

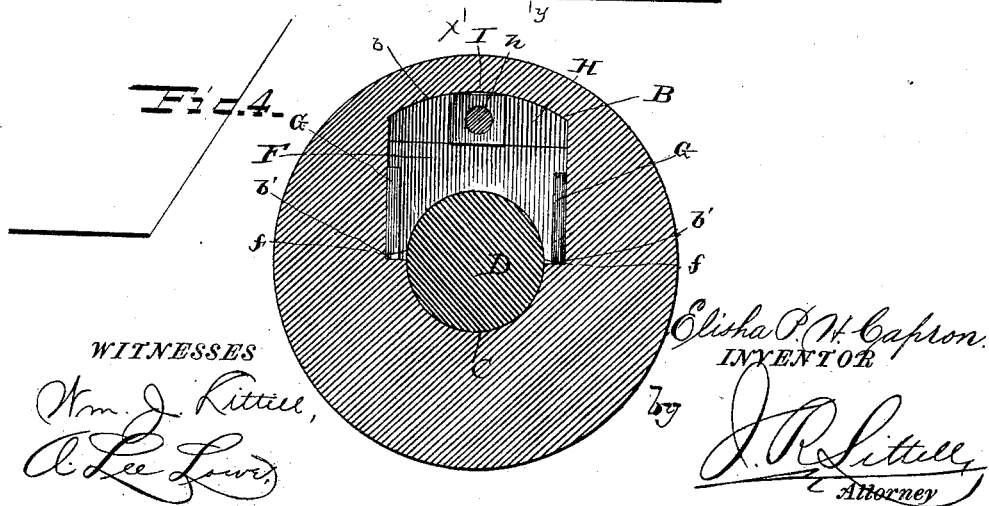
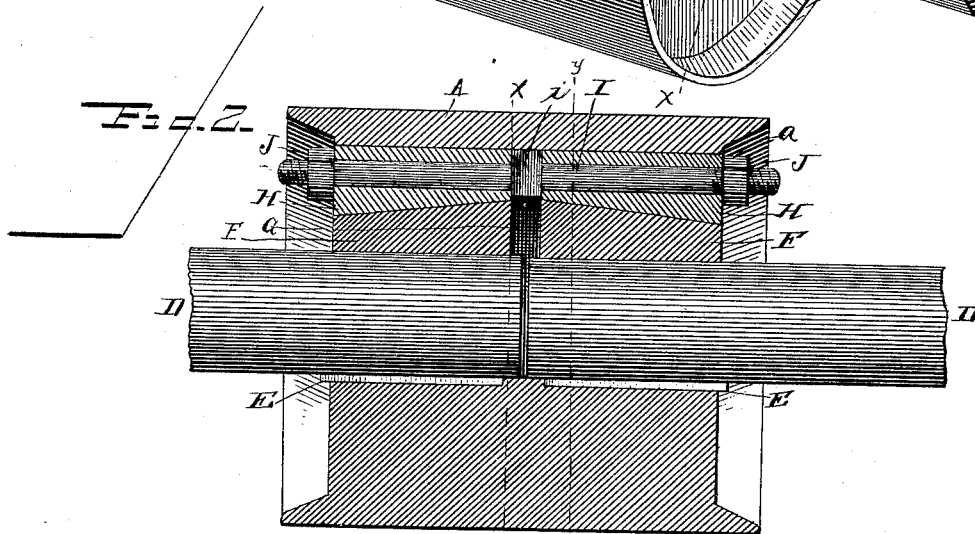
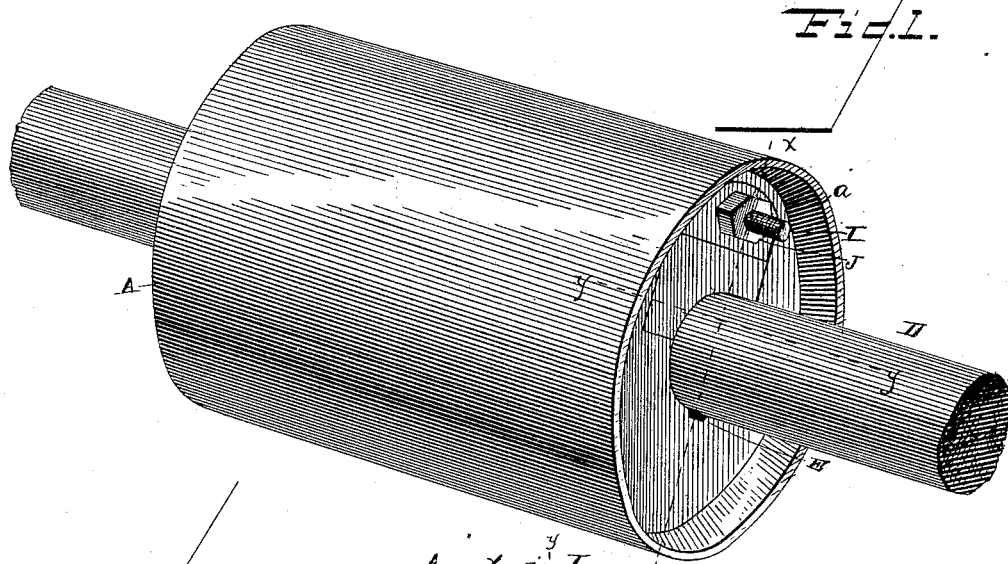
(No Model.)

2 Sheets—Sheet 1.

E. P. H. CAPRON.
SHAFT COUPLING.

No. 422,720.

Patented Mar. 4, 1890.



WITNESSES

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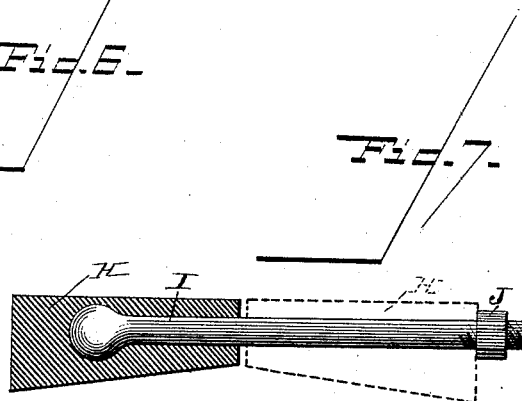
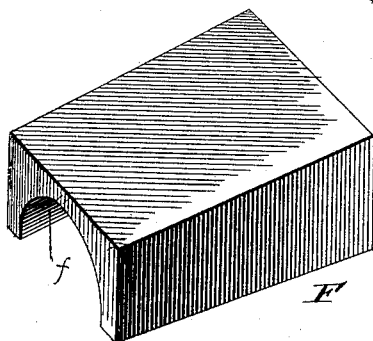
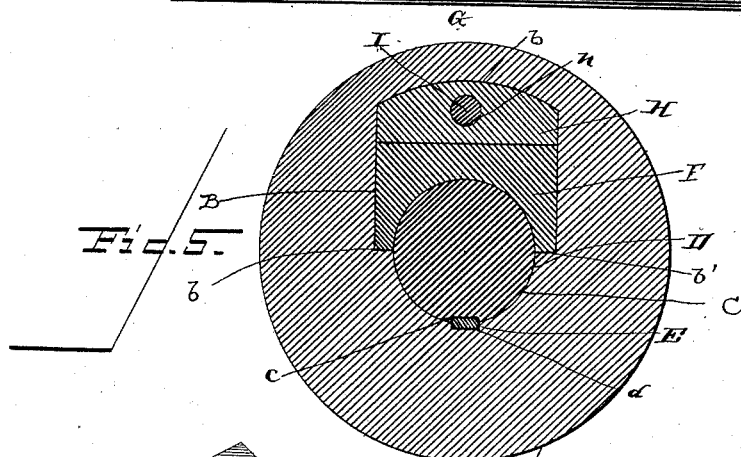
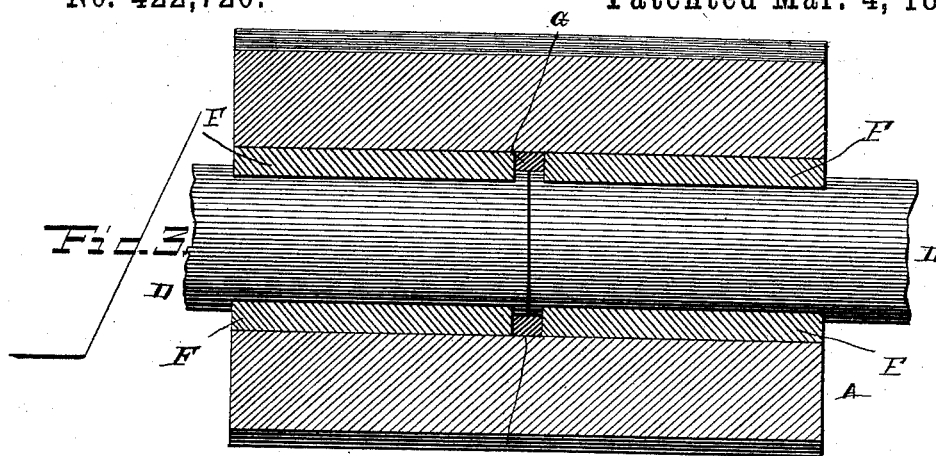
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E. P. H. CAPRON.
SHAFT COUPLING.

2 Sheets—Sheet 2.

No. 422,720.

Patented Mar. 4, 1890.



WITNESSES

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UNITED STATES PATENT OFFICE.

ELISHA P. H. CAPRON, OF NORWALK, CONNECTICUT.

SHAFT-COUPLING.

SPECIFICATION forming part of Letters Patent No. 422,720, dated March 4, 1890.

Application filed February 9, 1889. Renewed November 21, 1889. Serial No. 331,053. (No model.)

To all whom it may concern:

Be it known that I, ELISHA P. H. CAPRON, a citizen of the United States, residing at Norwalk, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Shaft-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to shaft-couplings of that class which comprises a shell provided with interior coupling devices for uniting the adjoining ends of shafting of the same or different diameter, and embodying compression-blocks adapted to bind against the ends of the shafting and adjustable wedges for compressing the same.

The object of my invention is to provide a device of this character in which the friction incident to coupling is reduced to a minimum, and which will furthermore possess advantages in point of inexpensiveness, durability, and general efficiency.

In the drawings, Figure 1 is a perspective view of a shaft-coupling embodying my invention. Fig. 2 is a vertical longitudinal sectional view thereof on the line *xx*, Fig. 1. Fig. 3 is a horizontal longitudinal sectional view on the line *yy*, Fig. 1. Fig. 4 is a transverse sectional view on the line *xx*, Fig. 2, looking toward the center. Fig. 5 is a similar view on the line *yy*, Fig. 2. Fig. 6 is a detail perspective view of one of the compression-blocks. Fig. 7 is a detail sectional view illustrating a modification.

Corresponding parts in the figures are denoted by the same letters of reference.

Referring to the drawings, A designates a shell, preferably cylindrical and flanged at its outer edges, as shown at *a*, which is provided at one side its longitudinal center with a chamber B, extending entirely through and approximately rectangular in cross-section. This chamber has a concaved top or outer side *b*, corresponding in contour to the circumference of the shell. At the opposite side of the center of the shell and opening into the chamber B is a supplementary chamber C, semicircular in cross-section and corresponding in length to the said chamber B. This

chamber C is smaller in diameter than the width of chamber B, thus forming shoulders *b' b'*.

D D designate the adjoining ends of the shafting, which are seated in the chamber C, and are secured within the shell by means of keys E, fitting in oppositely-disposed longitudinal grooves *cc* and *dd*, respectively located in the chamber C and the ends D D of the shafting.

Fitting within the chamber B and occupying the lower portion thereof are two oppositely-disposed compression-blocks F F, the inner ends of which rest against two oppositely-disposed shoulders G G, located centrally within the chamber B and at each side the latter. These shoulders or projections preferably extend from the shoulders *b'* to a point at or near the plane of top of the inner ends of the blocks F. The tops of these blocks or the sides nearest the circumference of the shell are beveled or inclined, the thickest portion being at their inner ends, while their lower or opposite sides are concave, forming a longitudinal recess *ff*, segmental in cross-section and of the same diameter as the chamber C. The sides of these recesses engage the ends D of the shafting, and are caused to bind against said ends by wedges H H, fitting within the chamber B, as shown. The bottom or inner sides of these wedges are beveled or inclined and engage the correspondingly-inclined tops of the blocks F. The tops of these wedges are also preferably arched or convexed and correspond with and engage the concave top *b* of the chamber B, while the sides of the blocks fit closely against the sides of the chamber, by means of which construction any lateral movement of the wedges is prevented. The wedges are also provided with centrally-disposed longitudinal holes or perforations *h h*.

I designates a double bolt provided with a central enlarged and angular portion *i*, which is located centrally within the shell above the shoulders G, and has one of its sides engaging the top of the chamber B to prevent the bolt from turning. The stems or body portion I I extend through the holes or perforations *h*, and are provided with nuts J J, engaging their screw-threaded ends. By means of these nuts the wedges are forced together,

thereby compressing the blocks E and causing them to bind against the ends of the shafting.

In the modification illustrated in Fig. 7 I have shown the bolt I with one end cast integral with one of the wedges, while the other end passes through a hole or perforation in the remaining wedge, and the end of the bolt is provided with a nut, as before described, which construction may in some instances be found preferable.

I claim as my invention—

1. The combination, in a shaft-coupling, with the shell provided with a longitudinal chamber and with a centrally-disposed shoulder at each side the latter, of compression-blocks located in said chamber and adapted to bear against the shoulders to limit the movement of said blocks, wedges for compressing the blocks, a bolt passing through the wedges, and adjustable nuts upon the ends of said bolt, substantially as and for the purpose set forth.

2. The herein-described shaft-coupling, comprising the shell provided with a longitudinal chamber, compression-blocks provided with beveled top surfaces, wedges hav-

ing beveled bottom surfaces, a bolt having a central enlarged portion to retain the same against turning, the ends of said bolts passing through the wedges, and adjusting-nuts upon the said ends, for the purpose herein set forth.

3. The herein-described shaft-coupling, comprising a shell with a main longitudinal chamber at one side the longitudinal center and a supplementary chamber opposite to and opening into said main chamber, compression-blocks located in the latter, having concave lower or inner surfaces and inclined top or outer surfaces, said blocks having their inner ends resting against shoulders or projections oppositely and centrally disposed within the main chamber, and wedges for compressing said blocks, provided with an adjusting-bolt passing therethrough, substantially as set forth.

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

ELISHA P. H. CAPRON.

Witnesses:

ROBERT B. CRAWFORD,
ALFRED E. AUSTIN.