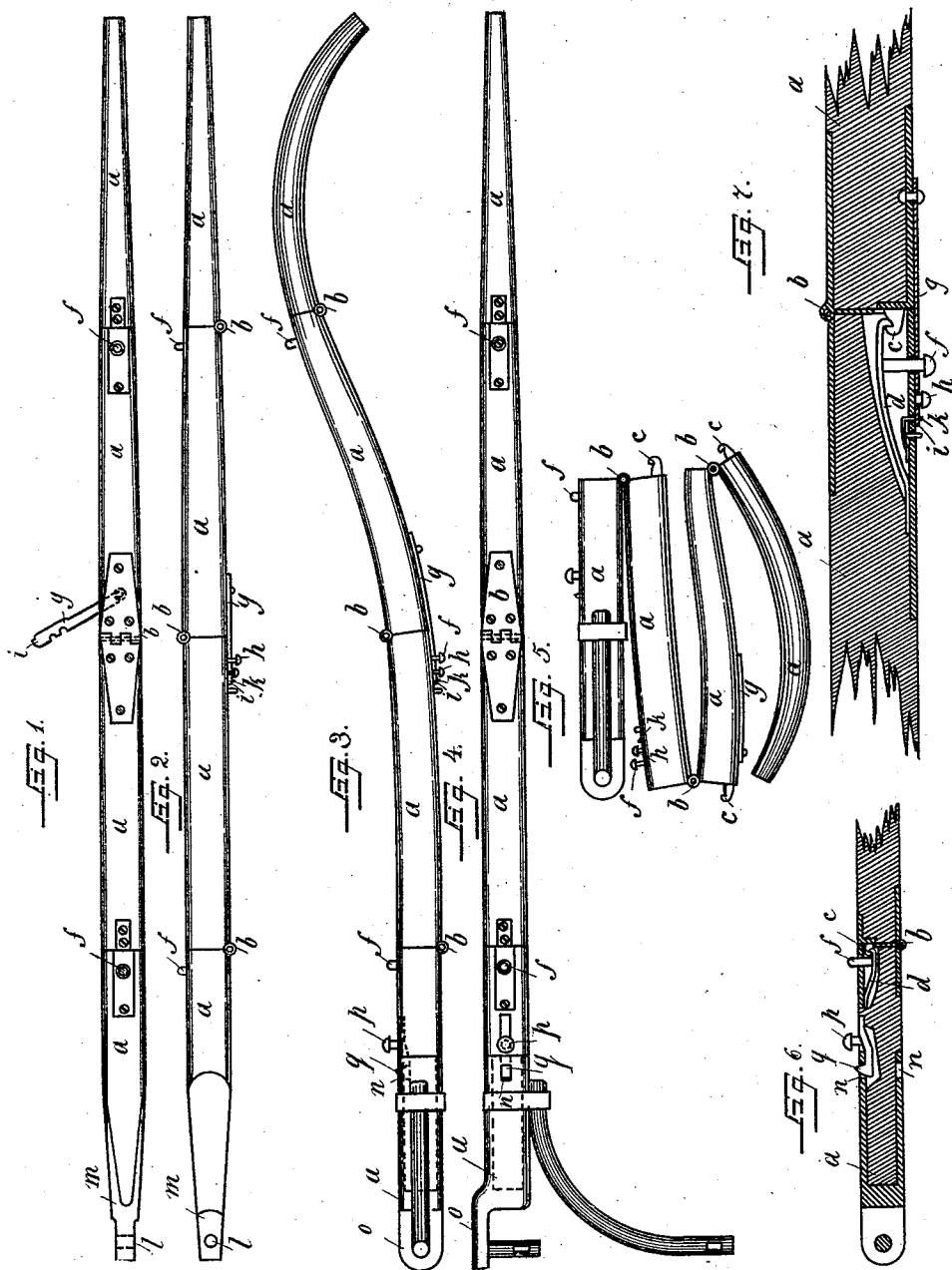


(No Model.)

H. PRENZLAU.
VEHICLE SHAFTS.

No. 487,037.

Patented Nov. 29, 1892.



Witnesses:
M. C. Pinckney
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UNITED STATES PATENT OFFICE.

HERMANN PRENZLAU, OF HAMBURG, ASSIGNOR OF ONE-HALF TO CARL BEUSTER, OF BERLIN, GERMANY.

VEHICLE-SHAFTS.

SPECIFICATION forming part of Letters Patent No. 487,037, dated November 29, 1892.

Application filed August 9, 1892. Serial No. 442,552. (No model.)

To all whom it may concern:

Be it known that I, HERMANN PRENZLAU, a citizen of the free city of Hamburg, Germany, residing at Berlin, Prussia, Germany, have
5 invented certain new and useful Improvements in Thills, of which the following is a specification.

This invention relates to the construction of a shaft or pole which is capable of being
10 folded and can be readily stored when in that state in the box usually provided in the body of the carriage, while when required for use it can be unfolded within a few seconds ready for the horse or horses.

15 This improved pole or shaft may be made straight or curved, and can be used in consequence of the peculiar construction of the socket or sheath, whereby it may be fixed in the carriage on the right as well as on the left
20 hand, which could not be done with the shafts hitherto used.

My improved shaft is usually made of wood and consists of four parts, each of about the same length and connected together by
25 means of hinges.

This folding shaft is illustrated in the accompanying drawings, in which—

Figure 1 is a plan of a straight shaft ready for use, Fig. 2 being a side view thereof.
30 Fig. 3 is a side view of a curved shaft, and Fig. 4 is a plan of the same. Fig. 5 is a plan of the curved shaft when folded or collapsed. Figs. 6 and 7 are details, the former figure showing the construction of a socket or
35 sheath, as well as the hinges used to connect the various parts together, while the latter shows the construction of the central hinge.

To make the shaft *a* ready for use, the hooks *c*, fixed to the ends of the separate parts
40 or sections, are employed and engage behind corresponding spring-hooks *d*, which are furnished with a depressing-knob *f*, serving to release the hooks *c* and *d* when the shaft requires to be folded. All the parts used for
45 the connection are located in a recess formed in the substance of the shaft, with the exception of the knob *f*, which projects somewhat out of the shaft, so that the outer appearance and shape of the shaft are the same as that of
50 an ordinary shaft. To insure that the hinge, which opens in an upward direction, should

not be disturbed by the weight of the horses falling thereon as they move forward, there is arranged a locking-bolt *g*, which can be turned round and engages on one side with
55 a stop-pin *h*, fixed to the shaft, and on the other with the knob *f*, thus preventing the latter from being depressed. The bolt *g* is prevented from becoming released by a projection *i*, formed at its free end and located
60 behind the spring-hook *k*.

To fix the shaft to the carriage, an iron tail-piece *m* is used and is furnished with a hole *l*, which is held by a pin within the two perforated brackets or side pieces of the socket
65 secured to the carriage-frame; or the attachment shown in Figs. 3 and 4 may be used, this attachment being loosely connected to the shaft, so that the same may be fixed, according as required, to the right or to the left
70 hand side of the carriage. The shaft is terminated with a sheath or socket *o*, furnished with two slots *n*, arranged exactly opposite one another and in which the shaft is inserted in such a manner that the lateral pins
75 of the attachment are placed either to the right or to the left hand side of the shaft, so that the sheath could not be pulled off, being prevented from such a contingency by the spring-hook *q*, provided with a knob *p*.
80

Another advantage of this folding shaft is that should an ordinary shaft in use break the additional shaft, which could be stored away in the box usually formed in the body of the carriage or attached in any suitable
85 part of the latter, may be readily attached in position. It may be also remarked as an important feature that this shaft is always ready for use, as there are no loose parts which may be lost or mislaid.
90

I claim—

1. A folding shaft or pole for a carriage, consisting of two or more parts *a*, capable of turning upon hinges *b* and of being held extended by means of the hook *c* and the spring
95 *d*, so as to prevent the opening of the hinges, with the safety-bolt *g*, which engages under the knob *f*, used to release the springs, as set forth.

2. In combination with the shaft claimed
100 above, mechanism enabling a curved shaft to be used on the right or on the left hand side,

consisting of an attachment furnished with lateral pins, such as ordinarily used, which attachment is provided with a sheath *o*, in which the shaft end is inserted and which is
5 furnished with an upper and a lower slot *n*, wherein engages a spring-hook *q*, fixed to the said shaft, as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HERMANN PRENZLAU.

Witnesses:

W. HAUPT,
A. VOGLE.