

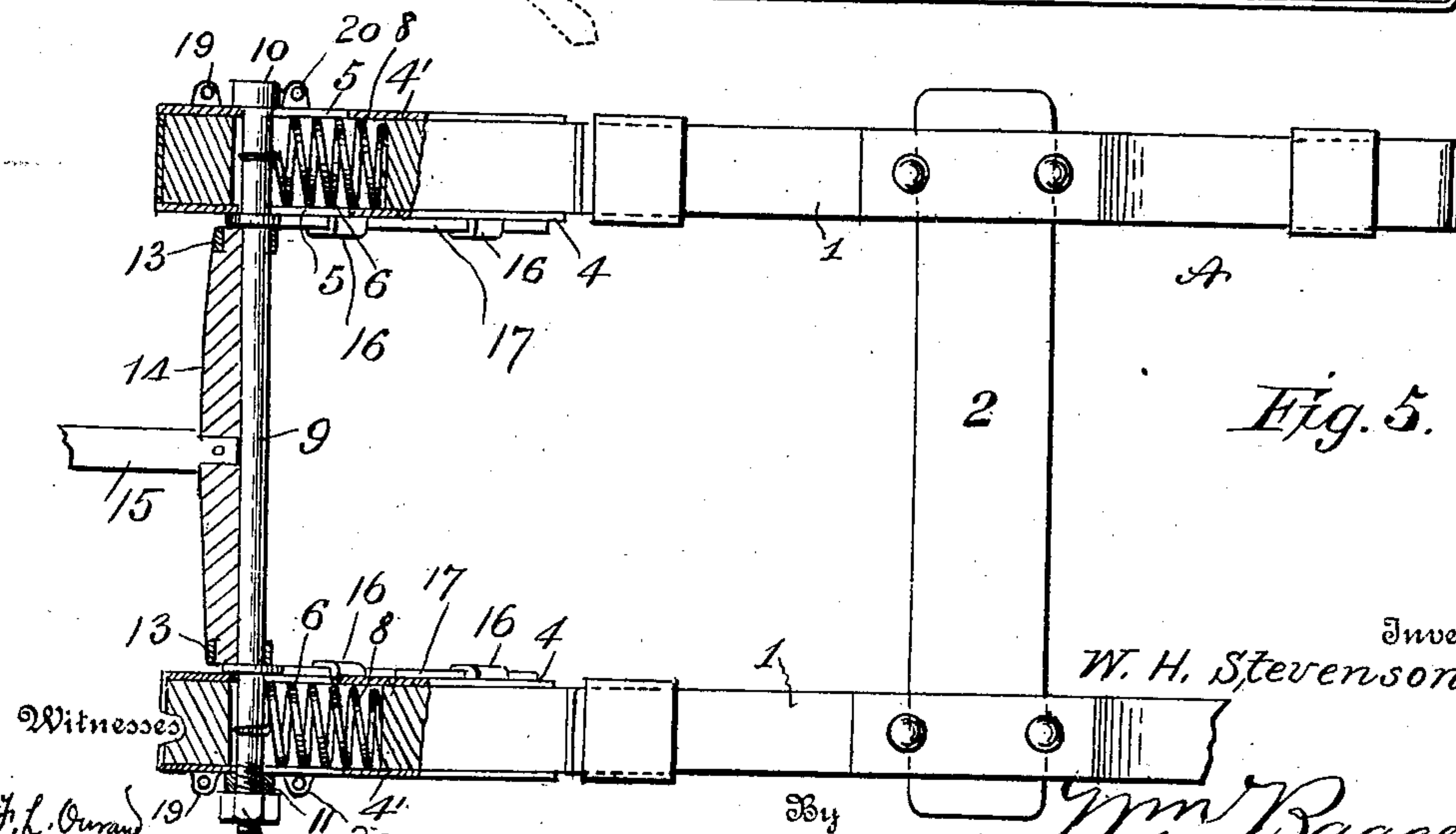
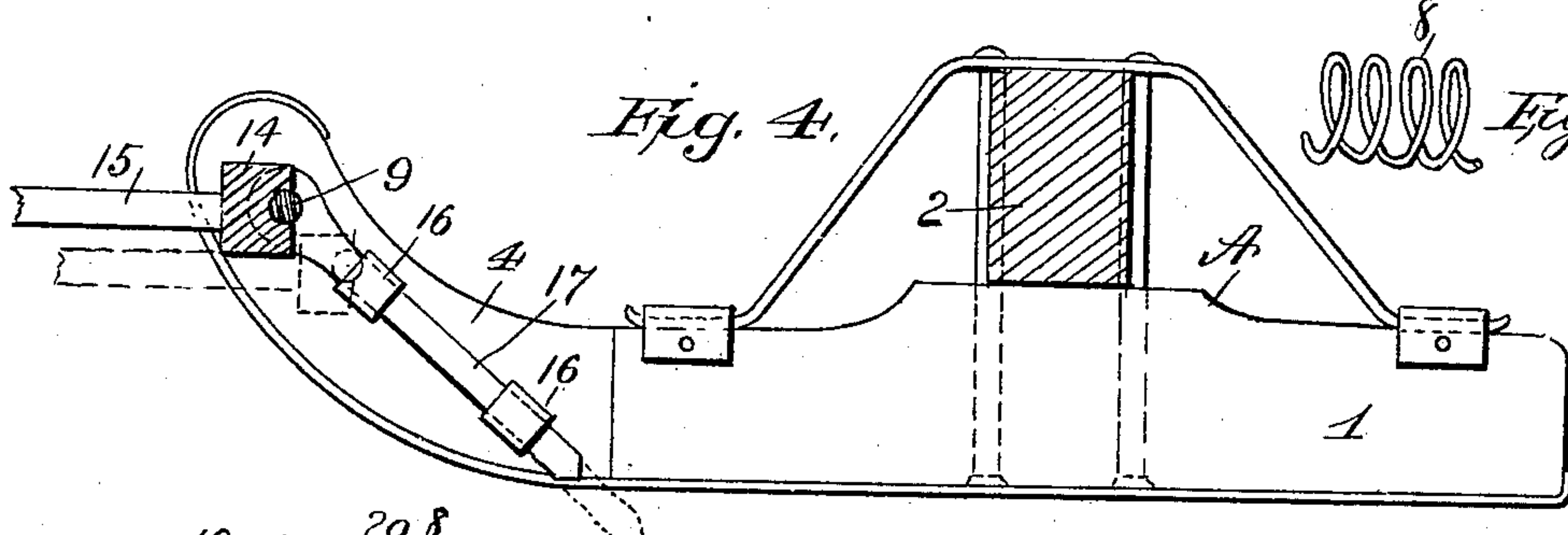
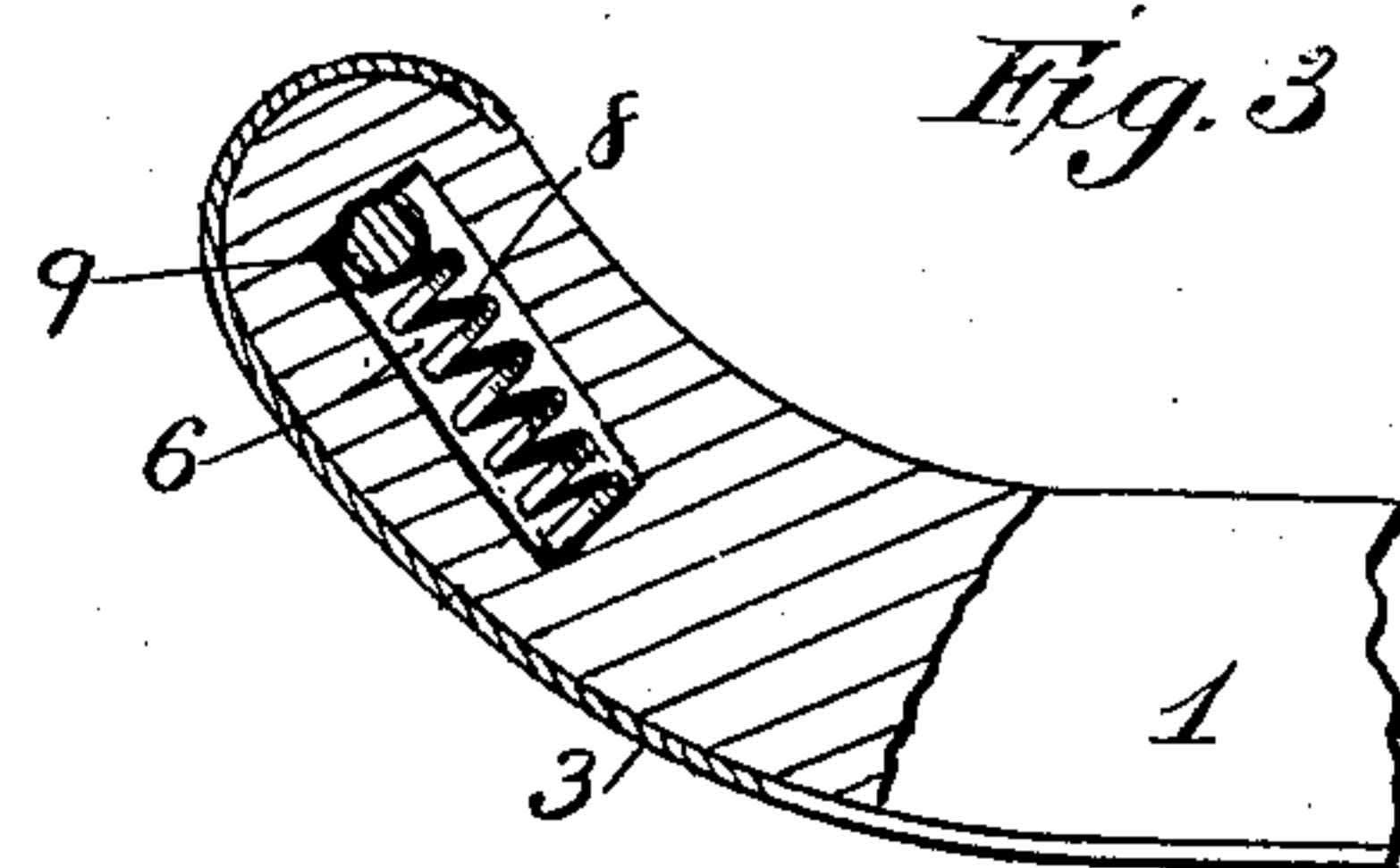
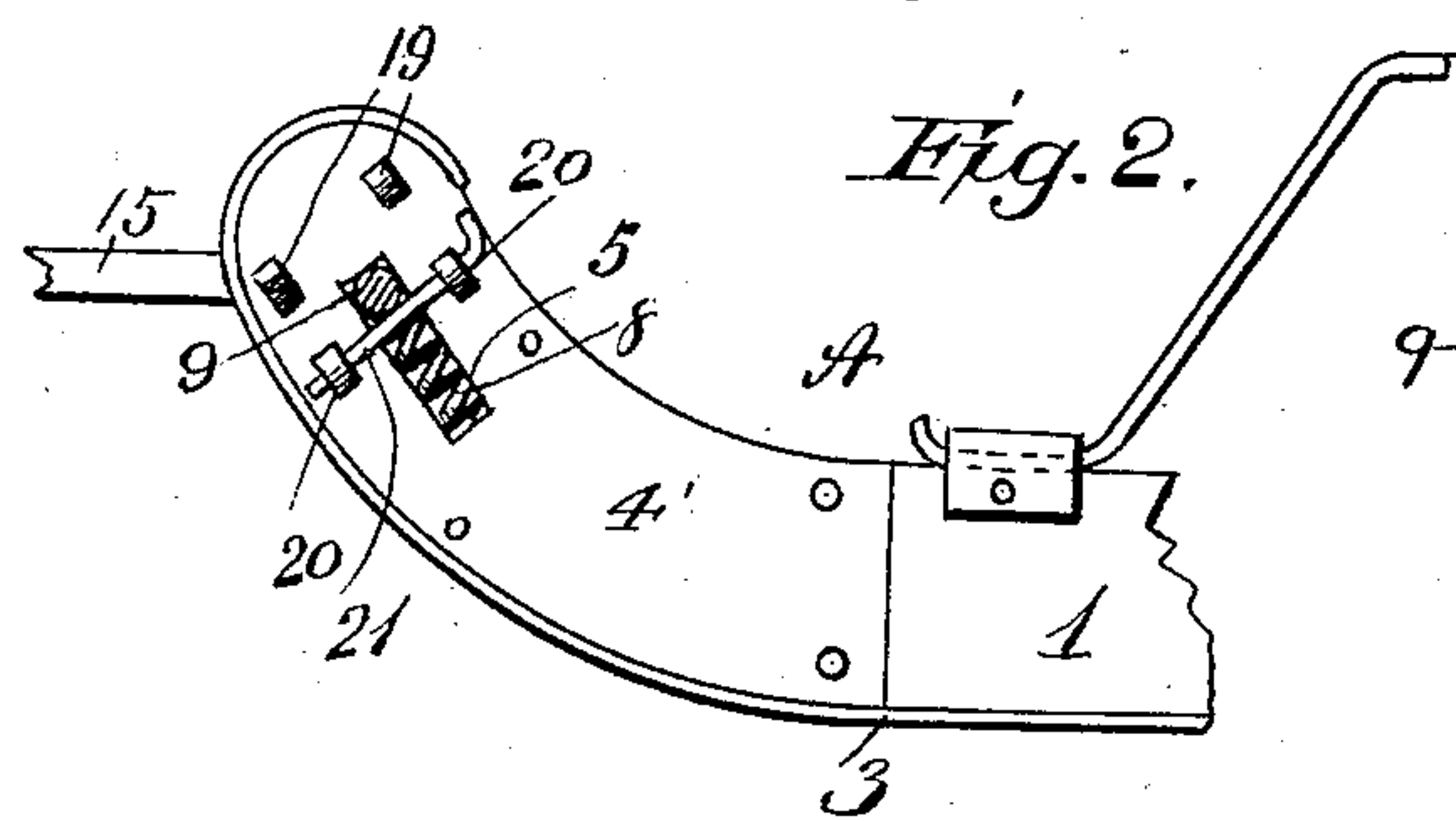
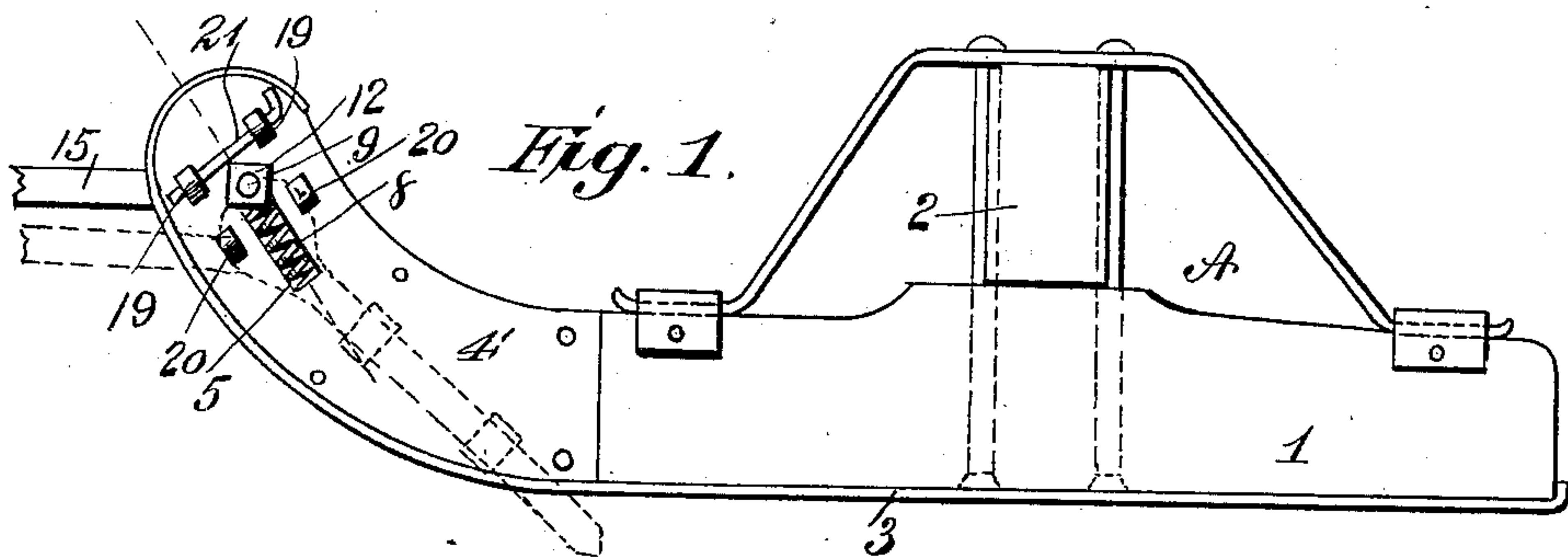
No. 862,523.

PATENTED AUG. 6, 1907.

W. H. STEVENSON.

SLED BRAKE.

APPLICATION FILED AUG. 15, 1906.



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# UNITED STATES PATENT OFFICE.

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## SLED-BRAKE.

No. 862,523.

Specification of Letters Patent.

Patented Aug. 6, 1907.

Application filed August 15, 1906. Serial No. 330,622.

*To all whom it may concern:*

Be it known that I, WILLIAM H. STEVENSON, a citizen of the United States, residing at Kilbourn, in the county of Columbia and State of Wisconsin, have invented certain new and useful Improvements in Sled-Brakes, of which the following is a specification.

This invention relates to automatic sled brakes; and it has for its object to provide a simple and efficient device whereby, when the draft animals are held back, as in going down hill, the brake will be automatically set so as to hinder or obstruct the progress; it being understood that the brake, as is usual in this class of devices, is composed of one or more members adapted to engage or dig into the ground or the frozen surface of snow or ice over which the sled is traveling.

Further objects of the invention are to simplify and improve the construction and operation of this class of devices.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention; it being however, understood that no limitation is necessarily made to the precise structural details therein exhibited but that changes, alteration and modifications within the scope of the invention may be resorted to when desired.

In the drawings: Figure 1 is a side elevation of a sled bob equipped with the invention. Fig. 2 is a side elevation of the front portion of the bob showing a different arrangement of the parts whereby the brake mechanism is temporarily rendered inactive. Fig. 3 is a longitudinal vertical sectional view taken through the front end of one of the runners. Fig. 4 is a longitudinal vertical sectional view of the sled bob showing the inner side of one of the runners in elevation. Fig. 5 is a view in horizontal section through the front ends of the runners. Fig. 6 is a perspective detail view of a portion of one of the springs for releasing the brakes.

Corresponding parts in the several figures are denoted by like characters of reference.

The invention is applicable to all kinds of sleds, and in the drawings it has been shown applied to an ordinary sled bob A of which 1, 1 are the runners which are connected or assembled in the usual manner by means including the bolster 2. The runners are provided with shoes 3, and facing plates 4, 4' are bolted or otherwise secured upon the sides of the runners at their front ends, said facing plates being provided with obliquely disposed downwardly and rearwardly inclined slots 5 that communicate with transverse slots or recesses 6 in the

runners, in which slots or recesses coiled springs 8 are placed. The coils of the springs 8 are preferably elliptical, as will be seen by reference to Fig. 6 of the drawings, so that they will practically fill the transverse slots or recesses in the runners.

9 is a rod or bolt that extends transversely through the runners, said bolt passing through the slots 5 of the facing plates and the recesses 6 in the runners; said bolt is provided at one end with a head 10; its opposite end being threaded for the reception of a washer 11 and a nut 12. The rod or bolt 9 is engaged and supported by the upper ends of the springs 8, which preferably have terminal eyes, 7, engaging the rod. The rod 9 is assembled by rings 13 with a cross-bar 14 from which the tongue 15 extends forwardly.

The inner facing plates 4 of the runners are provided with loops or keepers 16 in which the prongs 17 that constitute the brake members are slidably supported; said prongs being inclined downwardly and rearwardly so that their pointed extremities, while capable of entering into the surface of the ground, will slide or drag instead of plowing into the ground; said prongs are thus enabled to pass over stones, stumps and similar obstructions which would prevent the passage of the sled if the prongs were disposed to plow into the ground as is usually the case. The front or upper ends of the prongs 17 are provided with eyes 18 engaging the rod 9 adjacent to the ends of the cross-bar 14.

The outer facing plates 4' are provided with pairs of apertured lugs 19 disposed in advance of the slots 5 and pairs of similar lugs 20 disposed adjacent to the slots intermediate the ends of the latter. Keys 21 are provided which may be idly supported in the lugs 19 as shown in Fig. 1 of the drawings but which, when occasion demands, may be positioned in the lugs 20, as seen in Fig. 2; when thus disposed the keys 21 will obstruct the movement of the rod 9 in the slots 5 as will be readily understood.

The operation and advantages of this invention will be readily understood from the foregoing description taken in connection with the drawings hereto annexed. When draft is applied the rod 9 will engage the forward extremities of the slots 5 in the facing plates, the sled will thus be propelled; when the draft animals are held back, as in going down hill, the forward pressure of the load will cause the springs 8 to be compressed, and the rod 9 will move longitudinally of the slots 5 carrying the prongs 17, the pointed ends of which will engage the ground as shown in dotted lines in Figs. 1 and 4, thus obstructing the progress of the sled proportionately to the weight of the load; draft upon the rod 9 will tend to release the brake members from the ground. The springs 8 serve to maintain the rod 9 normally at the forward ends of the slots 5, thus keeping the brake members out of engagement with the

ground, and said springs also serve to obviate jolts or shocks caused by the sudden application of the brakes. By placing the keys 21 in the lugs 20, the rod 9 will be locked against longitudinal movement in the slots 5, 5 and the brake will thus be rendered temporarily inactive, thus permitting the sled to be backed when desired.

This improved brake mechanism is extremely simple, and it may be applied at a trifling outlay to sleds 10 of ordinary construction. The sides of the runners are not obstructed thereby in such manner as to hinder the progress of the sled except on down grades where it is desirable to do so; and the brake mechanism will then be automatically operated with a force precisely 15 proportioned to the forward pressure of the load.

Having thus described the invention what is claimed is:

In a device of the class described, the runners having obliquely disposed transverse recesses, facing plates secured upon the sides of the runners and having slots adjacent to the recesses of the runners, a draft member connected with the rod, loops or keepers upon the inner facing plates, brake members supported in the loops or keepers and having eyes engaging the spring supported rod, pairs of apertured lugs upon the outer facing plates, and a key 20 supported in said lugs to restrain the movement of the spring supported rod. 25

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. STEVENSON.

Witnesses:

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