

(No Model.)

H. M. CROMER.
HUB ATTACHING DEVICE.

No. 545,946.

Patented Sept. 10, 1895.

FIG. 1.

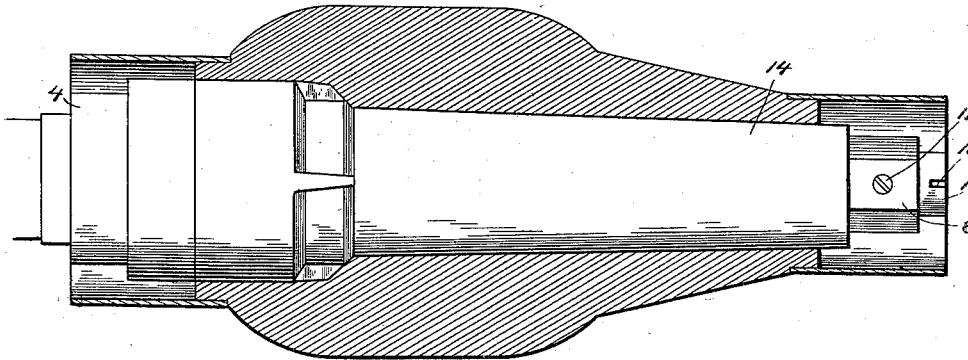
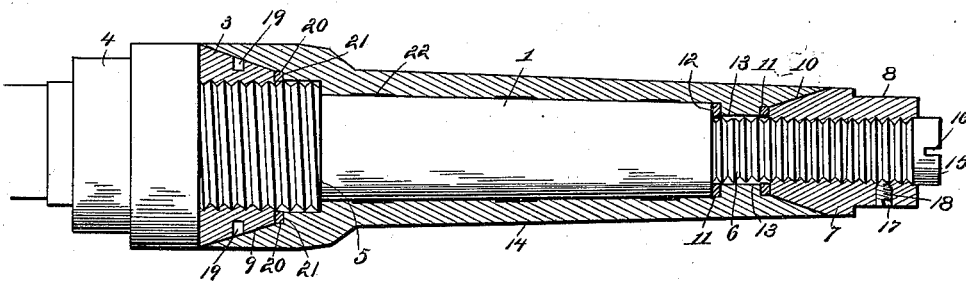


FIG. 2.



Inventor

Henry M. Cromer.

Witnesses

D. W. Riley
J. E. [Signature]

By *Hrs* Attorneys.

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UNITED STATES PATENT OFFICE.

HENRY MARTIN CROMER, OF MOSCOW, SOUTH CAROLINA.

HUB-ATTACHING DEVICE.

SPECIFICATION forming part of Letters Patent No. 545,946, dated September 10, 1895.

Application filed January 29, 1895. Serial No. 536,572. (No model.)

To all whom it may concern:

Be it known that I, HENRY MARTIN CROMER, a citizen of the United States, residing at Moscow, in the county of Anderson and State of South Carolina, have invented a new and useful Hub-Attaching Device, of which the following is a specification.

My invention relates to hubs and means for attaching the same to axle-spindles, and the object in view is to provide simple and efficient means for taking up lost motion to prevent rattling.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claim.

In the drawings, Figure 1 is a side view of a hub-attaching device constructed in accordance with my invention, the hub being shown in section. Fig. 2 is a longitudinal section of the axle-box and connected parts, the spindle being shown in elevation.

Similar numerals of reference indicate corresponding parts in both the figures of the drawings.

1 designates a spindle, which is threaded near its inner end, as shown at 2, contiguous to the usual fixed collar 4, for engagement by the inner cone 3, the threaded portion 2 being enlarged, as shown, to form a shoulder 5, whereby the cone, which is fitted thereon, may be passed longitudinally over the spindle before engagement with the threads 2.

Threaded on the outer end of the spindle, which is reduced in diameter, as shown at 6, is the outer cone 7, extended outwardly to form a wrench-seat 8, and the box which receives the spindle is provided at its inner end with a conical or flared seat 9 to receive the inner cone and at its outer end with a conical or flared seat 10 to receive the outer cone. Washers 11 are arranged between the shoulder 12, formed by the reduction of the outer end of the spindle, and the contiguous side of a ring 13, formed in and integral with the box 14, and between the outer side of said ring and the inner end of the outer cone, which terminates abruptly to form a flat shoulder or surface. The ring 13 projects inward approximately to the surface of the reduced portion of the spindle, and inasmuch

as it is provided with inner and outer bearing-surfaces, disposed respectively opposite the shoulders on the spindle and on the cone, it will be seen that longitudinal movement of the box upon the spindle is prevented. Threaded in the cylindrical bore of the outer cone is an adjusting plug or core 15, provided in its outer end with a transverse kerf 16 for engagement by a screwdriver, and adapted to be engaged and locked at the desired adjustment by a set-screw 17, which is threaded in the opening 18 in the outer end of the cone.

When it is desired to take up lost motion between a box and its spindle, the box is fitted upon the spindle with its inner flared or conical seat in contact with the inner cone, the outer cone is threaded upon the spindle and is adjusted inwardly until its surface bears snugly against the outer flared or conical seat of the box, after which the plug or core is adjusted in the outer cone until its inner extremity bears against the outer extremity of the spindle. Without altering the adjustment of the plug or core the outer cone is then removed from the spindle and the set-screw 17 is tightened to secure the plug or core in place. The outer cone may then be replaced and removed, as desired, and as made necessary in cleaning and oiling the journal, and no further adjustment of the core is necessary until looseness of the parts is again observed.

The inner cone 3 is provided with sockets 19, whereby it may be turned to place, and a washer 20 is interposed between the outer reduced end of said cone and the contiguous shoulder 21 of the box; or, if preferred, the inner cone may be reduced to an edge and the washer 20 omitted. The parallel sides of the ring 13 are abrupt or perpendicular to the axis of the spindle, and the conical or flared seat 10, which extends outward beyond the outer side of said ring, prevents the displacement of the packing arranged between said side of the ring and the contiguous inner extremity of the cone 7. Counterbored oil-seats 22 are formed at intervals in the inner surface of the box.

From the above description it will be seen that I have provided adjusting devices of simple construction, which may be arranged with facility to allow the necessary freedom

of movement of the box upon the spindle, and at the same time prevent the rattling which is due to worn bearing-surfaces, that the essential features of the device may be used in
5 connection with bearings or spindles of the ordinary construction without reference to particular vehicles, it being possible to turn down and thread an old spindle to adapt it for the reception of the improved adjusting de-
10 vices, and that in adapting the device for use under different conditions various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of
15 the advantages of this invention.

Having described my invention, what I claim is—

The combination with a spindle having an inner cone, of a box provided at its inner and
20 outer ends with conical or flared seats 9 and 10, the outer end of the spindle being reduced and threaded as at 6, an outer cone 7 threaded

upon said reduced portion of the spindle and having an abrupt inner end arranged at an interval from a shoulder 12 formed by the re- 25
duction of the spindle, an abrupt parallel-sided ring 13 integral with the box at the inner end of the seat 10 and disposed between the inner end of the outer cone and the con-
tiguous shoulder of the spindle, packing rings 30
interposed between the sides of said ring and the contiguous extremity of the cone and the shoulder of the spindle, and means for limiting the inward adjustment of the cone, said
35 seat 10 extending beyond and overhanging the outer packing ring to prevent displacement, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HENRY MARTIN CROMER.

Witnesses:

JOHN H. SIGGERS,
E. G. SIGGERS.