No. 824,451. PATENTED JUNE 26, 1906.

W. F. TAYLOR.

EMERGENCY KNUCKLE SLEEVE.

APPLICATION FILED MAR. 17, 1905.

2 SHEETS—SHEET 1.

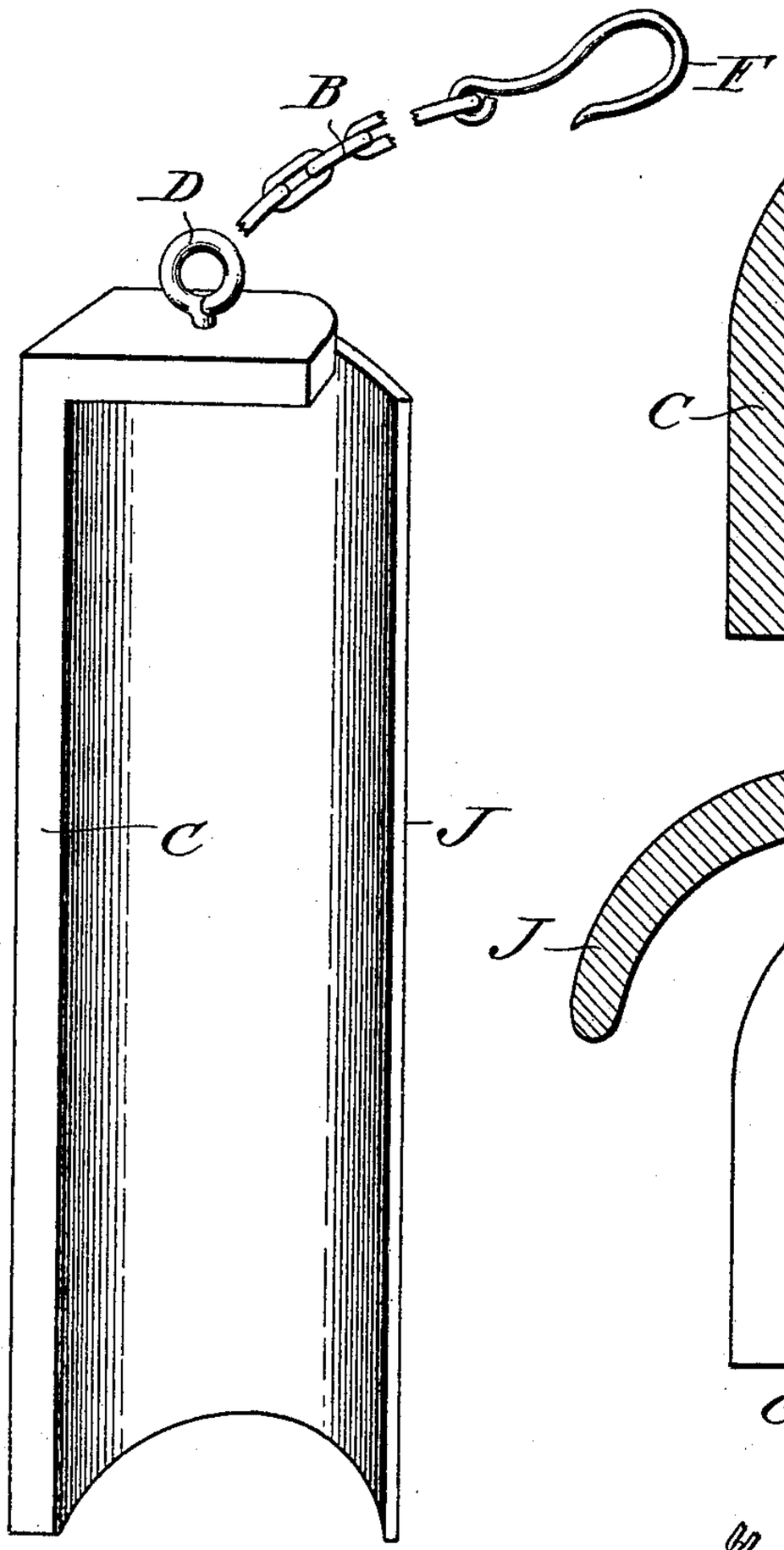

Fig. 1.

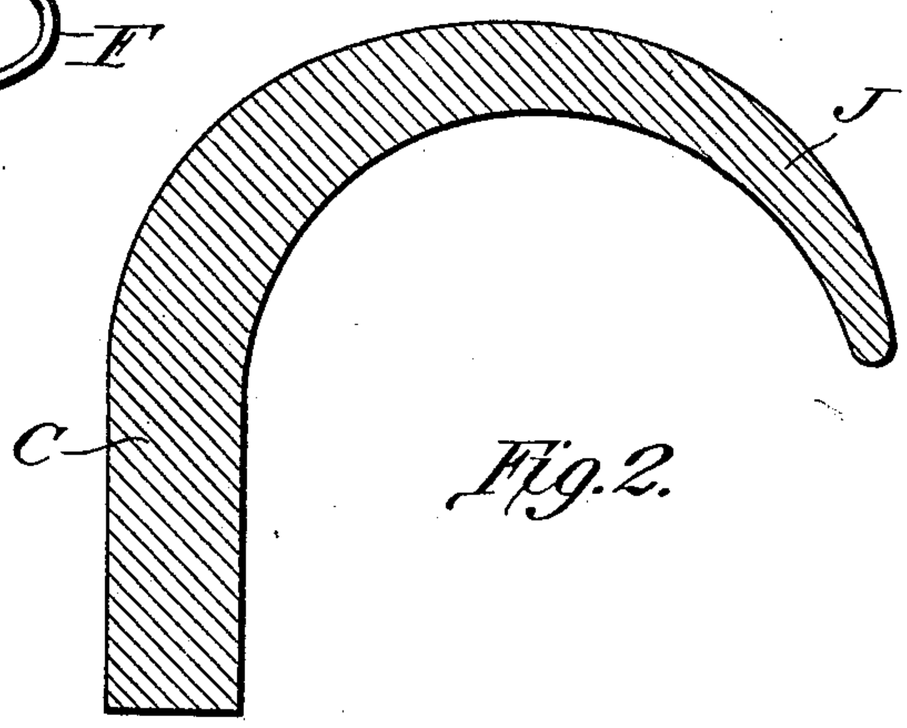

Fig. 2.

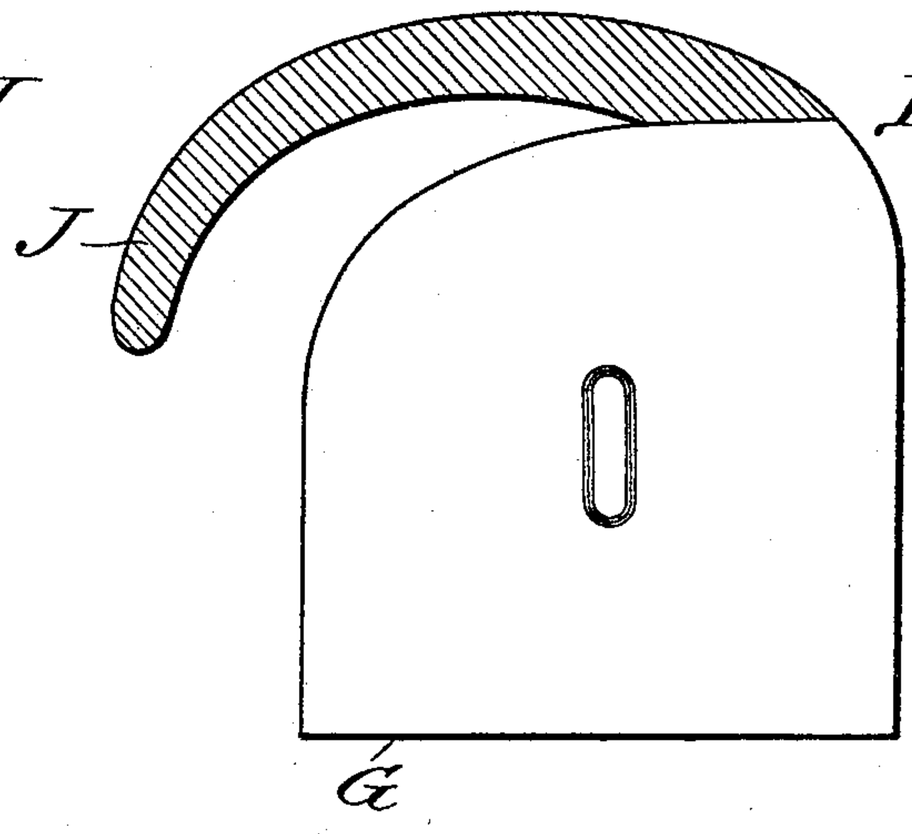

Fig. 3.

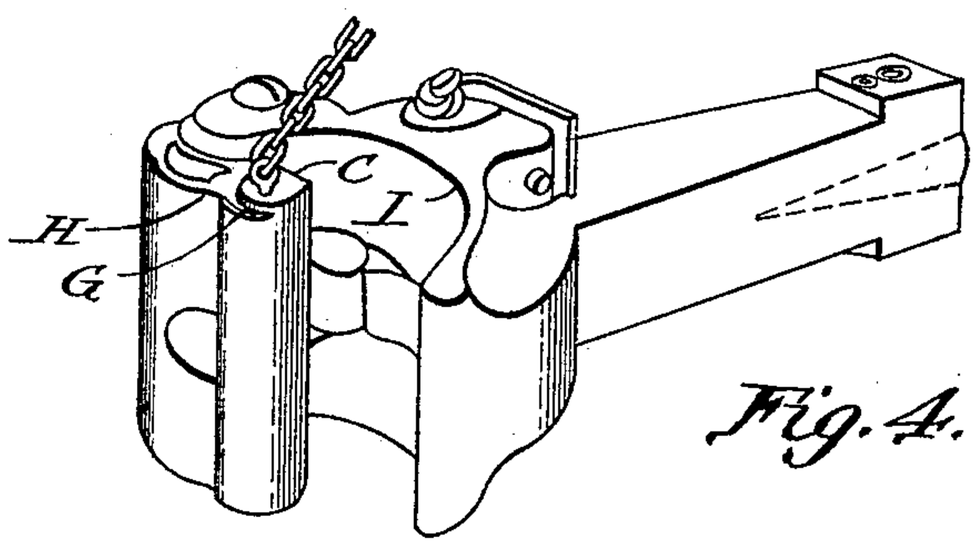

Fig. 4.

Witnesses:
W. E. Daly.
H. J. Connor

Inventor,
Wm. F. Taylor

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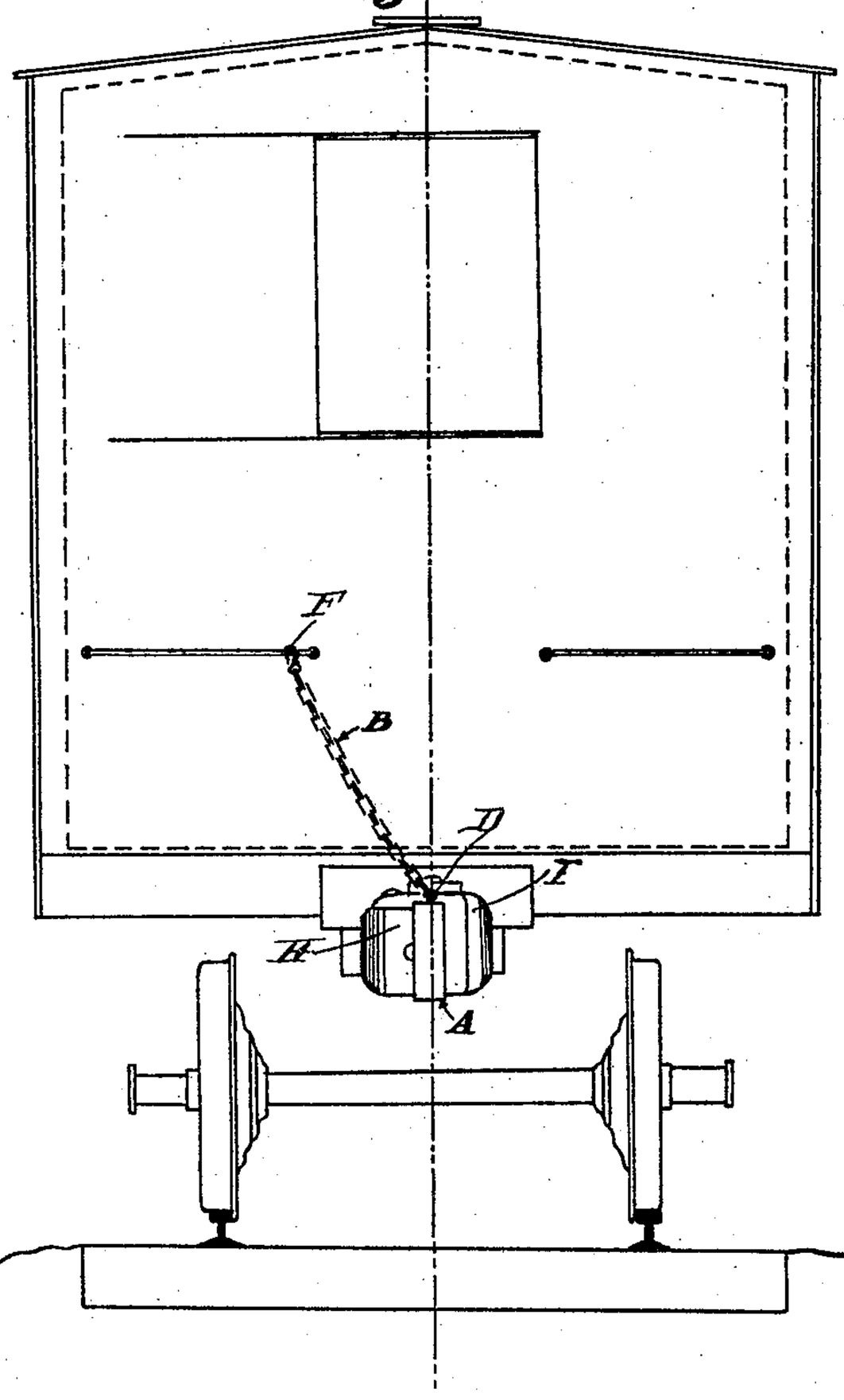
Fig. 5.



Witnesses
A. Connor.
W. E. Daily.

Inventor
Wm. F. Taylor.

UNITED STATES PATENT OFFICE.

WILLIAM F. TAYLOR, OF SUPERIOR, WISCONSIN.

EMERGENCY KNUCKLE-SLEEVE.

No. 824,451. Specification of Letters Patent. Patented June 26, 1906.

Application filed March 17, 1905. Serial No. 250,682.

To all whom it may concern:

Be it known that I, WILLIAM F. TAYLOR, a citizen of the United States, residing at Superior, in the county of Douglas and State of Wisconsin, have invented a new and useful Emergency Knuckle-Sleeve, of which the following is a specification.

It is the object of my invention to provide a device for taking up the slack in automatic car-couplers between the knuckle of said coupler and the draw-head of said coupler, caused by the wearing out or wearing away of the iron parts of said coupler, particularly the surface parts of the knuckle and draw-head of said coupler, which ordinarily come in contact, or the knuckle-pin which holds the knuckle in proper place in the draw-head, or the knuckle-block which holds the knuckle in proper place when knuckle is closed. When automatic couplers are new, their various parts when coupled together fit closely and there is little play between the two couplers. As they are used more and more the surface of the parts coming in contact or other loose parts are worn away by friction or by the twisting and bending of the iron parts, due to the motion of the cars, until the parts become more loosely fitting and continue so until there is a large amount of slack between the parts coming in contact, and thus the cars are given more motion and play in all directions, causing a rough movement of the train, or the couplers are liable to pull apart when rounding curves or on rough track, causing the cars to separate and resulting in damage to persons and property and endangering life.

It is the object of my device to take up slack between knuckle and draw-head caused as aforesaid. It may be used to repair worn-out automatic couplers, making them nearly as good as new, and it is particularly valuable in cases of emergency along the train's journey, as the device can be applied without effort and without any loss of time, and the device being light and easily handled can be easily carried ready for use, whereas it is now required to replace the worn-out knuckle by a new knuckle or the chaining up of the same, which requires much effort, much time, and consequent delay. The knuckle and chain being very heavy is also difficult to carry along. The said device is a knuckle-sleeve adapted to fit over the jaw or flat portion of the knuckle. The construction and operation of the knuckle-sleeve are as hereinafter described, and illustrated in the accompanying drawings, in which—

Figure 1 shows the knuckle-sleeve complete. Fig. 2 shows base of knuckle-sleeve. Fig. 3 shows top portion of knuckle-sleeve. Fig. 4 shows a perspective view of the knuckle-sleeve applied to a worn knuckle. Fig. 5 shows the railroad-car, the automatic coupler, the knuckle-sleeve applied to the knuckle, together with chain attached to the knuckle-sleeve and connected with the car.

The knuckle-sleeve is constructed or made of one piece of metal, (see Fig. 1,) formed or bent in shape to fit onto the knuckle. The part that fits onto the flat surface or interior side of the knuckle is flat (see Figs. 1 and 2) and is slightly thicker than the curved portion J. (See Fig. 2.) The remaining part, which is thinner, is curved. (See Figs. 1, 2, and 3.) The thick flat part C of the metal is bent at the top and extended horizontally, forming a flap or head which rests on the top of the knuckle, (see Figs. 4 and 5,) thus keeping the sleeve in position and preventing its slipping down. The top or flap G of the sleeve is cut away from and separate from the curved thinner portion J of the sleeve, (see Figs. 1, 2, and 3,) leaving a space between top or flap G and the top of the curved or thinner part J of the metal. The object of this is to allow for the bending and automatic fitting of the curved part under the pressure of the parts of the coupler coming in contact with it. The knuckle-sleeve may be made of any kind of metal, but may preferably be made of malleable iron.

The top or flap G has on its top part a loop D (see Fig. 1) for holding the chain B. (See Fig. 1.) The chain B is attached to the loop D. (See Figs. 4 and 5.) The other end of the chain is adapted to be connected to the car, (see Fig. 5,) so that when the coupler is uncoupled the knuckle-sleeve will remain attached to the car, so that it cannot be lost. The chain B, heretofore mentioned, may preferably be made three (3) feet three (3) inches long with a hook F four (4) inches from end of chain to top of hook. (See Figs. 1 and 5.) The outer portion or point of hook may preferably be three and one-half ($3\frac{1}{2}$) inches from top to point. The purpose of this is to prevent the chain being hooked too tight. The hook may preferably be made so as to insert in each and every link of the chain, this to take up the slack, and thus

avoiding damage to chain should chain be too long.

From the foregoing description the operation and adaptation of my invention will be readily understood. The knuckle-sleeve fits over and around the knuckle-jaw H. (See Figs. 4 and 5.) The thicker portion C fits on the inner side of the knuckle H, (see Figs. 1, 4, and 5,) the top or flap G (see Figs. 1 and 3) fitting and resting on the top of the knuckle-jaw H. (See Figs. 4 and 5.) The knuckle H when then fitted into position within the coupler I (see Figs. 4 and 5) contains within it and the coupler the knuckle-sleeve, which takes up the slack and makes the coupler as a whole compact and closely fitting in all its parts, and under the movement and heavy pressure of the cars the curved thinner portion J of the sleeve is automatically bent or formed into the required position or shape should it be applied to a new or badly-worn knuckle, and the chain B is also connected with the car, if desired, thus providing for the care of the knuckle-sleeve.

Having thus described my invention, what I claim, and wish to patent, is—

1. A knuckle-sleeve having a square or flat portion and an extended curved portion, and a horizontal top or flap extended from or connected with the flat portion, but separate and distinct from the curved portion, substantially as and for the purpose specified.

2. A knuckle-sleeve having a square or flat portion and an extended curved portion, the flat portion being thicker than the curved portion, and a horizontal top or flap extended from or connected with the flat portion, but separate and distinct from the curved portion; substantially as and for the purpose specified.

3. A knuckle-sleeve having a square or flat portion and an extended curved portion, and a horizontal top or flap extended from or connected with the flat portion, but separate and distinct from the curved portion, and a loop attached to the top portion of the top with chain attached to loop, the other end of chain being provided with hook; substantially as and for the purpose specified.

4. A knuckle-sleeve having a curved portion with a top or flap extended from or connected with the sleeve horizontally at its upper end where the sleeve fits onto the interior side of the knuckle.

WM. F. TAYLOR.

Witnesses:
F. B. WINSLOW,
T. J. CONNOR.