

(No Model.)

I. D. FINCH.

WAGON AXLE.

No. 263,328.

Patented Aug. 29, 1882.

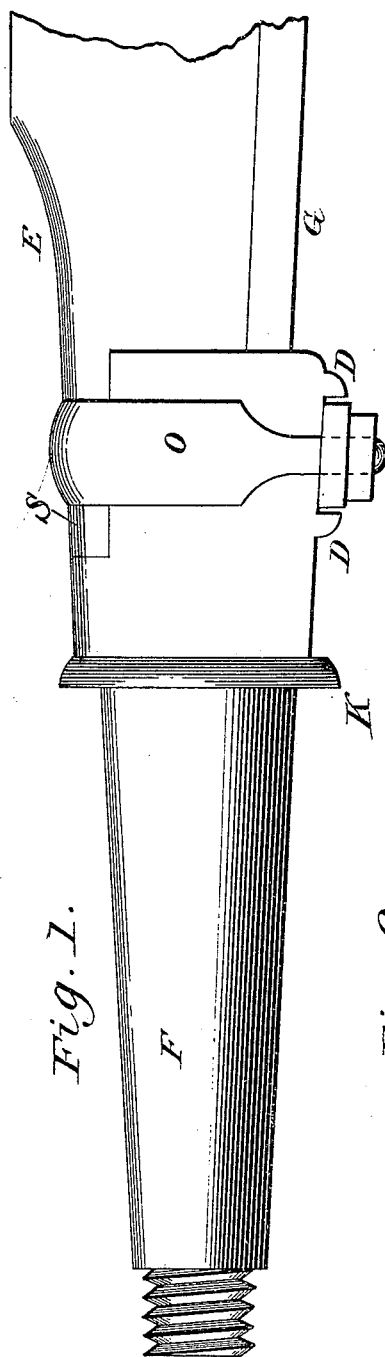


Fig. 1.

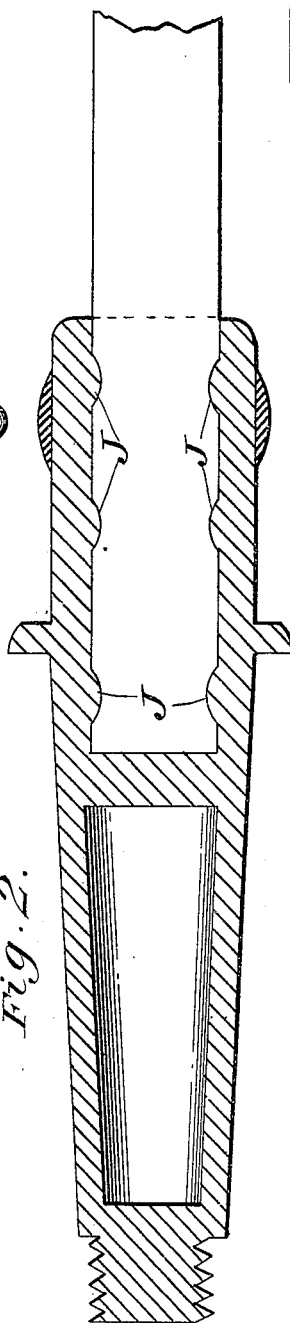


Fig. 2.

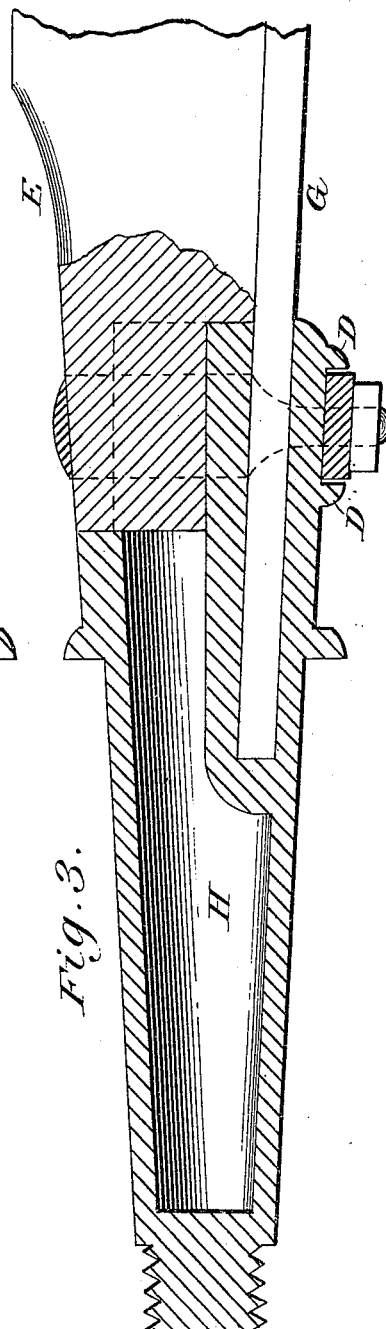


Fig. 3.

Witnesses:

W. L. Graham
W. W. Farnham

Inventor.

Isaac D. Finch

UNITED STATES PATENT OFFICE.

ISAAC D. FINCH, OF MEMPHIS, TENNESSEE.

WAGON-AXLE.

SPECIFICATION forming part of Letters Patent No. 263,328, dated August 29, 1882.

Application filed January 28, 1882. (No model.)

To all whom it may concern:

Be it known that I, ISAAC D. FINCH, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented a new and useful Improvement in Wagon-Axles, of which the following is a specification.

My invention relates to wagon-axles combined of wrought-iron, cast-iron, and wood.

The objects of my invention are, first, to strengthen the wagon-axle in which a skein is used at the collar or shoulder of the skein, which has been heretofore its weakest point; second, to combine the three materials named in such form as to insure increased durability; and, third, to reduce the expense of a combined axle by using only such a proportion of wrought-iron as will insure the requisite strength and durability. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a general outside view of the combination. Fig. 2 is a horizontal sectional view of the end of the combined axle, and Fig. 3 is a view showing a vertical section of the end of the combined axle.

Similar letters refer to similar parts throughout the several views.

E is the wooden axle-tree. F is the cast-iron skein. G represents the wrought-iron part of the axle. H is the core-print. D D are flanges at the bottom of the skein F. K is the collar of the skein. S is an opening on the top of the base of the skein, in which the end of the wooden axle-tree rests. J J are depressions in the edge of the wrought-iron part G of the axle. O is the clip.

To enable others to make use of my invention, I will describe in detail the manner of its construction.

I use a flat bar of wrought-iron, G, which may be two inches wide and five-eighths of an inch thick for a skein, F, that is three inches in diameter at the base. I forge depressions J J on the edges of this wrought-iron bar G at each end, for the purpose of enabling the cast-iron skein F to be cast around the end of the bar G, so as to fasten them securely and solidly together, while at the same time leaving a large portion of the cast-iron skein F hollow. In casting the skein F, I extend the

flat bar G into the cast-iron seven inches from the base of the skein, and one and three-fourths inch beyond or outside of the collar K, by which means I strengthen the axle at the point of the collar K, which has heretofore been the weakest point in all wagon-axles. I leave an opening, S, on the top of the base of the skein F two and one-fourth inches wide and two inches deep, extending to within three-fourths of an inch of the collar K and downward to within five-eighths of an inch of the flat bar G. The cast skein F is three-fourths of an inch thick on the top of the opening or core-print H, inside the collar K, thus furnishing a shoulder or bearing for the square end of the wooden axle E to rest against on its upper side. This wooden axle E being fitted exactly into the opening S, it has also on its lower side an end bearing or shoulder five-eighths of an inch thick against the end of the cast skein F and on the top of the flat bar G. I secure and hold all these parts thus arranged firmly together by means of a clip, O, and a clip-bar resting between the flanges D D, and also by bolts such as are ordinarily used in wagon-axles.

I am aware that prior to my invention wrought-iron bars have been used in wagon-axles, and that combinations of wrought-iron, cast-iron, and wood have been employed in such axles. So I therefore do not claim such a combination generally or broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of hollow cast-iron skein F and the wrought-iron axle-bar G, united together in the manner shown and described.

2. The combination of the wrought-iron axle-bar G with hollow cast-iron skein F and the wooden axle-tree E, having end bearing fitting in the opening S of the skein, substantially as shown and described.

3. The hollow thimble-skein having the opening S and flanges D D on the bottom of the same, in combination with the flat bar G, having depressions J J, the wooden axle E, and clip O, all united and combined as set forth.

ISAAC D. FINCH.

Witnesses:

H. W. FARNAM,

CHARLES M. WARNER.