

No. 881,266.

PATENTED MAR. 10, 1908.

C. T. THOMPSON & F. P. MITCHELL.

TENNIS RACKET.

APPLICATION FILED JULY 8, 1907.

FIG. I

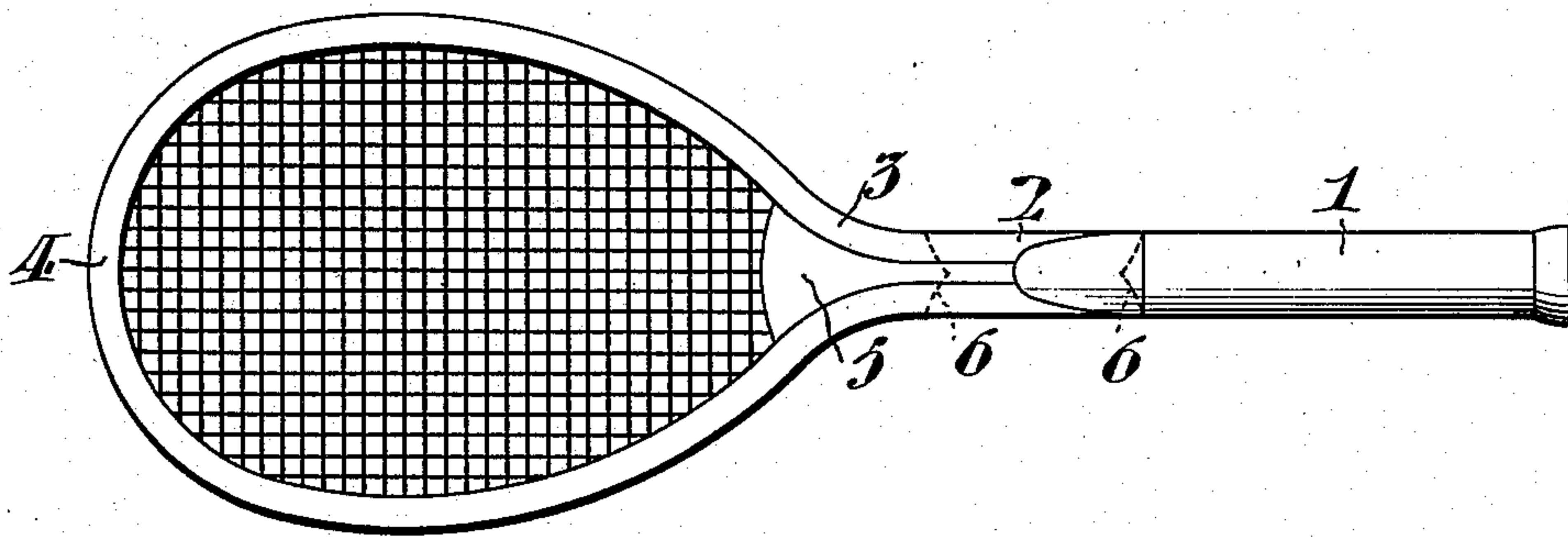


FIG. II

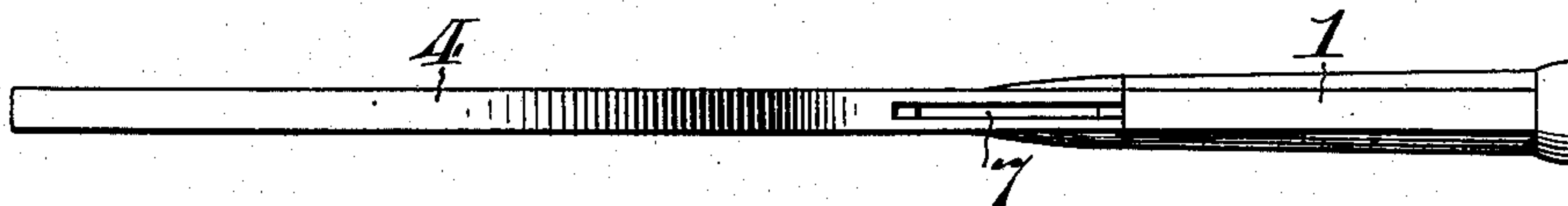
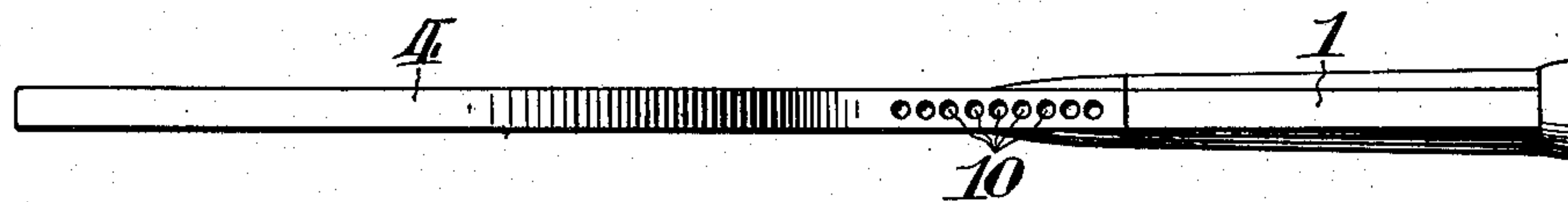


FIG. III



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES TROTTER THOMPSON, OF PHILADELPHIA, PENNSYLVANIA, AND FRANK PETER MITCHELL, OF LAUREL SPRINGS, NEW JERSEY.

TENNIS-RACKET.

No. 881,266.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed July 8, 1907. Serial No. 382,586.

To all whom it may concern:

Be it known that we, CHARLES TROTTER THOMPSON, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, and
5 FRANK PETER MITCHELL, of Laurel Springs, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Tennis-Rackets, where-
10 of the following is a specification, reference being had to the accompanying drawings.

Our invention relates to tennis rackets, which comprise a strung hoop attached to a handle. In the manufacture of such im-
15 plements difficulty has always been experienced in determining the proper distribution of the combined strength and elasticity which the implement must possess. As at present manufactured, the effort to
20 strengthen the handle, stem and throat of the implement has resulted in a stiffening of these parts to such an extent that the breaking strain of any over severe blow now re-
25 sults in a fracture of the hoop of the implement, usually near its juncture with the throat. The effect of this breaking strain can be much modified by rendering the stem
30 of the racket more elastic, but this must be done without unduly weakening the stem, and particularly without thinning it later-
35 ally, which results in impairing its resistance to torsional strains. In order to effectually resist torsional strains, the stem in the ordi-
nary construction of these implements pos-
sesses much greater strength and rigidity
than the hoop.

According to our invention, without un-
duly weakening the stem and without alter-
ing its width (thereby retaining intact its
40 resistance to torsional strain), we have ma-
terially increased its elasticity and thereby
very materially eased the strains which fall
upon the hoop of the instrument and which
have heretofore caused it to break.

Our invention consists in partially or
45 wholly dividing the stem of the implement by a flat cut or a series of circular holes trav-
ersing and lying substantially in the plane
of the striking face of the racket, whereby
the requisite elasticity is imparted to the
50 stem, its strength maintained unimpaired
within the safety point, and its resistance to
torsional strain maintained wholly unim-
paired.

In the accompanying drawings, Figure I, is
55 a plan view of an ordinary tennis racket em-

bodiment of our invention. Fig. II, is a side ele-
vation of the same. Fig. III, is a similar ele-
vation of a racket with our invention em-
bodied in a modified form.

Referring to Fig. I, 1, is the handle, 2 the
60 stem, 3 the throat, and 4 the hoop of the im-
plement. By the term stem it is not in-
tended to define any particular form of con-
struction, but rather that portion of the bat
between the striking face and the part
65 grasped by the hand of the operator, which
is termed the handle. This stem and also
the handle may be of any desired structure.
Preferably, however, the stem, throat and
hoop are formed by the bending around of a
70 single flexible piece of wood, a reinforcing
piece 5, filling the interspace at the throat
and stem. A cut of proper width is made
clean through the stem of the implement in
the plane of the striking face, its convenient
75 outline being indicated by the dotted lines 6,
6, in Fig. I, and its other dimensions being
seen at 7, in Fig. II. In Fig. III, a similar
result is secured by piercing the stem of the
racket by a series of apertures 10, occupying
80 substantially the position of the slot pre-
viously described. It will be noted that in
these various constructions the stem is aper-
tured substantially throughout its length in
the plane of the striking face, whereby its re-
85 siliency is increased without unduly decreas-
ing its strength or its resistance to torsional
strain. Furthermore, said slot or aperture
should be located in the stem, that is, the
part of the bat between the striking face and
90 the handle or portion grasped by the hand
in manipulating the bat. By locating the
aperture at this point, the swing of the face
of the bat relative to the handle as the yield-
ing action occurs, is about a center located in
95 the stem. The radius of said swinging
movement is therefore, relatively short
which allows a quick yielding response as
soon as the ball is struck by the bat, and also
a quick return to normal position, which en-
100 ables the ball to be properly delivered.

In all of the forms which we have de-
scribed the width of the stem is unaffected by
our construction, thereby maintaining sub-
stantially unimpaired the resistance of the
105 stem to torsional strain.

Having thus described our invention, we
claim:

A tennis racket having a striking face, a
solid handle, and a stem intermediate said
110

handle and said striking face, said stem being
apertured substantially throughout its length
in the plane of the striking face, whereby its
resiliency is increased without unduly de-
5 creasing its strength or its resistance to tor-
sional strain.

In testimony whereof, we have hereunto

signed our names at Philadelphia, Pennsyl-
vania, this sixth day of July, 1907.

CHARLES TROTTER THOMPSON.

FRANK PETER MITCHELL.

Witnesses:

JAMES H. BELL,
E. L. FULLERTON.