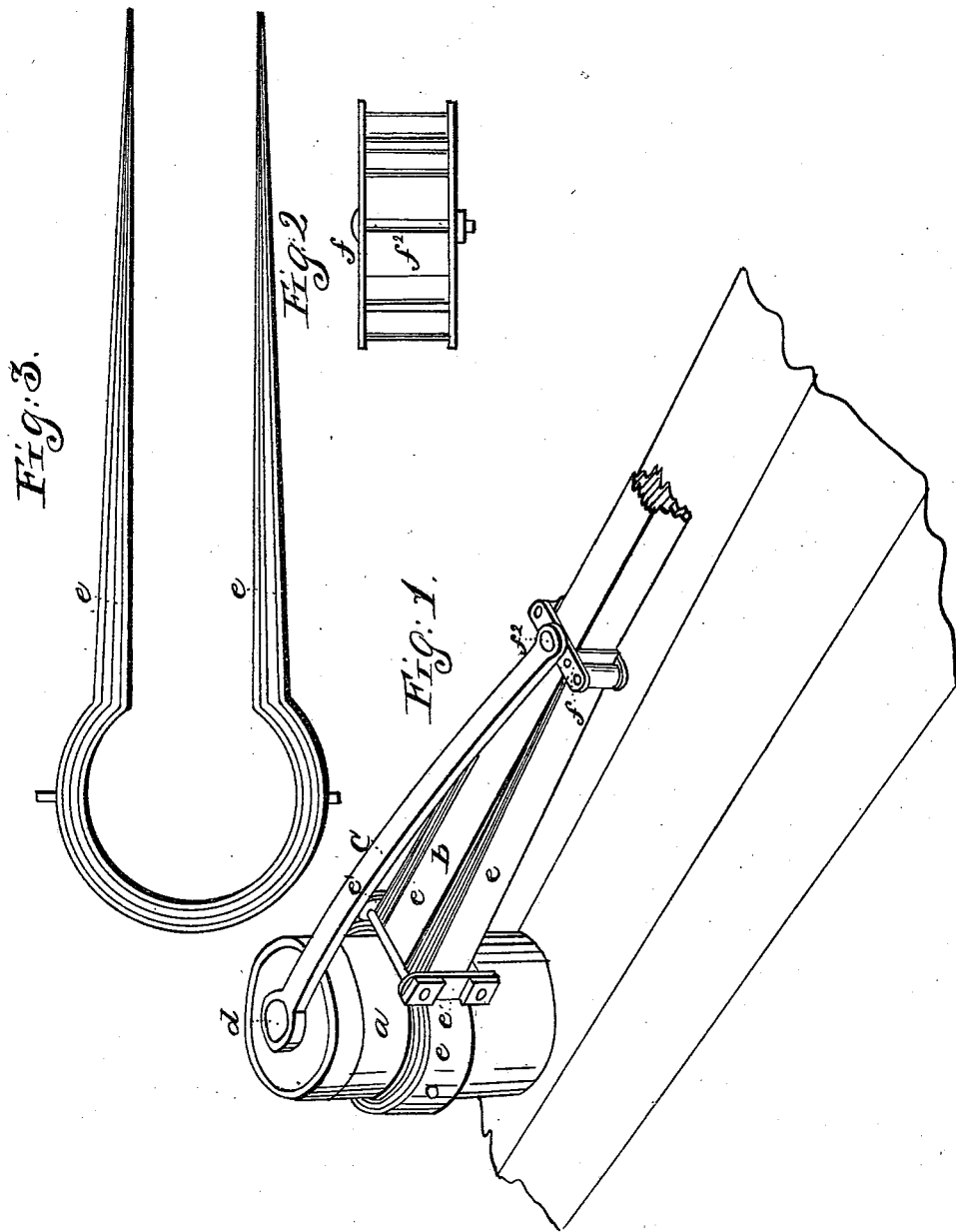


*H. Waterman,
Steering.*

N^o 3,106.

Patented May 26, 1843.



UNITED STATES PATENT OFFICE.

HENRY WATERMAN, OF BATH, MAINE.

METHOD OF CONNECTING TILLERS WITH THE RUDDER-HEADS OF VESSELS.

Specification of Letters Patent No. 3,106, dated May 26, 1843.

To all whom it may concern:

Be it known that I, HENRY WATERMAN, of Bath, in the county of Lincoln and State of Maine, have invented a new and useful Improvement in Connecting the Tiller with the Rudder-Head of Vessels; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which—
Figure 1 is a perspective view; Fig. 2, parts detached.

The nature of my invention consists in attaching the tiller to the rudder head so that it shall have a lateral play and embracing it on each side with a spring; so as to relieve it from the effects of any sudden strain.

The rudder head (*a*) is made in the usual way the mortise through it being wider than the tiller (*b*) which is also constructed like those now in common use; an iron brace (*c*) extends from the center of the top of the rudder head down to the tiller a stout bolt (*a*) runs down through this brace into the rudder head, and through the end of the tiller on which it swivels. Around the head of the rudder on a level with the mortise a spring (*e*) is bent; which spring is formed of plates of steel similar to carriage springs, but having its outside and inside plates ex-

tend out the whole length, so that the spring will work either way; it is attached by bolts firmly to the head of the rudder and its ends project forward on each side of the tiller; this spring is embraced just forward of the rudder head by two metallic plates (*e'*) which are drawn together by bolts above and below the ends of the spring enter a shackle (*f*) between two friction rollers on each side of the tiller against which it plays; the shackle is fastened to the tiller by a bolt (*f'*) which passes down through the forward end of the brace (*c*) shackle and tiller.

By an apparatus of this construction the tiller and rudder-head are relieved from any sudden shock upon the rudder; as is also the man at the helm.

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

The combination of the spring (*e*) with the tiller and rudder-head constructed and arranged in the manner and for the purpose herein described to be applied to vessels of all descriptions without any material alteration of the parts.

HENRY WATERMAN.

Witnesses:

WM. N. WHITMAN,
JOSEPH CORLISS,
BENJ. RENDALL.