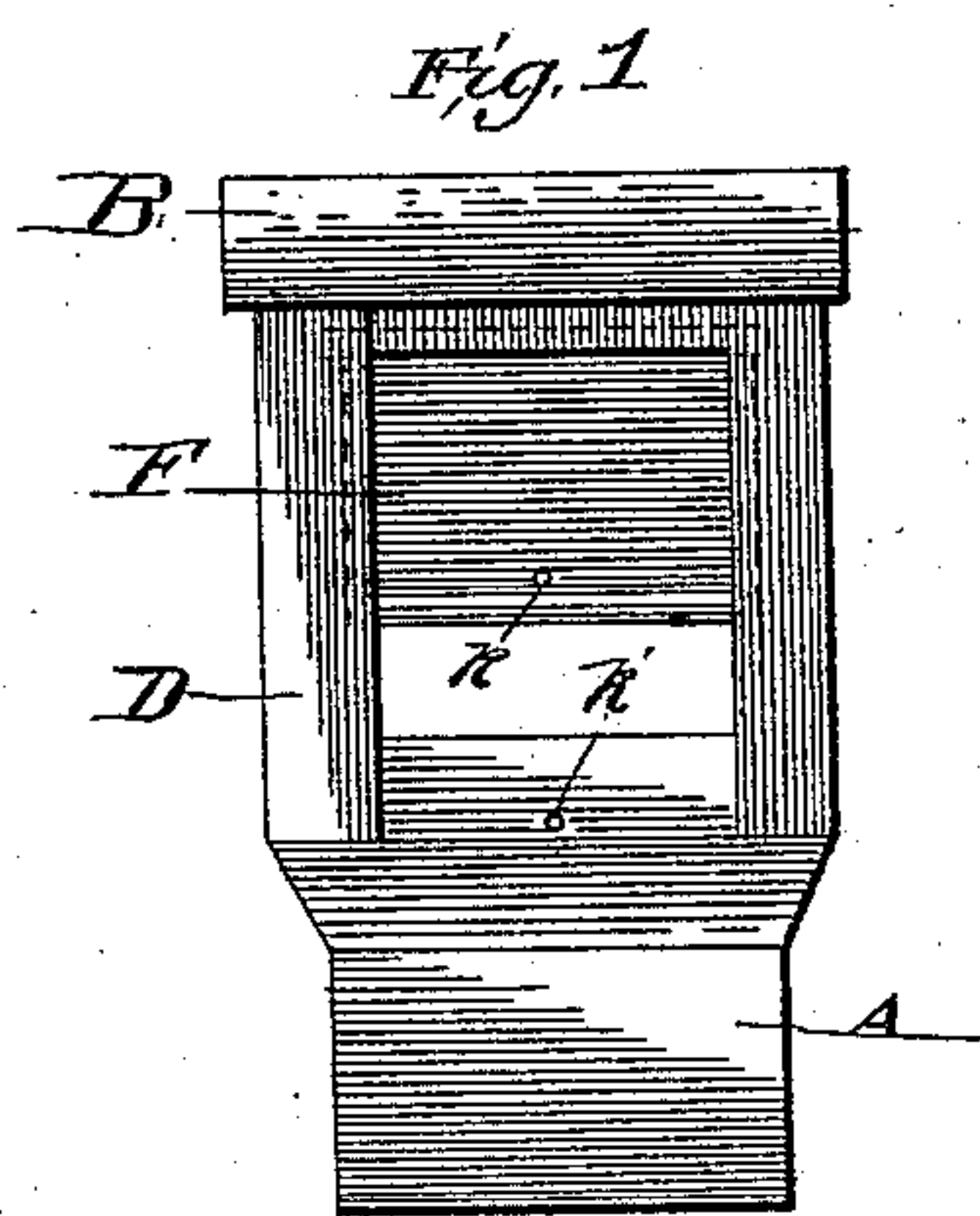


(No Model.)

W. W. WHITTAKER & W. A. HOKE.
BUGGY TOP.

No. 455,433.

Patented July 7, 1891.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIS W. WHITTAKER AND WILLIAM A. HOKE, OF SPRINGFIELD, MISSOURI.

BUGGY-TOP.

SPECIFICATION forming part of Letters Patent No. 455,433, dated July 7, 1891.

Application filed January 21, 1890. Serial No. 337,661. (No model.)

To all whom it may concern:

Be it known that we, WILLIS W. WHITTAKER and WILLIAM A. HOKE, citizens of the United States, residing at Springfield, in the county of Greene and State of Missouri, have invented certain new and useful Improvements in Buggy-Tops; and we 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.

Our invention relates to an improvement in buggy-tops; and it consists in the certain peculiar features of construction and arrangement of parts hereinafter described, and definitely pointed out in the claims.

The object of our invention is to provide a simple and convenient top for the exclusion of the sun and rain for all or any desired part of the buggy, which at the same time is easily operated and adjusted. This object we accomplish by the construction illustrated in the accompanying drawings, wherein like letters of reference indicate like parts in the several views, and in which—

Figure 1 is a back elevation of a buggy-top. Fig. 2 is a side elevation. Fig. 3 is a front elevation showing the front curtains at different heights. Figs. 4 and 5 are detail perspective views of the swivel-joint at the back ends of the side curtains, and Fig. 6 is a detail perspective of the bearing for the front ends of the side curtains.

In the drawings, A is an ordinary buggy-box, and B is a top of any desired construction, the edges of the top extending out over the sides and back.

D is a strip of oil-cloth or other suitable material secured around the back edges of the top of the buggy to keep out the rain where the curtains of the sides and back do not meet.

E E are the front curtains, preferably two in number, which are secured to spring-rollers of the ordinary construction, which operate in suitable bearings (not shown in the drawings) secured under the front edge of the buggy-top.

F is the back curtain, operated similar to the front curtains.

G are the side curtains, also secured on spring-rollers G', the back end bearings of

which are formed with a square neck g and a head g'.

H is a swiveled connection for the back end of the side rollers, having a head h, which is formed with a rectangular recess h', which receives the square neck of the side-roller bearing.

h² is a spring-plate secured on one side of the head h, which is adapted to be moved across the recess and hold the roller in the same, the movement of the spring-plate being limited by the projection h³ on one side of the head h, the outer end of which is provided with a screw-thread. This bolt passes through the bow I' and receives the washer i and the nut i'.

The front ends of the rollers of the side curtains are provided with bearings similar to the rear bearings, with the exception that instead of the square neck g, the rectangular recess h', and the swiveled connection H we provide a cylindrical neck j, a curved recess j', and a rigid connection J, respectively. In the lower ends of the curtains are secured rods K, which keep the curtains stretched and prevent flapping. k are openings in the lower ends of the curtains, which engage over the buttons k' to secure the curtains in a lowered position.

As shown in the drawings, the back and side curtains are arranged to pull down on the inside of the bows and back strips D; yet we wish it to be understood that they can be made to operate on the outside in the same manner.

From the above description it will be seen that we provide a buggy-top which will exclude the sun and rain from any part of the buggy. When it is desired to lower the top, the front ends of the side rollers are released, and they are swung down to a position parallel with the bow I', as shown in dotted lines in Fig. 2, suitable rests (not shown in the drawings) being provided for the lower ends. The top can then be lowered in the same manner as any ordinary buggy-top.

We are aware that many minor changes in the construction and arrangement of the parts of our device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of our invention.

Having thus described our invention, what

we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a folding vehicle-top, of side curtains, spring-rollers on which
5 the curtains are mounted, and pivotal connections for one end of the rollers, whereby they are permitted to be swung down, substantially as described.

2. In a vehicle, the combination, with a folding top, of side curtains, rollers on which the
10 curtains are mounted, pivotal bearings for one end of the rollers, and bearing-catches for the other ends, substantially as described.

3. In a buggy, the combination, with a folding top, of front and rear curtains and pivotally-supported side curtains, whereby the
15 latter may be dropped to a substantially perpendicular position, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIS W. WHITTAKER.

WILLIAM A. HOKE.

Witnesses:

S. C. HOSETTER,

S. A. HASELTINE.