

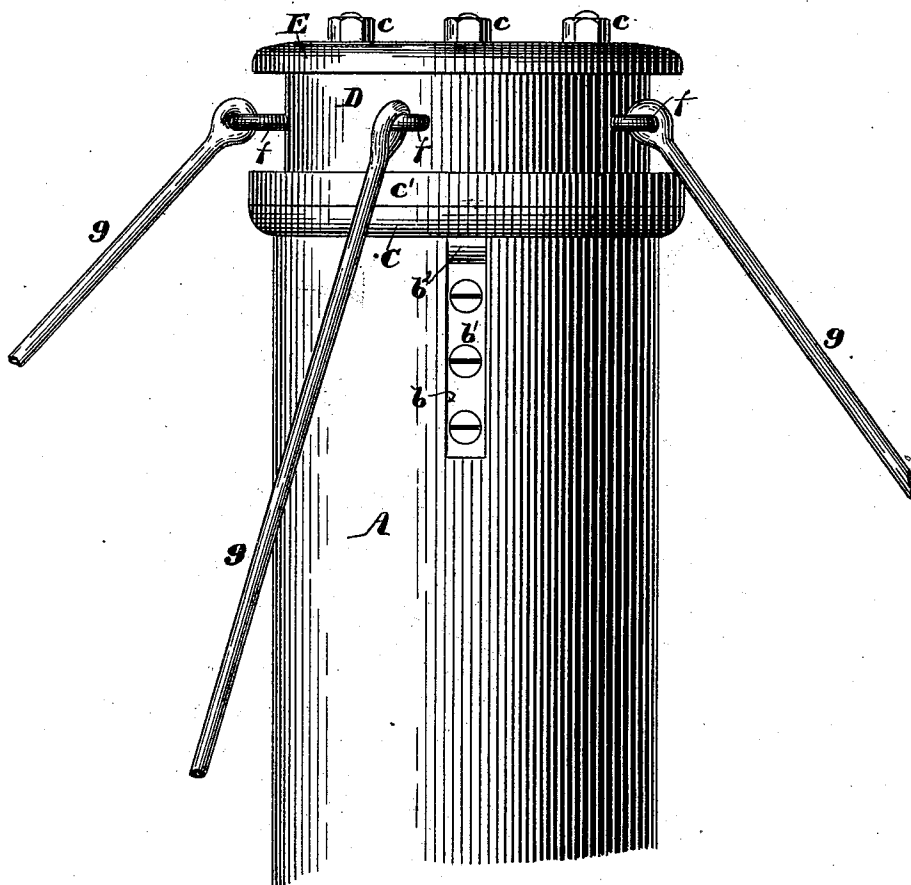
(No Model.)

2 Sheets—Sheet 1.

D. CRAM.  
DERRICK HEAD.

No. 551,155.

Patented Dec. 10, 1895.



*Fig 1*

**Witnesses:**

*Walter E. Lombard.*

*Geo. A. Parmenter*

**Inventor:**

*Daniel Cram,*

*by N. C. Lombard*  
*Attorney.*

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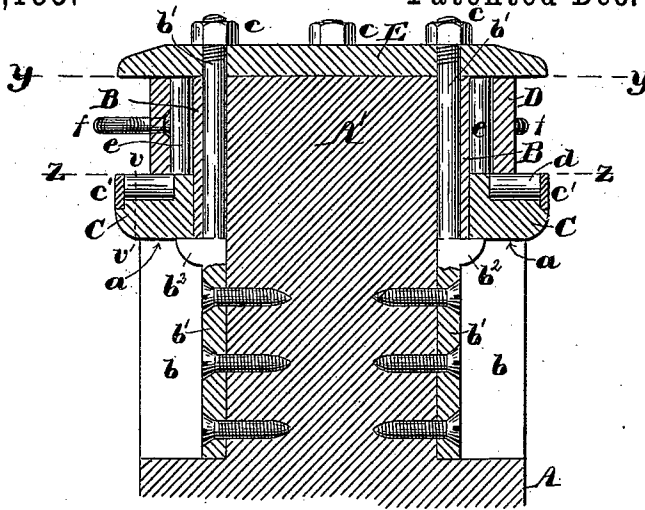


Fig. 2.

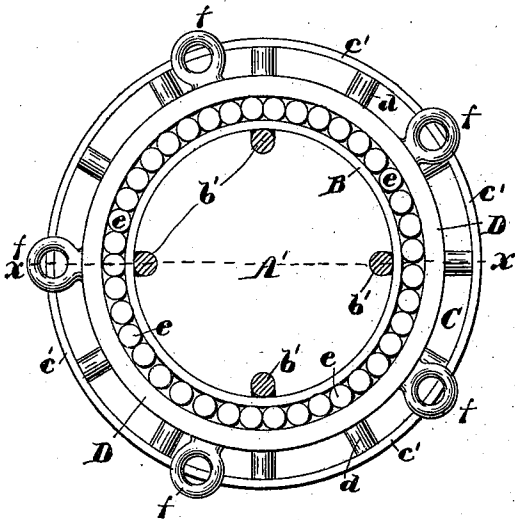


Fig. 3.

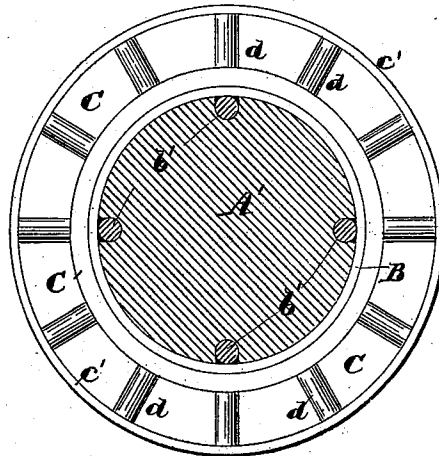


Fig. 4.

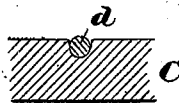


Fig. 5.

Witnesses:

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# UNITED STATES PATENT OFFICE.

DANIEL CRAM, OF BOSTON, MASSACHUSETTS.

## DERRICK-HEAD.

SPECIFICATION forming part of Letters Patent No. 551,155, dated December 10, 1895.

Application filed October 10, 1895. Serial No. 565,208. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL CRAM, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Derrick-Heads, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to derrick-heads; and it consists in certain novel features of construction, arrangement, and combination of parts, which will be readily understood by reference to the description of the accompanying drawings, and to the claims hereto appended, and in which my invention is clearly pointed out.

Figure 1 of the drawings is an elevation of a portion of the upper end of the derrick-mast with my invention applied thereto. Fig. 2 is a central vertical section of the same on line *xx* on Fig. 3. Fig. 3 is a sectional plan, the cutting plane being on line *yy* on Fig. 2. Fig. 4 is a sectional plan, the cutting plane being on line *zz* on Fig. 2, and Fig. 5 is a partial section on line *vv* on Fig. 2.

One serious objection to derricks as heretofore constructed has been the wearing, and consequent weakening of the pintle at the upper end of the mast, and the object of my present invention is to obviate, or reduce to a minimum, this objection, and to this end I construct said pintle and the head in which it revolves, as shown in the accompanying drawings, in which—

A is the mast of usual construction, except that a short section A' thereof, at its upper end, about five inches, more or less, in length, is reduced in diameter so as to form an annular shoulder *a*. The mast A also has formed therein a plurality of longitudinal grooves *b b*, extending from the upper end of said reduced section to a suitable distance below the shoulder *a* in which are secured, by screws or nails, the metal bolts *b'*, each provided with an outwardly-projecting lug *b*<sup>2</sup>, the upper surface of which is on a level with the shoulder *a* of the mast, and with a screw-thread at its upper end to receive a clamping-nut *c*, all as shown in Fig. 2. A thin metal hoop B is fitted upon said reduced section A', outside of the bolts *b'*, so as to be immovable thereon, and C is a metal ring fitted to the exterior of the hoop B, and resting upon the

shoulder *a* of the mast A, and the lugs *b*<sup>2</sup> of the bolts *b'*, and secured in a fixed position to the mast A.

The upper surface of the ring C has formed therein a series of radial grooves, having semicircular bottoms and extending inward from its outer edge, to points about three-fourths of an inch from its inner edge, as shown. A light hoop *c'* is secured to the outer edge of the ring C so as to cover the ends of said radial grooves, as shown in Fig. 2. In each of said radial grooves is placed a short cylindrical roll *d* of such a diameter that its upper side will project slightly above the upper surface of the ring C.

D is a hoop of metal resting at its lower edge upon the rolls *d d* and bearing by its inner surface upon the peripheries of the series of cylindrical rolls *e e* interposed between it and the hoop B with their axes in vertical positions and their lower ends resting upon the upper surface of the ring C, as shown in Figs. 2 and 3.

E is a cap-plate clamped to the upper end of the mast and to the hoop B by means of the bolts *b'* and the nuts *c* but without binding upon the ends of the rolls *e e*, or upon the hoop D, to prevent the free revolution of the mast within said hoop.

The hoop D has set therein and projecting outward therefrom a series of eyebolts *f f*, to which are connected the guys *g g* for maintaining the mast in an upright position.

By this construction of the upper end of the derrick-mast and the bearing-ring which supports the mast in position and within which it is revolved a very strong and almost indestructible connection is made between the mast and its supporting-guys.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a derrick the combination of a mast having a section of its upper end reduced in diameter; a plurality of bolts set in the sides of, and projecting above the top of said reduced section; a metal hoop surrounding said reduced section and inclosing said bolts; a metal ring surrounding said hoop and resting upon the shoulder of said mast; a series of rolls arranged about said hoop with their axes vertical; a metal hoop surrounding and inclosing said series of rolls; a cap plate se-

cured to the top of said mast; and a plurality of eyebolts set in said last mentioned hoop, for attaching the guys for supporting said mast in an upright position.

- 5 2. In a derrick the combination of the mast A having the reduced section A' at its upper end; a plurality of bolts *b'* set in the sides of said mast; the metal hoop B; the ring C provided with a plurality of radial grooves in its  
10 upper surface; the rolls *d, d'*; the hoop *c'*; the series of vertical rolls *e, e*, the hoop D; the

eyebolts *f, f'*; the guys *g, g'*; the cap plate E; and the nuts *c, c'*.

In testimony whereof I have signed my name to this specification, in the presence of 15 two subscribing witnesses, on this 7th day of October, A. D. 1895.

DANIEL CRAM.

Witnesses:

N. C. LOMBARD,  
L. C. GREENLEAF.